

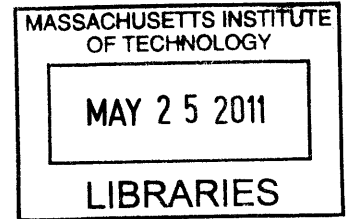
**More information is not the problem:  
spinning climate change, vernaculars, and emergent forms of life**

by

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**ARCHIVES**

Submitted to the Program in Science, Technology and Society  
in Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy in History, Anthropology, and Science, Technology and Society  
at the  
Massachusetts Institute of Technology

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ABSTRACT

This dissertation argues that alongside the dominant discourse occurring in and through media in the midst of immense transformation, social networks and affiliations provide a vital translation of science in varied vernaculars such that climate change is becoming invested with diverse meanings, ethics, and/or morality. Based on ethnographic research, this dissertation analyzes such processes of translation and articulation occurring among five different discursive communities actively enunciating the fact and meaning of climate change through their own vernaculars. The five groups are: 1) Arctic indigenous representatives that are part of the Inuit Circumpolar Council, 2) corporate social responsibility activists working with Ceres 3) American evangelical Christians active in the nascent movement known as Creation Care, 4) leading science journalists, and 5) scientists who often act as science-policy experts.

This dissertation tracks the formation by which evidence comes to matter and have meaning for groups, and the ways in which this process transforms the definition of and questions posed by climate change. It posits that climate change constitutes an emergent form of life replete with multiple, competing instantiations that feed into, configure, and continually revise definitions of and models of/for climate change. Such articulations and attempts at defining climate change are full of friction as epistemologies, forms of life, advocacy, and expertise evolve and bump up against one another in a process of socialization, negotiation, and meaning-making.

In this framework, climate change is a simultaneous intellectual, scientific, and moral challenge – it is both a problem of assessing what is happening, what might happen, and how to act in the world. The presentation and circulation of information provide only partial answers. Partnering facts with multiple codes for meaning, ethics, and morality delineate what the stakes and risks entail, articulating rationales to act. These diverse partnerships produce attendant translations, assemblages, modes of speech, and material forms of training and disciplining that enroll scientific findings and policy aspirations.

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*Information is not the Problem: spinning climate change, vernaculars, and emergent forms of life*

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*Sept 7<sup>th</sup>, 2010, Cambridge, MA*



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## Introduction

When it comes to the issue of climate change in the United States, much of the years leading up and into the 21<sup>st</sup> century have been spent by scientists, activists, and journalists thinking about how to make scientific facts and predictions available, understood, and believed by the American public. Climate change is in boisterous company as one of many complex scientific issues that have been sent through a swirling vortex of public debate. Yet, despite having several decades in which to hone a message that might light the imaginations of Americans, not to mention having major international institutions at its behest and thousands of published peer-reviewed scientific findings on its side, climate change remains the subject of an uphill battle to decisively win public support and enact mitigation policies.

Diagnoses of the problems and solutions plaguing public engagement with climate change abound (For example: DiMento & Doughman 2007; Gelbspan 2004; Gore 2006; Hoggan & Littlemore 2009; Lahsen 2005b; Latour 2004b; Leiserowitz et al 2008; Miller & Edwards 2001; Moser & Dilling 2007; Oreskes 2004a; Oreskes & Conway 2010; Shellenberger & Nordhaus 2005; Speth 2004; Ungar 1992; Ward 2008). Most prominently, many blame the presence of industry-funded skeptics who continue to tout climate change as theory (instead of fact) replete with uncertainty, contrasting it with an ideal of settled science that would warrant action. The response from most in science, science-policy, science journalism, and environmental advocacy has been to either reaffirm the veracity of climate change-related facts, or increase the amount and decibel-level of activism in order to combat this “production of doubt” (Oreskes & Conway 2010). Skeptics have countered with accusations of unnecessary alarmism, and a parade of experts that defy or ignore the core of peer-reviewed factual claims that affirm the basic tenets of climate change.

What ignites the fury over misinformation is the democratic ideal, which rests on the expectation that the average citizen will access and, if need be, pursue the information required

in order to make rational decisions about the issues of the day (Habermas 1962; Schudson 1998; Terdiman 1990; Warner 1990). Certainly political calculations have always involved the proverbial “interest groups,” but science has usually been portrayed as above the fray. The scientific ideal operating in the political and policy spheres is impartial, non-partisan, and objective, providing data regardless of creed or association (Bush 1945; Merton 1973).<sup>1</sup> What this leaves out is the vast social networks and affiliations where individuals negotiate and determine positions, identity, and meaning, often in conjunction with a wider group process.

The scientific and democratic ideals share this in common: that the discovery of objective facts and the dissemination of that information will drive action. But the line between the two is anything but straightforward, and more often than not must traverse not only the vagaries of media channels for mass communication, but the diversity of meaning-making, ethics, and morality (Latour 2004a). In an era of immense upheaval in the structures of media that have come to define democracy, this process has only become more complex and difficult to ascertain.

Media and journalists are commonly referred to as a “fourth estate,” a concept built on the ideal of widely available, independent, objective reporting that holds the state and all its systems accountable.<sup>2</sup> But, the decline and fragmentation of traditional audiences, changes within journalism, restructuring and mergers of major media companies, and the rise of new forms of media are all acting to shift and transform the role of media in American democracy. All forms of media are in a prolonged state of flux as cable news, the opportunities and demands

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<sup>1</sup> Though this is the dominant paradigm currently, the Bernal-Polanyi debates of the 1930s represent one prominent moment where the role of science, whom it should serve, and its independence were called into question. See Rouse 1992 for a condensed summary of the debates and how they fit into Science and Technology Studies (STS) thought. A second prominent moment occurred in the aftermath of the successful creation of the atomic bomb. Many scientists including those involved with the Manhattan Project became involved in arms control and anti-nuclear activism to one degree or another. The Union of Concerned Scientists (UCS) and Pugwash Conferences on Science and World Affairs grow out of such turns to advocacy and activism. UCS has been and continues to be heavily involved in climate change as its veracity and scientists’ independence and ability to speak freely were seen to be under attack.

<sup>2</sup> The first mention of media as a fourth estate goes back to Victorian-era essayist and historian Thomas Carlyle who wrote in 1840: “But does not, though the name Parliament subsists, the parliamentary debate go on now, everywhere and at all times, in a far more comprehensive way, out of Parliament altogether? Burke said there were Three Estates in Parliament; but, in the Reporters' Gallery yonder, there sat a Fourth Estate more important far than they all.” Carlyle was referring to 18<sup>th</sup> century philosopher and statesman Edmund Burke, known for his opposition to the French Revolution and support of the American one. The first three “estates of the realm,” depending on country were clergy, nobility, and commoners, with the monarch above all three.

of 24/7 reporting, the shift to entertainment-oriented news, and the rise of the Internet play contributing roles in the difficulty of addressing complex issues through current news formats. The depth of media influence then is much more difficult to gauge, as is the notion of the general public they once addressed.

This dissertation argues that alongside the dominant discourses through media in the midst of transformation, social networks and affiliations provide a vital translation of science in varied vernaculars such that climate change becomes invested with meaning, ethics, and/or morality. This translation, however, is never frictionless (Benjamin 1968). Rather, the process of translation into vernaculars enrolls an assemblage of institutions, material training, disciplining mechanisms, and modes of speech in order that articulations might emerge regarding what climate change means for diverse publics and social groups (Fischer 2003; Fortun 2001; Jasanoff 2005; Tsing 2005; Wittgenstein 2001).

Based on ethnographic research, this dissertation analyzes the process of translation and articulation occurring among five different discursive communities actively enunciating the fact and meaning of climate change through their own vernaculars. They are: 1) Arctic indigenous representatives [the Inuit Circumpolar Council (ICC)], 2) corporate social responsibility activists (Ceres), 3) American evangelical Christians (Creation Care), 4) science journalists, and 5) science and science-policy experts. ICC represents Inuit or Eskimos in Alaska, Russia, Greenland, and Canada who are directly experiencing the early effects of climate change. Ceres is a corporate social responsibility group based in Boston that has successfully positioned climate change as climate risk. Creation Care is a new effort among American evangelicals to make climate change a Christian concern and responsibility. Each of these groups have been heavily engaged with their own group, as well as journalists, and science experts through conferences, workshops, and personal interactions. As well, these groups are heterogeneous and my research focused on the leading voices within each group at the time of my fieldwork.

While journalists and science experts do not conform to the notions of “social group” normally associated with groups like ICC, Ceres, or Creation Care, I am treating both journalists and science experts here as social groups in order to provide rigorous, comparative analysis of

how they 1) seek to transform and translate climate change for wide publics, and 2) think through issues of action and advocacy. Science experts and science journalists conform to professional norms, and generally see themselves as part of a larger group of professionals (Gans 1979; Hannerz 2004; Jasanoff 1990; Latour 1988; Merton 1973; Schudson 1978; Ward 2004a; Weber et al 2004). Many scientists and journalists have already been engaging in conversations, workshops, teaching seminars, and fellowship programs that deal specifically with climate change communication and reporting. My research incorporates some of the findings already published from these interactions (Ward 2008), as well as in-depth fieldwork and interviews.

These groups have been strategically selected both because they engage in the process of enrollment and legitimation (Habermas 1976; Latour 1988; 2005; Weber et al 2004), and because they represent multiple means of intervention via human rights (ethical imperatives), the church (mobilizing norms and morality), the market (creating incentives and disincentives), the mainstream media (mobilization of policy opinion), and science (production of facts and knowledge). With regard to the processes and approaches to educating or informing “the public,” they also provide a stark contrast between on one hand, the dominant dialogue about climate change among mainstream media as represented in this study by leading science journalists and scientists operating in the arena I’ve termed *science-policy-media*, and the often-submerged narratives of those who seek to invest climate change with their own meanings that include ethical and moral imperatives. Science-policy-media denotes the tightly coupled assemblages and arenas of science, policy, and media that while differing in key respects, continually circulate messages amongst one another. Together, these five social groups provide a basis for understanding democratic engagement, conceptions of publics, and the interacting roles of advocacy, science, and media in public discourse.

In the cacophony of calls for action on climate change, the diverse efforts of these groups to communicate widely become particularly salient as they are not only competing with other different issues for public attention, but also with conflicting points of view and priorities that have emerged within environmental discourse over the last two decades. Each group has varying relationships with the environmental movement, with governments both in the United States and globally, and intersect with one another in varied ways and at differing levels of intensity and

collaboration. By studying them together, the language of science, while it may be somewhat diversely articulated in various sub-fields, is shown to be a vernacular with shared idioms, terms, and modes of apprehension for expressing information and views about the natural world (Fischer 2003; Fleck 1979; Irwin & Wynne 2004; Jasanoff 2004; Merton 1973). In the wider public discourses that this dissertation records, scientific findings are combined with and filtered through other vernaculars, views of the world, everyday life, and democratic citizen responsibilities.<sup>3</sup>

The past decade in particular has witnessed the dramas associated with coalescing scientific consensus on climate change and attempts to initiate political action. These groups, however, take climate science as scientific and experiential fact, and move beyond the debates about the veracity of climate change predictions. The questions they ask are not about the settledness of the science but rather about how climate change might unfold, and what ethical and moral responses are required, or even demanded, in response. By translating the issue into their own vernacular, these groups and their leading advocates attempt to answer crucial questions for their own constituents/audiences and wider publics: What is it? Why does this matter? What does it mean? Beyond the group, the questions begin to shift to who can speak for and about the signs, models, and predictions of climate change, what lingua franca they use, and what constitutes expertise regarding the issue.

This dissertation thus argues that more information is not what is required to fully engage the public on the issue of climate change. Instead, the applications of meaning, ethics, and morality – linking to what people already care about through a process of articulation and translation, plays a central role in public engagement with complex scientific issues (Jasanoff 2010). Such a formulation challenges models of the public understanding of science which are predicated not on what science means for diverse publics, but rather on scientific literacy, efficacy of communication, trust in science, and achieving public comfort with uncertainty. In short, the conclusions based on this research suggest these models needs to be rethought so that

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<sup>3</sup> In an interview with John Wihbey, a journalist writing for *The Yale Forum on Climate Change and Media*, I described the latter three social groups' use of science as such: "In all of these circumstances science is a partner, not just the primary driver in getting people to act." See Senior JE, Wihbey J. 2009.

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information is not divested of the process of socialization and meaning-making inherent to the public adoption of facts as matters of concern (Jasanoff 2004; 2005; Latour 2004a). Climate change, in this analysis is treated simultaneously as object, issue, cause, experience, and body of scientific research, evidence, and predictions – as a linguistic “token” or floating signifier that is given value within evolving, emergent, overlapping, pluralized *forms of life* (de Saussure 1986; Fischer 2003; Wittgenstein 2001). It is the way that climate change is articulated, used, circulated, and understood that creates its form of life.

While I don’t deal explicitly here with skepticism or the production of doubt (Hoggan & Littlemore 2009; Lahsen 2005b; Oreskes & Conway 2010), its specter hovers variously as a reference point, rationale for action, and factor of political partisanship. Each group must contend with the persistent existence and circulation of skepticism regarding climate change predictions. In contrast then, this dissertation is focuses on *the production of care* (Dumit 2004a; Fortun & Fortun 2005). It records how groups negotiate with the central problem of how to frame a long term, uncertain issue with a wide spectrum of possible outcomes so that immediate action is required. Traversing the margins and/or teetering on the precipices of alarmism and lack of perceived objectivity are primary challenges for journalists and science experts. While ICC, Ceres, and Creation Care, by comparison, are much more comfortable with moral and ethical claims given the explicit codes that guide and differentiate their groups, their primary challenges lie in the processes of translation and mobilization. In other words, the fact of climate change does not advocate, on its own, for taking action now or in the future – it is the presentation of the facts, their socialization, and inherent moral and ethical dictates that determine the need for immediate action (Hulme 2009).

This introductory chapter continues in the next (second) section by providing a brief chronological background as a backdrop against which this research project was conceived, and fieldwork undertaken. The third section will outlines how all five groups contribute to the transformation of climate change as a form of life, unpacking the ways in which meaning, ethics, and morality are being assigned and negotiated with respect to climate change predictions. Media change is a significant factor affecting the context and substance of the arguments posed here so a fourth section outlining the role of journalism and the struggles with expertise follows. As well,

this research draws on a year and half of intense multi-sited, itinerant ethnography, and following an explication of the argument and the role of media, I will also address the rigor, challenges, and exemplars of this methodology in a fifth section. The sixth and final section of the chapter lays out the organization of the dissertation as a whole, with a brief outline of the findings associated with each of the groups.

### ***Climate Change in America in the new millennia (2002-present)***

Climate change is not easy to explain, nor is it happening on a scale or within a time frame that normally populates stories that make it into the news. Even naming it has been something of a conundrum. In 2002, writing a memo to President Bush that was later leaked, Republican Strategist Frank Luntz deemed ‘climate change’ a less threatening term and so advocated its use thereby influencing environmentalists, for a time, to opt for the other term: global warming (Lee 2003).<sup>4</sup> Global warming is still the term used by many polling companies, including Gallup. John Holdren, a prominent scientist and President Barack Obama’s science policy advisor has advocated changing the name again from climate change to “global climate disruption” to better communicate its uneven, unpredictable features.<sup>5</sup> A third name might prove confusing, however.

In terms of change, climate change is not of the sudden or even immediately noticeable variety of change. Rather than change, it can be described as a set of regional variabilities that swing wildly *or* mildly, producing new extremes. Eventually, in the background everywhere, at some point, these variabilities produce a statistically steady trend that can be called change. Perhaps best put, climate change is a signal or a pattern detected amongst the noise of everyday weather. Because of the nature of climate and the complex interactions of observed and potential

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<sup>4</sup> Climate change is, by far, the most commonly used term among scientists, science journalists, and the social groups I have been speaking with. It is also the only term used among scientists and social scientists at MIT at this time.

<sup>5</sup> I first heard this term at a panel at the Annual Meeting of the American Association for the Advancement of Science (AAAS) in Boston. John Holdren was on a panel about communicating climate change that included Andrew Revkin from *The New York Times* who later wrote about it on his popular blog, Dot Earth: <http://dotearth.blogs.nytimes.com/2008/02/18/global-heating-atmosphere-cancer-pollution-death-whats-in-a-name/>

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changes, particularly on a global scale, climate change predictions are dependent on modeling and a compendium of varied fields of basic and applied science (2007b; Edwards 1999; Miller & Edwards 2001; Stern 2007; van der Sluijs et al 1998).<sup>6</sup> And though climate change, given the level of greenhouse gases currently being pumped into the earth's atmosphere is a definite outcome in all of the models, predictions of how drastic that change will be are highly divergent depending on inputs and data used.

Despite the wide range of model outcomes, a common refrain in climate policy discussion is that the American public needs to be seen as “on board” in order to push forward the much-needed policies that could mitigate the spectrum of effects of global climactic change. Being “on board” in this context is generally explained as the need for Americans to “trust” the science and scientific institutions enough to pay more for the very basis of their everyday life, which depends almost entirely on greenhouse-gas-producing fossil fuels for everything from direct production and materials to transportation and distribution (Ansolabehere et al 2006). Whether or not they are aware of the issue and its vagaries, they must also trust policymakers and economic forecasters to make changes without major disruptions, and to do so as equitably as possible across socio-economic strata, keeping in mind the global nature of the problem and the varied solutions being considered.

Trust in these kinds of decisions must be established in part through a series of on average, approximately 45-90 second reports on television, 1,200 words in a newspaper or slightly longer in a magazine, or 25 seconds of radio news (2008c). For those who need more information, they must find the time and means to self-educate online or otherwise. Journalists too must self-educate on new and changing research on climate-related science, policy, economics, and other types of impact studies. At almost every event I attended for journalists covering the issue, it was recommended that reporters form bonds with scientists (and now economists too) in order to keep abreast of new research, break through the public relations

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<sup>6</sup> The volume of the assessment reports by Intergovernmental Panel on Climate Change (IPCC) Working Group One, devoted expressly to the physical science is a key example of the kinds of data marshaled for modeling. Working Group Two and Three deal with impacts and policy using much of the data generated by climate change models. The Stern Review also shows how models are used to recommend policy and assess potential impacts, physical and economic. For a closer and more critical look at modeling, see Edwards 1999 and van der Sluijs et al 1998.

inundation from overeager university publicists or advocacy organizations, and to parse and translate scientific research for a lay audience. At least, this is the ideal formulation among many who have been discussing how the public has or will come to believe in and act on climate change.

Up until late 2005 and into 2006, polling numbers regarding public attention to climate change were at an all-time low (Saad 2004). Frustration grew among activists and scientists who blamed journalists primarily for not reporting enough on the topic, and for giving equal weight to climate change ‘skeptics’ or ‘deniers.’ James Gustave (Gus) Speth, prominent scientist and former dean of the Yale School of Forestry and Environmental Studies, suggested in a 2005 keynote at MIT going around journalists and taking out direct advertising to convince the public. Some prominent science journalists accepted the blame, while others pointed to a complex system of news production and editorial decision-making that involved many factors, and still others felt they had done everything within their power to bring science to their audiences.<sup>7</sup> The administration of President George W. Bush in particular was criticized for its role. In 2004, the Union of Concerned Scientists issued two reports and a statement signed by 60 prominent scientists, including 20 Nobel laureates, who condemned the Bush Administration’s “distortion” and “misuse” of science, and in particular castigated the inaction on climate change, which scientists had nearly unanimously agreed should be a priority issue (2004b).<sup>8</sup>

But it wasn’t just media and government who came under scrutiny, many environmental activists were stunned when Michael Shellenberger and Ted Nordhaus in their 2005 essay, “The Death of Environmentalism” contended that the public’s inability of the public to attend to climate change in any significant way was prime evidence of their movement’s failure. This set

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<sup>7</sup> See Andrew Revkin’s essay on this in DiMento JFC & Doughman P, eds. (2007), and all of Bud Ward’s recent volume (2008). As well, I deal extensively with Bud Ward and Anthony Socci’s scientist-journalist workshops in chapter 5.

<sup>8</sup> Later in 2005, Rick Piltz resigned his senior position with the US government’s Climate Change Science Program, and produced evidence that a White House official had “removed or adjusted descriptions of climate research” (Revkin 2005a). Similarly, NASA scientist James Hansen became a whistleblower in 2006, claiming the Bush administration tried to “silence” him from speaking on climate change (Revkin 2006). Chris Mooney’s *The Republican War on Science* (2005) provides an in-depth look at what he considers to be a pattern of misuse of science by the Bush Administration.

off a round of intense debates and discussions within the environmental movement.<sup>9</sup>

International institutions and the other governments who signed and began to implement the Kyoto Protocol of the United Nations Framework Convention on Climate Change (UNFCCC) were left without recourse against the United States, a signatory and leading emitter of greenhouse gas emissions that contribute to climate change. Vice-President Al Gore had signed the Kyoto Protocol, but the Clinton Administration never ratified it, and the Bush Administration refused to consider it, claiming that it was “an unrealistic and ever-tightening straitjacket, curtailing energy consumption” (2003; Griscorn 2003) .<sup>10</sup>

Then in August 2005, Hurricane Katrina formed over the Bahamas, hit the coast of Florida, traveled up the Gulf of Mexico, and made landfall as a Category 5 Hurricane, wreaking destruction over 100 miles inland throughout the Mississippi region -- most severely on the City of New Orleans. Though the exact number remains in dispute, it is estimated that almost 2,000 people died. It was the costliest natural disaster in US history. Shortly after Katrina, Hurricane Rita followed adding yet more injury and loss to an already battered coastline of communities on the Gulf. Less than a month before these hurricanes, MIT’s Kerry Emanuel published an article in *Nature* that found a link between climate change and a rise in the intensity of hurricanes, but his projections were for fifty years hence (Emanuel 2005).<sup>11</sup> Still, he became a media sensation and was inundated with calls from reporters in the days following the storms. *TIME* magazine put this question on their first cover the week after Hurricane Katrina: “Are we making Hurricanes worse? The Impact of Global Warming” (Kluger 2005). Emanuel was later profiled in *The New York Times*, and other major newspapers, and *TIME* named him one of the most influential people in 2006 (Dreifus 2006; Kluger 2006). It didn’t matter that Hurricane Katrina could not be directly attributed to climate change, nor could the damage it inflicted be solely attributed to the hurricane itself. Investigations afterwards found that the failure of levees in

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<sup>9</sup> See “Don’t Fear the Reapers: A special series on the alleged “Death of Environmentalism” (2005) in Grist.org for responses to Shellenberger and Nordhaus’ essay, as well as “The Soul of Environmentalism,” a response from environmental justice advocates (Gelobter et al. 2005).

<sup>10</sup> As recently as 2006, President Bush told CNN: “I have said consistently that global warming is a serious problem. There’s a debate over whether it’s man-made or naturally caused. We ought to get beyond the debate and implementing the technologies to enable us to achieve big objectives.” Worse however was the constant assault taken up by Republican Senator James Inhofe, Chair of the Senate Committee on Environment and Public Works who called climate change the “greatest hoax ever perpetrated on the American people” in 2005.

<sup>11</sup> I profile Emanuel and his role as a science expert in chapter 7.

New Orleans, a foreseeable technological problem that led to much of the worst damage, and the levees failed well after the hurricane had passed over (McQuaid & Schleifstein 2006).

Nine months later in May, 2006, *An Inconvenient Truth* premiered, featuring Al Gore and his famous climate “slide show,” arguing for the scientific fact of and need for action on climate change. It featured prominently the imagery from and following Hurricane Katrina, as well as numerous charts and graphs as evidence of what climate change could portend for humanity on a global scale. Gore built on a study by Maxwell and Jules Boykoff (2004) that showed the media were biased in their reporting of climate change because they reported equally on climate skeptics, adhering to the journalistic practice of balancing opposing points of view. Historian of science and geologist Naomi Oreskes’ article in *Science* and subsequent op-ed in the *Washington Post* was also featured in Gore’s film (2004a; 2004c). Though Gore did not mention either the Boykoffs or Oreskes by name, Oreskes’ work verified the then still nascent notion that there was a scientific consensus on climate change. Scientific and other criticism of Gore’s film certainly existed, but they were drowned out by the embrace of popular culture as Gore made the covers of magazines such as *Entertainment Weekly* (Svetkey 2006), visited Oprah, and was generally feted – later receiving an Oscar for the film.

By the fall of 2006, the previously stagnant and declining polling on public belief in climate change began to rise steadily. It is difficult to know how much to attribute to Gore or his film, but certainly the number of media stories and increases in polling numbers were significant during this time period.<sup>12</sup> Many environmentalists I’ve spoken with who are deeply involved in the issue tend to cite Hurricane Katrina as the real beginning of a change in public mood. As one prominent environmentalist put it when asked at the Ceres conference in 2007 about the seeming public shift: “Katrina knocked the door down, and Al Gore walked through it.”

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<sup>12</sup> Anthony Leiserowitz conducted studies in 2004 after the release of *The Day After Tomorrow*, a Hollywood film that depicted climate change catastrophes that were heavily criticized for their inaccuracies. Leiserowitz found that risk perception among a general viewing public increased after seeing the film. A similar study in Germany resulted in the same findings. I have not been able to find similar scholarly studies on Gore’s film, but Leiserowitz also conducted a study on the impact of Al Gore’s July 7, 2007 *Live Earth* that broadcast major recording artists to encourage climate awareness and found there was no change in public opinion. It did however act to reinforce those who were already active on the issue.

In 2007, Al Gore shared the Nobel Peace Prize with the Intergovernmental Panel on Climate Change (IPCC) "for their efforts to build up and disseminate greater knowledge about man-made climate change, and to lay the foundations for the measures that are needed to counteract such change" (2007d). Throughout 2007, the IPCC, an international organization of thousands of climate scientists, representing 130 countries, and formed by the World Meteorological Organization and United Nations Environment Programme, released its fourth series of assessment reports. For the first time, the IPCC had devised a media strategy complete with press conferences in order to avoid the kind of lackluster response they had gotten in 2001 with the third assessment reports. What this fourth series of assessments stated was certainly the most newsworthy so far of their reports. Taking off the scientific qualifications found in previous reports, the IPCC stated that the warming of the climate is unequivocal and the global temperature increase is very likely due to anthropogenic greenhouse gas emissions (2007b). The report predicted that warming, Arctic ice melt, and sea-level rise would continue for decades even if emissions levels were stabilized, and that the attendant impacts could be catastrophic for island nation states and those dependent on polar ice caps.

While it's doubtful that the IPCC is a "household term" on the level of Al Gore, American belief that climate change is a scientific fact and that it may already be happening has risen dramatically since the lows of the early part of this decade. Yet, pollsters will be among the first to note that they are not sure what this means i.e. whether climate change concern or belief means a change in willingness to modify actions or behaviors. Certainly, the acknowledgement by President Bush in 2007 that climate change was real, and his statement that Americans are "addicted to oil" changed very little on the policy front. In terms of legislation, in 2007 alone, there were six bills in the Senate and eight in the House of Representatives related to climate change, and none have managed to pass (2007f; 2008b).<sup>13</sup>

In addition to legislative attempts, other measures came about during this same period. The Supreme Court ruled in 2007 that the US Environmental Protection Agency (EPA) is legally required to account for greenhouse gas emissions. Polar bears were made an endangered species

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<sup>13</sup> See the Pew Center on Global Climate Change or Congresspedia by SourceWatch for a good overview of the 2007-08 climate legislation.

in 2008 as a result of climate change predictions, but many who actually reside across the Arctic in Canada and the US decried this as a symbolic and ultimately unhelpful change to policy (2007a; Palin 2008; Watt-Cloutier 2007).<sup>14</sup> Alaska is suing the federal government about this change in policy. A further element, the fluctuating price of oil in 2008 gave some pause and others ammunition regarding the need for a change in lifestyle, regardless of their sentiments about climate change.

Fieldwork for this project was intensively conducted during 2007 and 2008. Reporting on the subject dramatically increased in volume and breadth during this period.<sup>15</sup> According to many polls during this time, belief in the existence of climate change and concern about it finally hit something of a critical mass (most find over 60%; some claim up to and over 80%)(Carroll 2006; Leiserowitz 2007; Newport 2008; Saad 2004; 2006a; b). As at least one pollster and several reporters pointed out to me though, vital ongoing engagement with the issue and willingness to pay for changes are much harder to measure.<sup>16</sup> With one of the longest running records of public opinion on the issue, Gallup reported in April 2008 that climate change continues to rank near the bottom of environmental concerns, and that those who worry about climate change “a great deal” are about the same percentage as in 1989 when they first began polling on the issue (Newport). This trend has continued through 2009 and 2010 though polling differences have emerged depending on who is conducting the research with some saying a high percentage of citizens are demanding action, and others, like Gallup, finding exactly the opposite (Grossman 2009).

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<sup>14</sup> Former Alaskan Governor Sarah Palin (and 2008 Republican Vice-Presidential candidate) wrote an op-ed in *The New York Times* early in 2007 that lays out Alaska’s reasons for not wanting the bears listed. Cynics claim it has to do with oil and gas drilling. Nunavut, the northeastern Arctic territory in Canada is similarly opposed however for quite different reasons. Sheila Watt-Cloutier’s op-ed in the *Nunatsiaq News* makes a striking contrast to Palin’s op-ed, as does *The Economist’s* report from Arctic Canada.

<sup>15</sup> The State of the News Media 2008 report found that climate change was a top ten story in April and December 2007 with radio giving the highest and most constant monthly coverage. Newspapers also had climate change in the top ten for five months in 2007.

<sup>16</sup> Herbert Gans has noted that, “Pollsters are actually not surveying what people think, but whether they agree or disagree with statements the pollsters present to them” (2003 p. 14). Yet, polling often determines communications strategies because it establishes a baseline of what public opinion is declared to be on a given issue, and in the case of climate change, polling results have been cause for both despair (pre-2006) and optimism (post-2006). More recent polls have begun to gauge how much individuals might be willing to pay for climate change-related mitigation i.e. a carbon or gas tax. Conversely, there has been speculation as to what price of oil (and gasoline) would motivate American consumers to change their habits and become less ‘carbon-intensive.’



Environmental activists were cautiously optimistic with a new American president in office, 2009 would see legislation that deals explicitly and quickly with climate change by putting “a price on carbon,” thereby acting to curtail greenhouse gas emissions. But as of this writing in 2010, President Obama has yet to make good on the intense support he seemed to offer for climate action during his election campaign. Adding to American inaction, the international sphere has also been mired in renewed difficulty. Much to the chagrin of many, particularly those in vulnerable countries seeking immediate mitigation measures (the Arctic, low-lying island nations, and others), the UNFCCC Conference of the Parties (COP) 15 in Copenhagen in December 2009 failed to generate enough international agreement to replace the Kyoto Protocol. The immediate outlook is not as hopeful as it was when I wrapped up fieldwork in mid-2008.

### ***Multi-faceted, pluralized forms of life***

As the preceding brief summary suggests, the dominant dialogue about climate change communication has revolved around how to get science across to the public, how to frame it, how to “sell it” to the media, and how to get editors to publish more and regular stories until the American public can’t help but care, pay attention, and regurgitate the facts of anthropogenic climate change on a global scale. Often, during fieldwork, when I have explained my research in brief as “on the communication of climate change to Americans,” I have been answered by some kind of exuberant comment like, “we need that,” which would be quickly followed by questions about whether my findings will help solve what seems like an insurmountable problem, namely, educating or informing the public. Such comments are based on the common model espoused for the public understanding of science. They reflect the sentiment that if the public only knew more facts, or “all” the information, they would be compelled to act on the ramifications and potential impacts, exercising their duties and obligations as citizens to undertake collective action and activism through political and practical means. This dissertation argues against such views, positing that more information does not necessarily lead to more or better understanding (Gans 2003; Schudson 1998). Rather, the processes of articulation and translation by varied social

groups with multiple codes of morality and ethics are a constituent part of public engagement with science.

Models for the ‘public understanding of science’ assume several elements: an authoritative stance for science, a set of facts that can be communicated, the need for a democratic public to know, and a measurable lack of scientific literacy among the general public. Alan Irwin and Brian Wynne (2004) point out that such models invariably put a homogenous body of science up against an only slightly less monolithic body of non-scientific understandings, denying each the “wider commitments and assumptions” that a social *and* technical framework for analysis might provide. Sheila Jasanoff puts her critique this way:

“the greatest weakness of the ‘public understanding of science’ model is that it forces us to analyze knowledgeable publics in relation to their uptake of science and technology rather than science and technology in relation to their embeddedness in culture and society” (2005 p. 271).

She proposes “civic epistemology” as a conceptual tool to acknowledge multiple understandings embedded in history, culture, prior interpretations, and meanings. Civic epistemologies are tacit collective knowledge-ways by which publics evaluate scientific claims, and rather than taking science and scientific authority for granted, help to assess the means by which knowledge comes to be perceived as reliable and authoritative.

This research investigates and theorizes the paths and sub-paths by which civic epistemologies in the US are evolving and forming. What this research points to is that the mechanisms that support the evaluation of scientific claims are not merely based on information. For example, the messenger, as Creation Care representatives term it, is highly influential in their group’s adjudication of the veracity of climate change. Vernaculars speak to the ways in which translation elicits trust as well as action from a groups’ members. Ceres’ use of the term climate risk mobilizes a response to an environmental problem that rests more on fiduciary obligations rather than care for the natural world. The assemblages and infrastructure required to influence and determine civic epistemologies are an integral part of the ethnographic terrain this dissertation analyzes.

Irwin, Wynne, and Jasanoff's critiques primarily focus on scientists and policy-makers' efforts to educate or engage the public, and they regard media as one of several mediating factors. This research builds on their concepts, but considers mainstream media a central mediator in the dominant conversations about climate science. Science and media can be considered two idealized forces constituting the overarching democratic ideal in America, and both pose significant problems in terms of how to consider "the public." Information in both ideals is the key interface by which understanding and democratic action related to science should proceed. And information about climate change has primarily tended to be scientific though more recently, economic predictions and models have also begun to compete for public attention as an application or vision of what the science portends.

Climate change originated in a scientific context that conforms to a mode of knowledge and fact production that divests itself to a great extent of an ethics or morality applicable to everyday living. It is this "native" version of climate change that environmentalists, science journalists, and Al Gore have, to a great extent, drawn upon through the use of experts. Science, providing an objective detached set of facts as evidenced through peer-reviewed research is the substance of their narratives and efforts to persuade. The implicit argument is that these are, after all, a set of facts that demand action and a transformation of society. This, in a sense, forces into the foreground the relationship of their audiences with science, raising questions about its trustworthiness, particular variety (for example, paleoclimatology versus atmospheric modeling), and their own scientific literacy. It takes for granted a scientific mode of apprehending the natural world, and glosses over the nature of science as process in favor of textbook-like facts.

What gets passed over in this narrow sense of climate change is that these conclusions and predictions, while scientific in origin, have the potential to thrust much larger questions into the foreground such as the relationship of the individual to community, and to nature. In a mainstream culture dominated by consumerism, celebrities, and market research, this issue cuts to the core of who and what human concerns are, and how they are mediated and moralized. It enables questions beyond what the realm of science offers -- questions like: What is our relation to each other -- locally and globally? What is our relationship with the earth -- an entity or

bounty that we have taken for granted through much of the industrial age? What does the future look like if our impulses and choices remain unchecked?

Drawing on Ludwig Wittgenstein's theories of language and grammar, I want to posit here that climate change is a multiply instantiated, emergent form of life (Fischer 2003; Wittgenstein 2001). Wittgenstein theorizes that meaning is generated socially through use, action, and context. This meaning constitutes a *form of life* replete with sets of rules and grammar. Michael M.J. Fischer, drawing on Wittgenstein, argues that these kinds of emergent forms of life are replete with ethical dilemma, the face of the other, and historical genealogies, "requiring reassessment and excavation of their multiplicity" (58). Thus conceived, climate change is a term whose meanings are very much in negotiation among social groupings of many kinds, and bringing publics into agreement with a specific instantiations of it has been a focus of those involved in policy-making, science, and journalism. An excavation of climate change as pluralized, emergent forms of life is the aim of this research, through attention to discourse, assemblages, and vernaculars where situated knowledges, advocacy, activism, ethics, and morality become apparent (Dumit 2004a; Fortun 2001; Haraway 1996; Tsing 2005).

By form of life, I mean to gesture at the term climate change as a contested object, issue, cause, and body of scientific research, evidence, and predictions. Indeed, this research throws into question just what climate change is by asking what it means to whom, when, and how. In trying to visualize this, I imagine climate change as a kind of node through which efforts pass and are generated in order to define climate change, associate with it, use it to advance one's other priorities and agendas, and generally make it more central to public discourse. Climate change becomes a pluralized singular as many different assemblages compete and collaborate in media and other forums to define the features, rules, and grammars of its form of life. Whether or not the notion of a form of life falls apart when so coded remains an open question that the conclusion will expand upon.

What this research presents as evidence of multiply instantiated forms of life are the partially submerged narratives and meaning-making processes between and within groups.<sup>17</sup> It tracks the flows of information and sentiments, an evolution of positioning and positions, and a struggle for/against the re-inclusion of a perspective outside of what broadcasting and climate science or policy experts can provide. This perspective in some instances conforms to geography and so might be termed “local”, but it also conforms to the communal and to the ideological, factors that go beyond geography as a unifying factor. In the vein of the Sapir-Whorf thesis on language and worldview, what these groups do is translate climate change into the language of their group: their vernacular.<sup>18</sup> By vernacular, I mean to signal here the interpretive frameworks by which a term comes to gain meaning within a group, and the work of translation that such a term must undergo in order to integrate it into a group’s worldview, ideals, goals, perceptions, and motivations to act. The groups described here are variously heterogeneous and fluid and the notion of a vernacular is meant to describe how climate change has become an issue that their group is concerned about and publicly associated with, as well as, how it is discussed, considered, and articulated on their behalf outside of the group. Vernaculars act in a myriad of ways to provide kind of boundary-demarkation element for who’s in and out of a group, and at the same time, a method for enrollment and membership or identity reinforcement.

What I am trying to put my finger on is the way groups engage in a version of what Joseph Dumit (2004a) calls objective self-fashioning, but at the level of group and group

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<sup>17</sup> In the next sections, I discuss public journalism, proponents of which make similar statements in an effort to reform journalism. Though I am an admirer of John Dewey, this project is much more aligned with the thinking of Gayatri Spivak, Francois Lyotard, and Jaques Derrida in terms of asking who/what is left out in the grand narratives about scientific rationality, and the dominant dialogues about climate change and how it is being communicated in America. See Spivak’s interview in *The Post-Colonial Critic* (1990).

<sup>18</sup> The Sapir-Whorf thesis was based on their research with Indigenous American groups, and posits that a group’s language helps to form their worldview: “The categories and types that we isolate from the world of phenomena we do not find there because they stare every observer in the face. On the contrary the world is presented in a kaleidoscopic flux of impressions which have to be organized in our minds. This means, largely, by the linguistic system in our minds” (Whorf 1956 p. 212, and quoted in Kay and Kempton, 1984). Linguists had discarded this hypothesis until recently when it has been taken up by most prominently by Stanford’s Lera Boroditsky who found that English and Mandarin speakers think about time differently due to how their language structures talking about time. I am positing here that because climate change is caught up in underlying views about nature, the role of humanity in it, and concepts of the future, these groups also have a distinct way of processing these kinds of issues. How they talk about climate change reveals their worldview; the language they use to understand, communicate, and motivate their group about this abstract scientific concept stems from their group’s views of nature, the future, the past, and embedded ethical and moral imperatives.

identity. Group leaders and members negotiate with the scientific facts, setting them at the intersection of their own belief systems and ethical imperatives as well as other cultural inputs outside of their group. For the groups working outside the mainstream discourse, this process is very clear. They bring climate change into the realms of both fact and concern, investing meaning in information and facts so that the need for action is not a next step, but a constitutive part of moral and ethical codes. So, for the Inuit, climate change is infused with traditional knowledge, and experiencing the effects directly becomes the standard-bearer of evidence and the driver for communicating with “the southern world.” For Ceres, economic growth and sustainability are in jeopardy as long as the risks associated with climate change are not addressed, and acknowledging this opens up a host of opportunities for new markets and commodities. For evangelicals, it is both a new understanding of their Creator and a call to consider those least fortunate that are the moral underpinning for addressing climate change. Science in all of these cases is a partner, and not the sole evidence used to persuade first the group, and later a more generalized notion of a public, of the need to act (Jasanoff 2004).

For scientists and journalists, this process of negotiating an ethical stance with regard to climate change is a much differently fraught process. Journalists, like scientists, are enmeshed in cultures of professionalization, institutions, structural and hierarchical relationships, contexts, histories, technologies, and funding/commensuration issues (Benson & Neveu 2005; Blum et al 2006; Boczkowski 2004; Cook 1998; Fiske 1996; Gans 1979; Gitlin 1980; 2002; Hannerz 2004; Herman & Chomsky 1988; Kovach & Rosenstiel 2007; McChesney 1999; Schudson 1978; 1995; Winston 1998). Yet, facts and predictions regarding climate change, as well as the production of doubt have compelled many to find ways to speak to and/or for the need to act. In this dissertation, I use the term *near-advocates* to refer to those like scientists and journalists who are bound by professional norms of objectivity and distance, and articulate in a limited fashion the need to address the wide range of predictions and risks associated with climate change.

In bringing together these multiple discursive practices and processes of articulation, what slowly becomes evident are the ways in which climate change and its subjects are constituted, what counts or is debated as rational or scientific, and the ways in which relations of democracy and knowledge when it comes to technology and science are, to quote Donna

Haraway, “always up for grabs” (Dumit 2004a; Ezrahi 1990; Foucault 2003; Haraway 1991; 1996; Jasanoff 2004; 2005; Jasanoff & Martello 2004). I am using the term vernacular in this dissertation to not only differentiate the ways in which climate change is multiply instantiated as a form of life, but also to continually point to the ways in which discourse is a material-semiotic practice experienced and generated through multiple social – human and non-human means, and most particularly for this research, through media.

As audience members, media viewers/readers/surfers are asked to “make do” with the vernacular they are presented with as a way of establishing a common form of life in which all partake (de Certeau 1984; Jenkins 1992). And, yet, this dissertation records the slippage, resistance, necessary translations, and differing definitions -- the ways in which, as I have delineated it, climate change as object, issue, experience, cause, and body of scientific research, evidence, and predictions is constituted differently by various social groups. It is only as this comes into focus that one can then ask and answer something akin to Wittgenstein’s language games: what does it mean to believe in climate change? What does it mean to have a future with climate change? What will it mean to inhabit that future?

### ***Media, expertise, and meaning-making***

I am arguing that groups play various and often key roles in the translation and transformation of scientific issues for diverse American publics. What is expected of media is something the dissemination of detached information cannot do – in this case, embed meaning and an ethical imperative based on the projections and findings of climate scientists. Science is primarily reported at the national level. Journalists and editors thus face the issue of relevance at the local and regional levels, and also the not insignificant problems of how to explain scientific concepts and adjudicate scientific language and expertise for general audiences. As this dissertation narrates particularly in chapters 5 and 6, journalists and the scientific experts they draw on struggle with how to negotiate the imperatives that arise from scientific findings and projects. In addition, they are dealing with structural problems confronting the now multiple

platforms of media – those of eroding audiences, ownership consolidation, and declining profits that force the end of special science sections and science reporters. But the daunting task of engaging heterogeneous publics gets at something much deeper, which I have earlier called the democratic ideal.

Several scholars have tackled the relationship between information, the printed word, and democracy (Habermas 1962; Terdiman 1990; Warner 1990). I want to call here on Michael Schudson, a historian of journalism, who describes the relation between information, citizenship, and media as an only recently arrived cornerstone of American democracy (Jenkins & Thorburn 2004; Schudson 1998). Early Americans who partook in civil society were white men of a certain social standing who raised their hands to cast their votes and thereby affirmed the social rankings of their time. This civility was followed by an era of raucous party politics which saw voters turn out in high numbers because 1) they were often paid for their vote by their party of choice, and 2) the spectacle they would encounter on voting day affirmed a sense of community, loyalty to party, and of course, thoroughly entertained. Voting reforms during the Progressive Era (1890s -1920s) introduced the vision of a free-thinking, literate individual voter who subverted the power of the political party, weighed the merits of candidates, and cast a secret ballot – an ideal Schudson terms the “informed citizen.” But, media, and hence, access to information is in the midst of rapid transformation, and what kind of landscape this transformation will produce in terms of democracy is still anyone’s guess (Boczkowski 2004; Bolter 2008; Jenkins 2006a; Jenkins & Thorburn 2004).

Media, since the rise of the Internet in the late 1990s has been in an increasing state of flux. Some see an ultimate destabilization of broadcast hegemony through the fragmentation of audiences and a greater number of sources that includes citizen journalism or non-journalists’ reporting (Anderson 1991; Benkler 2006; Bolter 2008; Castells 2000; 2003; 2005; Gitlin 1998; Habermas 1962; Jenkins 2006a; Schudson 1995).<sup>19</sup> Recent reports indicate a more complex

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<sup>19</sup> Habermas’ theory of a public sphere has been the subject of much scholarly debate. Schudson, in particular, claims that such a rational space for deliberation has never existed. But, certainly there is cause for some concern, which Gitlin in particular articulates regarding the disappearing space for broad public discourse that brings together divergent points of view – something Anderson calls an “imagined community.” Cable television and so-called “affirmative journalism,” which reinforce certain points of view is also part of this concern. Jenkins, Castells, and

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patchwork where advertising and news content are being decoupled as radio, television, and newspaper audiences steadily decline, but traditional newsrooms, particularly newspapers still account for most news content online. The Project for Excellence in Journalism which produces “The State of the News Media” report annually, called the transformation facing journalists “epochal”, and stated unequivocally in their 2007 report that: “Technology is redefining the role of the citizen — endowing the individual with more responsibility and command over how he or she consumes information — and that new role is only beginning to be understood.” The 2008 report continues to record the conundrum that blogging and online journalism present in terms of ethics, standards, audience, and economic models.

As a result of these changes, Schudson sees the informational citizen giving way to a “monitorial citizen” who, overwhelmed with the onslaught of data, due partly to the rise of new media, chooses to engage in surveillance more than actual information-gathering. Schudson compares this form of citizenship to parents at a pool who keep an eye on everything ready to jump into action should the need arise. Theories of collective intelligence are in part based on what Schudson calls the monitorial citizen, as are newsroom fears about audience decline – and the rise of new media technologies play a leading role in the new form of citizenship Schudson describes (Benkler 2006; Jenkins 2006a; b; Jenkins & Thorburn 2004; Levy 1997).

In the late 1990s, Bill Kovach and Tim Rosenstiel recognized these changes as being part of a crisis of public trust in journalism. They convened serial meetings of the Committee of Concerned Journalists, and later wrote a book about these meetings that serves as a kind of textbook for what journalists should consider in the pursuance of “storytelling with a purpose.” The 2007 edition deals explicitly with the rise of Internet and networked technology, and they identify both a vital ongoing need for professional verification and an elevation of dialogue that is inherently missing in online public forums such as blogs and message boards. Verification in particular raises the need for and methods by which expertise on any given issues is sought. It also speaks to the ways in which citizens are increasingly seeking new and varied information sources as opposed to the more standardized sources of the broadcast-era.

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Benkler point out that these wide public spaces, while fragmented have moved online in the form of wikis, blogs, and other networking devices. But as Dean argues in Boler 2008, the problem of too many messages creates an accountability vacuum, which she terms “communicative capitalism.”

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Debates about the role of expertise and journalism in American democracy have been ongoing since 1920s. As media undergoes massive changes, they have recently been revived in order to undergird notions of public and participatory journalism (Gans 2003; Glasser & Craft 1998; Merritt 1995; Munson & Warren 1997; Rosen 1999). Walter Lippman, writing in 1922 saw journalists as the link between powerful ‘insiders’ and the general public, whom he saw as largely ignorant, self-absorbed, and incompetent -- and in need of experts able to make decisions on their behalf in an increasingly complex society.<sup>20</sup> His later work only cemented this pessimistic view of both the public and democracy, prompting a response from John Dewey in *The Public and its Problems* (1927). While admitting that Lippmann’s indictment was almost entirely correct, Dewey saw the public as ultimately capable of a negotiation with facts, rational thinking, and action.

Vascillations between Dewey and Lippman’s stances hover over any analysis of climate change communication. Climate science has continually run aground when experts have been pitted against other experts – in all forms of media, and most particularly on blogs and websites. With an evidenced declaration of scientific consensus, one group of experts seemingly prevailed (Oreskes 2004a; 2004b; 2004c). Skeptics, however, still continue to counter with petitions, conferences, and other media-oriented interventions. Expertise then will likely continue to play a leading role in unraveling the climate issue. Making, critiquing, and collaborating for scientific, economic, and policy projections requires a mix of in-depth expertise – even scientists and economists have been challenged as to how to undertake the kinds of interdisciplinary collaborations climate policy demands. How then to puzzle through the problem of expertise in an age of proliferating media technologies and sources for information, commentary, and analysis?

STS scholars have repeatedly shown the ways in which expertise is constituted and deployed from and within specific contexts that are inherently social, institutional, political, and historical (Collins & Evans 2002; Gieryn 1998; Hilgartner 2000; Jasanoff 1990; 1991; 2003;

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<sup>20</sup> For more on professionalization related to Lippman’s ideals, see Schudson’s *Discovering the News* (1978) and Herbert Gans’ *Deciding what’s news* (1979).

Lahsen 2005b; Lynch 1998; Miller & Edwards 2001; Nowotny et al 2001; Oreskes 2004b; Forthcoming; Shapin 1995; Walley 2004). Asking who counts as an expert and what knowledge is included or excluded are two key starting points from which to proceed through the maze of expertise that dominate science and policy arenas. Jasanoff has further pointed out that interpretive frameworks are nationally specific: “what operates as credible expertise corresponds to its distinctive civic epistemology: the criteria by which members of that society systematically evaluate the validity of public knowledge” (2003 p. 393) She characterizes the United States as a litigious society with a contentious environment for the content, discourse, and evaluation of expertise. This analysis helps in part to explain the debates over climate change in the United States, which have been strikingly different than in most other developed countries in the world. This difference however is not just bound up in the contentious nature of public debate, it is also the American desire for objective, scientific facts – objective and scientific often being conflated as the same thing in common parlance. Yet as Irwin and Wynne write, it is an impossible ideal to achieve: “the ‘facts’ cannot stand apart from wider social, economic, and moral questions even if rhetorically they are often put forward as if this were the case” (2004p. 3). Jasanoff argues further that the objective or “view from nowhere” stance is itself culturally specific.

Disentangling the facts from their conditions for production, or the expert from his/her context is an impulse that can be easily traced back to Enlightenment era ideals of rationalism and empiricism (Haraway 1989; 1991; Jasanoff 2004; Latour 1991; Rabinow 1992; Shapin & Schaffer 1989). Yet, the idea of disentanglement persists and can be found not just in reference to science, but it is a fundamental notion embedded in the ideal of providing enough information and verification of facts for an informed citizen. It is the reason journalists seek to balance or root out those perceived as ideologues, which raises the question of whether or not the groups that are part of this research can be considered as such in relation to climate change. Disentanglement is also the rationale for why educating the public has been identified as a primary problem confronting climate scientists and advocates.

A focus on “just the facts” doesn’t entirely blot out attendant social, economic, or moral factors, but neither does it account for the interacting, complex, overlapping processes of media, science, and policy, nor does it consider the commitments, knowledge, and voicing of a

heterogeneous public. Many STS authors have pointed out that as Naomi Oreskes puts it, “scientific proof is rarely what is at stake in a contested environmental or health issue” (2004b). Instead, science becomes a factor and/or catalyst in often-boisterous debates revolving around political, moral, and ethical claims. Dealing with these claims in a way that creates a forum for discussion, meaning-making, and divining the ethical lies outside the realm of both science and science journalism’s traditional focus on the communication of facts and information gathering. They inherently involve ideas and ideals about democracy, community, and social networks that, I argue here, cannot be written off *as either ideological or an irrelevant side-show* to confronting the problem of how it is that facts come to matter and have meaning for a society.

Including ICC, Ceres, and Creation Care in this research offers a clear departure from the mainstream narrative of the failure of media to report adequately on climate change, arguments over the veracity of climate change as scientific fact, or various policy options that should be explored. Rather, by incorporating climate change as an undisputed fact, these groups embark on something like *a relationship-building and translation exercise with the scientific facts*. Meaning, ethics, and morality are negotiated within the group’s vernacular, history, identity, dogma, and contexts. In so doing, they break through, go around, and/or transform the expertise-laden broadcast modes of transmitting information to the public. What these groups want is not specific legislation -- though they do support some from time to time, but a shift in the worldview of their own constituents, and they hope to influence or contribute to a much larger shift among a generalized notion of “the American public.” How they weight their efforts to do this largely depends on how convinced their own group is of the importance of the issue. ICC and Creation Care are clearly on opposite ends of the spectrum on this point.

Though they do so in significantly different ways, these groups move what is scientific and political to the field of ethics and morality, and oftentimes, they make it personal, rooted, and relevant in a way that journalists and science experts cannot and does not. They don’t rely to a great extent on scientific experts in their efforts at persuasion, nor do they intend to dominate news cycles. Rather, they take out ads, use guerilla media tactics, preach from their multi-platform pulpits, utilize the Internet in its myriad of instantiations, and move by way of influence

as opposed to broadcasting information. *Information in this sphere is never without a position, narrative, perspective, or spokesperson.*

How much then does the issue (or the science) change once it moves onto the terrain the group inhabits? This is no small point when considering any of the groups this dissertation analyzes, and the kinds of vernaculars they mobilize on behalf of climate change. Social movement theory and ethnographies of social movements have generally focused on how groups coalesce around issues, rather than the reinvention of groups to address new crises that arise independently of the issues or category of issues the group originally formed to address (Epstein 1996; Fortun 2001; Melucci 1989; 1996). Observations about invention and reinvention of groups still remain helpful for this analysis.

In particular, French Sociologist Pierre Bourdieu (1991) theorized that a group comes into being with the election of and personification through a spokesperson, but in this case, spokespeople emerge not in order to bring the group into being, but rather to bring the issue into being for the group by investing it with meaning. The group becomes a kind of “spokesgroup” for the issue. The relevant questions then morph from what it is and whether it is due to anthropogenic causes to: who can speak to/for/about climate change? And, does it matter from which perspective i.e. human, economic, ethical, moral, scientific? What then constitutes expertise regarding climate change?

What becomes evident in posing these questions is that notions of expertise become morphed as the definition of climate change begins to emerge more fully as a multiply instantiated form of life. This dissertation shows the ways in which material assemblages – institutions, conferences, training opportunities, websites, press releases, and media coverage reflect struggles over how to define the problem of climate change, and thus become an expert – particularly in reference to its impact, ramification, and possible solutions. Vernaculars and articulations form the infrastructure for climate change as an experiential, pluralized form of life. And, as media has expanded through blogging and other forms of 24/7 reporting, the evolution of these articulations and morphing of expertise becomes that much easier to access and track – whether publics, inside and outside these groups actually will or do follow suit as invested,

engaged ‘monitorial citizens’ (Jenkins & Thorburn 2004) is another problem that lies outside the scope of this dissertation’s research and conclusions.

### ***Research methodology and exemplars***

Climate change demands that the analyst find ways to account for the “interdependent world” Jay Rosen (1999) has described in relation to new forms of public and digital journalism, and where to quote Michael M.J. Fischer, “every action, twist or turn of the lay of the land reorients all the other players” (2003, p 2). Fischer argues that current modes of pedagogy and social theory aren’t able to address fully the questions of “heterogeneity, differences, inequalities, competing discursive logics, and public memories; complex ethics of advocacy and complicity; and multiple interdigitated temporalities” (2003, p 39). The interdependent world then is made up of “emergent forms of life,” where mutating perceptions, institutions, and global events give way to ethical plateaus. In Fischer’s view, these require new modes of analysis and research that are multi-sited, multi-vocal, multi-audience, and rework traditional comparisons, recognizing the traces and sedimentations of other analyses. This builds on work undertaken by Fischer and George Marcus in *Anthropology as Cultural Critique* (1999), as well as a range of social theorists intent on a structural critique of the processes by which perception is being conceptualized, governed, and refigured through strands of socio-political networks (Deleuze & Guattari 1987; Dumit 2004a; Fortun 2003; Foucault 1995; 2003; Haraway 1991; 1996; Jasanoff 2004; Marcus 1995; 1998; Sunder-Rajan 2006).

In these terms then, my research on climate change seeks to conjoin knowledges, relations of power, and ways of seeing to unearth a submerged and subjugated engagement with scientific facts that is operating in, around, and through the production of rationalizing discourse for a mass public. It treats climate change as an emergent form of life, tracing specific communities and related strands of translation, vernacular, expertise, concern, and collaboration. In practical terms, I sought to do this through an itinerant, multi-sited ethnographic research plan that located scientists, science journalists, and leaders of ICC, Ceres, and Creation Care both within their own group context, at 21 conferences, and 26 other events where two or more of these groups were

interacting with one another (See appendix for timeline and listing of research events and interviews).

Traveling to far-flung parts of the US from the high Arctic to southern Florida, and more than a few places in between, I conducted 62 interviews formally and informally about the issues they saw as paramount to the communication of climate change. On one hand, I was interested in further investigating what seemed to be a mainstream drama full of mishaps, spin, and argumentation, and understanding how scientists and media were working together (or not) to educate or inform the public about climate change. And on the other, I specifically sought out communities that dealt with the politics, morality, and ethics related to climate science – those who worked as a minority on the shifting terrain of new and old institutions associated with national and international climate policy, and saw the implicit need to operate at both an elite and localized level. My questions asked them to elaborate not just on what (and how) they were doing about climate change, but how they perceived public discourse on the issue, the tactical options available through media in flux, the utility of scientific findings and scientific spokespeople, and how they saw themselves situated within and/or outside the climate change conversation.

Though a practice of “itinerant” multi-sited fieldwork departs from traditional anthropological methodology, it offers some purchase on the way in which media operates as a social practice (Ginsberg et al 2002). Two exemplars that were extremely useful in thinking through both the substance and methodology of this investigation are Dumit’s history and ethnography on the circulation of positronic emissions topography (PET) scans and Kim Fortun’s ethnography of the aftermath of the Bhopal gas tragedy in India.

Dumit’s ethnography (2004) looked at the intersection of a “virtual community” grappling with the significance of PET scans. It included the doctors, patients, journalists, scientists, activists, and a host of players from economically and politically related institutions and their representatives involved in the process of presenting, accepting, or perceiving visual imagery as objective, representative, and diagnostic. Such structuring allowed Dumit to ask why and how scientific facts are received as such, forwarding a notion of “objective self-fashioning” to

understand the “cultural and visual logics by which these images persuade viewers to equate person with brain, brain with scan, and scan with diagnosis” (2004 p. 6). My research asks not only how individuals know what they know, but how groups also come to recognize the need to address climate change from their own ethical and moral reference points, and establish other logics and baselines that come alongside the scientific evidence. It also tackles research questions in a way that, like Dumit’s analysis, holds in synchronicity the circulation of climate change reporting in the mainstream media, and the particularities by which groups have adapted these scientific facts to their own vernaculars.

Fortun formulated the idea of enunciatory communities in order to account for the way disaster creates community (2001). It differs significantly from the communities followed in this research because the Bhopal advocacy networks grew out of a specific incident and were strategically and temporarily configured. The groups I look at are long established and are reconfiguring their messages and positions in the face of a new, global, and present/future crisis, yet they bear resemblance to the ones Fortun describes with multiple identities and sometimes divided loyalties intervening in the midst of a sea of cultural commentaries, representations, and description. The paradox of double binds, geographic dispersal, epistemological inconsistencies, and multivocality she describes echo throughout my research. Fortun argues that to represent such a world, it requires a re-conception of ethnography as verb and advocacy as “a performance of ethics in anticipation of the future”: “Representation of ‘the actual’ remains the goal, but *the actual is to be found in processes and intersections*, rather than in objects and locales” (2001 p. 16). In so doing, she decouples both advocacy and ethnography from modernist ideals, and brings locales into sharp relief with one another and an always partial view of the whole, recognizing that there is always more to address than is possible.

Fortun, Dumit, and Fischer’s work recognize the need to think through ethnography as an account of *networked social relations* – considering both the technological and social aspects of such transformations. Network and information technologies are remaking lines of connection, radically effacing or remaking both flows of power and notions of cultural, historical, and geographical meaning (Benkler 2006; Boczkowski 2004; Castells 2000; 2005; Hardt & Negri 2000; 2004; Jenkins 2006a; Rheingold 2003; Tumber 2001; Turkle 1995; Turner 2006). While



historians of media would point out that revolution has been predicted for every new form of media, current transformations related to the Internet present both opportunities and challenges for groups struggling to get their messages heard and actively produces new configurations of actors, especially at the activist-journalist-scientist-expert level – what I am calling the science-policy-media discursive arena.

ICC, Ceres, and Creation Care have all been experimenting with new platforms related to the Internet, as have many science journalists and scientists. For journalists, it is often a challenge to their already-stretched job descriptions to add blogs or multimedia experiments. Scientists, on the other hand, have taken to rebutting skeptics online and many see it as a new and improved opportunity for direct contact with those reporting on their research and a general ‘surfing’ public. Creation Care is perhaps the furthest ahead in their development of various media platforms – a signature of the evangelical movement in the 20<sup>th</sup> century has been early adaptation to new media so this is not entirely surprising (Gutjahr 1999; Stoneman 2007; Underwood 2002). Ceres provides an encyclopedic website for members and non-members that provides insights and links across their many forays into corporate social responsibility topics and methods of address, but they are only now beginning to think about the utility of podcasts, blogs, and other new media opportunities. In addition to being a medium for the messages they send beyond their own communities, for those in the Arctic, the Internet provides a vital source of information and social networking across a vast area of remote and “fly-in” communities affected by the state of both weather and satellite uplinks.

It is evident even from this brief set of summary sentences that each of these groups could be a dissertation or research project on its own. One of the challenges then is to maintain fidelity to the research I have conducted with each of the groups. Bringing them together generates perhaps a more shallow view than one would have were they studied solely and for a longer period of time per traditional ethnographic fieldwork practices. I prefer however to think of this as a kind of “jeweler’s eye view,” where one is able to tack back and forth between the micro and macro views of the object of research and study (Marcus & Fischer 1999). The synthesis is essential for macro views, and attends to the dictate of following systems, institutions, processes

and interactions such that assemblages, modes of speech, and material infrastructure for emergent forms of life emerge.

Studying these groups together and simultaneously provides a way to understand and critique what modes, practices, and systems there are for public, democratic dialogue regarding complex scientific issues. It allows for a multi-faceted investigation into how expertise is crafted, and what role there is for meaning-making, morality, and ethics in relation to science. Given the structural and technological changes for media and for science, groups like ICC, Ceres, and Creation Care are likely to become more significant rather than less in efforts at public engagement.

### ***Chapter Outline***

The first two chapters will explore the challenges ICC faces in terms of translating and articulating climate change as a lived experience. Chapter one looks at the ways in which climate change's form of life in media and science is articulated in ways that at first turn seem incommensurable with the experiential form of life expressed at the village level in Alaska. Closer examination reveals the role of translation that ICC endeavors to fulfill, and the issues surrounding traditional knowledge, science, and media. ICC was formed in part as an answer to global governance needs, but it has emerged as a key interlocutor for including traditional knowledge with the production of scientific knowledge.

Chapter two builds on this foundation, but focuses on the 2005 human rights claim that was brought before the Inter-American Commission on Human Rights by Sheila Watt-Cloutier, then International Chair of ICC. Though the claim was not brought by ICC, it was supported by the organization and put the Inuit experience with climate change into public discourse in the form of legible rights and claims. ICC's commitment to impart "a human face" to an abstract global problem is creating a new form of expertise – of speaking about climate change as a matter of ethics, experience, and scientific fact.

Chapter three explores the rise of Creation Care, a new sub-movement within the evangelical movement that seeks to shift evangelical Christians' view of the environment. Traditionally opposed to what's perceived as a left-wing ideological concern, concern for the environment is being re-theorized as a moral and Biblical concern hence the term Creation Care as opposed to environmentalism. Science is not the primary basis for their involvement in the issue though certainly prominent scientists have been involved in their efforts to convince fellow evangelicals. Instead, the role of "messenger" must be performed by those trusted to "bless the facts." Creation Care translates climate change into the vernacular of the group by following Biblical and moral dictates surrounding care for the poor.

Chapter four looks at Ceres, a corporate social responsibility group that has its roots in the Exxon Valdez oil spill. Ceres operates on several levels offering a stakeholder process for member companies and an Investor Network on Climate Risk. They have successfully championed climate change as climate risk, working to enroll Wall Street firms, insurance companies, and many other national and multinational corporate leaders in their conferences and efforts to push for legislation and regulation related to climate change. Science makes a very spotty appearance at Ceres gatherings as well – for the most part, the basic premise and scientific veracity of the research behind climate change is taken for granted. How climatic changes will look on the ground for companies with vested stakes and interests in old and new technologies lies at the heart of how they consider climate change-related concerns.

Chapter five seeks to understand how science journalists deal with the challenge of articulating risk. Adjudicating expertise is central to the practice of journalism, and climate change as I have already explicated here provides a thick challenge. The differences between national and local media come to the fore in this respect, as does what has been afforded by new technologies and media change. A central aspect of the challenges facing science journalists is how to articulate the message of climate change in ways that avoid alarmism, and yet indicate an ethical need to act.

Many journalists decry the inability of scientists to communicate their research adequately, while scientists are still reluctant to look like they are chasing media attention or

public education for fear of damaging their careers. Indeed, the problem of advocacy set against the norms and values of their profession is something journalists and scientists share in common. Chapter six builds on the groundwork laid in chapter five regarding journalists, but it theorizes more concretely about the prospects of *near-advocacy* in what I am terming the *science-policy-media* sphere, where these representations and vernaculars are continually jostling and interacting with one another and form a kind of dominant discourse.

## Chapter 1: “Only on CNN”: Vernaculars, TK, and the sciences of climate change

### *Kotzebue, Alaska at the ICYC Language Symposium*

On July 7, 2007, I awoke early in the morning to a brilliant Arctic sun already high above my hotel in Kotzebue, Alaska. The sun seemed to be in exactly the same place it was when I went to sleep late the night before. On the over two hour flight northwest from Anchorage to Kotzebue, I had read about the extreme sleep deprivation that pervades most of Alaska during the summer – kids stay up late playing hockey in the streets; parents, awash in vitamin D, forget to call them in. I was looking forward to partaking in such a lax schedule. The late night work of a graduate student could benefit from the bright blue skies of a 24-7 Alaskan summer, especially in a town that promised little in the way of distractions.

Kotzebue is a town guidebooks refer to as a “working Arctic town,” or what I determined as code for “nothing to see here.” Such a description is in stark contrast to nearby Nome that caters to tourists, Iditarod sledding enthusiasts, and gold rush history seekers, or Anchorage that offers a myriad of bars, souvenir shops, or excursions to see whales, glaciers, and other natural wonders. I traveled the extra leg to Kotzebue so I could attend the Inuit Circumpolar Youth Council (ICYC) language symposium. The invitation had been extended to me by Nome-born Patricia Cochran, international chair of the Inuit Circumpolar Council (ICC).

ICC is a multi-level political organization representing Inuit people across the Arctic. It was formed in the mid-1970s through the initial efforts of Barrow, Alaska Mayor Eben Hopson.<sup>21</sup> Antecedents can be traced back as well to two 1973 conferences held in France and

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<sup>21</sup> Chapter three details the founding and origins of ICC more fully.

then Greenland that sought to bring together northern indigenous peoples from the Arctic and sub-Arctic (Damas 1985; Lynge 1993; Malaurie 2007). ICC has since developed into regional, national, and international elected representation for Inuit living in the Arctic parts of Alaska, Canada, Russia, and Greenland. ICC has both a youth council (ICYC) and an elder's council. They act variously in each national context depending on the structure and needs of those countries – Russia is the last ICC region to be organized owing to the Cold War, and has the least infrastructure and funding. At the international level, ICC rotates its chair every four years between Alaska, Canada, and Greenland, and participates actively with the Arctic Council and the United Nations.

It was a privilege to be invited to the ICYC symposium, and to have the means to travel to the Arctic thanks to grant funding. After I accepted, I realized the symposium fell on the vaunted July 7, 07 (7-7-7) date so I cancelled my plans to attend a Live Earth concert in the US, and booked for travel to Kotzebue. This is how I found myself studying climate change communication in a town high in the Arctic while the global music event, Live Earth was broadcasting some of the most popular musicians in the world and promoting climate change awareness from eight major cities to millions worldwide.

Live Earth, at that time, was one of the largest (and most expensive) efforts yet at generating public awareness and engagement with climate change. It was meant to energize the faithful and convince others to care and do *something* – even if it was merely a commitment to change their light bulbs from incandescent to longer life compact fluorescent (CFL) ones (which pose their own environmental problems).<sup>22</sup> On the July 7<sup>th</sup> morning when I knew the concerts were already underway, I was anxious to get out of my hotel room and out into the cool air and sunshine so I quickly made my way down the stairs of the two-floor, non-descript hotel I was staying in – not incidentally, the only hotel in town. Despite its approximation to a clean well-kept motel along an interstate in almost all ways, its solo status in town made the price tag for a night's stay quadruple anything one would pay for similar digs in the Lower 48. It was sold out

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<sup>22</sup> CFL light bulbs, since this broadcast of Live Earth in 2007, have begun to go out of fashion as LED light bulbs come down in price. CFL light bulbs are problematic due to their mercury components, and therefore toxic disposal. So, it's likely another light bulb change campaign may be in the offing.

for the symposium and would continue to be so for the Northwest Borough economic summit that followed. The hotel had even asked friends and relatives to share rooms in order to accommodate the large groups coming from all over the northwestern Arctic.

Every morning I was there, I would descend the stairs to the lobby where a small group of male elders were chatting and laughing with one another in the seating area in front of registration. Tied together through networks of kinship and friendship, they came from various fly-in communities, like Point Hope, Kobuk, Barrow, and other smaller villages in the northwest Arctic. The symposium was a reunion of sorts for everyone who attended. I was a bit of an anomaly though they were certainly accustomed to scientists, social and otherwise, being in their midst to study them or their land.

The same group of elders had questioned me a day earlier about my identity. They were sure that I was a lawyer, and had a good laugh when they found out I was a graduate student. Climate change as my topic of interest elicited a different response – the tone of the conversation shifted quickly. Several spoke very briefly and gravely of storms that had forced their whaling boats back in, changed game patterns, and continued the dangerous erosion of their coastal villages. They didn't necessarily want to know what I was up to in an in-depth way, but they did want to inform me that these changes were very much a part of everyday concern and experience for them.

On July 7th, they were deep in conversation in their Inupiat dialect. We exchanged waves and I headed out the front door beside them to be greeted by the gloriously bright sun, wind, and gently lapping waves of the Chukchi Sea. The dirt ring road about six feet from shore lay in front of the hotel and provided an easy footpath to the restaurant next door – one of only two or three places to eat out in a town of about 3,000 people. As I slid into a chair at the restaurant, I wondered if anyone in Kotzebue was aware or excited about the fact that somewhere in the world really famous musicians were rocking out about climate change -- to save the Arctic and, if one believed the most alarming projections, countries and land masses as we currently know them.

CNN was on in the restaurant, which doubled as a bar. It had updates from concerts underway in Tokyo and London. CNN's anchors were quite excited about the scientists' band broadcasting later on from Antarctica – excited, that is, in the canned performative way viewers have come to expect from on-air banter. I had to agree with their canned excitement though – the “broadcasting from all seven continents” was a real novelty even if the seventh came by way of grainy satellite video from a socked-in Antarctic winter research station. That was it for a human polar presence though, from the only continent devoid of indigenous human communities.

I glanced around the typically northern gritty restaurant with faded leather chairs and dated wood paneled walls. It occurred to me pretty quickly that I was the only one paying attention to the screens mounted on the ceiling above the bar. The wizened old fishermen in the booth behind me were talking about the relative merits of various winches and rigs. The elder Inuit couple and their grandchild in the booth beside them talked quietly. I couldn't make out what they were talking about but they gave me a gentle nod to say hello, recognizing me from the symposium. Other breakfast-seekers straggled in over the next 45 minutes, but the TV was mere background noise. Game day or election night this was not.

Reciprocally, the Arctic was not center stage for Live Earth, nor were the associated daily challenges of living in a vast expanse dotted with communities that have, over millennia and more, worked out a dependent relationship with ice and cold. The irrelevance of such an event to those actually experiencing the direct effects of climate change seemed palpable from this vantage point. Learning about compact fluorescent light bulbs just doesn't cut it as a solution when nearby, the thousands of years old whaling village of Kivalina is in danger of being swept into the Sea, or to put it less dramatically and more specifically: losing more and more of their small barrier island to permafrost melt and coastal erosion.

It could and has been argued that awareness-raising schemes like the massive undertaking of Live Earth are always removed, regardless of where one sits. Certainly, there were many critics and skeptics that wondered what the ‘real’ net effect would be in terms of both greenhouse gas emissions and the expense of broadcasting musicians like Sting, Madonna, and the Black-



Eyed Peas live from large and fashionable metropolises like Tokyo, London, or Rio (2007c; Schagen 2007). Yet, for those who long for a continued momentum of public interest and support for climate change action, and the energizing of a new generation, there could be nothing better than a “Live Aid” for the Earth.<sup>23</sup> After so many decades in which climate change remained on what Gallup termed the public’s “back burner,” finally it seemed that such a massive event might be a way to raise the profile of climate change the way Live Aid or Farm Aid or other celebrity-laden events had seemingly done for generations and issues previous.

Between this gulf of the local and global, the direct present experience and the conceptual future – both of which are implicated in a range of complex and tightly coupled scientific predictions, lies the difficulty of communicating the amorphous nature of climate change as an issue of concern. How to talk about it, where it’s located, what the causal factors might be, when it may begin or how it already has, and any guesses at potential solutions appear, at first glance, to be audience-dependent. Given the wide audiences most media outlets attempt to reach, the local –whether a county in Oregon or the “American public” writ large – is a key element for evaluating newsworthiness and audience response. The rationale is that publics are more likely to care about what will happen to them, their property, and possibly, their grandchildren.

Complicating this effort is the fact that climate change has yet to be thoroughly regionalized or localized through scientific findings and predictions, except, and only in recent years, where extreme effects are expected due to sea-ice and glacier changes in places like the Arctic, or sea level rise in island or low-lying nations. But the problem of audience engagement is not only about making the issue more geographically direct and specific, this dissertation argues that it is also one of meaning and vernacular -- of engaging ethical and moral codes, and making facts and information meaningful, and meaningful within communal webs of social networks and affiliations. In this light, a general audience for a mass media outlet becomes a very difficult concept to grapple with for it recognizes no allegiances, connections, or communal

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<sup>23</sup> But if reinforcing the coolness of this issue for a generation who according to most research already prioritizes the environment as a top priority was the point, then it may indeed have been pointless because what places like thinkMTV, the socially engaged wing of MTV have devoted their energy to is turning awareness into action. They developed a social networking site throughout 2007 that awards points for taking action because they recognized early on that awareness is not something that needs to be worked on with the demographic for their audience.

definitions – no building blocks for building meaning, but that between material presented, form of mediation, and viewer.

The village of Kotzebue was the most communal setting I encountered during my fieldwork, where networks of friendship and kinship ran deep historically and in the present. It was here that I encountered a first blatant resistance to talking about climate change in a prescribed way. And, it's from this point that a realization began to emerge that the ways in which climate change has meaning for ICC, and the ways in which ICC's message and stories having meaning within a climate policy, science, or activist are starkly divergent. I want to continue with a further explication of my fieldwork in Kotzebue, but first, an overview of this chapter is necessary.

This chapter investigates the ways in which science-policy-media form a kind of porous circulatory chamber for climate change as a form of life, distinct from that experienced “on the ground” by Arctic residents. Ethnographic data calls into the question what climate change is when the diversity of discourse creates an incommensurability that, I contend, requires translation. ICC, I further argue, plays a pivotal role in this process of translation and articulation, navigating a past dominated by colonialism, and a future vision dominated by ideals of self-determination. ICC works simultaneously at the level of village, where direct observation, experience, and traditional knowledge are the infrastructure for one kind of civic epistemology and form of life, and science-policy-media, where, conversely, scientific findings form the basis for a vernacular to discuss and describe climate change.

The chapter is organized such that it begins first by further explicating the gaps between experiential and mediated forms of life, and then introduces the idea and practices associated with traditional knowledge as they are instantiated in communities, social science, and science. In considering the role of ICC as translator, this chapter also examines the challenges posed by forming full partnerships between these differently configured vernaculars and assemblages. This provides the groundwork for chapter two, which follows with this one with a more in-depth examination of ICC's role related to the 2005 human rights petition.

### ***North to Alaska: three-month conversations, CNN, and cliché***

When I flew into Kotzebue early on the first morning of the ICYC Symposium, I wasn't sure what to expect: whether there would be a taxi or whether I'd need to walk to the hotel. Most of the travelers at that time of day seemed to be local people. Though Kotzebue is a small town of 3,000, there were two or three taxis waiting for disembarking passengers. I surmised that either locals often needed transport or much more traffic than I was aware of passed through here on their way to the nearby Red Dog mine (90 kilometers away), the offices for the Inuit-owned Nana Regional Corporation, or any one of the other villages that formed a hub around "Kotz."

The driver was a local Inuk (the singular for Inuit), and he wanted to know where I was from, what I was doing in town, and if I had ever been this far north. The thing about small towns is once you land there, there is a sense of obligation to identify and locate oneself among the pantheon of previous and future visitors. The ride to the hotel was probably about 3-5 minutes yet it seemed to last much longer, providing me with my first glimpses of the Chukchi Sea along the way.

Our hotel was located right on the Sea, separated by a gravel ring road, which ran alongside the seashore. The Inuk at the hotel desk was considerably more professional and urbane than the taxi driver had been. She checked me in, without any small talk, and gave me directions to walk to the school gymnasium where the symposium was taking place. It was about a 10-minute walk, and my first opportunity to wander through town. The streets were mostly empty, and the buildings a rough mix of weather-worn wooden houses and buildings. The Quaker church, a bright red barn-like structure jumped out at me as did the array of large satellite dishes, which I later figured out were next to the building that housed the local radio station. Further from town, one could make out the large crane for a seaport that likely serviced the Red Dog mine.

I wandered down the gravel road that was a main street through town, and found the school with little trouble. It was fairly new and quite sprawling, shaped in a kind of L as far as I could tell from where I stood. There was an empty playground out front, and a wire fence ringed the school yard. We were meeting in the school's large gymnasium, which I found by entering what seemed like it was the front door, and following the sounds of voices through the entry way, past a large trophy case, and down a hall. There was no signage denoting the Symposium.

When I entered, I had the distinct sensation of joining a community meeting of about 80-100 Inuit people, already in progress. People mingled, got coffee, and got caught up on each other's life. The only people I vaguely knew were Patricia Cochran whom I had met briefly at Arctic Science Summit Week some months before and knew by sight, and Megan Alvanna-Stimpfle, chair of ICYC, whom I had spoken with on the phone to secure her agreement for my attending the symposium. Needless to say, I was a bit of a curiosity. There were two other non-Inuit social science researchers there, I discovered later, but they were well known to all the participants, having either lived in Kotzebue or worked with the youth for some years.

I was greeted warmly and openly by every person I encountered. Most of the elders and leaders made a point of finding out who I was – some thought I must be Inuit, which I'm not. I explained to many that I was from a southern Canadian tribe in northwestern British Columbia, but studying in Boston, and my research looked at the communication of climate change to Americans. The responses were varied, but one of my first conversations was transformative in a way I didn't anticipate. A woman, whom I later learned was a prominent locally elected official, upon hearing my personal and research introduction said: "Climate change...we don't really talk much about that. It's more something they talk about on CNN. It's out there. It's not what we talk about."

I was taken aback by her comment, but intrigued as well. Others that morning had nodded when I had told them what I was working on, but they were not that interested in discussing it. It's not that environmental change related to massive warming trends all over the Arctic isn't being discussed. The headline on the regional paper for Kotzebue area talked about the recent hearings by the Alaska Climate Impact Assessment Commission, which had two individuals –

another elected representative and an elder from Kotzebue area on it. Not only that, Kotzebue is a hub for 10 other nearby villages accessible mostly by boat, one of which is Kivalina, the village that would later in 2007 file claim against all oil companies in order to cover the cost of moving their village from its barrier island to another location. Climate change then was recognized as one of the myriad of challenges that faced residents of Arctic Alaska, and conversations with others revealed this quite vividly.

Still incredulous hours later, I talked with Patricia Cochran about this comment. She squeezed in a longer interview with me between conference sessions. We sat on a bench in front of the hotel, facing the Chukchi Sea – its waves gently lapping about 3 feet from us. Every so often, old friends or conference attendees driving or walking by would stop to say hello to her. We watched as a boat filled with younger men pulled out for points across, or perhaps in the middle of the inlet. Down the road lay the large port area that serviced industry but the immediate beach area in front of us was reserved for residents to use. It was a beautiful view to repair to, with the sun high in the sky and the inlet seemingly going on forever in all directions.

Cochran told me that it's not that people don't talk about climate change, they just don't call it that. The everyday vernacular in Kotzebue and among those from other communities throughout the Alaskan Arctic tends to focus on the symptomatic set of changes along the lines of the elders I earlier described chatting to in the hotel lobby – whalers forced back in, more storms, more intense storms, early sea ice break up, coastal erosion.<sup>24</sup>

“Certainly, when our elders talk about climate change and global warming those are not the words that anybody would ever hear coming from an elder's mouth or anybody else, maybe because those are just not the words that we use. But, if you were to ask elders about the changes in ice conditions and what, if they have seen in their lifetime, changes in ice, well, that would be *a three-month conversation* (emphasis added).”

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<sup>24</sup> Similar research undertaken in Southeast Alaska by University of Alaska, Fairbanks Researchers Elizabeth Marino and Peter Schweitzer reveals the same. And, when presenting this research at a conference, I was approached by an Australian woman who said she encountered the same emerging problem among Australian farmers who didn't recognize climate change in media as the discursive, experiential object they knew so well. In neither of these cases does it have anything to do with education or ignorance of science. The term held little meaning or connection for them though they certainly understood what the term was attempting to convey.

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When I presented this quote from Cochran at a conference I attended shortly after conducting research, many in the audience laughed out loud. The absurdity of trying to sum up a lifetime of discrete observations in one term, climate change is striking – particularly for those who have a tendency to gloss over the definition of climate change as something to be found in the pages of *Science*. And yet, is this “three-month conversation” the same as “climate change”? Is there a basic incommensurability between the experiential and the science-media-policy articulations that defy their coming together, even as I have theorized, as a pluralized form of life?

Cochran expanded on the three-month conversation comment by weaving vernacular and worldview together.

“...It has a lot to do with different language. I don’t mean different Native languages...[but], the way we use common everyday language. And, then the other piece of that is the Native worldview... All things are connected and so to take one piece of a problem and not connect it to the rest of the world and the environment around. It just logically makes no sense. How can we talk about changes in weather without talking about changes in vegetation or the air or the people or the animals as all of those things are part of a natural mix -- a blend that all things are connected in our universe.”

The point Cochran makes here is that the ways things get talked about have a direct relation to one’s experience, existence, and point of view both individually and collectively. Or, perhaps more succinctly: how one talks about the environment is based on how one comes to know it. For many Inuit people across the Arctic, this learning process involves communal and familial interactions with elder family members and time spent on the land. Though certainly, it’s not an even, automatic process – every Inuk does not have the same opportunities to learn, and hunting, fishing, and whaling traditions differ within communities. Too, the Arctic has begun to densify and urbanize like most regions on earth – albeit more slowly. And certainly, Inuit are not immune to the social and economic issues that plague many small rural northern communities. Suicide prevention was a primary concern of ICYC’s international council, in addition to culture and language retention.

One of the most fascinating moments for me as a researcher was the discussion I witnessed between the ICYC council – all of whom were in their early to mid-20s, and Cochran. ICYC’s council was a diverse and accomplished bunch – some were already parents; many were recognized community youth leaders who had worked on issues related to language and community survival. The council, being newly formed was using the Symposium get-together as an opportunity to map out priorities for the coming four-year term. There were 2 representatives each from Canada and Greenland present, and several from Alaska including the chair and vice-chair. This meeting in Kotzebue was one of the few in which they would see each other face-to-face. Megan Alvanna-Stimpfle, the Chair at that time, later told me that they usually used social networking tools, voice-over internet protocol applications like Skype, and email to communicate. Alvanna-Stemple later resigned as Chair when she took a job in Senator Lisa Murkowski’s office in Washington, DC, where she was living at the time of the Symposium.

Cochran came to the ICYC meeting in order to talk with them about what ICC was doing, and to talk to them about climate change. For ICYC members, the difficulty was in reconciling the more pressing needs like language retention and suicide prevention against something like climate change. They discussed it at some length, and didn’t come to a conclusion as to where climate change would fit in their pantheon of goals, but the prospects of climate change being a central or top priority did not seem likely. Talking to representatives from Canada who were on my plane heading south after the symposium, and talking with representatives from Greenland while there, they both mentioned that they had spoken to media about climate change. Canada and Greenland ICC representatives had made it a priority, and it was a natural fit that the youth would speak about this issue too in their home countries.

When I spoke with ICC Canada’s former chair and Cochran’s predecessor as the international chair, Sheila Watt-Cloutier, and described the difficulty I had witnessed in prioritizing climate change. She said:

“I think that some people have not fully come to understand that there is no disconnect between the suicide rates in our communities and climate change. There is no disconnect there. Environmental issues – it’s all connected. ...I don’t know what Alaska is like, I cannot speak for Alaska, but I know that many of our young people remain quite connected

to a hunting way of life. If they don't, then their parents do still. There is a real connection going on still with the way of life and, yet even with that I remember getting a question a couple of years ago or maybe even more than that ago why do you focus so much on environment and not social issues at the ICC level? I said there is no difference between the two, I mean, it's all connected. You have to look at the larger picture of how you know our hunting culture is not just about going out and killing animals it is about preparing our young people for everything, challenges and opportunities and it is because of that disconnect that has happened between our children being prepared with the character building that a hunting culture gives and the institution separating that completely in terms of how to be taught, how to be patient, to be bold under pressure, to withstand stress, how to be courageous, how not be impulsive, how to have sound judgment and wisdom. That is all the hunting culture that gives that.”

In Watt-Cloutier's formulation, climate change continues the process of foreclosure on hope, begun by encounters with colonialism and the enduring structures it put in place via education and mechanisms for governance and self-determination. As well, the environment is an extension of and constituent to culture. The response from Watt-Cloutier, whom I will profile more fully in the next chapter on the human rights petition, as well as the ICYC meeting and Cochran's formulation illustrate poignantly the multi-vocality within the Inuit communities that ICC represents (Steinberg 1999; Terdiman 1990). It also illustrates the process of “relationship-building” with the facts that I referenced in the introduction – this process of articulation and translation must first occur within a group in dozens of small and large conversations like the ones I witnessed before it can wend its way out into positional articulations that put meaning, ethics, and morality front and center for media and wider publics.

Piecing together these responses, one begins to see that the gulf is not between the local and global, but rather between the symptoms and experience of what has been termed climate change, and “climate change” as cliché. Cliché is what French philosopher Gilles Deleuze describes as that which creates comfort, that which doesn't allow one to wake up to the intolerability of the present, and lacks the descriptive or depictive powers that might allow real change to happen (Deleuze 1989; Dumit 2004b). Climate change gets defined in one way in the



science-policy-media conversation that teeters continuously on the edge of cliché, and in a completely other way “on the ground,” where its happening already in real time. This is part of what makes it difficult not only for those experiencing it to recognize it when it shows up, for example, on CNN, and it’s also what makes it difficult for reporters to cover it as a pluralized form of life that requires action.

These multiple definitions are as much about timing and distance, as they are about the science-policy-media assemblages that produce a point of view. They require translation in order for climate change to be recognizable within other vernaculars and as a part of the same form of climate change. For Inuit, this ‘thing’ that is happening, that is noticeable and felt – changes in the ice and other indications that all is not as it was -- got described differently, more specifically long before the term “climate change” came to take its place. And, one might then surmise that when “climate change” did or does arrive, it comes with its own sets of baggage – or rules, grammars, or associations in Wittgenstein’s terms – that like any invading army is not greeted with the kind of embrace scientists or journalists or researchers like myself might expect. This is not an issue of incommensurability as I asked earlier then. Rather, it is a matter of translation that as I pointed out in the introduction to this dissertation is never frictionless. *It takes an interpreter to make climate change an Inuit issue, and conversely, Inuit experiences a feature of climate change.* This is a point I will return to in the next chapter on climate change. For the remainder of this chapter, I want to focus on this process as it happens in science.

### ***Traditional Knowledge out on the tundra and beyond: ground truthing versus model truths***

When I went to Kotzebue, I didn’t come to speak to elders specifically as most scientists and researchers usually do when they’re working on climate change, but I did end up with the distinct privilege of having an elder take me out on the tundra to show me firsthand the signs he has observed regarding climate change. In fact, in a departure from many, when I told him about my research, unlike everyone else, he was deeply interested. It turns out that his name was Caleb Pungowiyi, and he’s one of the two Kotzebue area residents who sat on the Alaska Climate

Impact Assessment Commission that held hearings in communities around Alaska about the impacts of the changing climate (2008a). In addition, he was also an Alaskan chair of the Inuit Circumpolar Council in the past, and has worked on numerous governmental committees.

Pungowiyi said he is often asked to sit on such committees, conduct talks, and partner with researchers not because he is “the most knowledgeable,” but because he has “that way of communicating to the learned community about what’s going on” – he has the ability to observe and talk about it in a way people understand. The implicit underlying point of Pungowiyi’s is similar to Cochran’s point – that the way climatic conditions get talked about in the village differ starkly from scientific, policy, and other kinds of researchers.

After one of the afternoon conference sessions, I traveled out on the tundra outside of Kotzebue with Pungowiyi in his small pick-up truck. It was a gorgeous sunny day, and my first experience visually interacting with the Arctic landscape outside of the town. He pulled over at various points, and got out to explain various markers of climate change.

Pungowiyi began by showing me fields of cotton grass that had moved in. Cotton grass is actually quite beautiful, dotting the landscape with swaying low-lying grass, much like prairie grass, but with a cotton puff on the end. He showed me evidence of moose markings – moose are generally found much further south in plentiful numbers. He also showed me evidence of melting permafrost, picking up chunks of soil to show me how dry it had become. He said that more moss is growing, pushing out the lichen that caribou feed on. Caribou are a dietary staple in this area, and many others across the Arctic and sub-Arctic.

I asked him if sea and sea ice changes were equally evident to his trained eye. He said that, though he was not a whaler so was less experienced with sea changes. But he said, it was well known that small boats had a hard time hunting when the wind picks up. He said that changes in wind, water temperature, and precipitation had produced all kinds of other changes that scientific instruments miss.

When I asked him how long ago he started to notice the changes, he said 20 or 30 years ago. He told me they originally thought it was weather variability and that it was a blip that would change back, but then the moose didn't move south again, they kept coming and they stayed. Things that were surprising indicators of change decades earlier had now become more common place. In other words, it took a keen eye observing over a longer period of time to recognize how much the landscape was providing signs of change and what that was.

Unlike the treeline in the south, up on the Arctic tundra, the expanse is usually wide open – the land intersecting with the horizon in the distance. Kotzebue used to have one black spruce tree – an oddity on the tundra. Pungowiyi said that a couple guys had hung a sign on it as a joke that said “Kotzebue National Forest.” But owing to climactic changes, a few more black spruce trees had appeared in recent years. The trees are kind of a harbinger of change – change that will have an affect on life throughout the Kotzebue area and the entire Arctic. The sign came off some time ago. It's just not as funny as it used to be.<sup>25</sup>

What struck me while I tried to take in the details and grasp the weight of these small but steady changes on the tundra is this: in the midst of rapid urbanization and the past hundred years of industrialized specialization and detachment from varied connections to the outdoor environs, climate change requires individuals to have grounded knowledge about the natural world. But, it also requires an ecosystem mindset – a capacity to develop a mental framework in which bits of information can be dynamically plugged, reworked, and interact with one another. For the overall picture, Pungowiyi said they look to science, but they depend on their own observations for ground truthing that scientific instruments miss.

Science as its practiced in various sub-fields and disciplines, and as a methodology is, in this sense, another knowledge system – another mode of apprehending and deriving predictions and patterns concerning the natural, physical environment. What is striking is the tacit understanding that the language and views espoused through the practice of these scientific

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<sup>25</sup> On our way back to town, we drove past a wind farm, which surprised me. Pungowiyi said that someone who worked for the energy company had the idea. He implied that it was well before alternative energy became such a dominant trend. When I later attended the Arctic Energy Summit in Anchorage, I heard the Kotzebue wind farm touted as an exemplar of how to integrate alternative energy in rural Alaska.

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*Information is not the Problem: spinning climate change, vernaculars, and emergent forms of life*

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disciplines drives mainstream media dialogue as well – a point scientists frustrated with media representations of their work might well dispute, and which I’ll address more fully in chapter 6. That scientific methodology governs the way the natural world is measured, ordered, and understood when the environment is covered by American media is taken for granted. Indeed, the language of the sciences is the default common vernacular for mainstream western society when it considers the environment. In contrast, what Cochran and Pungowiyi describe is referred to as “traditional knowledge” (TK), and I would argue that it remains well off the radar in U.S. public fora, except in Alaska and when controversies of the legal or other variety erupt. The case Kivalina is bringing regarding climate change effects is one such example. And, works like the well-regarded, non-academic book, *The Whale and Supercomputer* by Charles Wohlforth (2004) that profiles figures in TK, science, and science-policy in tandem also move such distinctions more concretely into popular media representations.<sup>26</sup>

The Arctic Climate Impact Assessment report that was released in 2001 from the Arctic Council broke new ground in this respect, billed as a thorough combination of traditional and scientific knowledge that heavily involved the Inuit and over 300 scientists. At the Montreal Conference of the Parties (COP) for the United Nations Framework Convention on Climate Change (UNFCCC) in 2006 where Sheila Watt-Cloutier, then ICC chair, announced the Inuit human rights petition, she used the Arctic Climate Impact Assessment (ACIA) as a key point of evidence. She said: “We know that science and traditional knowledge are saying the same thing. What we have been saying for years now, science is affirming, confirming.” This, perhaps, was a turning point within the science community as has been pointed out in various scientific venues I’ve been in, and certainly, it laid the groundwork for Watt-Cloutier’s work on human rights – a point I’ll return to later. However, little of this dynamic process made its way out into the public. Instead, what made news was the science-laden predictions of catastrophic consequences for both the region and the indigenous cultures that depend on it due to an average rise in temperature of 10 degrees over the next 100 years (Martello 2008).

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<sup>26</sup> I had two conversations with Wohlforth during my fieldwork. He said the reception to his book was incredible and unexpected – he received invitations to speak all over the US.

It's only since the 1980s that terms like TK, "traditional ecological knowledge" (TEK), or "indigenous knowledge" (IK) have been widely used, and then often only in indigenous, academic, or policy arenas. While these terms became fashionable lately, the concept they embody has its roots in anthropological and explorer recordings of travels beyond western civilization. Most, if not all, such travelers to the Arctic have expressed curiosity and amazement at the deep local knowledge of climate, ocean, land, plants, and animals. And, often, their lives depended on such local knowledge in order to survive harsh and unpredictable conditions. These records encompass what Lévi-Strauss (1966) theorized as "the science of the concrete" – the search for order in non-western civilizations, which is not primitive in the sense of an evolutionary step that precedes an enlightenment through rationality and science. Rather, it is, as Cochran notes, a separate knowledge system, and sometimes said to have its own evolutionary path of development. A path, it is easily argued, that has been in a state of détente with science since the arrival of colonialism despite providing science with essential insights and methods at crucial historical moments (Cruikshank 2005; Fischer 2003; 2009; Grove 1996; Koerner 1999; Wohlforth 2004).

TK is defined variously as qualitative, intuitive, holistic, moral, spiritual, empirical, lived, oral, systematic, detailed, and diachronic as opposed to the specialized, quantitative, rational, synchronic, systematic, detailed, objective qualities usually associated with science. But, the line between scientific and traditional knowledge is less stark than such a laundry list would suggest, particularly as varied models of collaboration have begun to emerge, but even in decades previous, TK could prove enigmatically useful. TK was instrumental in the 1970s in supporting the claims of Inupiat whalers in Alaska who successfully challenged scientific data related to the migratory bowhead whale population (Benson 2008; Berkes 1977; Feit 1987; Inglis 1993; Wohlforth 2004).<sup>27</sup> Scientists eventually were forced to agree with their TK-based calculations and observations, and the moratorium on subsistence whaling by the International Whaling

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<sup>27</sup> From Inglis (1993): "For example, there is evidence from Feit's (1987) work with subarctic beaver trappers that TEK can be quantitative; Berkes' (1977) work shows that Cree fishermen of the subarctic are perfectly adept at carrying out controlled field experiments. As well, of course, scientific ecology can and often does use holistic approaches, and occasionally produces diachronic data."

Commission (IWC) was lifted as a result.<sup>28</sup> There are other similar examples where diachronic and quantitative data have been generated through TK, but what makes it entirely separate from the project of science and the scientific process is its social context and production.

TK is part of a worldview that generates symbolic meaning from the environment, which is shared communally and historically. TK, as Julie Cruikshank (1991; 2001; 2005) reminds us in her investigations of local knowledge and glaciers, is porous and socially-situated. Harkening back to Cochran's comments, Cruikshank's research demonstrates that how one behaves in the environment is heavily influenced by how one thinks about it. In Cruikshank's work, the Champagne-Aishik Nation in the Southern Yukon have experienced glaciers to be sentient, sensitive, and able to exact revenge for improper observance of protocol and respect in their presence.

Based on her many decades-long working relationship with elders and communities in the southern Yukon, Cruikshank argues that "elders talk about the same issues that concern scientists," but they do so with fundamentally different objectives and sense of what the cause of physical changes might be attributed to:

"Scientists look for physical mechanisms. Oral tradition bearers more often look for moral relationships. Sometimes the narratives return us to a time long ago when giant animals competed with humans for control of the world; in these stories glaciers are the dens of giant animals and they surge when the animal is angered by thoughtless human behavior. Together the two different approaches give us a richer sense of landscape than can be derived from either one alone." (33)

Such fantastic mythological stories likely would seem incongruous to the careful measurements, hypothesis, and analysis that a scientist undertakes. It takes a careful ear and often, an exhaustive comparative analysis of the geologic and historic record to reconcile narratives with events.

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<sup>28</sup> I should note here that while I did not go to Barrow, Alaska for my fieldwork, nor was I able to talk to Richard Glenn, a key figure in TK in Alaska. The Barrow Arctic Science Consortium (BASC) has many ongoing collaborative projects with Alaskan scientists that are well chronicled in Wohlforth's *The Whale and the Supercomputer* (2004).

The stakes are not entirely scientific in such a project. Cruikshank makes clear that there are ramifications to a differently conceived and symbolized sense of place and landscape. Colonialism allowed for a certain kind of inscription on differentiated landscapes from jungles to glaciers that justified its expansion and tactics both towards landscapes and people. And, the divergence of these views remain a point of conflict and misunderstanding in current debates over environmental issues, land claims, and other negotiations or policy-making that involve in varying ways, indigenous rights (Fienup-Riordan 1990.; Nadasdy 2003).

TK does not always take the form of narrative like that which Cruikshank records. As TK has emerged as a useful node of information, a spectrum of data has emerged as have a spectrum of practitioners, both native and non-native. In climate change related TK, one is less likely to hear mythology except perhaps as an orienting device. The why things happen question or moral relationship as explanation largely falls out of the equation.

### ***Traditional knowledge, social science, and science-policy***

In March 2007, I headed only slightly north from Boston, to attend the Arctic Science Summit Week (ASSW) at Dartmouth College in Hanover, New Hampshire. Dartmouth has traditionally been a center for Arctic studies, and Native American studies – I was told there are usually one or two Inuit students who attend there at any given time. ASSW was jointly hosted at Dartmouth by the U.S. Army Engineer Research and Development Center Cold Regions Research and Engineering Lab (CRREL), located nearby in Hanover. ASSW is an annual event that is organized and funded by what I refer to as an “alphabet soup” of Arctic organizations. In 2007, that list included the International Arctic Sciences Committee (IASC), Arctic Ocean Sciences Board (AOSB), European Polar Board (EPB), Pacific Arctic Group (PAG), and the Forum of Arctic Research Operators (FARO). Many more science-policy and research groups were in attendance as well -- all of whom were usually referred to by their acronyms, making it rather difficult to sort out at first for a newcomer to polar science like myself. I often found

myself at the back of the lecture halls in which the meetings took place, laptop open, searching on the acronyms in order to try and keep up with the fast pace of abbreviated discussions.

The ASSW program included an in-depth update on the state of Arctic science. Lead researchers working on topics related to permafrost, coastal erosion, ice core data, sea ice measurements, social science (including traditional knowledge), and other areas gave presentations. A fair amount of time was also devoted to presenting and discussing organizational and policy issues. Every polar country was heavily represented, as well as some others one might not expect like Korea and China. The annual websites describe the purpose of ASSW thus: “to provide opportunities for international coordination, collaboration and cooperation in all areas of Arctic science and to combine science and management meetings.” 2007 was particularly well attended because it was also the inaugural event of the 2007-08 International Polar Year (most often referred to as IPY), an every 30-50 year occurrence.<sup>29</sup> I will return to more on ASSW later in this chapter and in the next chapter as well, but I want to focus on one of the side events as a way to continue thinking through relations between science and TK.

For ASSW, Dartmouth’s Hood Museum put on an exhibit called *Thin Ice* which made available a few of the thousands of items from the Stefansson collection. Vilhjalmur Stefansson was a Canadian-born Arctic explorer and ethnologist, and later, Dartmouth’s Director of Polar Studies, as well as a significant contributor/researcher to CRREL. He collected thousands of items during his travels and research in the Arctic. The exhibit was curated by Nicole Stuckenberger, a postdoctoral fellow who had done fieldwork in Qikiqtarjuaq, a small community in Nunavut, Canada who had gone through the collection and selected a narrative that highlighted changes in the Arctic related to climate change. At ASSW, she gave a tour for scientists attending the conference.

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<sup>29</sup> The first IPY was held in 1882-83, and included 11 participant countries, and 15 Polar expeditions. The second IPY was held 1932-1933 and included 40 participant countries. The third IPY was held in 1957-58 in conjunction with the International Geophysical Year – an event proposed by the International Council of Scientific Unions. 67 nations participated, with 12 nations participating through 65 research stations in Antarctica. See <http://www.us-ipy.org> for more.



Stuckenberger began by talking about common metaphors we use regarding weather like the cartoon character, Snoopy's famous "it was a dark and stormy night..." from the Peanuts comic series, or 9/11 observations that "the sky was so clear and blue that it seemed nothing bad could happen..." Then, she explained that, similarly, Inuit use myth to locate and understand weather.<sup>30</sup> She used the unfamiliar, and almost funny image of a "bad baby" acting up to demonstrate the gulf between how weather is perceived culturally. Weather, in Inuit cosmology is like "a bad baby prone to fits," and in times previous, could be placated by shaman.

In its panels, *Thin Ice* referenced a previous Smithsonian exhibit that had similarly attempted to orient disparate publics by using the metaphor of "a friend."<sup>31</sup>

"In recent years, Inuit have described the weather as *uggianqtuq*—a word that suggests unfamiliar, unexpected behavior. The title of a recent exhibition on Arctic climate change at the Smithsonian National Museum of Natural History, *A Friend Acting Strangely*, was inspired by this term. Inuit have described the weather as more unpredictable, storms as more extreme, summer days as hotter, and the land and sea ice as increasingly unfamiliar. Elder Iyerak from the Igloolik Research Center explained the meaning of *uggianqtuq* to an anthropologist as follows: 'For example, I am very close with my sister. Say I wasn't feeling myself one day and I went to visit her. As soon as I walk in the room, or say something, she would know right away that something is wrong . . . She would say that I was not myself.'"

The metaphor of a friend or the mythological belief of weather as "bad baby" opens the way for establishing a different relationship with the natural world – one that revolves around hunting primarily, as well as other subsistence activities. *Thin Ice* makes it clear that observation and "knowing when" is the key to hunting, and survival.

"Before going hunting, fishing, or berry picking, one has to know where to go and when to start out within the context of the particular season. Such decisions must be based upon

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<sup>30</sup> The exhibit itself emphasized both the diversity and similarity of Inuit customs and beliefs across a wide geographical area. In other words, Nicole was taking the baby myth from her fieldwork, but that doesn't necessarily mean it is a shared belief across the Arctic, where Inuit dialect and custom vary.

<sup>31</sup> Igor Krupnik, the co-curator of the Smithsonian exhibit was also on my ASSW tour. He warmly complimented Stuckenberger on the *Thin Ice* exhibit.

traditional knowledge, observations of the weather and snow, wind, and ice conditions, and information from available technologies that measure or help deal with the environment.”

It is this hybridity of knowledge and observations that has come to represent TK in the climate change conferences and conversations that I have been privy to.

IPY’s Director David Carlson was on my tour of the exhibit. And, like everyone on the tour, he paid rapt attention to Stuckenberger as she walked us all through the panels. Afterwards, he approached her and told her that he had recently been to several communities in Arctic Canada, and he was so enthused by the eagerness of people to talk about climate there. Stuckenberger agreed, and they launched into a conversation where they traded experiences about elders sharing stories and experiences with them. When I later interviewed Carlson, he said that, at every meeting he attends, there’s always “talk about how it’s important to have indigenous partners,” but he acknowledged that the rhetoric doesn’t always match reality. He said with IPY, they were trying to do better. He noted, in particular, projects by social scientists Igor Krupnik and Sherri Gearhardt-Fox as key exemplars.

Igor Krupnik presented some of his research and perspective on TK at ASSW and was a co-curator of the Smithsonian’s *A Friend Acting Strangely*. Krupnik works for the Smithsonian. I had a chance to sit down and talk with him both at ASSW, and in his office at the Smithsonian in Washington DC. Krupnik has pioneered both the publishing of this kind of information as well as models for collaboration with communities. When I spoke with Krupnik after his ASSW presentation, he noted that TK is difficult to get right – TK poses significant challenges in terms of both its status as a differing system of knowledge, how data in the form of narratives, observations, and beliefs are collected, and how they are integrated with science. He was careful to point out that there are *experts* acknowledged within most Inuit villages, particularly in Alaska where he’s spent much of his research time in recent years. TK is not ubiquitous in Arctic communities – one must have a deep knowledge of the community to be able to ascertain who is an acknowledged expert.<sup>32</sup>

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<sup>32</sup> Krupnik, Carlson, and several others at ASSW noted that Shari Gearhardt-Fox has been pioneering a similar project in Clyde River, Nunavut (Canada). Her project is the lead example of community engagement among IPY

In his essay in *Watching Weather and Ice Our Way*, Krupnik makes the point that Conrad Oozeva, Chester Noongwook, George Noongwook, and Christina Alowa, the Inuit people who co-authored this book with him on observations regarding climatic changes and weather patterns on and around St. Lawrence Island, Alaska, are very conversant with scientific terms (2004). They are much more able and eager to integrate scientific findings into their own systematic observations than scientists would be in their encounters with TK. Krupnik argues that the Inuit way of recording, analyzing, and integrating empirical data constitutes a system that can, when done by “experts” among the Inuit, offer long-term localized analysis and prediction, and it remains open to new data like that which science can offer. Expertise is developed over a lifetime, and is usually acknowledged and revered by the community or group of communities in which an expert lives. So, when hunters need to understand the conditions, they consult their own village or community experts, and they are very much in the case of sea ice, trusting them with their lives.

*Watching Weather and Ice* was a four-year project that brought together experts from St. Lawrence Island in the Alaskan Arctic. They are listed as co-authors, a practice, Krupnik told *Science* magazine in their coverage of TK, was important both because of the collaborative nature of such projects, but also as an initial move to protect intellectual property (Couzin 2007). “Watching” uses a systematic method to record observations of change in sea, ice, and climate in Yupik, a dialect of Inuktitut that also included hand drawings forming a distinct record of how sea and ice changes look and feel from a resident Yupik perspective. *Thin Ice* listed the Yupik terms from this project as evidence of the claim that there are the over one hundred Inuit terms for different kinds of ice (sila). The process of recording observations is still ongoing. When I visited Krupnik in his Smithsonian office, he received an audible voice message from St. Lawrence Island from one of the Yupik experts, calling to discuss the latest observations.

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projects – a new category since the last IPY 50 years ago. Fox resides year-round in Clyde River, has her own dogsled team, and regularly travels out with local people to record observations of how the ice is changing – sometimes experiencing the peril of sea ice melt herself.

Carlson, in his final talk at the ASSW banquet told me that he addressed relations between TK and science as a problem of valuation and evaluation. He said that what needs to occur for engagement and partnership with indigenous peoples is a rebuilding of the evaluation system so that “what constitutes valuable data” is arrived at through compromise.

“Engaging means they [indigenous partners] not only need to be sources of information, they have to set up the structure of what data has value, how do we collect it, how do we share it and that’s a different level of engagement and fairness.”

Carlson mentioned Krupnik particularly as a model for thinking about moving beyond indigenous peoples as topics, and engaging them as partners.

“To understand the Arctic, we have to understand how the Arctic people understand the Arctic but that’s not only weather data, that’s not only wildlife health data, it’s reminiscences, it’s language, it’s geographical mental maps that are different than geographical physical maps.”

Wohlforth’s work on Alaskan views of climate change (2004), and Anthropologist Hugh Brody’s older work on mental maps and hunting in Northern British Columbia (1997) certainly come to mind in thinking through this. But, in this last section, I want to push this further in order to understand how the role ICC plays as an articulator and translator works within science and science-policy-media contexts.

### ***Articulating TK in science and beyond the village***

During the course of my research, I had the opportunity to travel to Alaska twice. The first was to Kotzebue, and the second time, I stayed in Anchorage for the Arctic Energy Summit and met with a number of Anchorage-based interviewees. During this second visit, I sought out Henry Huntington, an Alaska-based anthropologist who has worked extensively with TK, including on ACIA and in other collaborations with Caleb Pungowiyi and Krupnik among others. Huntington is a graduate of the Scott Polar Institute at Cambridge University in the UK. He said that he has watched attitudes towards TK gradually change – where when he first

published a peer-reviewed article on TK, it had difficulty passing, and now he regularly reviews articles by others that deal with TK.

Huntington pointed me in the direction of a report that came out in year 2000 based on a conference in Girdwood, Alaska (located just outside of Anchorage) held by the Marine Mammal Commission on the Impacts of Changes in Sea Ice and Other Environmental Parameters in the Arctic. Convened by a group of five that included Huntington and Pungowiyi, the goal was to bring together “scientists and indigenous experts” to talk about the changes in the Alaskan Arctic. It included some of the experts from Krupnik’s “Watching” project. While important changes were documented and notes compared that serve as a record of climate change, commitments to trust, communication, and collaboration also emerged. The report ends on this equalizing note:

“It is almost trivial these days to talk about “barriers” and “hurdles” on the ways Native or local knowledge can be matched with the data collected by the scientific community. Those obstacles most commonly listed arise from the presumption (which more often than not remains untested and never fully examined) that traditional knowledge is assumed to be intuitive, holistic, qualitative, and orally transmitted while academic or scientific knowledge is primarily analytical, compartmentalized, quantitative, and literate (Berkes 1993, Eythorsson 1993, Lalonde 1993, Nadasdy 1999). While there is some truth to these differences, both scientists *and* Native observers can effectively operate with *both types* of knowledge...” (45).

Such an ideal situation is evident in collaborative projects like those undertaken by Krupnik and Huntington, and will likely occur more often as figures like Pungowiyi and Krupnik’s co-authors become more widely recognized as experts.

Backing up this articulation of an ideal of sorts, the continual rhetoric I witnessed in sites like ASSW point to the fact that scientists value the contributions of TK. But the smoothness of pronouncing the existence of such dual expertise, and the presence of supportive rhetoric elides the varying processes by which it is occurring. By processes I mean to signal the code-switching, translation, and interpretation that is required for the various mediated and non-mediated forums that comprise climate change regimes nationally and globally. In other words,

despite the gains made in these specific instances, the status and representation of TK, when considered more broadly in arenas of climate science, reporting, and policy-making is still very much “up for grabs” (Haraway 1996).

*Science* magazine’s 2007 article on TK features a beautiful image of a Saami reindeer herder in traditional regalia/dress out on the tundra, and signals a new and growing acceptance of TK (Couzin 2007). Huntington, Krupnik and Pungowiyi are featured in the article. It begins with a funny joke that Pungowiyi also told me a version of when I met him in Kotzebue.

“I say that there are three sure signs of spring,” says Caleb Pungowiyi, a 65-year-old Siberian Yu’pik who lives in Kotzebue, Alaska. “The ducks and the geese coming back, tourists coming back, and scientists who come back to check their instruments.”

Another kind of joke I encountered during research from several scientists was that Nuuk and most of the villages inhabited by Inuit people in Greenland were teasingly called “fly-over” zones since scientists tended to by-pass these major cultural and populations centers as they busily headed to their remote research sites further north. Both of these incidental commentaries point to the fact that on the ground partnerships have yet to become anything like a norm in Arctic communities.

During the course of my research, I had the opportunity to informally meet Aqqaluk Lyngge, Vice-Chair of ICC and longtime Greenlandic activist and leader when he spent time in residence at Dartmouth where he was an invited fellow in 2008. His visit was arranged by Ross Virginia who is a scientist and Director of the Institute for Arctic Studies in the Dickey Center for International Understanding at Dartmouth. Virginia was also a lead organizer of ASSW, and I interviewed him at Dartmouth.

Virginia specifically said that he invited Lyngge in order to move past the “fly-over” problem, and engage with communities. But, he also said it was something of a risk because ICC “takes strong positions around issues of considering the community. [And] there may be people that disagree with those decisions.” But he said that “having Aqqaluk I think enhances the educational experiences [for] students that are here and I think it improves the scholarship in some of the programs that we’re trying to build by fully understanding and engaging with ICC.”

He said that as a representative of Dartmouth, he would not “sign on to ICC positions,” but as an individual Arctic scientist, he had no problems with their positions.

The Inuit, like other indigenous Arctic peoples, have been, in a way, forced into engagement with government policies and media – and into forming political representation in order to chart paths of self-determination. ICC was largely formed as way to engage policy, media, and science in order to address oil and gas development, whaling quotas, seal hunting and import bans, persistent organic pollutants, and now, climate change (Damas 1985; Lynge 1993; Lynge 1992). Each of these issues is fraught with controversy, conflict, geo-politics, environmental advocacy, engagement with science, and the needs of many individual communities who depend on land-based subsistence activities. Positions, as Virginia put it, are required for a political organization like ICC.

Lynge is not one to shy away from controversy when it comes to challenges confronting the Arctic and Inuit people.<sup>33</sup> In person, he is full of energy, ideas, and passion, and I found him willing to engage with many of my questions. He spoke at the opening of the *Thin Ice* exhibit at Dartmouth – the launch was not part of the ASSW, but the exhibit and its booklet containing his speech were part of the ASSW welcome packet. Lynge closed his launch speech by saying this:

“It is too early to tell how climate change will ultimately affect us. Will the impact of climate change be as powerful and culture-changing as our missionaries and our colonizers were? Will we find the right adaptation measures? I don’t know the answer to that. I do know, however, that we will be strong in our resolve to take our own steps in dealing with this. Sometimes we will do it alone, and at other times we will reach out in partnership.

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<sup>33</sup> I later met Lynge again at the United Nations Permanent Forum on Indigenous Issues (UNPFII) in 2008. He was clearly in his element, negotiating the Arctic and Inuit position amongst a diverse set of indigenous and national interests. He spent a fair amount of time being interviewed by media since the UNPFII theme was climate change that year. He had also been instrumental in the crafting of the Universal Declaration on Human Rights. Lynge and I ran out of time to talk, but I did manage to sit down and have a long discussion with Puju (Carl Christian Olsen), who has worked for ICC in Greenland for several decades alongside Lynge. He gave me an extensive education on Greenland’s history, and history with ICC.

With all the flurry of scientific enquiry on this issue, one could easily be led to believe that it is the researchers who are most affected by the world's changing climate, and not the Inuit. I plead with western scientists to be careful how you conduct your research on our land and on our thinning ice. Work with us as equal partners and not as the colonizers and missionaries did. Help us deal with not only your own interesting research, but with our concerns. For example, help us deal with industry, which is keen to see an Arctic sea route open up to them.”

For Lyngé, it's clear from this speech excerpt, the specter of colonialism not only hovers, but can be seen in the traces of how climate change adaptation and mitigation policies are considered and negotiated. Scientists are part of such an assemblage of historical sediments and institutions that have the potential to provide partnership in efforts that constitute successful adaptation to the coming environmental, economic, and social changes. Lyngé's presentation echoes both the need for collaboration (and therefore, one can conclude, the lack or lack of consistency thereof) that IPY's David Carlson earlier alluded to, and the push towards self-determination that has marked ICC since its inception.

In my interview with Carlson, he similarly agreed that engagement not only entails a commensurability and translation of data, but indigenous groups setting the agenda of what gets researched. He said that at times it can be frustrating when scientists want to study Arctic char for example, but end up pulled into politics over housing. But, in terms of IPY, he wanted to see a different legacy more along the lines of what Lyngé calls for. He said he didn't know “quite how to do it, but I don't think it's possible to separate science from the policies especially in the North.” What Carlson is getting at is the ways in which scientific research is grounded in a terrain, literally and figuratively that involves communities – that requires communities. In this recognition, it is evident that the polar science assemblage is much differently configured than many scientific contexts – a point that will become more obvious in chapter 6.



## ***Articulations and voice***

When Krupnik made his presentation at ASSW, it was riveting, detailed, and filled with compelling voices from his work on TK. Afterwards, I asked him about the way this assemblage of community, science, policies, and politics works. He made a clear distinction between the indigenous voice at the village level, and at the political level – the former being the one he felt social scientists were most able to record and represent, and the latter being qualitatively different in terms of tone, focus, and goals. He advocated for the importance of social science analysis at an event like ASSW because social scientists were more likely to interface well with physical scientists, and within science-policy discussions, and they had already won the battle of having TK considered as more than mere anecdotal evidence. In the terms of this dissertation then, social scientists were more likely to speak the language of science such that TK could become a part of the process.

It was after my interactions with Krupnik that I began asking every scientist I encountered at ASSW about TK, and whether they used it themselves. Most extolled its virtues, but did not describe any field instances where it was useful or a part of their own process. Finally, one night, at a young scientists' mixer, I began talking with a scientist who told me that he thought the whole TK rhetoric was a sham. He said that while it was useful in the 1980s when elders were first interviewed, he felt that, now, the elders made little distinction between the microphone of a scientist or reporter. He cited what he viewed as corruption and cooperation difficulties in the village he had been working in for several summers.

Beside him, listening in on our conversation, was a retired, older scientist who had joined the group as a mentor. He responded by saying that he had done research in Barrow in the 1960s, and he found local involvement to be one of the most important assets to research in that area. He said the local Inuit appetite for sharing knowledge and integrating data was incredible, and shaped his view of TK and local involvement throughout his career. But, he concluded that Barrow may just be one of those special places with a long history of collaboration due to Army research stations that have been there since the 1950s. Certainly, the legacy at Barrow continues. Wohlforth wrote as recently as 2004 about the Barrow Arctic Research Consortium, long-term

army collaboration, and the very present University of Alaska researchers who do year-round research in difficult places with the help of local people.

The young scientist agreed that there are varying sorts of success with TK. He clarified that he was actually very interested in TK, but just hadn't seen it work well yet in his own research site. Later, I asked him whether or not a social scientist skilled in TK would be helpful to resolving this situation. He was doubtful, and went further, saying: "And, I've read *Orientalism*, and I think [Edward] Said would not like these people or approve of most of their work."

Having the spectre of postcolonial theory raised in this setting was a little surprising to say the least, but why should it be? Lynge and Sheila Watt-Cloutier acknowledge blatantly and obliquely the still-obvious presence and legacy of colonial infrastructure. Science and colonialism as many historians, anthropologists, and STS scholars have demonstrated were inextricably tied together, even in the practices of some of their disciplinary forbears (Fischer 2003; 2009; Grove 1996; Koerner 1999). The problematics Said (1978) raises of exoticism, representation, and voice continue despite the emergence of TK, indigenous rights movements, and transnational organizations like ICC. Yet, an ongoing critique of how/when/whether to address identity and race in such a process also raises questions about political alliances, authenticity, and strategic essentialism (Maaka & Andersen 2006; Smith & Ward 2000; Smith 1999). Indeed, in one history I read that puts ICC in a leading role in the formation of the Arctic Council, the author asks as well about whether or not an emphasis on traditional lifestyle practices like subsistence food gathering forecloses on opportunities to deal with a wider range of pertinent social and economic problems (Keskitalo 2004).

Drawing on Italian philosopher Antonio Gramsci, Cultural Studies theorist Stuart Hall introduced the notion of articulation in order to set aside questions of authenticity, particularly in relation to diasporic communities who argued both for continuity – the continual presence of historical, cultural, and economic relations with all of the attendant ruptures, inequities, and postcolonial symptoms, as well as new forms of political expression (Maaka & Andersen

2006).<sup>34</sup> Hall explains articulation as being like an articulated lorry – a truck with pieces added or subtracted from it. In Lyngé’s statement I’ve excerpted here, such a multi-piece articulation is evident – with sedimentation of the past and hopes for the future, as well as a pointed critique of the present bundled together.

In rethinking articulation theory with regard to transnational indigenous movements in the Pacific, James Clifford generates a question that has distinct meaning in the Arctic as well:

“In articulation theory, the whole question of authenticity is secondary, and the process of social and cultural persistence is political all the way back. It is assumed that cultural forms will always be made, unmade, and remade. Communities can and must reconfigure themselves, drawing selectively on remembered pasts. The relevant question is whether, and how, they convince and coerce insiders and outsiders, often in power charged, unequal situations, to accept the autonomy of a ‘we.’ ...How should differently positioned authorities (academic and nonacademic, Native and non-Native) represent a living tradition’s combined and uneven processes of continuity, rupture, transformation, and revival?” (Clifford, 2001, 480)<sup>35</sup>

Self-determination, Clifford reminds us is a many-faceted set of goals and representations that are evolutionary in nature. Crucially too, the ways in which Inuit have been portrayed in popular media from *Nanook of the North* through to *Attunarjat* form a kind of sedimentation, and if one peers closely at early ICC initiatives, they are very much aware of the power of communications, in particular, lobbying their own governments early for media in their own languages, particularly in Greenland and Canada (Alia 1999; Lyngé 1993; Lyngé 1992). Adding social science and scientific representations to this mix, and the assemblages, articulations, and translations embedded become that much more complex. For ICC, the distance from the village to the political process is a well-worn path – one filtered through history, needs, aspirations, and

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<sup>34</sup> Jonathan Rutherford "A Place Called Home: Identity and the Culture Politics of Difference" 9-27 from *Identity: Community, Culture, Difference*. Ed. Jonathan Rutherford. London: Lawrence & Wishart, 1990. Gramsci described this articulation as 'the starting point of critical elaboration': it is the consciousness of what one really is, and in 'knowing thyself' as a product of the historical process to date which has deposited an infinity of traces, without leaving an inventory'. Identity marks the conjuncture of our past with the social, cultural and economic relations we live within. 'Each individual is the synthesis not only of existing relations but of the history of these relations. He is a precis of the past.' ... (19)

<sup>35</sup> “Articulation as I understand it evokes a deeper sense of the “political”—productive processes of consensus, exclusion, alliance, and antagonism that are inherent in the transformative life of all societies.” (Clifford, 2001, 473)

notions of elected representation. This is something I will further take up in the next chapter.

## **Conclusion**

This chapter has attempted to locate where and how climate change is instantiated on what is widely considered to be the “front lines” – where the effects of accumulated greenhouse gas emissions are already beginning to create steady change and new extremes in the Arctic. Yet, beginning with my initial fieldwork experiences in Alaska, what I discovered is that vernaculars at the village level differ from how climate change is defined at the level of national media. It is from this vantage point that it becomes evident that the form of life enacted through media constitutes another vernacular dominated by assemblages and articulations related to the science-policy-media sphere. Indeed, there is a tacit argument embedded here for the seamless circulation of a certain form of life within science, policy, and media hence my hyphenated reference to them as one sphere of continual interactions.

Translation and articulation are required in order to bring these vernaculars into conversation with one another such that a pluralized form of life becomes evident. Understanding the variegated features of TK and its application within social science, science, and lack thereof in media, is an essential aspect of the scaffolding for translation, as is ICC. TK simultaneously enrolls and confronts the assemblage of institutions, professional norms, and practice of science present in the Arctic.

Acting and speaking on behalf of Inuit across the Arctic, ICC seeks to express, translate, and interpret an Inuit way of being in the environment, transforming a loss of sea ice into a loss of human life, culture, tradition, and means for subsistence. It seeks to translate and interpret the kinds of conversations I had in the lobby with elders and make them legible for global media audiences in a multi-platform, multi-modal world. Unlike Live Earth and other mainstream activist ventures, it is less about what one can do individually to fix the problem, and more about

what it looks like for those who are already experiencing the changes directly, and what the stakes of such massive changes are for their communities.

ICC's pivotal role as spokesgroup for the Inuit experience and interface with science means that TK becomes a site for an articulation that requires navigation of advocacy and ethics. Arctic scientists and science policy experts are forced to come to terms with research sites that are simultaneously about science, communities, and the sediments left from previous and ongoing policies and politics. For scientists and social scientists active and working together in the Arctic, their differently configured foci of integrating TK entail different sets of confrontations and expectations.

As the practice of recording, analyzing, and including TK has grown in stature, an attendant set of expectations, practices, and imposed limitations have grown with it. Embedded for ICC within an articulation of TK is the push for greater self-determination – a point which I will further elaborate in the next chapter. For ICC, there is no disconnect between village articulations, translations, and political aspirations. These factors operate simultaneously, and climate change is the most recent terrain on which to elaborate community needs and experiences. The specter of colonialism is, in many ways, ever-present.

## **Chapter 2: The Inuit Gift: Discourse changers, rights, stewardship, and self-determination**

On December 7, 2005, at the United Nations Framework Convention on Climate Change (UNFCCC) 11<sup>th</sup> Conference of the Parties (COP 11) in Montreal, a group gathered for a side table session called “the right to be cold.” It’s not obvious on the UNFCCC website video of the event that I watched how many people were in the audience, or what the overall feeling in the room was. The historic nature of the declaration being made, however, was unmistakably clear. There, Sheila Watt-Cloutier, then Chair of the Inuit Circumpolar Council (ICC) from Kuujjuaq, Nunavik (a northern region in Quebec, Canada) articulated what remains a definitive statement regarding how climate change was and is wreaking havoc in Inuit communities across the Arctic.

Watt-Cloutier began as she normally does in Inuktitut, identifying herself by her Inuit name and welcoming the crowd. She then switched to English, and acknowledged fellow indigenous people in the audience before addressing the audience as a whole. Among those who sat at the long head table beside the podium, I was able to ascertain by watching the entire video that a couple were Inuit hunters, there to support the petition. Seated at the table as well were Robert Correll, the chair of the Arctic Climate Impact Assessment report, James Anaya, an international indigenous law expert, and Lloyd Axworthy, a former foreign minister of Canada – all of whom spoke after Watt-Cloutier in support of the petition.

After her greetings, Watt-Cloutier announced that, after two years of research, she and 62 other Inuit individuals had submitted a petition to the Inter-American Commission on Human Rights. The petition named the US as a violator of the 1948 Declaration of the Rights and Duties of Man. The petition states that US inaction on reducing greenhouse gas emissions to mitigate the effects of climate change violates the Inuit right to life and physical security,

personal property, health, practice of culture, use of land traditionally used and occupied, and the means of subsistence.

The petition was not a surprise to anyone in the room, or to those, myself included, who had been closely observing ICC's climate change activism. In fact, it's arguable that the real weight of the announcement had come the year before in 2004 at COP 10 in Buenos Aires when Andrew Revkin at *The New York Times*, as well as numerous activist and other outlets online became aware that the petition was being considered and prepared. The headline on Revkin's story, issued December 15, 2004 reads "Eskimos Seek to Recast Global Warming as a Rights Issue." ("Eskimos," is a term only used by Americans – it's considered somewhat derogatory with colonialist overtones in Canada and Greenland.) Revkin contextualizes the ICC effort undertaken by Watt-Cloutier as part of a broader turn by "representatives of poor countries and communities - from the Arctic fringes to the atolls of the tropics to the flanks of the Himalayas" who "say they are imperiled by rising temperatures and seas through no fault of their own." Revkin summarizes their actions by saying: "They are casting the issue as no longer simply an environmental problem but as an assault on their basic human rights."

The petition does serve as a record or oral history of such an "assault." But, when I first met Watt-Cloutier, in March 2007, she described the petition quite differently -- as a "gift." I didn't understand the metaphor fully until I saw the deposition videos that were part of the *Thin Ice* exhibit at Dartmouth's Hood Museum (which I detail in chapter one). The exhibit included about a dozen of the 62 petitioners' video depositions. In those featured at the exhibit, petitioners describe firsthand what changes they are experiencing, what it means for their families and communities, and the ramifications of these changes for their culture and way of life. It is a staggering testament both to the life of hunting and subsistence living still practiced in the Arctic, and to the changes wrought by forces far outside their control.

These individual testimonials were eye-opening in a way that presentations on policy and science cannot match. The videos were taken by two undergraduate students (one from Dartmouth College), who traveled to remote communities across Canada, under the tutelage and with the advance preparation of Watt-Cloutier. She said she would phone ahead and make

arrangements, and community leaders would welcome the students, assisting them in setting up and conducting interviews with elders and those whom, as I prefaced in chapter one, communities would consider “experts” on the topic of climactic changes in their environment. Watt-Cloutier said that fellow petitioners and their communities, primarily in Canada, were unequivocal in their support of the petition.

In the Canadian context, which Watt-Cloutier would be highly familiar with, there is a striking comparison to be made here between this petition and the Gitksan and Wet’suwet’en people who opened up their culture and way of life via court testimonies for the landmark *Delgamuukw v. British Columbia* Supreme Court case, begun in 1984 and concluded in 1997. *Delgamuukw* mandated a revisiting of unextinguished aboriginal title and rights, particularly in British Columbia where no treaties with Aboriginal people were made before or after Confederation. This case also reverberated across Canada and in the Arctic and sub-Arctic where treaties and other land-based agreements are in constant need of affirmation, negotiation, reinterpretation, and enforcement. Wet’suwet’en and Gitksan elders similarly describe their testimonies and depositions metaphorically as opening up their culture, providing a kind of ‘gift’ to the courts (Daly 2005; Gisday Wa & Delgam Uukw 1992; Mills 1994; Monet & Wilson 1992). Such presentations make indigenous ways and practices legible for non-tribal audiences, ultimately, so that these audiences (courts and the wider public) can adjudicate the veracity of their claims, and one could extrapolate, the integrity of their culture in relation to the lands they claim.<sup>36</sup>

Despite the largesse inherent from the perspective of the petitioners, and the landmark nature of the petition, the Inter-American Commission rejected the Inuit petition several months later in late 2006. Those I’ve spoken with speculated informally about American influence on the Commission and the subsequent demise of the claim. After the rejection, in early 2007, Watt-Cloutier was invited to give a presentation to the Commission that would summarize the vulnerabilities globally of indigenous communities to the perils inherent in climate change

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<sup>36</sup> Anthropologist Ronald Niezen (2003) makes a similar point with regard specifically to the deployment of a human rights framework by several transnational indigenous organizations. I expand on his concepts later in the chapter.



predictions – this would include the list of “poor countries and communities” Revkin alluded to in his story. Watt-Cloutier told me that a member of the Commission had said they wanted to do “something” about this, and that her 2007 testimony would help them figure out just what that “something” was. Nothing has come of it since. When I interviewed Revkin, I asked him why he didn’t follow up on the rejection or the claims made by the Inuit, he quickly looked up in his *Times* database, and said they did follow up – with an 86 word story, noting the case had been rejected.

Despite the failure of the case, and the ways in which it largely fell out of mainstream media coverage as well, the Inuit experience of climate change has been used by many journalists and policy advocates to illustrate that climate change is already occurring. Yet, the claim moves the experience of climate change outside of the realm of mere illustration and into the domain of self-determination and settled causality. In other words, it isn’t greenhouse gas emissions doing this to the Inuit, but the US government which has stalled on mitigation policies that might prevent further loading of such emissions such that climate change will occur more precipitously at the poles, where effects are known to be more extreme. And as such, the Inuit are compelled to deploy a variety of means to address the prospects for communities’ continued survival. In contrast to largely scientific fact-driven appeals in mainstream media, the claim sought to, in Watt-Cloutier’s words, “put a human face” on climate change, and the Arctic. In so doing, it widened the framework of expertise, of who could speak for and about the issue of climate change in wider public arenas.

This chapter builds on chapter one’s explications of traditional knowledge (TK), and the translation and articulations that ICC performs in order to both make their claim understood by wide publics, and to have science-policy-media versions of climate change linked with grounded, direct Inuit experiences of climate change. The human rights petition is one clear instance of this process, enrolling TK, articulating Inuit experiences, and intervening in a form of life, proscribed for the most part by assemblages and institutions related to what I am terming the science-policy-media arenas of influence and articulations. As more fully explicated in the introduction, I am using Ludwig Wittgenstein’s idea that meaning is generated socially through use, action, and context. In Wittgenstein’s terms, climate change is a form of life defined through a process of

socialization and meaning-making. Drawing further on Michael M.J. Fischer's elaboration of forms of life as emergent, in negotiation, and occurring on ethical terrain, climate change is a kind of pluralized singular that at moments and in various locales, in various sub-forms seems incommensurable, and always requires translation in order for it to be recognized as a unified notion requiring action. Bringing publics into a specific constitution of 'climate change' as a scientific concept or science-based policy has been the focus of many in journalism, policy-making, and science. ICC, and the other social groups this dissertation investigates provide a departure and comparative tool, elucidating the many-faceted, sometimes conflicted form of life that is "climate change."

The first part of this chapter examines the background of ICC and the lead-up to the claim more closely. It will then further explicate the notion of translation as it relates to the petition, and what ICC continued to do under the leadership of Watt-Cloutier's successor Patricia Cochran.<sup>37</sup> Watt-Cloutier, Cochran, and other national and international ICC leaders and spokespeople like Aqqaluk Lyngé (who became chair in 2010) invest climate narratives with Inuit experiences of early changes in Arctic climate, and an environmental awareness based on systematic close observation through hunting and other traditional/cultural activities. They have sought to express and translate a way of being in the environment -- a worldview -- that transforms a loss of sea ice into loss of human life, culture, tradition, and means for subsistence. This chapter argues that ICC's role is not only to articulate climate change in Inuit terms and experiences for a wider public, but to embed it with aspirations for self-determination and the definition of Arctic as region. The latter half of the chapter will set these recent efforts within a larger historical trajectory of ICC's founding and focus on developing trans-regional means for self-determination.

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<sup>37</sup> Cochran resigned her post as Chair in 2009, one year before Alaska's 4-year term as international chair ended and after my fieldwork had concluded. James Stotts, from Barrow, Alaska took her place for the final year. In 2010, in Nuuk at the ICC Assembly, Aqqaluk Lyngé was elected/acclaimed as the new ICC international chair and chair of ICC Greenland.

## ***The Gift: “Putting a human face” on climate change***

Sheila Watt-Cloutier is an engaging individual. I got the feeling rather quickly that she connects easily with many that she encounters. She has traveled extensively, and spoken widely about Inuit concerns so her genuine, direct, and interested approach to meeting strangers (myself included) seemed remarkable to me. I had three different opportunities to attend her speaking engagements in 2007 and 2008 – two in Vancouver, British Columbia, and one in Saskatoon, Saskatchewan. In each instance, many stood in line to talk with her after her speeches. At both of the events in Vancouver, she made time for informal, very personable interviews with me around her scheduled media interviews and talks. It was in Saskatoon that I finally got a chance to record an interview with her. She told me that her approach to media was to say, “you help me tell the story and I will give you the time to help me tell the story.” She said that as chair, she spent 40% of her time fulfilling media requests.

Watt-Cloutier said she didn’t have a media strategy, and it was often difficult to deal with the volume of media requests – more so now that she’s on her own and outside the formal ICC structure and office support that she had at ICC Canada. Between the times I spoke with her, she ended up having to hire an agent to manage her speaking engagements and requests. She also fell ill at one point due to all the travel, and was forced to rest for several months in her home in Iqualuit, Nunavut where her daughter and grandson also live. In her speeches, she often mentions her grandson by name as part of the reason why she does what she does. Her daughter, is a traditional Inuit throat singer. Watt-Cloutier also has a son who is an airline pilot living in Montreal. Family is clearly very important to her. During one of our conversations, she mentioned that when she met one of the key people involved in the petition, she formed her opinion about him not by his many credentials, but by how he spoke about his children.

Watt-Cloutier was raised by women – her mother and grandmother, and traveled only by dog sled for most of her childhood. Her father who is not Inuit left her mother very early on. Watt-Cloutier grew up eating what Inuit commonly call “country food” or subsistence hunting. When I first met her for lunch in Vancouver, we had to hunt for a sushi restaurant because she was craving food from home – raw sushi servings were as close as she could get. Watt-Cloutier

speaks Inuktitut fluently, which is not uncommon in her part of the Inuit world. Language retention is a concern in other areas – Alaska and Russia, in particular.

Though she comes from a political family, Watt-Cloutier describes herself as a reluctant politician whose passions have been engaged by very specific issues – first, education, which was the catalyst for entering politics.<sup>38</sup> Afterwards, she ran for a regional post at the Makivik Corporation in Northern Quebec, and was at first defeated.<sup>39</sup> Her second run in 1995 got her elected, and she headed to Nome, Alaska at that time for the ICC General Assembly. She said she didn't mean to get involved with ICC: “my intentions were not at all to be doing any international work or getting elected in any other position than the one I just got elected in.” But, she said she was “verbal about things” as a member of the ICC Canadian delegation and got elected as a chair for Canada. Later, in 2002, as Canadian chair, she moved into the international chair position after seven years of working on behalf of Canada, but often in the international realm as well.

ICC is comprised of both national organizations and the international chair position, whose office is generally supported by the national office of the current chair's country. The international chair rotates between countries with the exception of Russia where there is not the infrastructure required to accommodate it. Originally, the international chair was elected at triennial assemblies by 18 delegates from each country – Russia only began voting in the mid-1990s, post-glasnost. Recently however, the Assemblies moved to an every four-year event. They have been held in various major Inuit towns and villages such as Barrow (Alaska), Nuuk (Greenland), Iqaluit (Nunavut, Canada), Kotzebue (Alaska), and Kuujuuak (Nunavik, Quebec, Canada).

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<sup>38</sup> Watt-Cloutier was instrumental in writing a document called “The Pathway to Wisdom,” which she described as containing 101 recommendations that challenged the status quo about education in Nunavik communities.

<sup>39</sup> Canadian Inuit have organized themselves by way of regional corporations that work as a structure for governance, land claims negotiation, and economic development for the four regions of Canada: Nunavik (northern Quebec), Inuvialuit (western Northwest Territories), Nunavut (newly formed province in what was the eastern part of the Northwest Territories), and Nunatsiavut (Labrador). Makivik is the regional corporation for Nunavik. For more on Canada specifically, see: Mary Simon (1996), Hugh Brody (1991), Ken Coates (1956), Marybelle Mitchell (1996), and the Inuit Tapirisat of Canada (1977).

An NFB film at the 1992 Assembly in Iqaluit (formerly Frobisher Bay) chronicles an election where Greenlander Hans Pavia-Rosing is elected for a second time as chair (Siegstad 1985). The process is depicted as full of suspense and behind the scenes negotiating, and when the results are announced in the film, there are definitely some disappointed factions. But, as Watt-Cloutier explained to me, since then, ICC decided to change the process to a more “collective election” in order to avoid inevitable politicking as well as the unpredictable, messy nature of the earlier elections. Months in advance, countries hold their own elections, according to their own processes of determining representation and voting status, to determine a country’s leader. The international chair rotates so that the quadrennial Assembly mainly acts to ratify the next country’s choice. So, when Watt-Cloutier became chair in 2002, she knew well ahead of time because she had already been elected by the regions in her home country of Canada, and it was Canada’s turn for the international chair position.

The 72 delegates (18 from each country) who elect the international chair are chosen differently, depending on the country. ICC Alaska selects from four regions which have county-like governments called Boroughs, and the board is populated by appointed representatives from two boroughs, four tribal non-profit organizations, and four regional corporations, as well as an elder and youth representative. ICC Canada builds its board from elected representatives of regional corporations, which are also self-government entities, and includes an ex-officio member from a national Inuit women’s group (Pauktuutit Inuit Women of Canada) and the National Inuit Youth Council. In addition, the vice-president for National Affairs is the president of Inuit Tapiriit Kanatami, which works within Canada on policy issues affecting Inuit and the Arctic. It’s not clear how they select the remaining number of individuals to total 18 delegates. The same is true for ICC Chukotka though similarly, their board is elected from 8 communities, and they work closely with the Yupik Society, which represents Inuit within Russia and in their region. ICC Greenland chooses their 18 delegates from a broad range of community groups including women’s associations, Hunter’s and Fisherman’s Association (KNAPK), workers union (SIK), Greenland’s parliament, and political parties.

Each country puts forward their chair and a vice-chair to make up the 9-member Executive Council of ICC that includes the international chair. They are given a four-year

mandate by Assembly delegates, and meet twice a year as a council. Though, given the nature of their posted schedule and many international meetings, they see each other much more often in major cities where Arctic Council, UN, or other negotiations and meetings are ongoing.

Each ICC national/regional office is funded differently. ICC Chukotka has had the most difficulty securing enough funding to employ staff, and at the same time has had to navigate rapidly changing policies and political landscape for non-governmental organizations in Russia. ICC Canada and Greenland are both supported through their national and regional governments, as well as foundations. Watt-Cloutier noted that when she was elected in 1995 as ICC Canada chair, it was a volunteer position, but by the time she left in 2002, it was a full-time paid position. ICC Alaska appears to be supported by Alaskan regional corporations and foundations though a report on the ICC website does not explicitly state this nor does it consider ICC Alaska to be a strong regional office.

Both Watt-Cloutier and Patricia Cochran, her successor, mentioned that they fund-raised extensively in order to undertake initiatives as international chair.<sup>40</sup> These fund-raising initiatives seem mainly targeted at major philanthropic organizations like the Gordon Foundation and the Christiansen Foundation, who fund region-specific, indigenous, and/or environment-oriented proposals. Cochran mentioned this is something they'd like to see evolve so that fundraising and properly staffing an office isn't the main task in the first year or two of a mandate – this would allow Russia to take a turn at the chair position as well. The effectiveness of the international chair depends in large part on the state of their national office and their initial successes at fundraising.

Watt-Cloutier benefited then from the time she had as the chair of ICC Canada in order to get organized, build a team, and tackle a major issue at the international level. She began as Canada's chair in 1995 when studies were coming out that showed how persistent organic pollutants (usually abbreviated to POPs) were circulating from factories in the United States and

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<sup>40</sup> Mary Simon, a former Canadian and international chair mentions this as well in her speeches regarding ICC.

being found in the Arctic ecosystem, including in the bodies of Inuit people – in fatty tissues and breastmilk (Downie & Fenge 2003; Hilts 2000; Miller 2000; Sze 2006).<sup>41</sup>

“When I started then [in 1995 at ICC] that was the time, very shortly after, [when] the actual global negotiations were starting on the persistent organic pollutants and the toxins that were coming into our bodies and nursing milk of our mothers and I jumped right in. I hit the ground running with this issue because for me as a woman I could certainly relate to nursing milk being poisoned. My daughter was -- this was her childbirth age, and so on, and I just felt for the women who would have to think twice about nursing their babies because of poisons coming from afar. Because for us, it was a diet related issue in the fatty tissues of our marine mammals and Inuit were most impacted more than any other aboriginal peoples because we eat seals and whales and walrus which is where these POPs would make their home in.”

Watt-Cloutier describes the work on POPs as one of influencing the global community to “do the right thing about toxins,” and she explains: “we did it from a high moral ground. We did it from a very human perspective that we were the net recipients of POPs.” The UN negotiations on the Stockholm Convention, she noted were “the fastest UN treaty to have been signed, ratified, and enforced in the history of the UN.” The Convention, now ratified by 172 countries (as of 2010) requires “Parties to take measures to eliminate or reduce the release of POPs into the environment”(2010a). In his essay in a book co-edited by Terry Fenge, who worked with ICC Canada and Watt-Cloutier on the project, the chair of the UN negotiations noted that he was given early on by Watt-Cloutier an Inuit carving of a mother and child, and its this that he said he kept uppermost in his mind throughout the negotiations.

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<sup>41</sup> See in particular *Northern Lights on POPs* (Downie and Fenge, eds, 2003) for a full scientific and social explanation. Breast milk samples from Inuit women revealed some of the highest evidence of POPs in human life forms anywhere in the world. Further research actually pinpointed the fact that POPs were traveling from factories in the US, cementing global connectedness and the image of pollution circulating and being deposited in what was long thought of as pristine world of snow and ice, far from the ills of industrial pollution in urban centers. In her quote to *The New York Times* story (Hilts, 2000) on this, Watt-Cloutier was quoted as “enthusiastically” saying that the study led by Dr. Barry Commoner put “names and faces to those who produce the dioxin that ends up in the north... so we can even call them up, visit them, and talk about what we are worried about.” The article notes that 44,000 incinerators and factories are listed as sources for the dioxins.

### ***“This is a human issue”: Connecting POPs and climate change***

Watt-Cloutier has described the task of ICC and the petition regarding climate change as that of “putting a human face” on climate change. When I spoke to her about this specifically, she said this vision had its roots in the previous seven years she had spent working on POPs. Watt-Cloutier began her four-year tenure as the international ICC chair in 2002, a year after the Stockholm Convention was signed in 2001. In my interview with her, she explained that she saw climate change and POPs as intertwined because they were both “about health and cultural survival.” During her first year as ICC international chair, Watt-Cloutier said she fund-raised heavily with climate change in mind, “because,” she said, “we still have a long way to go in getting the world to understand that this is a human issue.” Because of that, one of the avenues she immediately began to explore was the idea of it being a human rights issue.

Coupling climate change and POPs together underscores the distinct challenge Arctic life poses as residents are both the recipient of industrialization’s ills, and peripheral players in the policy mechanisms that might stem the tide of such ills. Focusing on the human aspect of chemical compounds and dioxins emitted in the service of industrialized lifestyles is a bold move, but casting it in a human rights framework is much more than a public relations makeover. Michael Ignatieff, currently Canada’s Liberal Party leader and former leading human rights scholar has pointed out that human rights are best defended on pragmatic grounds, and that there is a fine line between the rights of states and their citizens that must be negotiated in order to protect the legitimacy of the internationalization of human rights norms (2001). So, how much an international body could and should intervene in state policies, particularly when that state is the USA, and wields an enormous amount of political power and influence is not a simple proposition either for scholars or pragmatists.

Anthropologist Ronald Niezen has looked specifically at how indigenous political groups have been using human rights standards, particularly in conjunction with United Nations bodies (Maaka & Andersen 2006; 2003). He has observed that human rights have become a vehicle for transnational indigenous groups like ICC to pursue self-determination, and to enact reform at various levels of law, international organizations, and bureaucracies. He points out that



underlying such moves is a tacit agreement that state legal systems cannot be relied on for redress of rights claims. At the same time, however, Niezen points out that human rights frameworks are often unable to cope with claims to difference, group rights, or self-determination due to the anti-relativist and individualistic definitions assigned to universalized notions of human rights.

The conundrum for indigenous groups further lies in what some have called “strategic essentialism,” where indigenous groups must demonstrate a special relationship with the land in order to have their claims acknowledged (LaDuke 1999). Anthropologist Shepherd Krech has been a vocal critic of these kinds of claims particularly as they relate to the environment, drawing criticism from many, including indigenous groups for, among many things, his ignorance about the pragmatics of community survival (Krech 2000). Niezen formulates it much differently – as a negotiation between non-indigenous public audiences and indigenous needs that can act as an “artificial boundary.”

“Indigenous nationalism thus usually shapes itself around those core values that resonate most strongly with the non-indigenous public. And there is some comfort to be taken in this. Surely there can be little harm in an identity based largely on environmental wisdom. The harm comes more from public disapproval of necessary things, like legal knowledge and resource extraction. An artificial boundary is sometimes erected around indigenous communities that limits their options and inhibits their prosperity” (Maaka & Andersen 2006, p. 300).

Arctic scholar Carina Keskitalo posed a similar question, which I noted in chapter one. She asked whether or not special claims to traditional lifestyles foreclosed on the possibilities for a wide range of solutions to deal with social and economic problems.

Watt-Cloutier narrates the lead-up to formulating the petition not as a foreclosure, but as a way of opening up possibilities. Climate change projects a wave of devastation for traditional lifestyles in the Arctic, and scientific conclusions gained strength in the immediate aftermath of the discovery of POPs. Her perspective of both of these science-driven conclusions as “human” – as an *experience* as opposed to a *finding*, and one that is underscored by TK led her to consider the human rights framework as a means for recourse. When she took over the international chair

position, she said that the questions the ICC board began asking were: “What recourse do we have as Inuit? How are we protected? How are we being poisoned, and now our ice is going to go and our way of life is going to be gone. How are we going to be able to do this?”

While these considerations were going on at the board level, Watt-Cloutier considers it serendipitous that in her travels to Washington DC, she was able to meet with others who were trying to connect climate change and human rights. She met first with the Center for International Environment, and then Earthjustice (formerly Sierra Legal Defense Fund). She said she was skeptical at first:

“I was thinking okay, you know, what is this all about? What’s in it for them? Are they real? You know is it just some new pet project that they want Inuit to get involved in. ...Do they have potential to really change the discourse on these issues? I want to know more.”

Eventually, Watt-Cloutier became convinced that a partnership would work. Bringing it before the ICC board, she was met with skepticism and challenges, particularly about the idea of working with environmental advocates. But eventually, the idea took hold, and the idea of pursuing a human rights case received bi-resolution support.

In retrospect, Watt-Cloutier describes the two-year period of preparation as a “leadership challenge” where she forged ahead believing in the ‘honorable intention’ of the petition. Continually throughout the process, she said that there was fear about bringing such a case forward, and particularly against the United States:

“What if we wake up the sleeping giant? And, I am saying, but that is my point. We are trying to wake up the sleeping giant and I can guarantee you he’s not sleeping. You know, there are these things that we need to do here. Well, what if our funds get cut? How is that going to happen? you know – it’s just not going to happen that way. There were a lot of fears involved you know in moving forward in such a bold and courageous step.”

Challenging the US on emissions reduction at a time when the Bush administration still claimed that the science was not settled enough to take action certainly would seem to be “waking the sleeping giant.” Many environmental advocates cheered on the petition for this reason. It acted

in ways that were outside what scientific facts alone could do, by coupling them with facts-on-the-ground. Though, when I first spoke to an Earthjustice representative about the case in 2005, he wouldn't speak with me unless I first read the Maxwell and Jules Boykoff's essay on "balance as bias" – which I detailed in the introductory chapter, since he wanted me to be aware before speaking with him that the science was indeed settled and had been misrepresented.

When it came to signing on to the petition, ICC as an organization opted only to sign a resolution supporting Watt-Cloutier and her 62 co-petitioners instead of fully joining the petition. Watt-Cloutier pointed out that ICC is a diverse transnational organization that answers in Canada and Alaska's case to regional development corporations that represent the communities. Many of the corporations in Canada have land claims agreements that involve development, and certainly Alaska is also involved in development that includes oil. The feeling was that they would be considered "hypocrites" if they signed onto the petition. The lack of official ICC backing means that Watt-Cloutier continues to carry on work on human rights even now that she's out of elected office, and as I noted earlier, travels constantly to speak to varying sets of crowds regarding the petition.

When the petition was rejected, Watt-Cloutier said she was devastated. The Commission ended up inviting her to give testimony (three months after it rejected the Inuit petition) that enrolled experiences from all indigenous communities globally being affected by climate change. In some ways, this paved the way for the work Cochran has done in her role as ICC chair since with the Indigenous People's Summit on Climate Change held in Anchorage in 2009.<sup>42</sup> What Watt-Cloutier takes away as a definite win is the ways in which the petition changed the way people think and talk about climate change, human rights, and the Inuit.

"It has changed the discourse, there is no doubt about that and it will continue to do that, but it was not an easy, easy way to go, but you know as all things happen, there are no easy ways to really do things that you feel strongly when you are in a leadership role that

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<sup>42</sup> This occurred the year following my fieldwork. I watched via live webcast. Ultimately, several factors and factions prevented the Anchorage Declaration that resulted from the Summit from having the kind of impact originally intended. It was difficult to ascertain what was going on via remote viewing. Later, the World People's Conference on Climate Change in Cochabamba, Bolivia held in April 2010 produced the "People's Agreement of Cochabamba," which seems to have both supplanted the Anchorage Declaration and built upon the groundwork the Summit laid. See Lindisfarne, 2010 for more analysis of the Cochabamba event.

are going to make their mark with the world and there is going to be ground-swell of resonance of truth. That does not happen at first because everybody is expecting something else to happen. I wasn't as fearful as some of my colleagues were thinking something is going to go wrong here and we are going to be stopped and we are going to be laughed at and we are going to be all kinds of things. The reverse happened completely and that is the trust I had in humanity that the reverse would happen, that people would understand this as a people's right to their way of life that was being jeopardized and it is absolutely."

In contrast to either Krech or Niezen's observations then, human rights, in Watt-Cloutier's view allow for indigenous people to set aside the indigenous-ness of their claims in order to relate to generic publics as humans, whose lives and livelihoods are threatened. It doesn't do away with questions about scientific uncertainty, but instead evokes the ideal of precaution and underscores themes environmental advocates have been working to advance for decades under the broad rubrics of sustainability. The petition provides 'proof' of industrialization gone terribly wrong, and for those who have already indicted industrialized lifestyles, such a claim provides welcome material proof of the consequences of not heeding earlier warning signals.

Watt-Cloutier's view of the petition as a discourse-changer has been borne out in her becoming something of a fixture on the academic, legal, and environmental lecture circuits. She has been accorded numerous honors, including the Sophie Prize (a major European environmental award) and as I mentioned earlier, a co-nomination with Al Gore for the Nobel Peace Prize (Al Gore and the IPCC were eventually awarded it). Last I checked in with her in 2008, she was working on a book that she was going to title "The Right to be Cold," a title that is the name of many of her speeches as well as that 2006 side table session at the Montreal COP.

One of the more entertaining moments of reception to the petition was one I witnessed while interviewing and attending one of her talks was at the October 2007 Northern Research Conference in Saskatoon, Saskatchewan where she was the keynote. The audience of about 150 was academic, almost of all of whom were working on social and scientific topics related to the Arctic and sub-Arctic. In many ways, it was a kind of fete for Watt-Cloutier. The professor who

introduced her reminisced fondly about when he and his graduate student stayed with Watt-Cloutier in Iqaluit, Nunavut while undertaking research.

When she began to speak, Watt-Cloutier jokingly introduced herself by riffing on Al Gore's line about "I used to be the next President" by saying: "I used to be the next Nobel Peace Prize winner." The joke got a hearty laugh from the audience. She said many people hadn't known how to react to her after she was not awarded the prize. And though she was disappointed, she wanted to let the audience know that she was okay with not winning the prize, and they shouldn't feel shy about approaching her on the subject. After this, she launched into Inuktitut with her usual introduction, and acknowledged all of her fellow Inuit in the audience. She then spoke about the state of climate change in the Arctic, the petition, and what Canada should be doing now to address it.

The line-up of people to speak with her afterwards was very long. I stood nearby listening into conversations, curious what people were talking to her about – most of it was to wish her well or mention their research. Of course, I was also waiting to talk with her once the line died down. Near the end of the line, a young man in his mid to late 20s came up and began bowing to her with both hands up and a big grin on his face. Everyone who was standing around laughed. It turned out he was an activist, and had been camped outside the COPS in Montreal with thousands of others. He just couldn't praise her path-breaking work on climate change enough. His over-the-top praise seemed in many ways to me to reflect the reception Watt-Cloutier's petition received among many in the environmental advocacy community. Watt-Cloutier was gracious, and thankful for his support.

When I began my research, I assumed that such sentiments would be widespread, and they were. But, there were also murmurs like the ones I first heard at the 2007 Arctic Science Summit Week (ASSW – which I describe more fully in chapter one) from some scientists and science policy experts that could only be described as indignant that such a petition was put forward. Requests for clarification or elaboration were brushed aside. It was difficult to codify and record such sentiments – they were made in passing and reluctantly voiced. A question about the petition was asked at ASSW at the only event to feature an Inuit person, Minnie Grey from the

Makivik Corporation (a post formerly held by Watt-Cloutier). Grey answered it, but those in the State Department and the scientists she shared the panel with did not add anything or care to address it. Despite its very recent demise as a petition, then it was not an effort any of the panelists wanted to discuss. Though, somewhat ironically, the representative from the state department was very keen to discuss the new proposal that would put polar bears on the endangered species list. One reporter I spoke with harrumphed after I explained the petition and said: “well, that’ll last a day!” The reporter clearly perceived it as a kind of “stunt,” rather than the “gift” it was intended to be. He also queried whether or not reparations were part of the goal of such a claims – Watt-Cloutier told me when I asked that this was expressly not the purpose of the petition.

These reactions, both positive, and hesitant or passingly negative reflect in varying degrees the ways in which claims about climate change have been both difficult to specify, and the ways in which those claims that have denoted specificity have been met with ambivalence and/or ignored by those invested in climate change as a differently defined form of life. The petition in many ways ties science to what Watt-Cloutier terms “the human face” – the human experience of living with indeterminant variability and trending changes that portend a very different future than either the present or past have prepared Inuit people for. It acts to frame the uncertainty of climate change in moral and ethical terms, confronting audiences with questions that ask not just what is happening, but who is most affected, what recourse do they have, and whether these factors should drive immediate actions that might mitigate either present or future suffering.

### ***Of canaries, barometers, and sentinels***

When Watt-Cloutier gives a speech, in the background, she has a slide show of often iconic images, some of them awe-inspiring – showing snow, ice, tundra, and Inuit people. Some of the images are recognizable from ACIA, others are taken by friends or relatives. Many of the subjects are in traditional Inuit dress, and depicted outside hunting or traveling across ice and snow. In the course of her speech, she weaves in facts about climate change in the Arctic,

painting a picture of rapid transition, globalization, and environmental shifts, and dealing as well with the role of ICC, policy, negotiations, and human rights. There is a tacking back and forth like weaving or sailing between introducing largely southern audiences to a “foreign” or exotic world where “ice represents mobility and transportation,” where changes in temperatures can mean a loss of life or limb by hunters. She sometimes describes her neighbor who lost his legs falling through the ice, or a recent year when the temperature was 8C when it should have been -30C. “The reality is very stark,” she summed it up in one speech, and then segued back to more familiar territory for the climate-aware, returning to Kyoto negotiations and the world of policy. The meaning of climate change thus shifts towards a form of life that is on one hand public and media-savvy enough to present images and stories that evoke empathy for some through its humanization, and at the same time re-inforces the factual nature of climate change through on-the-ground examples of how it is already a lived, relevant experience.

Watt-Cloutier builds a case for support of the Inuit, the difficulty of their role in negotiations, the ways in which the earth’s environment is connected, and a life lived simply in the cold – as she put it: “connecting you to the warmth of the ice of the Arctic.” Her core message, she pointed out to a majority First Nations audience I was part of in Vancouver is that “all things are connected” – so what happens in the Arctic matters to the rest of the world. I have variously heard her describe the Arctic as a sentinel, early warning system, or barometer for the rest of the planet, but she is careful to emphasize that small changes in the rest of the world mean big changes at the top of it. So, not only does the Arctic perform a vital warning function for the world, but its inhabitants will bear the brunt of such changes long before they become evident worldwide.

The underlying argument Watt-Cloutier is making is that the vast majority of Inuit are exposed to a distinct way of interacting with and understanding the natural environment – because of the very specific environment that is the Arctic and it’s inextricable link to Inuit cultures that has evolved there over millennia. It’s an argument that social scientists working on TK would share in principle, and it’s a major theme for ICC in general. When the majority of the American population lives far south and in urban, industrialized centers, there is a gap to bridge

between not only between the urban and rural, but the particularities of the south in relation to life in a far northern climate.

During the past decade, scientists, environmentalists, and journalists have routinely referred to the Arctic with monikers like “canary in the coal mine”, a “world health barometer”, “bellwethers for all of us on planet earth”, an “early warning system”, a “sentinel”, or a host of other descriptors and metaphors evoking a fragile affected ecosystem metonymic of the earth’s fragility as a whole.<sup>43</sup> Yet, as remarkable and natural as this all seems given the current scope and predictions related to climate change, the focus on the Arctic is a rather recent turn. As Watt-Cloutier has stated in numerous venues, the Arctic was not even mentioned as a vulnerable area in the 1992 text of the United Nations Framework Convention on Climate Change. Instead, “low-lying and other small island countries, countries with low-lying coastal, arid and semi-arid areas or areas liable to floods, drought and desertification, and developing countries with fragile mountainous ecosystems” were named as particularly vulnerable. The omission of the Arctic or Arctic nations as vulnerable is particularly poignant considering its transformation into an increasingly ice-free area is related to sea level rise and flooding of those low-lying areas.

The human rights petition in large measure drew on the work that came out of the Arctic Climate Impact Assessment (ACIA). The ACIA cemented the notion of the Arctic as vulnerable by making clear that any changes felt in temperate climates would be amplified at the poles. Where the southern USA might feel a two degree rise in temperature, the Arctic would be looking at a 10 degree or more change in temperature. The sensitivity of the Arctic to such changing temperatures and its subsequent cascading effects for the rest of the globe in the form of melting glaciers, sea ice, and correlative sea-level rise make such propositions of change highly relevant for worldwide consideration.

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<sup>43</sup> In a 2006 NPR’s Marketplace did called “Frozen Assets,” they look at many kinds of new business opportunities or challenges stemming from climate change. The series includes stories on breweries benefiting from melting glaciers in Greenland, potential railroad barons in Churchill, Manitoba, and the Inuit position on offshore oil and gas exploration in Barrow, Alaska. In the story on Barrow, Richard Glenn, Vice-President of the Arctic Slope Regional Corporation began his interview with an NPR reporter by saying: “We’re not the canaries in the coal mine. It renders you speechless to even toss out a sentence like that.” The reporter describes himself as somewhat taken aback by the aggressive opening salvo wherein Glenn is preempting the usual depictions of Inuit. Glenn was closely profiled in Wohlforth, 2004.



Robert Correll, Chair of ACIA was at the table with Watt-Cloutier at the Montreal COPS when she announced the human rights petition. As I mentioned in chapter one, referencing ACIA when she announced the petition, Watt-Cloutier said: “We know that science and traditional knowledge are saying the same thing. What we have been saying for years now, science is affirming, confirming.” On one hand such a statement can be seen as a tiebreaker in the fierce scientific debates that were coming from industry and the Bush Administration at that time: Inuit oral history and knowledge of the sea and ice provides irrefutable tacit evidence adding to the mounting “consensus” among scientists. But, what Watt-Cloutier’s rhetorical move also does is tie the Arctic region to Arctic peoples, and most specifically, to the Inuit. Conceptualizing the Arctic as ecological and vulnerable may counteract the UN’s original framing of climate change as a multi-national or developing country issue, but it still leaves the Arctic people a distant, if at all visible recipient of the effects of climate change. Yet, if we follow Watt-Cloutier’s formulation, the knowledge of the Arctic exists in relation to its inhabitants – science is the interloper providing a translation, legitimation, and other language of expression for the rest of the world.

In Watt-Cloutier’s speeches and interviews, she explains the omission of the Arctic from usual consideration in large part because it is uniquely known and used by Inuit. This was on display when *The New York Times* published its 2005 series “The Big Melt”. Watt-Cloutier put it candidly to the series’ reporters: “As long as it’s ice, nobody cares except us, because we hunt and fish and travel on that ice. However, the minute it starts to thaw and becomes water, then the whole world is interested.” *The Times* writers had put it, in contrast, and rather more pointedly in monetary terms: “the Arctic is undergoing nothing less than a great rush for virgin territory and natural resources worth hundreds of billions of dollars.” Correll explained it this way when he spoke after Watt-Cloutier at the petition announcement at the Montreal COP: “If you’re indigenous people living along the coastal margin, reduction of sea ice is a powerfully difficult thing to absorb. If you’re in the oil and gas industry, it opens up pathways that were only dreams some decades ago.” Such a formulation makes indigenous people the opposite of rational corporate or state actors bent on massive and steady streams of profit, given that an estimated 25

percent of the world's oil reserves lies beneath the ice (three quarters of which lies in the Russian zone).

The Arctic is certainly no stranger to exploration of either the military or industrial kind, but the projections of climate change have catapulted it into a new era of resource potentialities. This doesn't necessarily make Arctic countries more vulnerable; instead, it has the potential to make them and their multi-national resource extraction companies much more wealthy, which in a group that includes Norway, Canada, and Sweden is hardly a reversal of fortunes.<sup>44</sup> What is more concerning is that these kinds of developments put the indigenous inhabitants in a more precarious position alongside indigenous people of the low-lying nations. How they relate to their nation states, their distinct cultural ways of being, their relationship to the land, as well as how poised they are to be involved in the political and economic changes predicted in their region of the Arctic become determining factors in their ability to adapt to predicted changes of all kinds.

The view Correll expressed, and what the petition expresses as well is the dominant mode of expressing how the changes will affect Inuit people, but they are certainly not the only view possible. When I traveled in late 2007 to the Arctic Energy Summit (AES) in Anchorage, there were a number of Inuit and other indigenous individuals and delegations there – a permitting group from Barrow, Alaska, Patricia Cochran from ICC, another woman attached to an environmental advocacy group, a couple of trained wildlife and fisheries biologists – one of whom had held leadership positions with the Gwich'in in Alaska. Cochran spoke alongside BP, Shell, and others who were advocating for offshore drilling. She advocated for a view of the Arctic as human as well as resource-based. The Inuit – particularly the Inupiat whalers in Alaska, have long been opposed to offshore drilling so Cochran's place on the program was not exactly a comfortable fit, but it speaks to the way ICC is constantly in a position of negotiating varying industrial and state forces (that are often mixed in blatant and masked ways).

Alun Anderson, a UK writer I met at AES who was writing about “the Future of the

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<sup>44</sup> Several months after *The New York Times* series, *The Wall Street Journal* did a story telling about farmers in Greenland who were benefiting from climactic changes. As well, NPR's *Marketplace*'s nuanced series titled “Frozen Assets,” looked at the benefits across the Arctic that climate change might bring economically. I referenced the NPR series in the previous footnote.

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Arctic,” latter blogged about the ways in which Arctic residents, and in particular the Inuit are depicted as helpless. In a post titled, “Get ready for the Inuit oil millionaires,” he wrote:

“Right now it is the fashion to see the Inuit people of the Arctic as helpless victims of climate change. It is certainly true that the sea ice is vanishing, weather patterns changing, whales and seals moving to new locations and traditional hunting lore growing less useful. IPY researchers list many tough challenges. But "victims" they are not. The hunters of the Arctic are about the most resourceful people on Earth. If you can handle a dog team on shifting sea ice in 24-hour winter darkness at temperatures of -40C you know a bit about self reliance... The story that you don't hear is what the peoples of the Arctic really want: the power to run their own affairs” (Anderson 2008).

He concluded that, though the hurdles are great for self-determination, he wouldn't be surprised if the future of the Arctic included “Inuit oil millionaires alongside resourceful hunters.”

Anderson is correct in signaling that Inuit people are both resourceful, and exploring multiple means for adaptation. I also met negotiators for Nunavut at a conference on the Impact for Diminishing Ice on Naval and Maritime Operations in Washington DC. They were the lone voices for indigenous people in a room full of naval and policy experts. Their presence and outstanding claims to the seabed acted as a kind of irritation to representatives for Canada who were anxious to shore up their power to negotiate in the Arctic.

Conceptualizing the Arctic as region for exploration has a much longer history than these newer stories of what the melting of multi-year ice might portend for industrial development. The Arctic does not fit within the “category” of countries, developing or developed. Instead, following the parameters laid out by the relatively new transnational political organization, the Arctic Council, formed in 1996, spills out over eight nations, thirty million square kilometers, multiple time zones, four million people, and 30 different indigenous groups. Watt-Cloutier has referenced this fact on many occasions, but what isn't immediately visible is that the Arctic as region came about as a result of arguments and research done by an international group of scholars and policy-oriented individuals and groups – most prominently in the U.S., Oran Young. Recent historical analysis indicates that ICC also played a pivotal and constant role in the formation of the Arctic Council, and while they failed to get equal billing per country members, they did manage to secure “permanent participant” status for their organization. The

Saami, Gwiichin, and several other indigenous Arctic groups also participate through this category. The Arctic Council is the political culmination of efforts at region-building and indigenous participation in policy-making, but the identity of the Arctic as ecologically sensitive and distinct was not fully cemented scientifically and within international climate science/policy realms until the release of the ACIA in 2001 (Martello 2008).

“The Arctic” as entity then remains in the midst of constant negotiation between social, political, and economic forces. It is multifariously defined according to its vulnerability, varying national contexts, economic potential, strategic significance, and mixed populations, as well as its intensive interest to scientists researching climactic change and other issues through a myriad of methods and approaches. These each provide an organizing lens through which the vast expanse of the Arctic can be seen, administered, funded, and co-produced for diverse publics who may or may not pay attention to a polar world considered remote and unknowable until recently.

What ICC does is present a view not from the outside looking in, but from and within the Arctic itself. The Arctic as resource looks very different through the prism ICC representatives present where subsistence hunting and culture revolve around a constancy of ice and snow, self-determination is a constant battle, and traditional knowledge plays a vital role in the understanding of the natural world on a par with science. Getting a seat at the policy, economic, scientific, and international governance tables becomes a crucial part of survival in Arctic politics, and like any political venture, this effort is intricately woven into efforts to capture and mobilize the public imagination as well. Before analyzing more fully these integrated, interrelated roles of translation and negotiation, I want to take a brief look back at ICC’s founding and its antecedents to provide more historical context to how the Inuit have been constituent in the development of Arctic as region both in terms of economic development and their desire for self-determination in the face of geo-political and techno-scientific forces.

## **Origins of ICC**

When I first met Aqqaluk Lynge, who was at that time the ICC Vice-Chair and longtime Greenland political figure (as of 2010, he is now the international chair), he discovered I was from British Columbia, and immediately recounted to me the story of when Greenlanders met Alaskan Inuit for the first time on Vancouver Island at the World Council for Indigenous Peoples in the 1970s.<sup>45</sup> The Council met in 1975 in Port Alberni, a small town I'm familiar with and have visited on Vancouver Island. I was amazed that it took until the mid-1970s for these two related parts of what we now take for granted as a whole – the Inuit -- to meet. But then,

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<sup>45</sup> Inuit have been always been aware of each other due to oral histories of migration and nomadic practices and more recent media exposure during this century. In 1921-24, Knud Rasmussen undertook the 5<sup>th</sup> Thule expedition, under the auspices of the Royal Geographical Society in order to investigate oral histories about the origins of the Inuit people, who were thought to have migrated eastward to Greenland. Traveling by dogsled, his many adventures were chronicled through his own writings, and were recently fictionalized by Isuma productions, the Inuit production group responsible for the enormously successful epic, *Atanarjuat (The Fast Runner)*, in *The Journals of Knud Rasmussen*, which excerpts selections of Rasmussen's trip to tell the tale of Christianization and the "last shaman." Rasmussen was the son of a Christian missionary to Greenland and an Inuit woman. He grew up speaking Kallalit, the Greenlandic dialect of Inuktitut, the Inuit language group, which didn't exactly give him a free pass across the Arctic linguistically.

In Kotzebue at the ICYC Language Symposium where experiences with language retention were discussed in depth, one of the young Inuit leaders from Canada gathered all those who spoke their language fluently from Greenland, Canada, and Alaska (Russians were unable to be present) together in a circle, and they all began to talk, trying to understand one another's words and respond. There were glimpses of understanding and moments of conversance, but the young man used it as a way to illustrate the importance of each dialect and the differences between them – it was, in a way, a sobering challenge, despite the fact that they all belong to the same language family. Photos of ICC general assemblies, like any international gathering show rows of translation booths for those who choose to address the assembly in their dialect. Language retention remains strong in Greenland and Canada, but Alaskans and Russians are focused much more on preservation as their number of fluent speakers, particularly among young people declines. Alaska has taken a number of steps like committing the Yupik dialect to a learning system available on CD, and establishing schools where Yupik is spoken and taught.

Language retention is deeply connected to the colonization process, especially where efforts at assimilation included residential boarding schools that separated children from families and communities in order to civilize them. ICC indeed is much more than a logistical or linguistic achievement when one considers that each Arctic nation followed differing colonizing methods for its Inuit populations; each region experienced specific instantiations of early polar exploration, industrialization, Christianity, geopolitics, and scientific/military ventures. See Brody 1991, Lynge 1993, Damas 1985, and Malaurie 2007. Other pre-colonization differences besides dialect persist as well: subsistence diets, dress, and customs shift depending on the specific environment, available animals, and the history of the region. Earlier referred to as Eskimos, one is not likely to hear that term used in either Canada or Greenland where it's considered a pejorative term, and Inuit is even a broad umbrella for many who prefer to be called by their regional names in their dialect: Yupik (Russia and Alaska), Inupiat (Alaska), Kallalit (Greenland), and Inuit (in Canada, which includes Inuvialuit in the Northwest Territories, Nunavut -- a new territory in Canada, Nunavik in Northern Quebec, and Nunatsivut in Labrador).

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circumpolar travel across the vast area that is the Arctic still requires long jaunts through southern metropolises.<sup>46</sup>

ICC, formerly known as the Inuit Circumpolar *Conference* instead of the Inuit Circumpolar *Council*, was directly set in motion through the efforts of Eben Hopson, former longtime Mayor of Barrow, Alaska. He's unanimously credited with having the vision of bringing Inuit people across the circumpolar north work together for a common future, particularly against the onslaught of oil and other resource development that infringed on title and rights claims, as well as having trans-boundary environmental ramifications in the Arctic. As founder of the North Slope Borough, a regional/municipal government in northwestern Alaska, Hopson had been among the lead negotiators for the Alaska Native Claims Settlement Act (ANSCA) settled in 1971. It is his grant application to the Lilly Endowment for \$80,000 that first brought together representatives from Greenland, Alaska, and Canada for the explicit purposes of organizing ICC (2004a).

Many, including Hopson quite explicitly in his grant application, trace the idea for ICC back to two 1973 conferences that were among the first to bring Arctic and sub-Arctic indigenous groups together (Damas 1985; Keskitalo 2004; Malaurie 2007). The first in Le Havre, France brought together northern indigenous representatives and oil and gas companies. The second was the Arctic Peoples' Conference was organized in part by Greenlanders. It had representatives from Canadian and Greenland Inuit groups, but not from Alaska or Russia. That Conference passed two resolutions – one that affirmed the need to recognize aboriginal title, and the second to form a pan-Arctic indigenous circumpolar group. The antecedents of these

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<sup>46</sup> Up until ICC began to form, travel was incredibly difficult, requiring travel from central Inuit cities like Iqaluit (formerly Frobisher Bay) to Ottawa in order to then chart a course back up to another Arctic city in a different country. In Lynge's 1993 history of ICC, he describes going to Chukotka, Russia for the first time in 1988 to visit Inuit there – for Alaskans, this was a reunion of relatives in some cases. Yet when they returned to Alaska, instead of finding a flight to cover the short distance over the Bering Sea that separates them, they had to travel circumpolar in the opposite direction to get back to Alaska. Lynge hastened to add that Air Inuit now does these kinds of hops between Greenland and Canada. Travel between Alaska and Arctic Canada still requires long legs through southern Canada though. Other than from Greenland, regularly scheduled flights to Iqaluit and Northern Quebec generally originate out of Ottawa. On my flight back from Kotzebue to Anchorage in the summer of 2007, I was seated on a plane with Inuit youth leaders who had several more legs than I did in order to reach home in the Northwest Territories and Northern Quebec – and I was traveling to Washington DC from Anchorage.

conferences and ICC can be attributed as well to a period of renaissance in the 1960s and 70s with the emergence of Inuit educated in mainstream national systems, growing political awareness, indigenous rights movements, and the development of postcolonial thought, as well as pressures stemming from resource extraction and development and ongoing militarization of the Arctic (Lynge 1993; Malaurie 2007; Niezen 2003).

In order to get a sense of ICC's diversity, a cursory understanding of these contexts is important if only to understand the breadth of difference and important similarities. Briefly then, for Canada, major issues include 'coming in off the land,' naming of places and people, urbanization, resource extraction and development, and further on, the emergence of political will (and some argue, classes) which lead to varying self-government and land claims agreements in Nunavut, Nunavik, and Inuvialuit in the 1970s and 80s (Alia 2007; Brody 1991; 1991 (1975); Dahl et al 2000; Inuit Tapirisat of Canada 1977; Loukacheva 2007; Mitchell 1996b; Semeniuk 2007; Simon 1996). For Alaska, statehood in the 1960s began a new relationship in no small part due to the legal challenges put forward by Inupiat in Northwestern Alaska whose lands at Prudhoe Bay were first appropriated by the US Navy as a petroleum reserve, and later sold for oil and gas development (Anders & Langdon 1989; Arnold 1978; Daley & James 2004; Mason 2002; Mitchell 1997). The Alaska Native Claims Settlement Act (ANSCA) in 1971 established a form of self-governance and means for economic development through the establishment of regional and village corporations. For Greenland, very early missionary and whaling outposts followed by colonization by Denmark emerged in 1979 as Home Rule, which includes elected representation and decision-making powers over Greenland's resources (Loukacheva 2007; Lynge 1993). For Russian Inuit, it has been a continuing epic of governance by Czar to Soviet collectivization to the mixed economy and administration of present-day Russia (Achirgina-Arsiak 1992; Fenge 1999; Vakhtin 1994; Xanthaki 2004). Marked by hardship and non-recognition, the path of Inuit in Chukotka bears none of the codas of self-determination, settlement of claims, and home rule indicative of the other national contexts and histories.

Read in singularity, these national histories are often engrossing, sometimes heroic, and very recent tales of fighting from the periphery against burdensome, central, colonial

administrative regimes whose historical repression culturally, linguistically, spiritually, and/or economically decimated what were formerly nomadic and self-sustaining peoples acclimated to one of the harshest environments on earth. Read together from the perspective of ICC leaders,<sup>47</sup> one begins to see the ways in which these efforts at self-determination overlapped and were encouraged or even driven by one another. With the exception of Aqqaluk Lyngé's tri-lingual (Inuktitut, French, and English) account of the history of ICC, the influence of Inuit efforts on one another often gets glossed over in the scant paragraphs or sections on ICC that can be found in histories and ethnographic inquiries that focus on national developments.

Many of self-government agreements, particularly in the Western Arctic had their roots not only in the identity movements in the 1960s and 1970s I reference above, but also in the push for oil and gas development. Such development proposals brought to the fore the deeply felt need for local representation and governance – a need that also led paradoxically to the global realm and the call for transnational political organizations that could simultaneously work at the local and global levels, translating concerns back and forth. This is perhaps the key antecedent linking much of the early need for conferences that would promote political awareness and Arctic-wide Inuit cooperation.

The Mackenzie Valley Pipeline Inquiry conducted by Justice Thomas Berger in the 1970s provides a record of many indigenous voices, and their precarious positions in relation to oil and gas development (Berger 1988; 1992; CBC 1973). The proposed Pipeline, which still remains a dream for many as I discovered at the Arctic Energy Summit in 2007, would transport natural gas from the Beaufort Sea through the Northwest Territories to northern Alberta in Canada. In his detailed 1976 submission to the Inquiry, Hopson described the North Slope Borough and ANSCA as a direct result of oil and gas development pressures, and the continued fights with the

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<sup>47</sup> For example, in his detailed 1976 submission to the Mackenzie Valley Pipeline Inquiry conducted by Justice Thomas Berger, Mayor Eben Hopson called his organization of the municipal government of the North Slope Borough “a kind of Arctic beachhead of Inupiat self-determination,” and noted, “Canada’s Inupiat turned to us for help when their own government officials paid no attention.” Lyngé too cites ANSCA as an event that spurred on the negotiations in Greenland for Home Rule at that time. And in my very recent 2007 conversations with Carl Christian Olsen or Puju as he is called more often in Inuktitut, he noted that Greenlanders also paid careful attention to the formation of Nunavut, Nunavik, and the self-government agreement in Inuvialuit – all of which took until the 1980s and 1990s to settle.



oil industry for some measure of decision-making and oversight (1976). He pointed out that the Beaufort Sea is a single community “living under two national flags,” and while there was a “measure of control” on the American side of the border, the lack of symmetry on the Canadian side was making it difficult to influence oil and gas development. As he put it very candidly: “The Arctic is owned by us, the Inupiat. It is our land. We do not mind sharing it with others, but we want to negotiate terms.” By his estimation, what would become ICC was being organized to move towards goals of environmental stewardship, the settlement of land title and rights, the need for self-government, and a united front to deal with global players intent on development in the Arctic.

“... We have undertaken to create a circumpolar Inupiat Assembly with which to work with the multi-national oil industry to develop a single set of rules for the industry to follow for safe and responsible circumpolar Arctic gas and oil development.”

As precursors to ICC, Inuit in Greenland and Canada at that time had also begun to organize politically through organizations like the Inuit Tapirisat of Canada [formerly the Eskimo Brotherhood of Canada], the Northern Quebec Inuit Association, the Committee for Original Peoples Entitlement [COPE], the Greenlanders Association and other Greenlandic community organizations.

In his Berger submission, Hopson also traces both the political awareness as well as the need for a trans-boundary organization like ICC back to the 1969 voyage of the SS Manhattan, an American supertanker whose navigation of the Northwest Passage was a commercial first and an awakening for Inupiat. The Manhattan voyage showed the difficulty and safety issues of regularly transporting oil from Prudhoe Bay through the Beaufort Sea to the eastern coast of the United States (CBC 1970). The TransAlaska pipeline was subsequently built afterwards.

Lynge’s history of ICC pushes the antecedents for transnational cooperation back, a decade further past the Manhattan incident to 1958 when Edward Teller’s Project Chariot threatened to detonate a series of nuclear explosions to create an artificial harbor near the village communities around Point Hope, Alaska. Joining together with a few scientists and environmental activists, the Inupiat of Point Hope seeded a movement and outcry that eventually stopped the Project (O’Neill 2007). Lynge summed it up this way:

“Although few Inupiat (Inuit of Northern Alaska), knew about the destruction of Nagasaki and Hiroshima, they were against the testing of atomic weapons which would result in radioactive fallout. They organized a protest which luckily brought an end to this crazy scheme. Moreover, as a result of this, the Inuit of Alaska founded an organization called “Inupiat Paitot” which was in fact the very beginning of Inuit (national) political awareness” (Lyng 1993 p. 64).

Inupiat Paitot began as both an answer to the hubris of Operation Plowshare, Teller’s nuclear plan to use nuclear devices peacefully and reshape coastlines including Alaska’s, but also to deal with land and hunting rights, and the mass of misinformation and administrative repression that stretched back to the 1930s, well before statehood. This group eventually joined with many other Alaskan Native groups, and began publishing the *Tundra Times* in 1962 to counteract the views put forward by the Alaskan mainstream press (Daley & James 2004). This work became the precursor for the Alaska Federation of Natives (AFN) that formed to negotiate ANSCA, and where Hopson served as an early president. ICC Alaska still provides regular updates and participates in AFN’s annual assembly meetings.

These efforts then at addressing, in multiplicity, claims to title, the need for environmental stewardship and oversight in the face of major development occurred as well when the Arctic was still heavily embroiled in the Cold War. The effects of geopolitical affairs were felt socially and ecologically. Each nation placed low-level flight zones, radar bases, and other military installations in areas across the Arctic that are now toxic waste dumps in an ecosystem known for its sensitivity.<sup>48</sup> Lyng describes Mikhail Gorbachev’s Muramansk speech in 1987 as a relief. The landmark speech called for attention to be paid to the polar region as well as the establishment of a nuclear free zone. Lyng was invited to Moscow that same year, just as glasnost was taking hold, to present a speech to the Kremlin that he ended up being

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<sup>48</sup> Jean Malaurie, a well-known French anthropologist who was present at the first ICC conference, opened his most recent book by describing a scene in which he and two Inuit, after spending weeks hunting and traversing northern Greenland came across the construction of the then-classified Thule base in Greenland. The American in charge demanded to know who gave him permission to approach the base, and Malaurie, an ardent supporter of Inuit self-determination demanded to know who had given the American permission to be on Inuit land.

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unable to give (because the Romanian dictator Ceaseacu went over his allotted time). Lyngé said that *Pravda*, however, printed his speech in its entirety the next day.

The following year, the Soviet Union gave permission for Inuit to visit Russia in 1988, and for Inuit from Chukotka to travel to the ICC general assembly in Sisimiut, Greenland in 1989. It was, Lyngé notes, the first contact for Greenlanders with Chukotka since Rasmussen's voyage in 1924 when he was turned back because he hadn't waited long enough for his visa to arrive in Alaska. Alaskan Inuit had not had contact with their families in Russia since 1948. Since, its inception, ICC had reserved a symbolic empty chair at each of their meetings for Russian Inuit, and with their attendance, the "circle was now closed."

What ICC is meant to do then is global – to extend the reach institutionally beyond what boroughs, territories, and other forms of regional self-determination have done, as well as to support regional self-determination. True to Hopson's vision in 1977, Lyngé wrote in 1993 with the ICC executive council acting as contributing editors: "We must join forces in order to become self-reliant, and in order to fight for recognition as equal partners within world development" (p. 56).<sup>49</sup> The 25<sup>th</sup> anniversary assembly in Kuujuuaq, Quebec in 2002 found Lyngé as President where he affirmed again the multi-level governance and need for international action:

"Inuit have important local, regional, and national voices that are complemented by ICC. I, too, have committed much of my life at these levels, struggling for self-government by Greenlanders... But I have also committed the last 25 years of my life working for Inuit unity and international work, because I believe so strongly that they are necessary for advances on the home front" (Message from ICC's president from ICC Kuujuuaq 2002)

What this has meant in the past two decades has been involvement in the Arctic Council, International Whaling Council, United Nations Permanent Forum on Indigenous Issues

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<sup>49</sup> Some had speculated early on that, like many indigenous groups, the Inuit would look to declare independence in one, some, or all of their countries. Lyngé put it differently: "Participation, rather than exclusion from the system is what is hoped for. It should be self-evident that we are not working towards separatism, but toward recognition of our ownership of land and our distinct culture as being just as important and legitimate as those of the dominant white populations, and therefore should also include the right to the same standards of living as those enjoyed by others within the federal states" (p. 96).

(UNPFII), the Stockholm Convention, drafting of the UN Declaration on Human Rights, ACIA, and other non-institutional activism with regards to anti-fur activism and legislation as well as other environmental issues. And as climate change affects the density, size, and volume of ice in the Arctic Ocean, ICC as well as the regional development corporations and governance structures they represent are being drawn into discussions about tourism, shipping, and oil and gas development. Watt-Cloutier worded it this way after participating in the UNPFII's second session:

“As Inuit, we have had much success in achieving some degree of political autonomy in Greenland and in Canada. But we must ask ourselves what is the value of that political autonomy if we have no control over how we are affected by the global economy.”

### ***Found in Translation***

Inuit across the Arctic have, since the early days of ICC, engaged in a two-pronged approach to communications. They have developed extensive long-standing magazine, newspaper, TV, and film expertise such that they are able to produce media in their own languages for communication across the circumpolar north (Alia 1999; Daley & James 2004). Owing to their involvement transnationally on issues like whaling and sealing, as well as more recently POPs and climate change, they have also developed adeptness at expressing Inuit concerns in mainstream media, which maintains a fascination in many respects with various aspects of the exoticism related to Arctic life (2007a; Eilperin 2005).

As I have alluded to in chapter one and in this chapter, polar science has developed a way of speaking about the Arctic, of paying some tribute to TK, and ICC negotiates its voice in these settings as well. After hearing her speak at both ASSW and the Impact conference in Washington DC, I traveled to Hanover, New Hampshire to speak with Jacqueline Richter-Menge, a CRREL scientist. I had been especially riveted by her presentation at the Impact conference where she referenced the 2006 *State of the Arctic* report, sponsored by NOAA that she is the lead author on with James Overland. They continue to issue “report cards” annually.

Richter-Menge and Overland emphasized that the ice recession in the Arctic could rebound at any time for a period of years, rescinding the palpability of the evidence it presents for climate change and destroying any infrastructure built for shipping or other endeavors in the Arctic Ocean. They emphasized the variability of changes in the Arctic even as they presented dramatic evidence of changes.

When I interviewed Richter-Menge, she mentioned that the *State of the Arctic* has been a difficult report to put together, but the criticism had been even more difficult to adjudicate after its release. Many were concerned that data had been cast in an alarmist fashion – a point I’ll return to in chapters 5 and 6. Richter-Menge is no stranger to media or the public. She has participated in an organized presentation (sponsored in part by NASA and NSF) that publicizes polar science called Polar Palooza – it features four science researchers in a multi-media-rich live presentation aimed at school age children (2007-2009). At one presentation she participated in, she had the opportunity to present with Richard Glenn from Barrow, Alaska, who is profiled in Charles Wohlforth’s book. Richter-Menge said that overshadowing any interest in science, the crowds always found native presenters to be the most exciting. Inherent in these observations is a kind of vacillation between scientific versions of the Arctic and the lived, historical, experiential one that Inuit people present.

When I interviewed Patricia Cochran in Kotzebue, I asked her about how she thinks about communicating with a broad public when the dominant ways of talking about it in mainstream media and among scientists are already often prescribed. Her answer was fairly complex given the bracketing of media and scientist into one group.

“...There are several answers to that question, number one, I think the best way and the only way that we really talk about what is going on in our world is through personal experience and so when you can relay a story that or an image that you have, y’know, something that has happened to you personally or to your children or to your grandchildren or to whomever you know then these things begin to make sense. That is where people can see the relationships. They can see how that story becomes human, how this is an issue, and that is the kind of thing that I think Sheila [Watt-Cloutier] and myself and others have

in ways -- we're the, I don't know, *the interpreters* (emphasis added) that were trained in both our native ways as well as in the western ways.

It takes some people to have that ability to hear what your aunty or your grandmother is saying, just hanging around while making tea or picking berries, and we are able to translate what that means to a researcher who is trying to ask you about change in vegetation. Because, my grandmother wouldn't be able to say that, but there are those of us I think who are put into the position that that's our job -- to sort of help to interpret what is being said in the communities and how it relates back to the larger world picture, the global issues and everything else.

You know, honestly, I guess I believe that's what I see ICC has been doing and they are doing [it] pretty effectively over the last number of years... sort of being the spokespeople and the visual image of what is happening with the world to be able to translate what our aunts and uncles are telling us, to make it a worldwide image."

So, if we follow Cochran's formulation, TK or indigenous ways of knowing and being are the basis for vernaculars about land, sea, and ice that require recursive, back and forth translation. As I explained in chapter one, Caleb Pungowiyi was suggesting similarly that his role is as a translator, able to talk to the "learned community," and particularly the scientific research community. And certainly, the woman, also in chapter one, who said climate change was "what was on CNN" was signaling similarly that discourse matters – how things get talked about by those experiencing it directly are quite different than how they are in mediated circumstances like CNN. It is a claim that in many ways was like a shaft of light during my fieldwork for it explains a core task of ICC as it interacts across a wide variety of policy, science, and media stages. I want to push this idea further in order to differentiate more clearly between what ICC is doing and the social scientists, whom I talked about in chapter one, who also work on a spectra of this terrain.

Translation, if we follow Cochran, involves both recontextualizing observations and findings gathered over lifetimes, and the sets of interpretations required for a scientific database

of comparative, quantitative observations, or for a reporter eager to cover the local angle or tell the story of direct effects of climate change. French theorist Jacques Derrida describes the process of translation as always mutually transformative, a definition that enrolls interpretation:

“Translation has nothing to do with reception or communication or information... The translator must assure the survival, which is to say the growth, of the original, which, insofar as it is living on, never ceases to be transformed and to grow. It modifies the original even as it modifies the translating language. This process – transforming the original as well as the translation – is the translation contract between the original and the translating text. (Derrida, *the Ear of the other*, 122)”

The process of translation can be said in the instance of TK to switch languages in some cases, but also to a different vernacular – that of science. As we have established in the previous section, when it comes to scientific research then, translation and translators are essential if TK is to be useful. What Cochran also references is the role of ICC, and the need to establish not only regard for TK, but human dimensions and direct experience with climate change more broadly-speaking. The process of interpretation as I see Cochran describing it acts to establish meaning and relationship that both enrolls and supercedes substantiation of scientific facts about climate change. ICC then is less a gatekeeper, and more of an access point, storyteller, and spokes-group for Inuit experience, and crucially, Inuit political and policy aspirations as well.

ICC brings to the fore the relationship between media, science, politics, and public opinion, and in so doing, performs a multi-layered translation. Its spokespeople, like Watt-Cloutier, Cochran, and Aqqaluk Lynge from Greenland translate both the concerns of Inuit communities to the world at large through a varying array of media and educational outlets, as well as the relevance of scientific findings like the Intergovernmental Panel on Climate Change (IPCC) to their own people. Embedded in this process is a push towards self-determination, reclaiming voice, and providing legible representation for a region that has traditionally been less defined by its inhabitants, and more by its inhospitable environment “conquered” or braved by historical expeditions, or more recently, studied by scientist-explorers. ICC leaders thus perform works of translation and interpretation both to unite an Inuit voice in international and domestic settings, and to make that voice heard, coherent, and able to navigate the corridors and relations of

discourse, knowledge, and power that shape policies regarding climate change. In so doing, they also engage in arenas of public education and media coverage in order to move western democratic publics to an awareness of the issue.

Many of my field sites – the UNPFII, Naval Academy-hosted Impact conference, Arctic Energy Summit, and ASSW revealed the continual *crossroads* that ICC leaders are faced with (Fuss 1989). Aspirations for self-determination, economic development, national contexts and histories, international politics, and science have a difficult time staying in their separate bins. At ASSW where scientific findings, challenges, and policy mixed freely with issues of funding, transnationalism, and national retrenchment. As I noted earlier and in chapter one, TK was something of a darling – most paid homage to it, and Arctic communities were usually a part of the analysis for the Arctic. There was one glaring and comedic exception of a bureaucrat who’s detailed slide show on regional research policies neglected any mention of communities – she explained that she had been up late the night before and forgot to do “that slide.”

As I noted earlier, the only Inuit or indigenous representative who spoke at ASSW (Patricia Cochran was in attendance), other than social scientists who reported on TK, was Minnie Grey, a representative of Makivik Corporation, a regional Inuit development corporation in Northern Quebec, Canada. Grey put it this way to a room full of international scientists and science policy bureaucrats at ASSW in 2007: “My people have lived for too long with policies that we are not part of – we are slowly being killed by policies that don’t help us... let’s create policies together that don’t harm our identity.” Flanked on a panel of career scientists and bureaucrats from Canada and the U.S., she was the lone voice of passion who personalized the issue of climate change and the driving need to do something, but not just anything about it. Her fervently issued plea was: “Listen to us. Listen to us... We’re telling you something is not right.”

The human rights petition led by Watt-Cloutier could easily be summarized in ways similar to Grey’s message. It is a plea for experiences of climate change already underway to morally and ethically drive public policy, but it also acted as a tool for communication on behalf of Inuit people. Watt-Cloutier explained to me that she sees public opinion as driving public policy so her work is continually about tacking back and forth between these worlds. In my



terms then, she is continually pushing the science-policy-media sphere to expand its notions of climate as a form of life that can include moral and ethical demands, indigenous rights and aspirations for self-determination, potential physical impacts on indigenous ways of life, as well as the scientific conclusions and predictions that normally define climate change.

## **Conclusion**

ICC spokespeople and the way in which they talk about nature, culture, and science reveal the ways in which science is the primary vernacular for understanding and speaking about the natural environment in media, policy, and scientific discourse. In contrast to scientific fact-driven appeals, the Inuit have sought to, in their own words, “put a human face” on climate change, and the Arctic. Instead of the authority, evidence, and predictive capacity resting entirely on science, ICC *partners with* scientific facts through traditional knowledge, which is based on systematic observation through hunting and other traditional/cultural activities. A fact evident in the human rights case. In so doing, it raises moral and ethical issues about the transcendence of industrialization and its global ordering, and brings to light the ways in which the Arctic is a regional entity in constant negotiation between globalized social, political, and economic forces. Thus, climate change becomes *both* a global and specifically indigenous challenge that is as much a problem of how to define and solve it as it is about how to speak for and about it.

ICC claims on behalf of all Inuit, both formally and rhetorically, espouse two principals: a) the human in the environment as a constitutive part, and b) the Arctic as a constitutive part of a global interactive and interdependent ecosystem. Sometimes buried underneath, sometimes front and center, is a parallel principal best described as the right to self-determination – the right of Inuit to have some say in how Inuit affairs are ordered and reordered by trade, pollution, and military/industrial developments in the Arctic, and state relations that determine such social, economic, and environmental factors. In Anna Tsing’s terms, Inuit claims made through ICC leaders appeal to the universal in order to elevate the particular, and are at times, both powerless and powerful interlocutors. Powerless in terms of their non-state status and the remote exoticism often applied to indigenous people and the Arctic, and powerful in terms of the ability to

mobilize a transnational network and increasingly, though not without struggle, play pivotal roles in Arctic policy and representations.

## Chapter 3: “Blessing the Facts”: Finding Trusted Messengers for Climate Change

In early 2008, I traveled south to Orlando, Florida or what felt like the furthest place in the world from both the Arctic and the Northeast corridor of the US, where I had done the majority of my research to date. Known worldwide for its many tourist attractions like Disney World, Sea World, and a host of other theme parks, Orlando is also home to Northland Church. Northland is a mega-church that claims 12,000 members worldwide who either attend at the site in Longwood, a suburb of Orlando, or log on via the Internet. Traversing a network of freeways and major multi-lane routes, I fumbled my way to Northland’s sprawling campus in order to attend the 2008 Creation Care Conference. Set amidst a district where extra large parking lots are not out of the ordinary, Northland was originally the site of a skating rink and sits across the street from a dog kennel and race track. The church’s setting is not at all what one might expect in times past of, for example, a traditional white-steeped fixture on a tree-lined residential street. Instead, it’s part of the sprawl of contemporary suburban and exurban landscapes.

The parking lots were mostly empty on the day of the conference, and we didn’t meet in the mega-church sanctuary that holds over 3,000 people on Sunday mornings. Instead, we met in a side building more appropriate for the approximately 100-150 people who attended the day-long conference. When I got to the door of the building, there was a small lineup to get in. Just like many small churches do on Sunday morning, Northland’s Senior Pastor Joel Hunter was greeting each person individually as they came in the door for the conference. Waiting in line, I listened in as Hunter acknowledged the heavy-set, white-haired man in front of me and his two companions. When Hunter heard the man’s name, he was elated and repeated the man’s name loudly so I could hear it. It was a name I recognized as well. It turned out the man was a pastor and a prolific author whose many books Hunter had read and enjoyed.

At lunch, I found a seat at the same table as the author/pastor. I was intrigued by his presence there, particularly because he was an attendee – not a speaker, despite his accomplishments. Lunch was low key and informal, intended to help the relatively small number of attendees network with one another. Our table of about 10 was a motley crew of students, Christian lay workers, and this pastor. I struck up a conversation with the young woman beside me only to discover that she was the pastor’s daughter, and had just finished an undergraduate degree.

I explained to her that I was a PhD student at MIT conducting research on the diverse ways climate change is being communicated to Americans, and that Creation Care was one group whose efforts I was looking at. She was enthusiastic in her response. She had just finished working with, and writing a report for a secular environmental group to try and help them understand how to reach out to evangelicals. I was surprised that this kind of initiative was underway, but she said that environmental groups were starting to realize that many of their members were believers of some kind.

Her personal story was equally compelling and surprising. She told me that she didn’t grow up in a home that was concerned about the environment. While pursuing her undergraduate degree, she had spent a year abroad and came back converted to concern about the environment. She didn’t specify what it was that caused her “conversion,” but she did note that her newfound priority was a sore point with her father. It was at this point that her father joined our conversation. He nodded when she said it was a difficult thing for them to discuss for quite a while, but clearly, owing to his presence at this conference, they had found some common ground. So, I asked him about how Christians were talking and thinking about climate change and becoming convinced of the need to act. After a thoughtful pause, he said Christians are “skeptical” of science – going back a hundred years, they view science as “suspect.” He said, science can’t be the reason to act – the argument and appeal for evangelicals has to be on “moral” grounds. It has to be about “stewardship.”

This statement has been reinforced in the conference speeches, the growing number of books on Creation Care, and interviews I’ve since conducted. Yet, it was stunning to me at the

time both for its clarity and for the questions it poses for informing Americans about climate change. For if climate change is not a matter of the public understanding of science, then how is it being communicated by, to, and for this group? What kind of an issue is it for those who are not drawn in by scientific evidence? What kind of language is left when science is not the primary tool for presenting the issue and its implications? These are the questions I have posed with each group I've researched for this dissertation, but they are perhaps even more poignant here because of the flat rejection of science as the *sole* basis for evidence upon which to become persuaded of the fact of climate change, and the duty to act. Creation Care was begun specifically to address this by taking climate change out of the realm of science and environmental activism, and situating it instead as an issue that enrolls science alongside both the relationship of individuals to society and civic duty, and the moral order proscribed through evangelical teachings about the Bible.

Following Ludwig Wittgenstein's formulation (2001) that meaning is generated socially through use, action, and context, evangelical notions of climate change provide another facet by which to understand it as an evolving and emergent form of life. Climate change is a term very much in negotiation among concerned social groups. And while bringing publics into a specific constitution of 'climate change' as a scientific concept or science-based policy has been the focus of many in journalism, policy-making, and science, their efforts as I discovered have not necessarily had the intended effect. What then is required to bring an evangelical public into agreement with climate change when it has been defined primarily as a scientific concept? What counts as evidence? What is trustworthy and credible in evangelical discourse?

This chapter dives into these questions by tracing the threads of politics, history, expertise, discourse, and vernacular. It draws in part on Susan Harding's seminal work, *The Book of Jerry Falwell* (2000), where Harding immerses herself in evangelical discourse – making evangelical language “her fieldsite,” and formulates the notion of the group's vernacular: “to show how Bible-based language persuades and produces effects” (p. xii). Discourse and vernacular expression, as Harding points out, are an essential aspect of what it means to be evangelical in America – pastors are public figures “who expect that their words will be studied and discussed.”

This research, however, is not expressly focused on the way vernacular circulates within evangelical communities, but rather on how vernaculars act as a bridge to/from evangelical communities and beliefs: between science and evangelical thought, between evangelical activists and the science-policy-media spheres. Such bridging and movement through and between vernaculars is a process I am terming translation, and it enrolls an assemblage of institutions, materiality, and modes of speech in order to form articulations of climate change that resonate with evangelicals (Fischer 2003; Foucault 1995; 2003). As is evident with the Inuit chapters, it takes this kind of work to make climate change an evangelical concern, and to make evangelical concerns resonate with climate change as a pluralized form of life. In particular, Creation Care has the uphill struggle of dealing with historic public debacles and debates about evolution – both recently with the 2005 *Kitzmiller v. Dover School District* decision, and “a hundred years back” with the Scopes trial (Harding 1991; PBS Nova 2007).<sup>50</sup> As well, Creation Care must confront political alignment and ties with the Republican party, and leading evangelicals who are not in agreement with climate change, and collaborate with others who are expressly skeptical of climate change (and not just science in general, as the pastor was at the beginning of this section). This chapter records and narrates what might be summed up as “frictions” inherent in this constantly evolving process of translation (Benjamin 1968; Fischer 2009; Harding 1991; Harding 2000; Povinelli 2001; Tsing 2005).

One of the primary arguments put forward by Creation Care leaders is that the messenger matters – Christian leaders (and a few select Christians who are also leading scientists) must “bless the facts” in order for them to have traction and resonance with Christian communities. The notion of “blessing facts” neatly encapsulates the ways in which climate change is being cast

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<sup>50</sup> Recent evolution debates have centered on efforts to put “intelligent design” (ID) in schools. ID is said by its proponents to be an alternative theory to evolution, but it has been rejected by most scientists as being a lightly recoded form of creationism, a faith-based set of propositions that has none of the new knowledge producing capacities or goals of science. The Dover case was a major incidence of such efforts, but the judge ruled that intelligent design was not a science. PBS’ Nova program took an in-depth look at the case, and provides a number of interview transcripts online. At the 2008 AAAS conference, a panel was convened with Ken Miller, who testified on the side of science at the Dover trial. A booklet produced by AAAS was handed explaining evolution, and explaining the differences with creation. Coincident with the Dover case, a number of popular media responses defending evolution have been produced/written – the most popular being *Flock of Dodos*, a film made by a scientist that indicts scientists for their inability to communicate and Richard Dawkins’ *The God Delusion* that finds no “evidence” for a Creator, and connects science to Atheism.

as simultaneously intellectual, scientific, and moral. It also, however, glosses over, or even, dodges the traditional debates over evolution that have pitted science against evangelical beliefs whilst directly confronting those who have chosen to side with climate skeptics. Creation Care translates climate change primarily into a Biblically-mandated concern for the poor – for how scientific predictions will exacerbate the afflictions of those less fortunate worldwide, as well as harkening back to older conceptions of Biblical stewardship or “tending the garden,” referencing the idea of the natural world’s beginning as the Biblical Garden of Eden. In this sense, climate change is a dictate for how to act in the world and respond to issues of inequality and poverty that, at the same, elides any critique of industrial capitalism, race and class issues in America, or recent globalization.

Lack of critiques notwithstanding, the work of Creation Care is inherently involved and constituent of larger moves within evangelicals active in the political stage of the US. Creation Care can be seen as one of several examples of the ways in which evangelicals are moving into a differently conceived and differently politicized notion of what the core issues should concern civic-minded and active evangelicals. As well, because of the involvement of figures like Joel Hunter, these changes can be viewed as a part of larger shifts regarding the structures and technologies inherent to evangelical church attendance and organization.<sup>51</sup> Climate change then as its instantiated within evangelical discourse is one of many issues embroiled in larger changes instigated by new leadership, technologies, and demographics. Appendix A and B further elaborate on this changes. In the interest of brevity, this chapter has been condensed, but the issues and arguments therein warrant much more discussion and elaboration as the appendices attest.

The chapter is organized so that the first section provides an overview that introduces some of the key figures in Creation Care, moments of friction and debate that have occurred during and before fieldwork, and my observations of the underlying issues and confrontations

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<sup>51</sup> Joel Hunter, since this research was conducted has been referred to as the spiritual advisor to President Obama. He gave the prayer at Obama’s victory party following his election. For one example of news coverage, see “Where the President Turns for Spiritual Advice: Rev. Joel Hunter of Longwood, FL” (14 April 2009) from *Black Christian News* at <http://www.blackchristiannews.com/news/2009/04/where-the-president-turns-for-spiritual-advice-rev-joel-hunter-of-longwood-fl.html>

that the movement engages for evangelicals. It then moves into an analysis of the Evangelical Climate Initiative (ECI), followed by a summary of those who opposed the ECI within the evangelical community. The remainder of the chapter examines the thrust of Creation Care as a movement, its purpose as articulated by key leaders, as well as relations with scientists and the political alignment and evolving structures of evangelical activism and church-going.

### ***Antecedents and new beginnings: The Evangelical Climate Initiative and Creation Care***

Creation Care is not an old movement, nor is it very institutionalized. In fact, it is a sub-movement within the larger movement of American evangelicals, and one that is still largely nascent. But, out of the rumblings of a few, beginning in the early and mid-1990s, Creation Care, from its earliest incarnation, has grown in order to both peak and transform during the period in which I have followed it ethnographically.<sup>52</sup> It has distinct roots in the after effects of the unequivocal statements made in the 2001 IPCC report. John Houghton, Chair of IPCC's 2001 Working Group One, is also an evangelical Christian, and joined with American scientist and evangelical Calvin DeWitt in order to begin a distinctly evangelical dialogue on climate change. Together, their two groups, the John Ray Initiative (Houghton) and Au Sable Institute (DeWitt) organized a conference for Christians at Oxford in 2002.

It was at Oxford that American evangelical Richard Cizik, VP of Government Affairs at the National Association of Evangelicals (NAE) experienced what he calls a *conversion* regarding climate change.<sup>53</sup> His invitation to participate was part of a larger long-term effort to turn evangelical leaders towards environmental concern by a small circle that includes deWitt, and others like Jim Ball (Evangelical Environmental Network or EEN)<sup>54</sup>, Ron Sider (Evangelicals for

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<sup>52</sup> See DeWitt 2007b for a in-depth account of the groundwork laid prior to the 1990s.

<sup>53</sup> Cizik said this description of a "conversion" was controversial among conservatives when he described it in retrospect during a 2010 panel on "The Cost of Conscience: Dissent in the Workplace -- A conversation with Matthew Alexander, Richard Cizik, Elizabeth MacKenzie Biedell, and Morton H. Halperin," sponsored by Open Society Foundations, and broadcast on Fora.tv  
[http://fora.tv/2010/05/11/The\\_Cost\\_of\\_Conscience\\_Dissent\\_in\\_the\\_Workplace](http://fora.tv/2010/05/11/The_Cost_of_Conscience_Dissent_in_the_Workplace)

<sup>54</sup> Following the submission of my draft for defense, Calvin DeWitt sent me a pre-publication copy of his essay that



Social Action), and Bob Seiple (World Vision US until 1998). 2002 was also the year that EEN undertook its launch of the national awareness campaign, “What Would Jesus Drive?” And, its success was one of several factors that informed the strategies developed after the Oxford conference.

In 2004, Cizik, Ball, and DeWitt attempted to recreate the Oxford experience in the US at another conference held near the headwaters of the Chesapeake Bay at the Sandy Cove Conference Center. Houghton was a keynote speaker, and the conference was sponsored by EEN, NAE, and *Christianity Today*. The conference produced the Sandy Cove Covenant, which laid the foundation for the 2006 Evangelical Climate Initiative (ECI), and efforts “to dialogue with evangelical leaders” about Creation Care. Later on that year, the NAE released “For the Health of the Nation: An Evangelical Call to Civic Responsibility” where it listed Creation Care as one of its priorities.

I first encountered Creation Care through the ECI, a declaration signed by a group that included mega-church pastors, Christian college presidents, and para-church organizational and thought leaders (See Appendix A for more details). What made it “news” was that even before the release of the declaration, it was met with hostility by politically active, Republican-aligned evangelical leaders like James Dobson, Charles Colson, and Richard Land (Beisner 2007; Blunt 2006b; Goodstein 2006; 2007; Vu 2007; Wildmon et al 2007). ECI was written about in *The New York Times* before it was officially released because of a letter signed by the latter group of leaders sent in advance of the declaration that attempted to circumvent any appearance that ECI spoke for all evangelicals. This letter spawned the Interfaith Stewardship Alliance and reinvigorated the 1999 Cornwall Declaration, which maintains that the science behind climate change is still “uncertain.” Some wondered whether this public disagreement was a major crack in the conservative movement that would reverberate in the political sphere, and whether or not it would influence the policy of the Bush administration on climate change. Though evangelicals

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explains EEN as what grew out of a 1992 meeting held jointly by the Au Sable Institute and the World Evangelical Fellowship’s Unit on Ethics and Society. The newly formed EEN issued the forerunner to the ECI, the *Evangelical Declaration on the Care of Creation* in 1993. For more, see Calvin B. DeWitt (2007) “Evangelical Environmentalism in America” in Lukas Vischer, ed., *Witnessing in the Midst of a Suffering Creation*, John Knox Series Number 19, John Knox International Reformed Centre, 174-204.

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have directly affected Bush's policy on the Sudan, for example, a similar effect did not occur following ECI.

Pat Robertson has since publicly changed his mind on climate change. Robertson's change of mind made "news" in 2006. In an interview with CBS, Robertson said he was convinced of global warming by that summer's "record-breaking heat," and he said God told him that more storms were coming (Roberts 2006c).<sup>55</sup> Charles Colson and James Dobson, however, remained avowedly skeptical of climate change. A 2009 blog post by Colson expressed concern that climate change was in danger of becoming a religion itself (Colson 2009). Belief in climate change according to Colson's formulation constitutes competition with core beliefs in the Bible, and Colson explains that, like the individual he profiles in the blog post as evidence, one could lose their job or standing in secular communities by not expressing belief in and support for climate change.

2007 and 08 were, by comparison, relatively quiet as the movement gained momentum. This was the period during which I followed Creation Care most closely. Then in 2009, things began to transform drastically with two major changes. First, Cizik, one of its most visible and political spokespeople was forced to resign due to his declaration of support for gay civil unions in an interview with Terry Gross on NPR's *Fresh Air* (Goodstein 2008; National Association of Evangelicals 2008b; NPR 2008; Salter 2008). Not too ironically, this is exactly the "slippery slope" many have feared if they accept the environment as a concern and actionable priority for the movement i.e. a slow slide towards liberal views on same-sex marriage and abortion. When he originally resigned, he stated that while views on same-sex civil unions had changed among a younger generation of evangelicals, it had not among the vast majority of evangelicals hence he would resign because he no longer spoke credibly for all evangelicals.

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<sup>55</sup> TIME reported that same year that "season creep" was a common "neologism" explaining the cause of early spring with this line: "most scientists say it's global warming" (Sayre 2006). Most scientists I encountered would be hard pressed to make such a statement since attributing anything directly to climate change, and in particular with regards to weather anomalies is quite difficult. Longer term trending can be seen as related to climate change, however.

I was unable to locate Cizik for a follow-up interview, but I recently found a video of his participation in a 2010 panel on Dissent in the Workplace, with Open Society Fellows (Cizik was one after he left the NAE) where he described the events leading up to his resignation (Fora.tv 2010).<sup>56</sup> He said that his political views had changed, not necessarily his religious or spiritual views. He said that he saw legal recognition of gay civil unions as a way to protect traditional marriage between a man and a woman. After the NPR interview, he said he wasn't immediately aware of how radical his suggestion had been, and that his resignation was requested due in part to the firestorm it had set off in "the heartland." After an over 20-year high profile career with NAE, Cizik began a new organization in 2010 called The New Evangelical Partnership for Common Good. Their website does not list EEN, ECI, or any other expressly environmental group as a partner. However, it does list Evangelicals for Social Action, which has a "Creation Care" section on its website, and Esperanza, which recently partnered with the ECI.

The second major change was that another group, Flourish formed under Jim Jewell, one of Creation Care's less visible leaders and the initial public relations representative for ECI. The website statement for Flourish says it was formed with the express interest of making environmental concern *apolitical* for evangelicals (Neff 2009a; b). So, while this chapter is being written in light of the changes in 09, it relies on data and interviews gathered during the initial years following the ECI, and seeks to unearth the antecedents to the ECI and the relationships and views that informed the formation of and rising visibility of Creation Care both among mainstream media audiences and evangelicals in the US.

Of the many groups I studied, Creation Care was the most difficult to establish an ongoing relationships either with its leaders, or those involved in its work. At one point before I went to the first Creation Care conference in Florida in early 08, I had nearly given up on including them in this research project (Pinsky 2008).<sup>57</sup> That conference, however, provided me with an opportunity to set up and record an essential key interview and conduct many interviews informally with those on the leading edge of the movement. It also provided clear evidence of

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<sup>56</sup> Open Society Fellowships are funded by well-known liberal and Democrat, George Soros.

<sup>57</sup> There was only one news story that came out of the conference – from Mark Pinsky, the religion reporter for the *Orlando Sentinel* and *USA Today*. Another reporter from the *Columbia Journalism Review* was there, but I was unable to find a stories written about the conference.

the state of the group's nascence – the conference was small and had the feel of an insurgency set to begin its work through deliberate means and messaging. I initially thought this group would be the easiest to get in touch with, but I underestimated both their less formalized structure, and the generalized reluctance to speak with a graduate student not affiliated with a Christian college or any of the usual Christian networks. My MIT affiliation intrigued some (generally-speaking, it was surprise that an individual from a strong science school would take an interest in their group), but as this chapter will explain, there is also a substantial amount of suspicion regarding how scientists regard and portray Christians.

What was surprising to me as I began to dig into the context under which Creation Care was being nurtured and growing were the massive structural and institutional changes the evangelical movement and “church” was undergoing. When I asked Cizik about whether reports of a divide between conservatives and progressives within the movement were legitimate observations, the now former VP for the NAE brought to my attention the Pew Forum on Religion and Public Life's surveys among evangelicals. Pew divides evangelicals into traditionalists, centrists, and modernists – distinctions that signal some of the fracturing and change beneath the surface of Cizik's claims to an over 30 million strong voting block of evangelicals. Pew also clearly demarcates white evangelical protestants from black evangelical protestants – a distinction that held in my experience at the Creation Care conference where the crowd was primarily white and middle-class, but Flourish and the “evangelizing” trip I reference in my conclusion do feature African-American pastors. Another clear distinction is between mainline protestants (Luthern, Episcopal, Anglican, Methodist, etc) and evangelical protestants (Baptist, Pentecostal, Evangelical Free, etc). In terms of these distinctions then, Creation Care targets evangelicals, and primarily white evangelicals who haven't been usually associated with either environmental or social justice issues the way mainline or black evangelical churches have been.<sup>58</sup> But, clearly, as the movement emerges more fully, this could change.

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<sup>58</sup> This analysis is reflected in the topics and themes *Creation Care*, the magazine deals with as well. *Creation Care* is put out by EEN. More recently, EEN has been working with environmental justice advocates in Appalachia, which perhaps disrupts notions of the middle-class white evangelical as primary focus.

My limited ethnographic experiences of attending Cizik's small traditional church on the outskirts of DC and then Joel Hunter's mega-church in Orlando (see Appendix B for a full description) reveal something of the divide between traditionalists and modernists with this segment of evangelicals, as did the response and scuffle over the initial events of ECI (and Cizik's resulting inability to affix his name to the ECI declaration). But, upon reading more closely, these incidental events and exposure, and even the Pew distinctions only hint at the diverse, deep-seated evolving changes underway that affect the nature of how church is experienced and organized, views on how Christians should be active in civic and political life, what priorities the evangelical movement should be focusing on, and who they should partner with to achieve these goals.

Demographics and technology clearly play supporting roles in some of the shifts. Younger people subscribe to issues such as the environment, more closely than the traditional foci on abortion or homosexuality (Banerjee 2008; Cox 2007; Grossman 2007; James 2008; The Pew Forum on Religion & Public Life 2007). And, the Internet provides a new way for mega-churches to expand or reach their flock via blogs, social media, and webcast. But, there is something more essential at work as well – something nearly captured in Joel Hunter's book first titled "Right Wing, Wrong Bird" (re-released as "A New Kind of Conservative" in 2008), or Jim Wallis' "God's Politics: Why the Right Gets It Wrong and the Left Doesn't Get It" (2006).

There appears to be a general fatigue in some quarters with the legacy of the so-called 'culture wars' in the 1980s and 1990s and political alignment with the Republican party as the party of default, replaced instead by a willingness to build coalitions on issues like poverty, AIDS, and the environment (Broder 2008; Little 2005; Roberts 2006a; Salter 2007; Sataline 2008). This is an observation made by many inside and outside the movement, and those three issues are generally lumped together as abundant evidence of widespread coalition building with left and right wing political groups. Cizik, in my interview with him, added human trafficking, the civil war in the Sudan, and other pertinent issues as well.<sup>59</sup> Cizik and Ball were both very

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<sup>59</sup> Additionally, new sub-movements like the emerging church and other splinter groups are reshaping the conversation, rallying like minds through blogs and books beyond even what mega-churches are capable of doing – Brian McLaren's "Everything must Change" book and its tour across the US throughout 08 and 09 being one prominent example where the environment was introduced as a new and pressing priority for Christians. Cizik and

clear however that Creation Care is coming not from the fringes or progressives of the evangelical movement. Rather, it is coming from and targeted at the traditional conservative heart of the movement.

Despite these indicators, change is hardly ever even, instant, or unilateral, however. Polling throughout the period of study up until the present reflects the challenge Creation Care is up against. Among people of faith, white evangelical Protestants are the least likely by a large margin to have been convinced of human-induced climate change. A 2008 survey by The Pew Forum on Religion and Public Life found this group (31%) was more likely than the average American (21%), and much more likely than mainline Protestants (18%) and Black Protestants (15%) to deny the existence of climate change, and anthropogenic causes. And while 47% of Americans acknowledged there was “solid evidence” of climate change and human causality, only 34% of white evangelicals and 39% of black evangelicals agreed. This percentage is lower than the percentage of Republicans in general who are not convinced of the fact of climate change. During this same period, the percentage of Republicans convinced of climate change began to decrease from 62% in 2007 to 49% in 2008 as compared to 84% of Democrats and 75% of Independents (The Pew Research Center for the People & the Press 2008).

### ***Starting points: trust and messengers for climate change***

The incident with the pastor and his daughter that I began the chapter with proved to be a starting point in trying to understand what lies within this disparity.<sup>60</sup> In my interview with Jim Ball, I asked him about this exchange specifically. I told him that a prominent pastor had told

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Ball were both clear that Creation Care is not attached or associated with the emergent church. For a better sense of the emergent church, acclaimed author and Emergent church leader McLaren states, "More and more Christian leaders are beginning to realize that for the millions of young adults who have recently dropped out of church, Christianity is a failed religion. Why? Because it has specialized in dealing with 'spiritual needs' to the exclusion of physical and social needs. It has focused on 'me' and 'my eternal destiny,' but it has failed to address the dominant societal and global realities of their lifetime: systemic injustice, poverty, and dysfunction."  
<http://www.brianmclaren.net/archives/books/brians-books/everything-must-change.html>

<sup>60</sup> Despite their seeming interest at the conference, I was unable to reach the pastor and his daughter for a follow-up interview. They did not respond to emails.

me that science couldn't be the basis upon which to convince evangelicals about climate change, and he replied:

“ Well in our community, there's obviously been -- for over a century -- there's been bad blood, shall we say, between the scientific community and the evangelical community, right? And, so, scientists aren't necessarily the most trusted of messengers in our community and yet... Who have been the three main messengers on climate change? Just think about it. Who have been the three... main messengers on this? Environmental groups. They're distrusted in our community for a variety of reasons. Democratic politicians, distrusted. Scientists, distrusted. So we have this problem -- some of us are saying 'Oh my gosh, this problem is huge. It's part of global warming and yet our community is not accepting it because of the people who are talking about it.' So how do you get them to accept the message? Well you need *trusted messengers* (emphasis added).”

This, perhaps more than anything I encountered, gets at the core issues confronting Christians seeking to enroll their churches in action regarding climate change. As Ball put it, the *messenger* matters whether they speak for the need to act, a moral/ethical basis to do so, *or* the scientific facts.

He went further later on in our interview to explain that it's not just who's speaking, but what and how the evangelical community is talking about the issue.

“There's all kinds of barriers for us in getting people to accept this but some of the -- the three main ones have been the three main messengers and they -- *it is not just of course about the facts for any of us*, it's kind of the *social cultural milieu* in which you live and exist. And, if your friends, who you trust, are saying you're going to wreck the economy; you're listening to your radio talk shows and they got people in there that [say] you're going to wreck the economy, and it's the new form of communism, then, it's natural -- it's really easy for you to just say: I don't have to worry about that. So we've been trying to find people who can kind of burst through that a little bit. Get people to take a second look.”

This lack of a straightforward line between scientific fact production and reception is a crucial step often overlooked by many scholars intent on designing models that address the public

understanding of science or science literacy (Irwin & Wynne 2004; Jasanoff 2005). Public understanding of science models tend to focus on how much or little the public understands the facts and how the public deals with uncertainty ignoring the multiple contexts within which facts circulate. Ball's point about the importance of the "social cultural milieu" rejects the idea of such models for understanding, but his formulation goes further as well touching on notions of framing that have been used to diagnose problems with public engagement of climate change and science (Nisbet & Mooney 2007).

Framing is a term used colloquially and in scholarly writing to denote what Irving Goffman first observed were the unconsciously adopted cognitive structures that work to govern the perception and representation of events. Framing certainly helps to explain some aspects of how events and issues are perceived, and the media too plays a role in developing initial frames (D'Angelo 2002; Entman 1993; Gitlin 1980; Scheufele 1999). The process of moving from the lab through the media such that publics become engaged is often characterized as one where either the media can be made to see or say things in a certain manner or that their audiences can (Epstein 1996; Gamson 1992; Lakoff 2004; Snow & Benford 1988; Snow et al 1986). Market research tactics also depend on a certain amount of instrumentalization, and these too have made their way into sociological analyses of climate change attitudes among the public (Leiserowitz et al 2008). Such analyses can be helpful in drawing conclusions about what media has done, and perhaps in how or where to devote advertising dollars as well. But these expansions and adaptations of Goffman's idea of framing often deny a social group's multi-vocality, and/or turn on the idea that the making and reception of meaning can be pre-determined and stabilized (Fisher 1997; Steinberg 1999).

What's Ball's formulations point to is a much different process by which frames come to be set in motion – and also, just that, frames are in motion. Part of the challenge faced by all of the groups researched for this dissertation is a confrontation with exactly this open-ended process of how issues come to have meaning and demand engagement owing in part or whole to the code of morality and/or ethics inherent (Latour 2004a; b). In the case of Creation Care, how the fact of climate change comes to matter is a process that Ball is saying revolves around issues of trust and communal reinforcement over and above the weight of facts by themselves. Borrowing



from the history of journalism and civic life (Habermas 1962; Terdiman 1990; Warner 1990), it is a process much closer to the one Michael Schudson (1998) describes of earlier eras of voting and party politics. Schudson points out that prior to American voting reforms in the late 1800s that emphasized information as the key to forming an opinion, citizens were drawn in to issues, political parties, and voting through socialization tactics. What this dissertation argues is that the social matters – it matters in terms of directing attention, adjudicating debates, knowing who and what one can trust, and what side one wants to be associated with. It also matters, Ball is saying when it comes to lack of concern, turning off, or *attentional rest*. By attentional rest, I mean to signal Ball’s description of those for whom it is or becomes easy to not pay attention -- even when facts are known – due to a range of factors.

Trust or distrust, then, is the primary issue or terrain upon which much of the movement’s potential and credibility lie, and it is established both through mobilizing a vernacular familiar to the movement, and through clear identification, standing, and recommendations from and within the group. In other words, part of the problem is science, but politics, a Biblical mandate, morality, and guilt-by-association with a liberal agenda are all factors in motivating (or not) evangelicals to make climate change a pressing issue. Yet, as Cizik pointed out to me, echoing conversations he’s had with Al Gore and Bill Clinton, the potential, if evangelicals take up this issue and recognize it as one of their own, is immense. Consider evangelical activism around other social issues, and the potential for affect on policy and personal action, as well as party platforms and leadership.

These are the stakes that Ball, Cizik, and others within Creation Care are aware of, and yet, to make the issue distinctly evangelical, it will and must sound quite different than it does in the realm of science, policy, or environmental activism. This is essentially what this chapter records – that climate change sounds different coming from the pulpit on Sunday morning than it does elsewhere in the mainstream media and other information outlets for the public. The pulpit too though is not quite enough. There is a complicated interplay between science, media, and the evangelical vernacular within which climate change is struggling to gain a foothold, or in Wittgenstein’s terms emerge as a form of life – one, which is recognizable across a wide spectrum of socializations.

## ***Examining the Evangelical Climate Initiative***

The ECI is an inherently political and civic document as much as it is a statement of religious beliefs as they relate to climate change and science.<sup>61</sup> It begins by establishing the political presence of evangelicals and its Biblically-dictated obligation to continue that presence:

“As American evangelical Christian leaders, we recognize both our opportunity and our responsibility to offer a biblically based moral witness that can help shape public policy in the most powerful nation on earth, and therefore contribute to the well-being of the entire world.<sup>62</sup> Whether we will enter the public square and offer our witness there is no longer an open question. We are in that square, and we will not withdraw.”

Cizik, as I elaborate more fully in Appendix A, argues that evangelicals must be near enough to the seat of power to speak truth to it, and this opening salvo demonstrates this belief and the ongoing practice associated with it. The statement also speaks to the underlying philosophy that belief and action are twinned – that knowing something means there is an obligation to act on that knowledge. The ECI goes on to make these strong claims as follows:

Claim 1: Human-Induced Climate Change is Real

Claim 2: The Consequences of Climate Change Will Be Significant, and Will Hit the Poor the Hardest

Claim 3: Christian Moral Convictions Demand Our Response to the Climate Change Problem

Claim 4: The need to act now is urgent. Governments, businesses, churches, and individuals all have a role to play in addressing climate change—starting now.

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<sup>61</sup> Appendix A describes the signatories, and the criticism of the involvement of NAE and Richard Cizik more closely.

<sup>62</sup> This paragraph footnotes: [“For the Health of the Nation: An Evangelical Call to Civic Responsibility,” approved by National Association of Evangelicals, October 8, 2004.]

There are three key observations to take from these claims. First, at the Creation Care conference, the clearest rationale for acting was based on claim number two. Joel Hunter continually reinforced this message as the host, by using the phrase “the least of these,” and at one point, even saying that people will die as a result of lights being left on. This is a distinct part of the work that Creation Care is engaged in – that of nesting environmental concerns within the sets of concerns Evangelicals are already engaged with – in this case, poverty, but also, increasingly if Ball and Cizik have their way: the pro-life stance.

There is a picture on the EEN site that shows Cizik and Ball marching in a pro-life rally that says: “Stop Mercury Poisoning of the Unborn” (2006b).<sup>63</sup> Both of them mentioned this nesting of an environmental issue within the much more well-established concerns about abortion. Writing in response to Grist.org’s coverage of evangelicals on beliefnet.com, Ball put it this way:

“As increasing numbers of rank-and-file evangelical Christians understand more deeply that reducing pollution is loving your neighbor, as they become more aware of mercury’s impact on the unborn, that 1 in 6 newborns have potentially harmful levels of mercury in their blood, as evangelicals become more aware that global warming is real and is projected to harm and even kill millions of the world’s poorest, whom Jesus Christ identified with himself (Mt. 25:40) [Book of Matthew, New Testament], they will become more engaged.”

It may seem like a leap, but this is exactly the kind of rationale Creation Care engages in when it seeks to convince evangelicals that the environment is already a part of their suite of concerns – they just haven’t realized it yet.

Second, for scientific evidence related to claim number one, ECI cites the Intergovernmental Panel on Climate Change (IPCC), noting Houghton as an evangelical Christian who has been involved, as well as the US National Academy of Sciences (NAS) and President Bush’s declarations at the 2005 G8 Summit. ECI calls for a plan of action to emerge on

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<sup>63</sup> This photo was originally at <http://creationcare.org/resources/mercury/>, but has since been removed. However, Cizik has talked about this in a number of interviews including *The Great Warming* interview cited here.

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the reduction of fossil fuels and tougher national environmental laws, and then, it points out specifically the work done by a number of major multi-national firms, closing with a call to individuals to help the poor by reducing their carbon impact. Ball says that mentioning business leaders was a specific part of their strategy because evangelicals may not be willing to listen to scientists, but they are likely to pay attention to someone from GE.

“They don’t understand... the IPCC is what it is. They’ve been told that it has problems or something and they really haven’t thought through: ...how should science be used in a policy context and what constitutes enough evidence to say we should take action? They haven’t thought through all of that,... but when they hear a business leader saying it’s a serious problem, the head of General Electric, a business they know and... [the] VP of Shell or something like that then it’s like, “Oh!” and some of my evangelical leaders have been saying the same thing. So that’s when we’ll start to have people pay a little more attention and be a little more receptive and open to listening to what we have to say.”

Economic concerns play a large role in the criticism expressed by opponents to ECI and Creation Care. Knowing that businesses are taking climate concerns seriously negates many of those arguments without having to address them.

Third, in the claims put forward in the ECI, there is a lack of division or seamlessness between policy and personal action, belief and consequences, morality and the demand for response. I would argue that this is distinctly American and evangelical in that evangelicals are active on strongly held beliefs *and* perceived as politically powerful in a system that often caters to and rewards powerful special interest groups, and as such, are able to have some effect on the system of lawmaking as a result. Here’s one example. In a post on the *Deep Green Conversation* blog run by EEN, Ball wrote two years after the 2006 launch of ECI that he and Cizik had been instrumental, along with other members of the National Religious Partnership for the Environment (NRPE), in moving the Lieberman-Warner Climate Security Act towards helping the “poorest of the poor” with climate change adaptation (2008).

In the meeting with Senator Warner, it was made clear that the evangelical position was important. Cizik then mentioned an EEN poll that said 84 percent of evangelicals were now in favor climate legislation. “Rich helped him understand that the evangelical community was

changing and growing in its concern for the poor and for God’s creation.” What happened next was nearly unprecedented in terms of religious advocacy in Washington as Senator Warner allowed them to articulate exactly what they wanted in terms of international adaptation, and wrote it into the bill. Ball credits the Holy Spirit fully, but he savored especially the fact that ECI had been going strong despite opposition from “some of the most prominent politically-conservative Christian leaders.”

One of the issues that I have attempted to sort through throughout this dissertation is the divisions between public policy and public opinion. Certainly, among all groups there is a sense that shifts in public opinion lead to changes in public policy – as I pointed out in chapter one, Sheila Watt-Cloutier, former chair of the Inuit Circumpolar Council said this was why she participated in the work of ICC and media coverage. But, it’s difficult to track this cause and effect chain that is something like a mantra among activists generally. With evangelicals, as the above example illustrates, there is some reason to believe in a correlative effect. And, certainly this effect is what has driven the media and public relations strategy related to the ECI.

When the ECI was released, they went directly to the public with their message both through “earned” media as Ball calls them, or news articles, and through full page ads in a rather diverse lot of publications: *The New York Times*, *Roll Call*, *Christianity Today*. As well, they ran radio and television ads on Christian and Fox stations in states with key congressional campaigns in 2006. Ball explained that having articles written about them is the best option not only because it’s free, but because it’s viewed differently by people, getting the attention of mainstream press has always been a part of their strategy.

“Evangelicals read secular papers, they watch the news like everybody else. So if you are getting your stuff in the mainstream media, you’re also reaching a lot of evangelicals. But, we’re also interested in changing our community for the purpose of also maybe changing policy. So, if not only our community, but then other audiences like policy makers start to think that evangelicals are becoming concerned about certain things then they start paying attention. And so then we can get -- it’s easier to get meetings on the Hill.”

This is not a trivial point in terms of media analysis. ECI has not done a lot of work through new media, but rather their articles in mainstream media were targeted at the still large swath of the newspaper-reading public (on or offline), and even perhaps, politicians and their staff. The perception of evangelical interest in this issue clearly began to increase with mainstream media coverage. The blogosphere, as online commentaries are often referred to, picked up on these articles as well, providing more scrutiny of the articles. There's even a beta site posted that excerpts all articles Richard Cizik is quoted in – it's unclear whether it's put together by supporters or those hoping to show his stance has clearly become liberal.

### ***Would Jesus sign the Evangelical Climate Initiative?***

To understand ECI more fully, it's helpful to dial back to the 2002 campaign for "What Would Jesus Drive?" (WWJD), and beyond that, to the founding of EEN. ECI is not the first declaration of its kind, but it is likely the most controversial. WWJD was undertaken in conjunction with NRPE. NRPE is an organization that brings together Jewish, Catholic, and mainline Protestants, as well as EEN. It was begun in part by the 1990 letter Carl Sagan organized, signed by 32 Nobel Laureates titled: "Preserving & Cherishing the Earth: An Appeal for Joint Commitment in Science & Religion." 1990 also included the passing of the Clean Air Act, and an address by Pope John Paul II on the World Day of Peace calling for environmental responsibility. Two years earlier, the IPCC had been formed, and *TIME* had called 1989 the Year of the Planet. In 1992, the Earth Summit was held in Rio, and in 1993, EEN was formed through a forum held by the Au Sable Institute and the World Evangelical Fellowship's (WEF) Unit on Ethics and Society (DeWitt 2007b). The following year in 1994, EEN released a formal declaration "on the Care of Creation" – a declaration, which was even more widely signed than the ECI, and which still guides EEN according to its website. In other words, EEN came out of the same crucible for environmental change and fervor that molded many non-religious and non-evangelical efforts. And, it went through the same down-cycle that beset many such organizations in the period between the mid-1990s and mid-2000s, when public interest and concern waned. During that time, one study noted that environmental coverage was cut in half,

while entertainment coverage doubled in volume (Frameworks 2001). EEN was reduced to one staff member – Ball, though with the upswing they’ve recently experienced, they have expanded to three staff members according to their website.

For the WWJD campaign, which was wildly successful and included a cross-country tour as well, Ball explained his benchmark for its success like this.

“I said [before the launch] I’ll know we’ve been successful when there’s been a joke on Letterman and somebody talks about it on the senate floor. Then I’ll know that we’ve kind of penetrated into the public conversation. And I thought that joke on Letterman would happen six months after it was launched, that it would kind of bubble around... we haven’t even publicly launched the freaking campaign and there were a couple of jokes on Leno.”

Ball acknowledges, however, that the media attention like WWJD received in terms of immediacy, longevity, and volume isn’t likely to happen again. He was completely shocked, and caught off guard by the response to WWJD. He said getting listed on AOL as one of their top five stories was a primary catalyst that fully ignited the media craze that included at one point helicopters filming them driving in their Ford, and people hanging out of vans to get their picture as they drove down the road. I got the sense when he was describing it to me that he was still in disbelief and awe of the presence the campaign created and sustained.

The experience with ECI was completely different -- though not in terms of media interest. NRPE hired the public relations firm that handled WWJD, and Ball said they took some criticism for the handling of a few events. So, when it came to ECI, Ball said they hired an evangelical group, Rooftop Mediaworks based in the suburbs of Atlanta, Georgia.<sup>64</sup> Ball said people started to find out before ECI launched that it was going ahead, but that he wanted “the right kind of coverage.” He held a reporter from *The New York Times* at bay, much to his own incredulity:

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<sup>64</sup> Jim Jewell, head of Rooftop Mediaworks is now the head of Flourish, which seems to be the continuation of the conference I attended in Florida in 08. It is intended specifically to equip pastors and churches, and says it is apolitical. After the launch of ECI, Jim went to work as the COO of EEN and director of ECI.

“I was just thinking to myself “This is just ridiculous. I mean people would be killing to have a conversation with this woman.” And here I am like “No, no, no, I don’t want to talk to you yet” because we wanted to have an appropriate launch.”

They had to push the launch twice and tried to convince the reporter not to run with the story, but to no avail. The story ran before their official launch. Ball said that the reason they were trying to be both careful and secretive about the launch is because they “knew it would be explosive and we wanted to, in effect, kind of catch our opposition off guard.” Instead, the opposition in the form of the letter from James Dobson and others forced them to receive media coverage prior to the launch of ECI.

Dobson is part of a large interfaith group and active group of evangelicals who have been working to counteract the work of ECI, Creation Care, and others concerned about climate change (See Appendix A for a more in-depth look at Dobson’s response to the role of NAE and Cizik). The 1999 Cornwall Declaration on Environmental Stewardship, to which Dobson is a signatory among thousands of others, seeks to put forward “sound theology and sound science” as opposed to “the passion that may energize environmental activism” in order to guide “the decision-making process.” “Sound science” has become an iconic phrasing in the efforts of skeptics to unseat the veracity of scientific research on climate change.

The Declaration espouses three primary points of disagreement: 1) the tendency to “oppose economic progress in the name of environmental stewardship,” 2) the denial of “the possibility of beneficial human management of the earth,” and 3) some environmental concerns “are without foundation or greatly exaggerated,” including “destructive man-made global warming, overpopulation, and rampant species loss.” The document goes on to argue that “public policies to combat exaggerated risks” can “delay or reverse the economic development necessary to improve not only human life but also human stewardship of the environment.” In other words, environmental policy will create barriers for the poor intent on economic development, causing them to suffer longer than they should. It goes on to state a list of general beliefs held by “Jews, Catholics, and Protestants,” and a list of aspirations that includes an affirmation of liberty, stewardship, private property, and economic freedom. Calvin Beisner has largely been the spokesperson for the work of the Cornwall Declaration and its founding



organization, the Interfaith Coalition for Environmental Stewardship (ICES). ICES is no longer listed on the Cornwall website, nor is the ECI directly referenced. What is offered instead is a chance to sign an alternative Evangelical declaration, the Cornwall declaration, and a sampling of resources by Beisner and others.

Many of the criticisms I referenced earlier are part of this effort – the claims that environmental concerns undermine economic stability and progress being the primary one. And, curiously, another rationale -- the defense of the poor -- is the same as that offered by ECI proponents. It's worth noting as well that The National Center for Public Policy Research, a Republican-aligned think tank, maintains dossiers on many of those involved with EEN and ECI, debunking their Scriptural and scientific claims. Politics, political alignment, policy-making, science, and scripture are enmeshed together.

Comparatively, ECI's site offers a similar view in terms of bringing together the arenas of science, policy, and religious practice. Its website offers a guided entry for Christian leaders, policy makers, media, and "concerned citizens." Christian leaders are provided with an opportunity to sign the declaration, and are linked to resources for learning about policy and science. Citizens are exhorted to "learn, pray, act," and are offered their primary background document as well as an opportunity to join the mailing list. Policymakers are offered the declaration, list of signatories, principles for policy, a 2007 poll, and other fact sheets. Media are offered similar links as well as a bio sketch for Jim Ball, the official spokesperson.

Ball explained to me that the work he does is mainly education. This year, because of ECI, he has spent more time educating lawmakers – a process he sees as distinct from lobbying. Yet, the work he has done with his NRPE colleagues could be seen as within that realm where they were making sure that "any climate legislation that was going to pass had provisions in it to protect the poor." Primarily, though, what EEN has done is create kits for churches and pastors. Harvard scientist James McCarthy told me that he participated in putting together a kit in 2007 – he said they were planning to send out 45,000 such kits.

Ball said when he first joined EEN in 2000, they had tried to establish small groups in churches that would focus on Creation Care, but that funding had dried up at that time, so they weren't able to continue supporting that work. Instead, they try to both generate interest, and drive people to their website and Creation Care magazine so that they can access these resources and information to support their work in local congregations. As ECI has generated more interest, he feels they are at the point where organizing a national pastor's conference would be possible – that being a major milestone. They had originally pursued the idea of small groups because he noted that getting something going in churches that hasn't been done before is quite difficult, and it would have been difficult to mobilize the whole church on this issue, particularly because climate change would be “framed” as a “controversial political issue.” Even after all the work done by ECI, he said “I think we are now at the point where a good number of churches probably are ready maybe not for climate change, but Creation Care.”

### ***From bad blood to blessing the facts***

Jim Ball is someone Patricia Cochran, the chair of the ICC might call a ‘translator’ if he were working between the Inuit and scientists on issues of traditional knowledge. But, it's not a system of traditional knowledge that he's bringing alongside science; it's a moral and ethical code as well as a set of cultural norms and spiritual beliefs for one of America's dominant sub-cultures. In describing his background, Ball is something of an iconoclast. He describes his “calling” as one at “the intersection of faith and public life,” and he said he spent his time in seminary working on social justice issues. After finishing the Southern Baptist Theological Seminary in Kentucky, he worked for a brief time as a minister of education, but he returned to graduate school at Drew University in New Jersey to get a PhD hoping to work on environmental issues within a para-church organization, which he defines as organizations where people with common interests across denominations come together to work on a particular issue collectively. After graduating, Ball discovered there weren't many para-church organizations offering jobs on environmental issues so he went to work for the New Jersey Public Interest Research Group and the Union of Concerned Scientists. It was there that he learned how to work with media, and

how difficult it can be to get attention for an issue. Skills he put to good use when he undertook the phenomenally successful (in terms of media attention) 2002 campaign for “What Would Jesus Drive?” (WWJD).

Ball is an unassuming individual – average height, wavy graying hair, glasses. What’s probably most striking is his calm, focused demeanor. He comes across as both intelligent and unflappable. To meet him, one wouldn’t immediately imagine him to be a charismatic revolutionary.<sup>65</sup> Indeed, I had to really look for him when he was pointed out at the Creation Care conference as a resource for pastors. Nor does he come across as an environmentalist or hippy, which is how opponents within the evangelical movement have tried to paint him and Cizik – a point memorably captured in the *Fast Company* article, Ball recommended I read (Salter 2007). In it, he is portrayed as an outsider, a “liberal evangelical” without a picture of President Bush in his office, who recruited Cizik because he needed an insider to approach more conservative conservatives. Indeed, he said he did suggest Cizik for the Oxford conference, and even suggested that John Scott, a prominent UK theologian write Cizik the letter of invitation, knowing it would get Cizik’s attention. He then encouraged Cizik to accept and found him the funding to go. That, I would estimate, defines him more accurately both in terms of knowledge and strategy. He has a deep understanding of how evangelicals think, what it means to be a conservative, and how to begin effecting change amongst a sub-culture by, in his words, starting conversations or getting the dialogue going.

The awareness campaign for WWJD is a prime example. “What would Jesus do?” was a common refrain heard in evangelical circles long before his group chose to torque the last word of the phrase. He said, “...the basic goal [of the campaign] really was to try to have people start to think in our community and elsewhere that transportation is *a moral issue* and get that conversation started.” Christians are certainly not the only ones driving SUVs in the US, but they do represent a large number of Americans who are driven to think about their own personal responsibility and moral standing in a certain way. Bringing together environmental knowledge

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<sup>65</sup> His bio sketch notes: “Time magazine named Rev. Ball one of its five climate change ‘innovators’ in its April 3, 2006 edition, and in 2005, Rolling Stone magazine named him one of its 25 environmental ‘Warriors and Heroes.’”

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and an awareness of the effect of emissions on climate with the morality that Christ represents starts a very different kind of conversation than one science alone can start.

Ball was shocked by the instant and overwhelming attention that WWJD got – on the order of 4-6000 of what he calls, “earned media” articles. ‘Earned’ meaning articles written because the campaign was considered “news.” The ECI in 2006 built on this skill set and thinking by putting in place a strategy that took ‘that conversation’ to the next level. Its precursor, 2004 Sandy Cove Covenant enrolled mainstream conservative evangelical organizations like the NAE and Christianity Today, and Ball noted that this was done on purpose. It established a group of credible evangelical leaders who were willing to be the *trusted messengers* and say to others: “take this problem seriously.” Such other messengers circumvent the problem of having scientists, Democrats, and environmental activists deliver the message about climate change, whether it be the science, policy, or need for personal action. As Ball puts it, they “*bless the facts.*”

“... we have this strategy of reaching out to evangelical leaders and then eventually they issue a statement saying take this problem seriously for these forward issues and in effect the ECI what I call -- I call it, that they *bless the facts.* They allow people in our community to say “Well, you know, gosh I don’t know about those scientists but this person I respect does made a conclusion that this is a problem and that we as Christians need to address it. So, okay I’ll listen to that.” And for a lot in our community, it may not have been -- there are still those in our community who are actively opposing. I just forwarded an email from a pastor who got a DVD from one of our allies who’s saying that climate is a serious problem he’s saying. The pastor writes back and says the science is incorrect. It’s a bunch of baloney. My colleague is like how arrogant can this be that this pastor is saying that he knows science better than the experts but there’s all this distrust in our community.”

Ball acknowledged that this latter group – those actively contesting climate change -- is not the one Creation Care is aiming to influence. Rather, their strategy is aimed at people who haven’t given the issue any time or attention, or had it explained to them as an issue that connects to Christian responsibility and morality.

Cizik describes what evangelicals must undergo in order to believe in the “reliability of climate change” as a *conversion*. He described his own conversion this way to me, and the importance of “blessing the facts,” despite his own trust in the science.

RC: “Well, I was a skeptic and a bit of a mugwump in the sense that when I was invited to a 2002 Climate Change Conference at Oxford, I said, “No, don't -- don't draw me into this.” So I told Jim Ball who invited me to come, “Look, I will come but don't expect me to join this debate. I don't really have a fight in this.” Heard the science and decided, “Wow! This is compelling stuff” and we're not talking here about just clean water. We're -- we're talking about the very fate of the earth. I was totally blown away by the scientific evidence that it is to me, un-debatable, unequivocal, on our human-induced impact on all of these issues from habitat, destruction of species extinction, pollution, climate change and even the spread of human impacts these diseases so on all these levels, I was just stunned and felt -- I could hardly keep my mouth shut but it was John Houghton walking in the gardens at the Palace who said, “Richard, if you believe -- if you -- you need to tell others” and I said, “Well, that'll cause a furor.” And it did, but I survived. (laughter)

CC: Did it matter to you that the scientists were Christians?

RC: Yeah, it helps. It certainly helped because it helped authenticate the truth factor here. It's not that I am suspicious of science; I'm not. I'm part of the younger generation of evangelicals that have no fight intellectually between faith and science. It -- but it helped. ...And sometimes there has to be some of this hand-holding to assure people of faith that this is true.”<sup>66</sup>

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<sup>66</sup> He put it much more strongly in a 2006 interview with Bill Moyers for the television program Moyers on America's episode called “Is God Green?” Here is a transcript excerpt.

**RICHARD CIZIK:** For me, to hear from this scientist whom I trusted, and I have to admit-

**BILL MOYERS:** You trusted him because?

**RICHARD CIZIK:** He was an evangelical. And what he said to me was, “Richard....As a fellow follower of Jesus, I'm not spinning you. I'm telling you what is happening. And I trust that God will speak to your heart. The fate of the earth may well depend on how Christians, especially evangelical Christians who take the Bible seriously, respond to the issues of climate change.” <http://www.pbs.org/moyers/moyersonamerica/print/isgodgreen>

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*Information is not the Problem: spinning climate change, vernaculars, and emergent forms of life*

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Although it was the science that convinced Cizik and provoked an impassioned response that sustained later action, it still came as a message wrapped in a Christian conference with a prominent Christian scientist as his guide both in terms of activism and a ratification of the facts. Cizik doesn't describe himself as suspicious of science, and yet, it wasn't science that caused him to pay attention to the issue – it was his community of faith, his peers in leadership, and scientists who were evangelical and were involved in agitating the Christian community to take another look at the issue. He explained it this way later in my interview with him:

“We need scientists to explain the ‘what’ and we, theologians answer the ‘who.’ The ‘who’ is God. The ‘what’ is what’s occurring to earth which have been mandated the stewardship for, and so scientists help us to understand what creation is saying about itself and about its maker so we need scientists.”

To further illustrate how “hand-holding” might work, he told me a short story about a conversation he witnessed involving former US Vice-President Al Gore at a conference Aspen in 2005.

“I heard Al Gore say to a Southern Baptist, “You mean to tell me that the fact there are 900 peer reviews scientific articles confirming human-induced climate change... Do you mean to tell me you need to have someone in the leadership of the church authenticate the reliability of those studies? And the -- the man he was speaking to said, “Yes” and Al Gore said, “That's just utterly amazing.””

Gore's *An Inconvenient Truth* is entirely focused on persuading its audiences based on irrefutable scientific evidence and overwhelming scientific consensus.<sup>67</sup> Yet science, as presented by Gore and by the vast majority of scientists and science publications lacks the kind

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<sup>67</sup> Not only that, but Gore's affiliation with the Democratic Party has made him a less persuasive spokesperson for climate change among evangelicals as well. Cizik explained to me that they tried to give tickets away to *An Inconvenient Truth*, but evangelicals wouldn't take them. So, they instead sent out and recommended that evangelicals watch *The Great Warming*, also released in 06, narrated by Keanu Reeves and Alanis Morissette, and produced by a Canadian company. It reiterates much of the scientific evidence, but also features interview clips with Cizik and other faith leaders, as well as activists and “real” people. So, rather than merely explaining science to a lay audience, it also addresses the “why should I care?” and enrolls other ways of thinking and talking about problems of the environment. In essence what this signals is an understanding that individuals already have a moral order and ethical code for living based on their faith, and this newer issue driven by science needs to connect to what they already care about. The website for the film features prominently in its navigation sidebar (on every page) a button “for faith communities” that leads to a section intended specifically to motivate those of faith “to act,” providing more resources that address the Biblical basis for concern, and more endorsements from several evangelical and non-evangelical leaders – in essence, providing the trusted messengers.

of flourish that Sir John Houghton used when he responded to Bill Moyers' question for the episode of Moyers on America titled "Is God Green?" The clip that Moyers' uses to explain the role of Houghton in Cizik's "conversion" is Houghton saying: "The science we do is God's science. The laws of science we use and we study and we discover, they are God's laws, because they're the way He runs the universe." (Moyers 2006) This, to be sure, is not the usual utterance of a leading scientist either in the UK or the US. Indeed, the stumbling block most are hard pressed to bypass is the problem of origin and evolution.

### ***Evolving relations with evolution***

The pastor and his daughter I first discuss in this chapter made direct reference to evolution by talking about the distrust that goes back a hundred years. Ball referred to the issue of evolution earlier as "all this bad blood" between evangelicals and scientists. Cizik in his interview with *Fast Company* blatantly stated: "Many evangelicals think that because they don't believe in evolution, they have to reject the science of global warming, too." Evolution and the debates over it are more than a stumbling block on the way to believing climate change. Debates over evolution are also a vital chapter in the history of American evangelicals and their role in public life.

The history page on the National Association of Evangelicals (NAE) website begins by talking about the Scopes Trial in 1925 where US courts ruled for evolution, and evangelical conservatives seemingly vanished and were vanquished from mainstream discourse. Susan Harding points out that even though evangelicals or fundamentalists as they were termed then won the Scopes case, they lost the public relations battle – being relegated instead to an anti-modernist "backwards" stereotype against the image of scientific rationality and enlightened modernity (Harding 1991). NAE states that evangelicals began at that time to build a thriving subculture – one that, scholars note, emerged strongly during the Regan administration in the 1980s, and ever more prominently under the most recent Bush administration (McKenna 2007; Moyers 2006). Yet, the chapter NAE leaves out is the revisiting of a Scopes-like drama in 2004 with the federal case of *Kitzmiller v. Dover School District*, where intelligent design – what creationism or a literal interpretation of the Bible's account of creation in the book of Genesis is

now called – was firmly rejected by the courts because of its religious roots. Remarkably, despite the way Dover became a media spectacle much like the Scopes trial over 75 years before, there has been a tremendous cooperation between Creation Care leaders and scientists, and in these instances, it seems that the debates over evolution have largely been set aside in an effort to jointly move masses towards concern about climate change.

In 2007, I went to speak with Harvard scientist James McCarthy about his work with the IPCC and the Arctic Climate Impact Assessment, and instead, he began to tell me about his work with evangelicals. I was surprised, and mentioned the work of John Houghton -- thinking he had been the primary scientist that evangelicals had worked with. McCarthy responded that Houghton had been the chair of IPCC's Working Group One in the 2001 report, and he the chair of Working Group Two. McCarthy was well aware of the work Houghton had done after the conference, and even of Cizik's conversion.

More recently, McCarthy had been part of a roundtable at the Melhana Plantation in southern Georgia with a group of 28 scientific and evangelical leaders that included Ball, Cizik, DeWitt, and Joel Hunter, as well as, James Hansen, Rita Colwell, Judith Curry, Eric Chivian, Edward O. Wilson, James Gustave Speth – in other words, some of the leading and most vocal scientists working on climate change-related research in the US.<sup>68</sup> Together, they spent three days discussing climate-related issues and “searching for common ground.” McCarthy told me that, “many of the scientists sitting around the table said it was the most important scientific meeting they have ever attended.” I asked him why, and he laughed and said,

“I mean in terms of advancing the science. ... It was Joel Hunter who said: ‘So, how many people do you speak to a week?’ He said: ‘how many are in your classes? And, maybe, if you give a public lecture, how many people would be there?’ He said: ‘I speak to 7000 and they listen to me.’”

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<sup>68</sup> This group has since testified before the Senate as a group, and they have begun a new website called “Creation Care for Pastors” that offers a number of sermons, Biblical exegesis, scientific facts, and other resources. <http://www.creationcareforpastors.com>



In this formulation, the problem of motivation is reversed – action isn't driven by facts; rather, action is assumed and the work required is to get the facts trusted. Trust, for Hunter, revolves around the messenger similar to the way Jim Ball earlier described it.

Many of the scientists involved in the meeting represent centers at Harvard, Yale, NASA, and other major scientific and academic institutions, and have often been interviewed by major media outlets. They represent an elite strata of scientists who lead in their field, and are also able to focus some of their time and attention on public policy and garnering public attention. But, as I encapsulated in my introductory chapter, many of these same people have expressed frustration on and off the record about the public's inattention to what their research already shows – that we will be in the midst of a global environmental crisis of epic proportions. Some, like Hansen, would likely say the crisis has already begun. So, it's little wonder that the thought of igniting an existing social movement with such a message accompanied by a burden for action might indeed make this meeting one of the most important of its kind.

The resulting statement released January 17, 2007, “An Urgent Call to Action: Scientists and Evangelicals Unite to Protect Creation,” speaks convincingly about the shared “moral passion” and “sense of vocation to save the imperiled living world before our damages to it remake it as another kind of planet.” It states that the protection of life on earth “requires a new moral awakening to a compelling demand, clearly articulated in Scripture and supported by science,” and it specifically expresses concern for “the poorest of the poor” who not incidentally also inhabit some of the richest areas of Earth's biodiversity. McCarthy explained that the tone of the meeting reflected this partnership with science and sense of shared goals. He said:

“It was so interesting because we could easily, easily spend our time debating things but what we ended up saying profoundly was: it doesn't matter whether – it does not matter at all -- whether life came into existence in this planet in the millisecond or millions of years, it's at risk.

This is exactly the same argument E.O. Wilson put forth in his 2006 book *The Creation: An Appeal to Save Life on Earth*. Wilson, one of the signatories to the “Urgent Call,” wrote the book as a letter to a fictional Southern Baptist minister (Wilson was raised a Southern Baptist) arguing

much what McCarthy noted was the tone at the meeting. In essence, it doesn't matter how it all began; what matters is what's happening right now.

“Let us see, then, if we can, and you are willing, to meet on the near side of metaphysics in order to deal with the real world we share. I put it this way because you have the power to help solve a great problem about which I care deeply. I hope you have the same concern. I suggest that we set aside our differences in order to save the Creation.”

This ability to set aside debates over how the earth began, and what observable process governs its continued development is not something many in evangelical circles have been likely or known to copy. But, Creation Care proponents are evidently hoping that the trust their movement's members place in their leaders can help bridge the gap.

McCarthy told me that shortly after the meeting in Georgia, he was interviewed on *Fox News* with Richard Cizik.

“The interview was getting a whole lot of: I don't know about this climate change stuff and I don't think I'll buy it. He [the interviewer] turned to Cizik and said, “how about you Rev. Cizik, ” and he [Cizik] said “yes”. He said, “I trust these scientists.” He said -- and then this phrase they're using over and over again, “It's you -- you do not honor the Creator by destroying the creation” and he [the interviewer] says, “Well, so how many people you think will listen to you?” and he [Cizik] said, “30 million.””

The process of speaking, and having others pay attention to you, especially when speaking with the authority of ivy-league sanctioned and fully funded, peer-reviewed research is something scientists up until very recently have taken for granted. Yet, climate change has forced scientists to fully confront notions of trust, authority, and advocacy – and I would add, ethics and morality to the list as well. These are themes I'll return to in later chapters dealing specifically with research conducted among scientists and science journalists. But, I raise it here because the issue of trust is bound up in much more than the ability to make people listen to what a scientist has to say (Irwin & Wynne 2004; Jasanoff 2005).

Andy Crouch, a signatory to ECI and prominent columnist for *Christianity Today* wrote a response to Wilson for that magazine titled: “Letter to a Tenured Professor” (2006). In it, he agrees that Christians do share a deep reverence for Creation, much like Wilson and other

scientists, but he also states that scientists have not sought to understand the basis for that reverence. Crouch argues that Christians like himself and his wife, a Harvard-trained physicist see no disconnect between learning from the collective efforts of science and holding Christian beliefs. An especially erudite blog post at the Center for Christian Studies (located at Cornell, but operated independently), following on Crouch's column, similarly argues that the division between science and religion have been overblown (Johnson 2006). But even more pertinent to the arguments made here, the blog post goes on to say that metaphysics and ideology cannot be set aside as Wilson is asking that they should be. Rather, the beliefs and values of Christians are precisely what calls them to care about the environment, and pay attention to any threats regarding its decay and demise. In other words, Cizik's trust expressed in the work of scientists on climate change not only blesses the facts, it does so with the weight of convictions, moral and spiritual. The facts must be paid attention to not only because they are trustworthy, but because the shared belief system and code of morality established by the Bible requires one to take action when such facts are put forward as trustworthy. Hence the switch to a vernacular – or as McCarthy put it, “the phrase they keep using”: ‘you do not honor the Creator by destroying the creation.’ The expectations of following Biblical mandates is thus intertwined with environmental stewardship.

That way of talking about the environment has been the theme of Calvin DeWitt's work as a scientist and committed evangelical. DeWitt is an older man with graying hair, but he comes across as youthful in part because of his fiery demeanor and wide smile. He was among the most approachable at the Creation Care conference, and though he didn't respond to follow up requests for a more formal interview, he was immediately interested in my research.<sup>69</sup> He said a sociologist had once written about him as a catalyst and connector that brought people and concerns together, and made things happen. I got the sense that this conference was a marker of sorts (and one he was immensely pleased with) in his efforts to put environmental concerns before Christians. Later, when he took the stage at the Creation Care conference, he burst into

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<sup>69</sup> DeWitt later responded by email to this chapter, and apologized for somehow missing my previous email request for an interview. He provided an essay of his own for me to review that has helped immensely with understanding the history of Creation Care. See DeWitt, 2007b.

the old hymn *In the Garden*<sup>70</sup>, got the crowd to sing along, and he described the American environmental icon John Muir as coming out of the Scottish psalter tradition. Despite his training as a biologist and zoologist, and his many decades of teaching at the University of Wisconsin – Madison in Environmental Studies, DeWitt’s talk didn’t discuss science or liberalism or politics. His message instead focused on Biblical references to the delight of “the garden”, and the exhortation to not “destroy its fruitfulness.” Creation, he argues in his book *Earth-Wise: A Biblical response to environmental issues* (2007a) is the other way, besides the Bible, that humanity can come to know God. He calls those who see the environment as a tableau for revelation from God, “two-book Christians.” And, in his talk at the conference, he reminded the audience that, “Jesus always taught on field trips.”

Making this connection between creation or the environment and its Creator puts conservation as part of the Christian calling to live a life of gratitude and joy. He said that dealing with “contrarians” (i.e. skeptics), particularly the Christians reminded him of teaching in the 1970s when a student, who was a radical communist, said, “give me anything -- I’m against it!” None of them (skeptics and previous radicals) have any “joy,” DeWitt said. DeWitt, on the other hand, sang songs about joy as a contrast.

In the last chapter of *Earthwise*, DeWitt lists the “stumbling blocks” and “pitfalls” many Christians might have about embracing environmental concern (it will lead too close to the New Age movement, pantheism, political correctness, support for abortion, a one-world government, etc). In a move that separates science from these other concerns, the last one on his list is that “Science is necessarily suspect,” which he translates to mean science and atheism are too close

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<sup>70</sup> Here are the lyrics to the first verse:

I come to the garden alone,  
While the dew is still on the roses,  
And the voice I hear, falling on my ear,  
The Son of God discloses.  
And He walks with me, and He talks with me,  
And He tells me I am His own,  
And the joy we share as we tarry there,  
None other has ever known.

together. His response, however, is instructive because it points out that evolution and its debates are often used as a tool by those opposing climate science.

“Promoters of doubt about the findings of climatology and environmental science have become expert in playing on the fears and apprehensions of the public. In so doing they have discovered that linking science with the question of the origins of life and with evolution will cast a pall on all science, regardless of whether it has to do with origins and evolution. The result is an assault on science as a principal way of learning how the world works.”

He goes on to defend the “tentativeness” and “integrity” of science and the scientific method, and state that many influential scientists are Christians.

Like Crouch argues for, DeWitt has been thoroughly immersed in Christian thought and study as well as the scientific method of studying the natural world. DeWitt has written extensively on the Christian need to deal with environmental issues, and he doesn’t stray from the story of Adam and Eve or what’s recorded in Genesis. Rather, he uses the Creation story as a tableau to talk about the relationship one should have with God or how one can come to know God, and at the same time, expounds on the principals offered through scientific study such as the hydrologic cycle, carbon cycle, and other forms of energy exchange and ecology. It’s in this way that he side-steps a debate about how life began in favor of a framework he encapsulates as stewardship, appreciation, and awareness. “Our ultimate purpose,” DeWitt argues, “is to honor God as Creator in such a way that Christian environmental stewardship is part and parcel of everything we do.” It’s expressions like this that reflect the message of Creation Care, which makes both environmental concern and the urgency to act inseparable.

### ***Political Alignment***

These conversations between scientific and evangelical leaders, and even with Crouch and academics at Cornell are, despite their awareness of differences, still very much conversations among those converted to concern about the environment and the need to act on

climate change. In talking about the challenges confronting Creation Care, Ball casts the net much more widely than the evolution debates, noting in particular the widespread perception among many evangelicals that scientists have liberal values and are “part of a liberal culture.” DeWitt’s long list of “stumbling blocks” reflects a similar base of concern.

The example Ball used was based on a conversation he had at a conservative institution where a person came up to him after his presentation and asked how Ball could trust scientists. The man noted that the American Psychological Association’s stance on homosexuality was, in his opinion, ideological and untrustworthy. As a result the man’s conclusion – and Ball emphasized that this man is not alone -- ends up being: “how can we trust them on this [climate change] when we can’t trust them over here [on homosexuality]?”<sup>71</sup> In other words, even with window dressing that says otherwise, climate change is still science underneath, with all its attendant difference and anti-Biblical tendencies. This emphasis on trust acknowledges the social life of facts – that ‘scientific’ can be perceived as ‘ideological’ regardless of how vigorously its conclusions hew to a prescribed method or discipline. Or, in this case, that some facts can be connected to other facts producing a perception of ideological opposition. The consequence being that for someone like Ball, it means that adopting a scientific fact as a truth worthy of acting upon requires a defense and a Biblical exegesis to support it.

At the Creation Care conference in Orlando, this was on full display as speaker after speaker got up to say in various ways: “I am not a liberal,” or “I’m here to say you can care about climate change and not be a liberal.” Most of the Creation Care-oriented books coming from these same speakers and others begin similarly. Or, as the NAE website put it: “Being concerned about the effect of greenhouse gas emissions on the earth’s climate does not make you a liberal kook” (National Association of Evangelicals 2008a).

Part of the work to be done then by those intent on seeing Creation Care succeed is in parsing concern for the environment from what is seen as a liberal agenda or group of concerns.

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<sup>71</sup> Ball also went on to note that this problem of trust in science is widespread beyond the bounds of faith where it seems that scientists are constantly issuing new research findings that may or may not contradict previous findings – the “everything good is now bad for you” problem that is especially prevalent in medicine. He used the example of cholesterol. Yet, that is qualitatively different than the problem expressed regarding morality and sexual orientation.

This explains the name change itself from “environment” to “creation,” and what Cizik explained to me was a reticence to partner with any secular environmental groups until Creation Care is well established.<sup>72</sup> That it is possible to believe that climate change is a real scientific fact and still be a conservative unallied with other liberal causes such as abortion or homosexuality – two key moral issues for evangelicals active in American policy and politics – is a position that is only slowly being established. And yet, as the pastor and his daughter pointed out at the conference and as Ball affirmed, it is the primary way in which evangelicals will become convinced of the need to address climate change both personally and collectively. Those who deliver the message must be trusted in order to both “bless the facts” and to provide the moral or ideological underpinning that necessarily accompanies these kinds of utterances.

A secondary and related aspect involves establishing a deep connection with the Biblical mandate to “tend the garden” as DeWitt and several pastors at the conference put it, and making that interpretive turn known, available, and trusted by pastors who have either ignored the issue or defaulted to the stance taken by Republican leaders or Republican-aligned evangelical leaders. Its this step that will likely lend the whole initiative what it needs to be seen as Biblical and Christian in the cultural sense – something that Christian individuals can be seen to be involved with and ask others to join in. DeWitt’s exegesis makes this aspect abundantly clear, and he is certainly one of several who have made a similar effort (Berry 2000; Bouma-Prediger 2001; Robinson 2007; Robinson & Chatraw 2006; Sleeth 2007). If one considers the way abortion became a “Christian issue” or an issue of morality for Christians to take up, Creation Care is trying to affect the same process for the environment. But the environment involves a much more complicated set of considerations ranging from the status of science, a historical association with the left, the economy and political positions on its handling, as well as its moral and Biblical standing.

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<sup>72</sup> At the Creation Care conference, there were several information and display tables set up around the lunch area. Most of them were for organizations like A Rocha: Christians in Conservation or the Au Sable Institute as well as Christian publishers with many new titles on environmental themes. A couple of the tables were for non-religious based environmental groups. At the Sierra table, I met Lyndsay Moseley, a Christian and Sierra Club employee. She reiterated to me what Richard Cizik had said in my interview with him – that evangelicals had to be extremely careful about forming partnerships with secular groups at this stage in the development of Creation Care. It would be too easy to write off their efforts if they were perceived as liberal, left, or secular. After the conference, Moseley edited a book that Sierra published: *Holy Ground: A Gathering Of Voices on Caring for Creation* (2008).

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This, analytically, is one of the most difficult bundles of considerations to puzzle through, and speaks to the diversity of the evangelical movement. Within the evangelical movement, there exist groups who identify more strongly with social justice issues like poverty alleviation. Tony Campolo is one such prominent “left-leaning” leader who was a spiritual advisor to Bill Clinton and is generally seen as a Democrat, despite his critiques regarding abortion and same-sex marriage. His book, *Red Letter Christians* spawned something of a sub-movement of its own and is a challenge to Christians to rise above partisan politics to address among other things, the environment (Campolo 2008). Yet, what is largely at stake for proponents of Creation Care is the twinning of what is Biblical and what is politically conservative where “Christian values” stand in metonymically for a much larger swath of concerns that run the gamut from population control and abortion to big government. With the Bible as a rationale for acting, the issue becomes less about opinion or political leaning, but about what’s right and wrong. Jim Ball put it this way in a post on Beliefnet that was responding to stereotypes he saw Bill Moyers and Grist.com using to describe Christian beliefs.

“The main reason many evangelicals have not been as engaged in caring for God’s creation as the Bible calls them to be is because in their minds ‘environmentalists’ are liberals who hold beliefs (e.g. pantheism) and values (e.g. population control) that can be harmful and lead people astray. Indeed, becoming an environmentalist could lead one to become a full-blown liberal, and thus turn away from conservative Christian values and those who hold them. Some evangelicals are also concerned about what they regard as liberal solutions to environmental problems: big government and oppressive regulations. Because environmentalists are perceived to be liberals, anything tagged as an ‘environmental’ concern must be liberal, too. There is an unfortunate guilt-by-association at play: if something is liberal, then evangelicals should have nothing to do with it (Ball 2007b).”

So it’s not just that environmentalism is liberal, but also, that if it isn’t politically conservative or one might argue, Republican, then it’s not Christian. It is an unfortunate ‘us versus them’ position, particularly for a religion whose tenets also include ‘spreading God’s love’ in order to win others as converts. Ball went on to say that this barrier prevents many



evangelicals from “exploring the richness of the Bible’s message on creation-care,” which creates more “ignorance and lack of motivation” to act.

Trying to understand the stakes of political neutrality and an embrace of environmental issues led me to read Joel Hunter’s work more closely. Not only is he a key figure within the Creation Care movement who counts DeWitt as one of his mentors, but he’s also been spearheading many of the structural and political changes within the evangelical movement as well. His 2007 book *A New kind of Conservative*, was originally published a year earlier under the title, *Right Wing, Wrong Bird: Why the tactics of the religious right won’t fly with most conservative Christians*. What Hunter proposes is a structural change that retains the conservative values of the evangelical church, but not necessarily its political leanings. He seeks a kind of overhaul in thinking about political involvement, and it stems in part from his own experiences when he was positioned to take over one of the pinnacles of the religious right.

Hunter first came to my attention in 2006 for his acceptance and then rejection of the offer to run the Christian Coalition, an organization founded by Pat Robertson, and lead famously by Ralph Reed in the 1990s, to lobby the American government on behalf of Christian family values. One of the reasons Hunter stated that he decided to rescind his acceptance of the position was that the board of the organization refused to entertain the possibility of taking the organization in different directions – of tackling issues like climate change, AIDS, and poverty. In *New Kind of Conservative*, Hunter describes the incident in much more generous terms than mainstream media did at the time (2008). *TIME* ran a story about the Coalition struggling to remain relevant; *The New York Times* painted Hunter’s resignation as one of the Coalition’s latest difficulties and quoted Hunter as saying there was a new uprising within evangelical circles not necessarily interested “in the passage of certain laws” (Banerjee 2006). The rebuttal from Christian Coalition representatives was that Hunter had subverted the process by which consensus on agenda changes can proceed in their organization, painting him as something of a loose canon. In the book, while not necessarily faulting the differences he had with the Board of the Christian Coalition, Hunter describes their stance of fomenting “fear and anger” on hot-button issues as one that stems from the 1970s. Christians, at that time, still reeling from the tumult of the 1960s were confronted with enormous cultural shifts such as 1973’s Supreme Court

Decision on Roe v. Wade and the decision to “subtract” (a significant shift to less aggressive language by Hunter) prayer in schools (Hunter 2008, p. 21).

Hunter goes on to carefully characterize the resulting para-church organizations like those started by Dobson and Jerry Fallwell as helping to fill the vacuum on national moral standards and civic duty. However, he sees the “past success of Christian conservatism” as a block in the maturation of the evangelical movement. The forward by Ron Sider, President of a para-church organization called Evangelicals for Social Action makes Hunter’s point more clearly by stating that “a powerful evangelical center is emerging that is rapidly transcending the narrow boundaries of the Religious Right” (2008 p. 13). Sider along with the few scholars who have published on this emerging shift within evangelical circles point to two major examples of this shift: the 2004 “For the Health of the Nation: An Evangelical Call to Civic Responsibility” adopted unanimously by the Board of the National Association of Evangelicals (NAE), and the 2006 Evangelical Climate Initiative (ECI). On both of these documents, Hunter is a signatory, and has emerged as a key spokesperson.

The vision Hunter puts forward is of connecting on ideals and faith, and crucially moving forward on issues in partnership with other like minds, regardless of their religious orientation. This ecumenicalism was on full display at the conference when one of the first breakout sessions featured Hunter, a local Rabbi, a local Imam, and when a keynote was offered by the Catholic Bishop for Florida. When Hunter introduced Bishop Wenski, he said that “new evangelicalism is really old Catholicism,” implying that the civic involvement of the Catholic Church was both a goal and a model worth emulating. Wenski, in his riveting address, made it clear where he stands regarding “environmentalism.” He said, “we are not endorsing environmentalism. Al Gore is not the 5<sup>th</sup> evangelist... and everything said about climate change is not good science just like everything we hear from the pulpit is not good theology.” He went on to explain that the strategy of the church is not to impose on the unwilling, but rather, quoting Pope John Paul he noted, “the church does not impose, she proposes... we have a proposal to make... about what helps or hinders human flourishing.” Science, he made clear, serves this proposal for common good rather than the other way around. Wenski’s main rationale for working on climate change is something Hunter has written about, and indeed what Creation Care espouses – that one of the

primary reasons climate change is worth paying attention to is that it threatens the poorest of the poor, or “the least of these” in Biblical terms. Hunter came on after Wenski and noted that “God has seen fit to give us problems that no one group can solve on their own,” and in his jovial positive way suggested that team work was the appropriate metaphor to move forward on good works.

It is this kind of partnering that Hunter is recommending with any and all who are willing to work on issues that require clear moral prescriptions, putting aside the suspicion one has of those considered the “enemy” (he lists liberals, secularists, United Nation-alists, etc.). He asks:

“What if there was a way to increase our identity and our intensity for right by associating common causes with “the enemy”? What if “conservative” did not just mean emphases on traditional morality, small government and lower taxes, large military and combat readiness? What if conservative also meant doing the right thing in compassion issues like Jesus did: healing the sick, feeding the hungry, appreciating the ‘lilies’ (God’s creation), and freeing the oppressed? What if believers were also enthusiastic for the furtherance of science and rigorous training in rational debate?” (24)

He is perhaps even more clear-cut later on in the text when he says:

“Conservative Christians need to be more ambidextrous rather than just “Right” or “Left” oriented. The Bible is more holistic, more fulfilling to all of life’s needs rather than heavy-handed on what is morally right or compassionately left.” (78-83 original text, quoted in Deep Green Conversation blog)

Hunter is careful to continually pay homage to those who have established the foundation for civic involvement and Christian positions on fundamental issues like abortion and same-sex issues. And, certainly, Sandra Harding (2000) has pointed out that evangelicals possess a kind of bi-lingualism, moving back and forth between their communities and the larger world. But the ambidextrousness Hunter advocates is meant to question the foundations of alignment between evangelicals and right wing political advocacy. What Hunter is pushing for is nothing short of radical, and the environment is one of the primary lightening rods for the change that he’s proposing.

What Hunter proposes in general terms, however, should not be mistaken for a willingness to be associated with other groups on an ongoing basis. As I mentioned already, Cizik was very clear with me that Creation Care was not going to associate with any existing environmental groups until its own identity was more fully formed and well-known. Even partnering with other mainline Protestant denominations felt risky for Cizik until Creation Care had developed its own “voice.” In 2009, the ECI formed its first partnership with Esperanza, a Spanish-speaking evangelical Hispanic network “with 12,000 churches, ministries, and community organizations” looking to similarly raise environmental awareness throughout the Americas (Esperanza 2008). It’s difficult to tell what came of this alliance as the pledge form on Esperanza’s website has largely fallen off of its promotion from the front page, and ECI no longer lists it on its website either.

At the conference, Hunter pointed out that it may not be easy for those who take up the environment. After Tri Robinson’s talk, he said as a warning: “you are going to get some pushback – some of your people listen to talk radio during the day and they think we’re the devil.” Indeed, after sitting in the conference for the first hour’s worth of presentations, I already felt as if I had entered a renegade camp of some kind where despite a belief in the absolute necessity of this work, there was an acknowledgement that such agitation bucked trends and could/would likely upset many. To illustrate more fully this sense, I want to take the reader through that first hour that set the tone for the conference.

### ***What it sounds like coming from the pulpit***

I wasn’t sure what to expect at the Creation Care conference when I arrived. I was surprised and intrigued by its intimate size of 100-150 people. As I noted earlier, I had struggled to make inroads via email with many of the people I had identified as key leaders, and was hopeful about the insight this event might provide.<sup>73</sup> The event opened first with a prayer by Joel

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<sup>73</sup> When Joel Hunter greeted me at the door, and I identified myself as a researcher from MIT. He was elated and said “We need that!” I wasn’t able to follow up more with him despite him giving me the contact name of his media person. At some point, I hope to be able to, however.

Hunter where he acknowledged: “we are the receivers of your [God’s] great creation, and we confess that we have not treated it with the utmost respect... and we want to do better.” It was followed quickly by a short drama sketch by two members of Northland in order to “set the context” for the forthcoming session. They enacted a scene where a woman was sorting out things outside of a house under the auspices of “going green,” or doing a green audit at home. The other person, a man, responded by trying to guess in a humorous way whether or not they had gone Buddhist, vegetarian, organic, vegan (neither were sure what that meant which elicited a small laugh from the audience), Adventist (which got a big laugh), or something else. The “green” individual responded that no, she wasn’t any different and still went to the same church (a refrain she repeated a few times). This “going green” had not affected any other area of her life except to force her to buy more expensive light bulbs (which also got a laugh). The punch line from the other actor was: “why you doing it then?” It segued to Kermit the Frog singing, “It’s not that easy being green,” which got a round of applause, mixed with laughter.

Joel Hunter came on stage then and said, “Those of us making this transition are confusing many of those who are trying to put this whole thing into some sort of category.” He described the evangelical community as “being late to the table” in terms of taking on the issue of care for the environment, “confusing much of our congregation that has a basic responsibility” to do better on simple things.<sup>74</sup> He said that the conference day was meant to be a “training session” to equip pastors and lay leaders “wherever they are at,” implying there was likely a wide variety of positions on this topic. As if to explain the small numbers, he said that right now Creation Care was a “rather concentrated network of leaders,” that is “really expanding very rapidly.” He said “pastors are very intimidated to address this with their congregations because of those more radical links that people have in their minds, and so it’s a risk for pastors to bring this.” It wasn’t all a difficult road of persuasion though. He made reference to the surprising response particularly from the younger generation that was more along the lines of: “what took you so long?”

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<sup>74</sup> “Those of us making this transition are confusing many of those who are trying to put this whole thing into some sort of category, and the fact is that at least for the evangelical part of the church, we are the ones who are late to the table and so we’re confusing a bunch of our congregation who has a basic responsibility...”

*Candis Callison, HASTS Program, MIT*

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Hunter introduced the first speaker, Tri Robinson, a pastor of a Boise Vineyard Church<sup>75</sup> who has rapidly become a central, leading voice on issues related to evangelicals and the environment. He's written two books *Saving God's Green Earth* (2006) and *Small Footprint, Big Handprint* (2007), both of which lay out a vision that includes the Biblical basis behind care for the environment, Robinson's personal experiences, and a blueprint for living an ecologically principled life both collectively (as a church) and personally, in the home. Unlike Hunter who was in a suit, Robinson wore jeans, cowboy boots, and a bright yellow shirt. When he got up to speak, he said it was the first time he had spoken this message on the east coast, and he said when he arrived in the morning he thought "uh-oh -- because I was the only guy who looked like he was going fly-fishing. Usually, if you see me in a tie, somebody's getting married or somebody just died." Robinson is from Idaho, and as he details in *Saving*, raised his now grown children mostly off the grid on his family's ranch near Boise while pastoring. Prior to becoming a pastor, he had gotten a degree in biology and ecology, and had been a teacher for 12 years.

Robinson said when he decided to speak to his church about the topic of the environment and stewardship that he "was scared to death." He explained that he prepared for six months, and formed a task force within the church and discovered that many of his parishioners worked in the area of conservation, fish and game, parks and recreation, soil conservation, national forest service, and other areas.

"I had all these undercover, closet conservationists and environmentalists afraid to admit in church they were environmentalists. And, on the other hand, in their workplace, they were afraid to admit they were a Christian. So, they were living these double lives, and in some ways, I was too."

He explained to the conference crowd that, in addition to his science degree, he came out of the Jesus movement in the 1960s that embraced radical environmental values, but then "the thesis that emerged was it's all gonna burn anyways" so those concerns became a part of his "old life" that he left behind. He equated environmental concern with other elements that he didn't like

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<sup>75</sup> According to the Vineyard USA website, there are over 1500 Vineyard churches worldwide and 550 in the US. The Vineyard church movement was begun by the Late John Wimber in the 1970s in Yorba Linda, California, and is something like a denomination, but is sometimes referred to as "non-denominational" for its independence from other evangelical groups like, for example, the Assemblies of God (Pentecostal), Evangelical Free, Baptist, etc. Vineyard churches are broadly-speaking, evangelical in their beliefs, and are well known for their "praise and worship" music. For more, see: <http://www.vineyardusa.org/site/about/vineyard-history>

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about his life prior to conversion, and so he said he decided, like others who had come out of the 1960s, that they would just preach the gospel and that would be their life.

Yet, Robinson pointed out that part of the Great Commission to go and preach the gospel included “tending the garden and caring for Creation. It’s very clear in the scripture.” And, when Evangelicals dropped this issue, others picked it up, he noted.

“We didn’t quite like how they [meaning, environmental groups or environmentalists in general] did it. Two camps, I think, were formed and we isolated ourselves from each one. Most of us were really pushing in the pro-life camp and saw that the environmental movement was really a pro-choice camp because the thought came that the problem with this world is... that it’s overpopulated. What they said was that really what we need to do is rid ourselves of unwanted people... We really pushed back [from that].”

Not incidentally, this is a concern I’ve heard many times informally – in particular, from a high-ranking representative of the para-church group, Focus on the Family (founded by James Dobson) as a rationale for ignoring climate change as an issue – because of its connection to abortion on demand and overpopulation.

Robinson referred to his home state, Idaho as a “red state” and noted he had Republican politicians in his congregation, but he felt confident going forward because he had discovered scriptural principals and bases for his message about the environment. When he gave his first sermon – the one he prepared six months for – he said it wasn’t his best sermon, but that at the end, he received his first standing ovation in his 25-30 years of preaching. That sermon, he noted, is still being listened to online.

Robinson described himself as being only two and a half years down the road of thinking through and about environmental stewardship in relation to Christian responsibility. He said that he had showed “The Great Warming” at his church, and advised others not to do it if they were new to the topic. He got a big laugh when he said he “had to ‘fellowship’ a few people afterwards” – meaning everyone wasn’t happy about the film. He said it wasn’t the Al Gore version, and therefore it was more palatable to evangelicals and noted the interview excerpt with Richard Cizik, who is featured in the film and was in the audience. Robinson specifically

referenced what Cizik said in the film – that evangelicals never hear this kind of thinking from the pulpit. He followed up on this point by stating: “Christians are waiting for their leaders to give them permission to care about creation and say that it’s okay.” This theme was often repeated throughout the day.

Robinson went on to provide scriptural references and interpretation for his newfound position on environmental care. He noted that “the problem of people worshipping the creation and not the Creator” that is often expressed as an issue of concern in evangelical circles is something he’s never witnessed in his nearly three years of working on this issue. Instead, he noted that it opened new doors for accessing the “unchurched.” He’s been asked to speak to the conservation league and to partner with the University of Idaho, and that he often begins by seeking repentance for the church’s inaction on environmental issues. He emphasized the evangelical duty to proclaim, demonstrate, and participate, and he explained this in several ways: as God being revealed through creation, as a responsibility to address the needs of the poor and “a world in crisis,” and as a call to live a life of adventure. Robinson ended by showing a short video of his church’s efforts, which include a large organic garden on church grounds from which they feed the poor. He strongly emphasized that his church has not been hurt by these new initiatives, rather that it had been “blessed” by it. And, that it had provided him with an opportunity to speak with groups like the Idaho Conservation League, which he described as “the most liberal group” in the state. He said he began his talk to them by “repenting” about Christian attitudes and action regarding the environment – a sentiment he reckoned they had never heard from a Christian leader before.

There are several themes that Robinson’s message raises – themes I’ve heard in other speeches, interviews, and events. First, obviously, the sense that the environment is a predominantly liberal or Democrat matter was present in Robinson’s talk. Second, Robinson went to great lengths to point out that this is not a new value being overlaid, but an old value of “restoring Eden” that was finally being brought forward. So, the work then is not just that of parsing environmental concern from a liberal set of concerns, but also, recovering the Biblical fidelity inherent in such concerns. And, importantly, it is up to the pastor to articulate that fidelity and give permission in order to adjust the priorities of their church and parishioners. But



that articulation is not the final word, Robinson laid groundwork socially in order that his message might be received well by at least a segment of his church. This kind of tactical strategy mirrors on a small scale what Jim Ball, Calvin DeWitt, Richard Cizik, and Joel Hunter are doing on a much larger scale, working to build bridges and inroads for their message both inside and outside the movement. And they do so, as Hunter hinted, with the younger demographic largely on their side. Yet, the roots of Republican affiliation run deep, and are a key factor in the difficulty Creation Care has had moving forward, beginning with the ECI. At the center of this movement then is a debate not only about science and evangelical Christianity, but also about how and why to be civically active.

## **Conclusion**

When *Science* covered ECI in their news section, they quoted Jim Furnish, former deputy chief of the US Forest Service as saying “What’s going on here is peacemaking at its most basic level between the religious and scientific worldview” (Kintisch 2006). The article stated that the ECI was the culmination of “a 5-year effort by a handful of scientists, most of them devout Christians, to find common ground with an influential Republican constituency that is often an implacable enemy in science policy debates.” The article featured an image of Cizik, DeWitt, and Houghton with the caption “Warming Trend.” And, while that’s one facet with which to view the changes, and some of what this chapter records, Creation Care also points to structural changes within the evangelical movement such that the *The New York Times* later that same year quoted Christian leaders as saying they saw things changing to such an extent that “it will be harder for anyone to talk about evangelicalism as a movement with any unity”(Luo 2006). As I mentioned in the beginning of the chapter, The Pew Forum on Religion and Public Life divides evangelicals into traditionalist, centrist, and modernists, and Cizik is quoted in this same *Times* article as saying the conflict is between the two largest groups: traditionalists and centrists. The traditionalists like Dobson, the late Jerry Falwell, and Charles Colson are loathe to see issues like the environment supplant the focus on abortion and gay marriage. Cizik, who says he’s a traditionalist, but seems to represent centrists, in his address at the conference, waved copies of *USA Today’s* articles on the demographic shifts that see younger people, by and large, much

more open to same-sex civil unions and prioritizing the environment much higher. It is they who would like to see it adopted as ‘an evangelical issue.’

Yet despite these changes and shifting on the horizon, evangelicals are still considered a major voting block within the political arena. Science remains a contentious source, and for many, in need of a recommendation from a trusted messenger from within the evangelical movement to affirm its relevance, meaning, and veracity. Creation Care has been forced to confront cultural norms that sideline scientific evidence, and heated opposition within their own movement that stems in part from political alignment with right-wing positions on climate change and economic issues. At the same time, it has had to differentiate itself from the environmental movement for fear of being branded as “liberal.” As Joel Hunter told the Orlando Sentinel when he explained why they use “Creation Care” as opposed to “environmentalism”:

“We’re not tree-huggers, we’re God-huggers... We wanted very much to do this not out of an ideology, not out of a political position, but out of a moral obedience of what is says in the Word” (Carlson 2006). Jim Ball made a similar statement when *Christianity Today* interviewed him during the launch of ECI (Blunt 2006a).

For many, science itself is seen as ideologically liberal and therefore not the basis on which Evangelicals should act. Hence, Hunter’s crucial definition of the reason to act being about “moral obedience.” This isn’t to say that science is completely sidelined, but it is pared with the moral in complex and sometimes paradoxical ways in order to achieve the position of “belief” in climate change as a real problem in need of Christian address. Scientific evidence, in the context of Creation Care, acts as *a partner*, rather than the sole basis for evidence. A Biblical mandate must be part of what convinces evangelicals of the need to act, and a part of that work means nesting environmental concerns within existing well-defended mandates regarding, for example, care for the poor and the sanctity of life. Trust to speak on these issues is established in part through one’s position within the church and evangelical movement as well as through identifying as a conservative.

During the summer of 2008 as I was beginning to analyze my fieldwork, I often took the subway between Harvard Square and Kendall-MIT stops. There was a prominent advertisement

at that time put up by a Christian church in the area. The ad was a single quote from C.S. Lewis that said: “I believe in Christianity as I believe that the sun has risen: not only because I see it, but because by it I see everything else.” This sentiment encapsulates both the trust required so that evangelicals can hear what is being said by science, but also how the motivation to act is structured upon a belief in Christianity, however that is defined, first. I want to close with an example that further illustrates this – an example of conversion not unlike what Cizik described.

When I spoke with Cizik and in my interview with James McCarthy, both told me about a trip they were set to embark on in Alaska later in the summer of 2008. They would be bringing 6 scientists and 6 evangelical leaders to Alaska to see first-hand the impacts of a changing climate on people and the environment. The 6 scientists would include McCarthy, Eric Chivian, and others yet to be determined, and the 6 evangelicals would include 3 convinced and 3 unconvinced of the need to act on climate change. Bill Moyers was planning to send a television crew along to film the adventure, and conversions.

I finally got to watch the resulting documentary several months later after it was broadcast (Murphy 2007). It was broadcast on PBS’ *NOW*, and called “God and Global Warming.” The documentary condenses the week long trip, which includes the group meeting in the Anchorage airport, on bus trips through Alaska, and talking and trying to convince in particular Bishop Harry Jackson, an African-American pastor from the Washington DC area who had joined the group. Jackson is labeled as a “skeptic,” who thinks that much of the calls to action on climate change are “alarmist” and he isn’t sure what Christians should be doing about climate change right now.

One of their destinations (I discovered later that it was set up by Patricia Cochran of ICC) was the much-chronicled town of Shishmaref, Alaska. Located on a barrier island, Shishmaref is one of several traditional Inuit villages in serious peril from a combination of storms, coastal erosion, and permafrost melt. Their buildings have literally been falling into the sea, and they have been forced to consider and plan for relocation. Shishmaref has received an enormous amount of international media attention for their plight and status as being ‘on the frontlines of climate change.’

Despite the access to scientists and the hard work the group engages in of convincing Jackson, who rapidly becomes a central character in the story, it is the Inuit with whom he connects. When he recognizes their plight, and the role of carbon emissions in what they are experiencing, he becomes convinced of the need to act, and to take the message back to his church. He remains somewhat unengaged by the science, but the plight of poverty and relocation are a burden he well understands.

Perhaps this was a factor of documentary storytelling and the need to find a character, and perhaps it was an idiosyncratic individual who by-passed the science in favor of addressing the dire needs of individuals he met and their community. Yet, this is exactly the kind of transformation that Creation Care has positioned itself to effect. Jim Ball put it this way in his response to Grist.org:

“Those environmentalists who do not share our faith perspective will have to understand that we evangelicals will have some different reasons for addressing environmental concerns. We may use different language, like "creation-care," and we may be more comfortable with labels like "conservationist" rather than "environmentalist." And, frankly, we may seem strange to you at times. But once committed to a cause, we can help make a difference.”

What kind, how much, and where that difference is made remains to be seen, but certainly for the small group of leaders working on Creation Care, it remains a hopeful possibility.

## Chapter 4: What gets measured, gets managed: Ceres and the convening of risk management

Every year in April, Ceres, a corporate social responsibility organization based in Boston, puts on a conference that by both academic and non-profit standards is rather lavish. Attendees include a wide range of business representatives from Wall Street, pension funds, and socially responsible investing firms, as well as a long roster of small and large businesses that include some highly recognizable consumer brands like Johnston and Johnston and Ford. Held at large downtown Boston hotels, well over 500 attended the two-day event in 2007 and 2008 – the years I was a participant-observer. What attracted me to conduct research with Ceres was their focus on capital markets and corporations – a distinct segment of society, and because they were known as the organization that transformed climate change into “climate risk” for corporate America.

In 2007, the first session began with breakfast at 7am. It was part one of a two-part discussion on the Global Reporting Initiative (referred to as GRI), a standardized accounting system for sustainability issues that includes the environment, labor practices, human rights, and management strategies that address these issues. The session had the feeling of being in a renegade bullpen where the stakes were high and every comment reoriented the frames for discussion -- experiences and problems were raised, frustrations released, and opinions aired. The topic was not as much about GRI as it was about American capital markets in general. Representatives from major corporations like McDonald’s and Office Depot traded experiences and insight with Ceres board members, socially responsible investors (referred to as SRIs), and non-profit executives. They talked about the difficulty of integrating sustainability into business models, the moral rationale for doing so, and the stakeholder process that Ceres has established. Wall Street’s evaluation of their companies purely in the short-term emerged as a serious concern. One contributor said: “Wall Street has the attention span of a gnat... it thinks long term is 5 years.” Another participant responded in metaphor that they “hoped there would be a

process of gently petting the dog [i.e. Wall Street and capital markets] awake rather than kicking it.” Others talked about the “critical juncture” confronting companies where what is “at stake” are communities and society. The key, one individual said, is recovering from “the hangover” of thinking that “if something is good for the environment, it must be bad for business,” and vice-versa. “The idea that it’s a complicated process – I think we have to get away from... it’s really about connecting people and ideas.” The key, another countered, was to look at things “in a more dimensional way.” “The issues,” claimed one major company representative, “are systemic... one company alone can’t solve it, yet I haven’t seen a model that reflects that.” An SRI representative answered back that, “the reason we go after [single] corporations is that there’s a domino effect.”

Sitting in on this session felt a little like being dropped off ‘in the deep end’ of corporate social responsibility debates, live, in-person, and with some of its key players. With this as a starting point, questions begin to proliferate about what it means for a company to be accountable, what conceptions of a just and productive society drive most corporate social responsibility (CSR) work, and whether these ideals could possibly be reconciled with one another. Ceres’ large plenary sessions took place in massive hotel ballrooms, and were considerably less philosophical, less full of debate, and less intimate. Over the two years, they included keynotes by the CEOs of Baxter International, Citi, Bank of America, Timberland, and State Street International, as well as noted activist and author, Bill McKibben. Plenary panel sessions ran the gamut of putting Stonyfield Farms and Timberland together – two leading edge companies on the topic of sustainability, while another memorable one dealt with how the public was embracing climate change, and included thinkMTV, Steve Curwood from PRI’s *Living on Earth*, and the National Religious Partnership on the Environment. Breakout workshop sessions were held in medium-sized rooms that were almost always completely full to standing room only. They had titles like “the business value of sustainability,” “the collision between coal and climate,” “global warming hits Wall Street,” “the rise of ecomessaging,” and “how insurance catastrophe models can help business and government plan for climate change.”

Equally interesting to the official conversations I recorded and witnessed were the kinds of people I found myself seated beside and often conducted mini-interviews with – a sample of

that diversity would include a Wall Street banker, several socially responsible investors, a highly ranked individuals from a state treasurer's office, corporate representatives (from small, medium, and large companies), and environmental activists. Some attended because they were committed, involved members of Ceres and others because they were being recruited to join. A few others were there because they were curious about how to tackle all of the environmental issues that were bubbling to the top – chief among them: climate change. I first heard of Ceres when they sponsored a talk at MIT by Solitaire Townsend, a UK public relations executive well-known for her work on climate change communication in the UK. In Ceres' participation in the panel after Townsend's talk, it became evident that Ceres was approaching climate change much differently than the scientists in the room.

Each year at the conference (and in most of the other several events where I heard her speak), Ceres head Mindy Lubber took the stage to welcome guests and began by referring to the trillions that Ceres represents. At the 2008 conference, she referenced the 22 trillion in assets in the room, the five trillion represented in Ceres membership, and the 2 trillion represented in calls for addressing the climate crisis through Ceres' Investor Network on Climate Risk (INCR). It's from atop the trillions that Lubber commands the attention of the room, and is able to talk convincingly to corporate audiences about "building sustainability into corporate ethic," and "managing footprint whether it be carbon, water, or labor practices." She said in 2007 that six years ago, Ceres began to talk about climate, and now "climate risk" is "as commonly used as sustainability." It's on this point that Lubber declares that Ceres and its members are "thought leaders" able to ask and increasingly answer what "sustainable governance" means. In the case of climate, if Lubber's October 2007 testimony to the Senate Subcommittee on Securities, Insurance, and Investment is a barometer, sustainable governance means: *standardized disclosure and regulation of the material and financial risks posed by climate change*. This translation and transformation of climate change from being an ignorable environmental problem to being a pressing financial risk is a task Ceres has been working tirelessly on since 2001.

Ceres originally stood for Coalition for Environmentally Responsible Economies, but that's an explanation I was only able to find in old news stories about the organization. Some of those stories also note that Ceres is also the name of the ancient Roman goddess of agriculture.

The way Ceres staff generally describe their organization is as “a coalition of investors and environmentalists.” Longtime Ceres employee and the Director of Investor Programs, Chris Fox<sup>76</sup> told me that the pairing is often a hard one for reporters to get their heads around. He said they usually want to pick one – either Ceres is an investor group or an environmental group. Indeed, it’s not been a usual occurrence to find Wall Street types and prominent environmental activists at the same conference, talking about the same thing: the magnitude of global warming and the need for policy and solutions. In his 2007 plenary address, activist and author Bill McKibben paid Ceres one of the biggest compliments possible from a self-described “ardent environmentalist.” He said, “Ceres is one of the few places I know that enjoys the trust of the entire community.” He also pointed out that, “we are at a moment where we can stand shoulder to shoulder on global warming with the corporate community.” Though, as I discovered, shoulder-to-shoulder does not mean that tension, productive or otherwise, does not continue to exist in such a coalition. Lubber in her conference opening speech in 2008 reminded the crowd that when it comes to addressing sustainable governance, “we must continue to dance at the intersection of our differences.”

Despite McKibben’s flourish, Ceres’ work has not been greeted by the same recent fanfare as the Inuit human rights claim or the seemingly new turn for evangelicals toward climate change. Rather, over a 20-year period beginning with the Exxon-Valdez oil spill off the coast of Alaska in 1989, Ceres has labored to build a coalition that negotiates between major corporations, socially responsible and institutional investors, and environmental groups primarily through a process of stakeholder engagement. Ceres corporate members number at 78 as of 2010.<sup>77</sup> They also labored intensively for over a decade to put in place a standard for

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<sup>76</sup> At the time of my interviews with him, Fox was the director of INCR. He wrote later to tell me that this role had recently changed. Here is his full biographical reference that explains the shift: “Chris Fox co-founded the Investor Network on Climate Risk (INCR) project of Ceres in 2003 and supervised the investor program staff that worked on INCR from 2003-2010, including four global investor summits on climate change at the United Nations Headquarters in New York City, among many other INCR initiatives. In June 2010 Chris began a new role at Ceres as Co-Director of the Policy Program, dedicated to advancing policy solutions on energy, climate change and other sustainability challenges.”

<sup>77</sup> The roster includes some of the largest and most influential publicly-held corporations in the US. A sample includes: PepsiCo, Bank of America, Sodexo, Virgin America, Time Warner, Sunoco, PG&E, Gap, Exelon, GM, General Mills, Levi Strauss & Co, McDonald’s, and Nike. Smaller influential companies are also listed. For example, Native Energy, Interface, Seventh Generation, Green Mountain Coffee Roasters. See <http://www.ceres.org/Page.aspx?pid=426#list> for a full listing.



sustainability accounting, known as the Global Reporting Initiative (GRI), now based out of Amsterdam. Their latest major work since 2001 has been working to build the Investor Network on Climate Risk (INCR), an initiative that brings to bear the weight of numerous institutional investors to press for regulation and policy changes, as well as, changes in corporate practices related to transparency and disclosure. As of 2010, INCR claimed to represent \$8 trillion in investments.

Ceres' has also championed and supported shareholder resolutions, and produced many reports that score and rate entire industries and numerous corporations. While there are many groups like The Climate Group, USCAP, the Carbon Disclosure Project, and other non-climate focused environmental groups that do some of the same work, Ceres is the only organization that approaches its work as a coalition of environmentalists and investors and performs a range of tasks from shareholder resolutions and stakeholder management to producing reports and “convening” groups in order to move policy and change regulatory frameworks. Convening is the word Ceres uses most often to describe what they're doing with the annual conferences, INCR and its annual Summit, and any initiatives they undertake to press for policy changes.

Science, climate or otherwise, are generally not part of this discussion – rather, climate change and the disruption and possible chaos it will bring are considered facts, and facts worthy of translation into the vernacular of business -- as climate risk. When I posed this to Ceres, the response from each of the people I interviewed was that there was no reason to delve into the science. “The jury is in,” one employee told me. Harvard scientist John Holdren usually provides a brief at INCR Summits, but more often than not, what Ceres has found is that investors are “not interested in the details” of the science and are not likely to be skeptics. Morality too is relegated to the background as a rationale for acting, or rather it's set in terms of shareholder value, foresight, and insurance of an investment. And, yet as I discovered, morality and ethics play more than a passing role, however unarticulated publicly or privately, in the founding and ongoing work of Ceres and others who work on CSR issues – as one might well expect.

## ***Navigating vernaculars and forms of life in the corporate world***

CSR activists have put some hard questions on the table for businesses to consider – questions that a growing field of scholarship has begun to explore like: What’s a business for? Can a corporation have a conscience? Is “the social responsibility” of businesses solely to “increase its profits” as Milton Friedman argued in 1970? (Friedman 1970; Harvard Business Review 2003; May et al 2007). I will engage this growing body of literature, but this chapter, like those previous, aims to focus on how climate and climate science have been translated into the vernacular of business through actions taken by Ceres. This chapter then asks a series of related, but differing questions about CSR discourse that makes both change and claims to it possible. 1) What does climate change sound like when it gets translated into an economic rationale for acting through pre-figured modes of corporate practices and performance measures? 2) How is climate change factored into the discourse of investment, insurance, and risk? 3) How is Ceres a part of the changing relationship between environmental activism and corporate responsibility? 4) How should we account for aspects of corporate image, association, and branding that play a role in a decision to join Ceres and be part of a CSR-oriented dialogue?

Corporations have traditionally been seen as opposing environmental concern, and in the case of major extractive companies like Exxon, have funded climate change skeptics and “the production of doubt” I alluded to in my introductory chapter (Hoggan & Littlemore 2009; Lahsen 1998; 2005a; b; 2008; 2010; Oreskes & Conway 2010). In seeding the impetus for action on sustainability issues like climate change, Ceres has built intensively on the success and assemblage of institutions and modes of interventions related to earlier anti-pollutant activism and anti-apartheid divestiture campaigns (Hoffman 1996). It has developed a number of tactics and strategies – notably, stakeholder management and shareholder activism, that navigate the proverbial terrains between ‘stick’ and ‘carrot,’ which I describe throughout this chapter. As evidenced by McKibben’s affirmation of their strategy, Ceres has managed to both immensely grow their reach and influence among corporate leaders as well as rank and file companies, and maintain an integrity that warrants respect among environmentalists.

Ceres' utilization of the term climate risk speaks to the ways in which they have been able to seize upon the vernaculars inherent to the world of finance and corporate interests. Climate risk, perhaps more than the actionable vernacular advanced by ICC and Creation Care, which are described in chapters one to three, reflects a wide spectrum of possible outcomes related to climate change. It advances notions of precaution as well as direct effects, drawing in part on quantifiable damages wrought by weather-related events (including Hurricane Katrina). This formulation can be critiqued for its over-reliance on insurance rhetoric that ultimately benefits the insurance industry, but it also raises two other key issues.

The first is that risk as Ulrich Beck (1992; 2002) argues is a modernist framework that works as both a herald of change and an impetus to more fully actualize the assemblage of institutions, modes of speech, and disciplining materiality (workshops, initiatives, briefings) that will address such change. Risk frameworks imagine that change can be managed and accounted for, whilst also recognizing a spectrum of uncertainty. Crucially too though, the framework of risk and its attendant reordering of assemblages create new conflicts, inequalities, and political alternatives.

The second is that Ceres struggles with the short-termism or “liquidity,” as ethnographer Karen Ho has termed it, endemic to Wall Street valuations (2009; 2010). Risk, as Ceres defines it, disrupts the usual straight line towards quarterly evaluation – it requires that investors and companies think in terms of protecting infrastructural investments and other vulnerabilities that would be encountered should the extreme end of climate change effects. But risk is also a double-edged term, as Ho illustrates, where a valorizing of risk has led to an unwavering belief that high risk leads to high rewards, undermining the very shareholder value such risk-taking purports to increase. Ho further points out that pre-1980s, corporate and investment discourse spoke about much more broad consumer, employee, and stakeholder engagement alongside shareholder value. But more recent discourse post-1980s focuses solely on shareholder value -- again, leading to the justification for risk-taking that leads to boom and bust scenarios. Ceres, too, articulates the need for action using notions of shareholder value and the fiduciary obligation to maintain and increase such value. Climate risk acts in Ceres dictates to compel action on behalf of the shareholder. Investors join together in Ceres-led networks to demand such actions.

What bringing Ho's ethnography alongside my narration of Ceres' articulations illustrates is that Ceres must clearly negotiate and demarcate its use of a business vernacular that is at best muddied by multiple interpretations and translations within the multi-layered corporate world of investment, capital, and management practices. Ceres uses terms like risk and shareholder value that are their own forms of life in order to mobilize actions and assemblages that will address climate change, and utilize its risk factor as a means to effect greater change within processes of financial valuation and market practices. They often work by way of competitive advantage or what Joan Fujimura (1996) has termed the "bandwagon effect," where some companies are doing it because their competitors, or their industry as a whole is moving in that direction.

The structure of this chapter is roughly chronological. To understand Ceres' approach to climate risk, it's vital to understand its genesis as an organization. The chapter thus begins by explaining how Ceres was founded, and moves into a discussion of its primary activities in stakeholder management. The second half of the chapter looks at how risk related to climate change has been instantiated into the discursive framework that Ceres has put forward through the investor and corporate community. This research was undertaken during 2007 and 2008, covering the beginning of the current ongoing economic recession. The chapter thus chronicles some of this peak and change. It does not however deal with changes in policy or legislation in 2009 and 2010, nor does it deal with the ongoing oil spill in the Gulf and any ramifications that may have for an organization like Ceres – who touted BP as an example of the company-wide integration of sustainability despite its core business being that of extracting fossil fuels.

### ***From Valdez to Ceres: the evolution of CSR activism***

Ceres was launched in conjunction with the announcement of the Valdez Principles, named for the Exxon Valdez tanker that ran aground in Prince William Sound, a remote area off the coast of Alaska in 1989. Spilling between 11 and 32 million gallons of oil (official estimates are widely considered to be too low), the Valdez spill became a rallying point for

environmentalists and socially responsible investors who spent the summer following the incident formulating the Principles. The 10 principles cover ten areas: protection of the biosphere, sustainable use of natural resources, reduction and disposal of waste, wise use of energy, risk reduction, marketing of safe products and services, damage compensation, disclosure, environmental directors and managers, assessment and annual audit. They were renamed the Ceres Principles in 1992 because as a Ceres representative pointed out at the 2007 conference: “They used to be called Valdez until someone from Audubon [The Audubon Society] mentioned you wouldn’t call Audubon the ‘dead oily bird society’.”<sup>78</sup> Language, as I learned in my research with Ceres, is of particular importance to their organization, and something they’re likely to point to as a marker of success.

Success of any kind was hard to foresee when the Valdez Principles were first announced. *The New York Times* ran a story almost immediately in September of 1989 titled “Who Will Sign the Valdez Principles?” It described the Principles as being a surprise to corporations – none of whom were involved in the drafting process, and quotes corporate representatives as saying that the Principles were either impossibly broad or already representative of what they were doing (Feder 1989). There even seemed to be some offense taken by corporations who were already trying to integrate progressive environmental action into their business. Joan Bavaria, first head of Ceres and a well-known SRI proponent with her own firm based in Boston responded to the criticism by saying that the Principles were about trying to find a way to reward progressive companies.<sup>79</sup> She didn’t negate the challenge inherent in such a task, noting that many companies might have an easier time filling out the 37-page questionnaire required to join Ceres than they would signing (and therefore, promising to adhere to) the Principles. Environmental groups like the National Audubon Society and the Sierra Club stated that they would use the Principles as “a basis for exerting economic pressure, possibly including consumer boycotts, on companies that fail to address their concerns.”

In a Washington Post profile of Bavaria the following year, she said she wasn’t willing to

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<sup>78</sup> Joan Bavaria said the same thing in her obituary video on the Ceres site.

<sup>79</sup> She later told a MIT Sloan dissertation student that had companies been involved, they probably never would have reached an agreement. It was hard enough come to an agreement with the non-profits and SRIs in the room.

go that far just yet. She had mainly been “using persuasion and the threat of shareholder action to gain signers” so far (Hinden 1990). The *Post* noted that Ceres was being lent a hand not just by environmental groups, but by institutional investors like the California and New York pension funds and the Interfaith Center on Corporate Responsibility (ICCR) – both of whom were already pressuring Exxon to sign the Principles. ICCR is not related to Creation Care though both they are aware of one another and seem to share some joint involvement with third party ecumenical efforts such as the National Religious Partnership for the Environment (NRPE). ICCR is an agglomeration of mainline protestants and Catholic organizations, and well known for its shareholder activism on a range of issues relating to social and environmental issues. In the same article, a manager at the US Chamber of Commerce was quoted as saying that Ceres was “naïve” and that it wasn’t that easy to put a “litmus test” to companies where they would have to say yes or no.

The Valdez/Ceres Principles were not the first to undertake such a test however. They built upon groundwork laid by the seven Sullivan Principles that were introduced in 1977 to address corporate involvement and investment in apartheid South Africa. A 1991 scholarly analysis and comparison of the Valdez Principles with the Sullivan Principles found the Valdez comparatively “elusive and complex” without the finite geographical scope and time horizon (Sanyal & Neves 1991). It suggested there would be difficulties monitoring and enforcing the Principles because standards did not exist, and performance goals were not legally mandated. The Sullivan Principles, Sanyal and Neves argued, were extremely effective due in part to the moral pressure exerted to sign the Principles, as well as the independent monitoring of compliance, and the straightforward nature of the Principles that required corporations to comply or withdraw. The numbers back this up in rather stark terms. Between 1986 and 1990, 154 American firms ceased operations in South Africa, and more than \$480 billion were divested (Sanyal & Neves 1991). Sanyal and Neves concluded that it was unclear what “real rewards accrue to a firm that signs the [Valdez] code.” The value of the Valdez Principles, they thought, might lay in its ability to assist in designing an integrated plan that responded to enduring public concerns about the environment, noting in particular that the public relations yield would likely be immense for any company that signed.

Ceres' first break into Fortune 500 corporations came in 1993<sup>80</sup>. The Sun Company of Philadelphia, the 12<sup>th</sup> largest oil company in the US (in 1993), became the 51<sup>st</sup> endorser of the Principles, and the first among its Fortune 500 peers. Sun negotiated some adaptations of the Principles – a complete acceptance would have required them to go out of the oil business entirely. In an interview following the ceremony, Sun's CEO said "he did not foresee major changes in company operations" since they had already been pursuing environmental initiatives (Wald 1993). Sun immediately embarked on a major advertising campaign announcing the partnership through full-page ads that cost more than 5 percent of their annual marketing budget according to *The Philadelphia Business Journal* (Roberts 1993). The *Journal* surmised: "By being the first Fortune 500 company to endorse the Ceres principles, Sun has shrewdly positioned itself as a leader in corporate responsibility, an increasingly important image for companies selling to consumer markets." Yet, for all the positive press, Sun was clearly aware of the scrutiny such a move would draw, as well as its binding commitments to Ceres to make data from its 37-page questionnaire publicly available, and to continue to monitor and report. Membership too came with fees that were indexed to a company's revenues – the high of which at the time was \$15,000 according to reports. The following year in 1994, Ceres next big member to join was GM. It's first major bank, Bank of America joined in 1997.

1993 proved to be a pivotal year not just in terms of membership for Ceres. *Pensions & Investments* reported that 1993 was the year "the number of shareholder resolutions on environmental matters" was higher than those on South Africa-related resolutions, "largely because of increased corporate environmental awareness and the prospect of the abolition of apartheid in South Africa" (Philip 1993). Apartheid formally came to an end in 1994 when free and democratic elections were held in South Africa. But a year earlier, the Ceres principles had already begun to take the place of South African resolutions, with the total number of Ceres resolutions related to the environment going from 30 in 1992 to 38 in 1993, and the total number of South African resolutions during the same period going from 62 to 30. Besides Ceres requests, five other resolutions regarding the environment were put forward regarding ozone depletion, chemical emissions, and accident reporting.

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<sup>80</sup> Fortune 500 is a term used to describe the largest US companies as ranked by *Fortune* magazine according to gross revenue.

Ceres resolutions requested that corporations either sign the Principles, or that corporations engage in better reporting related to the Principles. These resolutions were put in front of major corporations like McDonald's Corp., Bristol-Myers Squibb Co., R.R. Donnelley & Sons Co., Ford Motor Co., General Motors Corp., USX-Marathon Group, Union Carbide Corp. and PepsiCo Inc. (GM joined Ceres the following year in 1994.) The groups that were reportedly most active on Ceres-related resolutions were the American Baptist Churches, the Evangelical Lutheran Church in America, the New York City Employees' Retirement System and the General Board of Pensions of the United Methodist Church. P&I makes a point of noting that 1993 was the year in which activists saw shareholder resolutions begin to make a difference: "...of the 253 [total]shareholder resolutions [including those related to the environment] introduced in 1993, 96 have been withdrawn to date because of agreements reached in negotiations between shareholders and management." 1993, according to P&I is also the first year that activist groups began to argue that executive compensation should be tied to performance on social issues.

Through shareholder resolutions, Ceres Principles were used by activists in attempts to both drive membership to Ceres, and make the environment a governance issue for corporations. Shareholder resolutions are heavily regulated by the SEC (Securities and Exchange Commission), but they are non-binding. Primarily, they attract media attention, and put pressure on companies by letting them know how much support there is for change on an issue without legally compelling them to do anything. They were extremely effective in anti-apartheid activism.

Ceres in large part has benefited from and built on the legacy and infrastructure anti-apartheid activism put into place. The very notion of calling corporations into account stems in part from this activism, and in particular, the Sullivan Principles. Many of the same entities who originated these methods like ICCR, pension funds, and other large institutional investors<sup>81</sup> have continued to put pressure on corporations to account for their role in social and environmental

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<sup>81</sup> The American Federation of Labor and Congress of Industrial Organizations (AFL-CIO), the largest federated union in the US, is also a key player in shareholder activism on labor issues.



problems confronting an increasingly global society. Previously, many of the divestiture campaigns had been exactly that – getting rid of or avoiding investments in companies that violated moral or social values. This new era however ushered in a different mode of thinking – termed at the time by one magazine to be the use of “corporate dialogue” as a “tool for social change” (Klinger 1994). ‘Corporate dialogue,’ includes a wide range of “tools” from interviews and questionnaires to shareholder resolutions. Ceres can be seen as one outgrowth of this era of thinking. As well, the participation of institutional investors like pension funds provided an added dimension beyond the usual suspects – they were interested in not only promoting social change, but also in protecting the value of their investments. The two, in their rationale, were inextricably linked.

### ***Inside Ceres***

The current offices for Ceres are located in downtown Boston in an old hi-rise building, near the theater and shopping districts. It’s a gritty part of town, especially in the summer when hot days hang heavy with humidity, and the subway vents built into Boston sidewalks only seem to intensify the heat and city odors. I visited the Ceres offices several times in the summers of 2007 and 2008, following their annual conferences in April, to interview members of Ceres’ staff. Their offices are located on a floor with a couple of other NGOs. They’ve stayed in the same location despite doubling in size from 25 to 40 staff members during the one year between my visits. Even with renovations to accommodate the growth, the offices are rather subdued and unadorned – almost like a start-up that may or may not stick around. It’s a far cry from the sizable, stable presence the conference projects that charges \$400/person or more to attend. The conference though, Ceres’ Anne Kelly explained to me, is about (in this order) “convening,” educating, recruiting, and reasserting the message of sustainability with people other than Ceres members. And, she said, it would be difficult or impossible to operate without it because it plays such a vital role in the ongoing work of the organization.

The history of Ceres and of the CSR movement more generally is very much reflected in the histories of two of the key interviews I conducted with Ceres' staff. Chris Fox, director of Investor Programs,<sup>82</sup> described his history with Ceres in ways that match the overall history of the organization and changes taking place in the wider popular and business culture. He describes himself as becoming committed to environmental activism in 1989. He said that in the wake of the Valdez spill, there was a sense that "the government was not doing enough to improve company practices," and there was a "whole opportunity for a new strategy really to build on the success of the anti-pollutant movement." That strategy was to "harness the power of investors to focus corporate boards on how responsible behavior on environmental issues actually is good for business." He said its modeled on this notion:

"There's three kinds of power people have in America: power as voters, power as consumers and power as investors. And it's really the third power that I think is so untapped 17 years later... People are still barely aware that they have this power... there's something like 50 million Americans that own mutual funds now so there's a huge block of Americans that could be shareholder citizens (that's one term we use), that could be using their votes as investors to improve company practices."

Fox said he was inspired by the leadership of religious investors who "had tried to figure out how to fight apartheid using different shareholder activist tools." It's this interest in bringing together religious and environmental groups that eventually led him to seek a Masters of Divinity from Harvard. He mentioned Sister Patricia Daly, a Catholic nun as a particular inspiration. Her work regarding Exxon is well known in SRI circles, and she is listed on the ICCR website as the media contact for information regarding their work on climate change. Fox was the 5<sup>th</sup> employee of Ceres, and following my first interview with him, he was leading a media conference call regarding the latest round of shareholder resolutions to Exxon.

When I interviewed Anne Kelly, the other co-director of the Policy Program at Ceres, she introduced the other key contextual element to understanding the work of Ceres – the shift from a law-enforcement-inspired approach to a dialogue-centric one. Kelly has a background in environmental law, and prior to Ceres had worked extensively on forcing companies to integrate environmental regulation into their practices.

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<sup>82</sup> See Footnote 73 for more background on Chris Fox's previous and new roles at Ceres.

“I spent the first part of my career doing intense environmental enforcement – civil and criminal enforcement. I ran an environmental strike force with police officers, investigators, and engineers... I’ve done the photos and the undercover work. I used to have interns come and do sting operations. In the late 80s, early 90s, there was still a lot of open dumping and you could plant people and get video. There was a lot of energy around using a lot of the techniques drug enforcement had used. Setting up fake companies, and fake checkbooks and all that, and putting that in the environmental area. Because, otherwise, the routine government enforcement had sometimes limited effect.”

In 1995, Kelly took a break from this line of work, and attended Harvard’s Kennedy School of Government (KSG) to pursue a Masters of Public Administration. After KSG, she worked with Mindy Lubber who was then at the US Environmental Protection Agency (EPA).

“At EPA, [I] started the beginnings of thinking – well maybe you could actually sit down and work with companies instead of just trying to throwing them in jail. So that was a real shift for me in thinking from... the first part of the 90s to the second part. ...there was a real shift from command and control to conversation, mediation.”

She eventually set up her own firm that did exactly that -- mediation on environmental issues. She said she had always found the Ceres model compelling, but thought it required her to have an MBA. Once Lubber took the helm of Ceres in 2003, Kelly investigated and found she didn’t need an MBA. When I first spoke with her, she was in the midst of wrapping up the work of her own firm and joining Ceres full time – though she had already been working at least 40 hours a week for quite some time.

If the Valdez spill provided an initial event and the Sullivan Principles a precursor and model for corporate engagement that emphasized dialogue, transparency, and disclosure, then it’s the influence of socially responsible investing that provides the rationale and philosophy for thinking about changing the current system. Ceres does not bend towards anti-capitalist inclinations so prevalent amongst many environmental and social justice groups – rather, it hopes to affect change by employing accountability mechanisms that value social and environmental elements alongside revenue/profit. Joan Bavaria, the co-founder and initial head of Ceres personifies this approach in many ways. There have been three heads of Ceres. Bavaria’s

leadership was followed by that of Bob Massie, and the current head, Mindy Lubber followed Massie.

Bavaria began much earlier to work on issues that are at the core of Ceres. In 1981, she co-founded the Social Investment Forum, also based in Boston, and a year later, Trillium Asset Management Company – one of the oldest and best known of the socially responsible investment firms or “SRIs” as they’re usually referred to in most conversations. Ceres describes Trillium as “the first U.S. firm dedicated to developing social research on publicly traded companies” (Ceres 2008). When Massie, Bavaria’s successor at Ceres gave a talk at the Sloan Business School at MIT in 2007, he described Ceres as coming out of the Social Investment Forum and Boston-based investors who had used the Sullivan Principles in anti-apartheid activism – in both cases, a direct reference to the role of Bavaria.

In 2008, Ceres created the Bavaria Awards for Building Sustainability into the Capital Markets – there are two: one for Impact and one for Innovation. At the initial launch of the awards during the 08 conference, Bavaria gave a speech that provided some insight into her thinking. She said “Wall Street and the market without steerage can wreak havoc,” and that “capitalism needs guidelines.” With these statements, she made a direct reference to the ongoing sub-prime mortgage crisis of 2008 that had embroiled many. She spoke of the realms of finance, the social, and environment as systems that needed to be thought of together, and in particular noted that, “fiduciaries [for investments] must take into account the planet on which business feeds.” She quoted Machiavelli’s *The Prince* saying: “There is nothing more difficult to plan, more doubtful of success, more dangerous to manage than the creation of a new system. The innovator has the enmity of all who profit by the preservation of the old system and only lukewarm defenders by those who would gain by the new system.” The awards reward those who work toward shifting the current capital markets from a “system focused on short-term profits towards one that balances financial prosperity with social and environmental health.” In the initial year, 2008, the awards were given to those working on transparency and education. Bavaria passed away from a long battle with cancer later in 2008.

## ***Ceres' Core Business: Stakeholder Engagement and Sustainability Reporting***

Ceres seeks to, as one conference participant put it, demonstrate that “sustainability and profitability are not mutually exclusive.” Bob Massie, the second head of Ceres described the organization as an answer to the twin problems of 1) a lack of political leadership on environmental issues, and 2) “capital markets as negative pressure” against actions taken on environmental issues. Anne Kelly put it more succinctly in terms of strategy by describing Ceres as “using the leverage of the capital markets to influence companies.” Massie said that Ceres’ work is based on the adage: “what gets measured, gets managed; what gets disclosed, gets done.” In other words, Ceres provides a means and suite of measures by which environment and social issues (labor and human rights, for example) can be factored into a corporation’s overall strategy and valuation, both for its own purposes (employee retention or preparatory work for future regulation, for example) and for that of its investors (thereby, avoiding and/or fulfilling shareholder resolutions). To do this, Ceres uses stakeholder management, standardized reporting and analysis tools, sustainability reports, shareholder resolutions, policy activism, industry reporting, and other levers to further its objectives. Organizationally, Kelly told me that they divide Ceres into work with investors and work with companies – she heads up the companies section, and Chris Fox, the investor section. These lines are hardly firm as they admit, and as will become obvious. For the purposes of this chapter, I’m going to follow this schema by beginning with an overview of how stakeholder teams and reporting function, and then move on to how climate risk as a concept functions within the Ceres framework.

Ceres’ members are either publicly-held or privately-held companies, environmental organizations, SRIs, institutional investors, and/or public service organizations. The latter groups (i.e. those that are not corporations) populate the stakeholder teams that help the corporation move towards sustainability goals. Essentially, stakeholder meetings put a corporation’s critics at the table with corporate executives. When it works well, Anne Kelly told me, the executives do less talking and more listening. I wasn’t able to sit in on any stakeholder meetings, nor did any of the stakeholder team members want to talk with me about their experiences. They sign a contract that stipulates that what happens in stakeholder meetings remains confidential. From the outset, they decide how much to be involved, and are paid for their involvement.

At the 2008 conference, I got some insight into how the stakeholder process functions, and where its challenges may lie. The panel titled “Critical Friends: Engaging stakeholders to catalyze change” first featured Tod Arbogast, Dell’s Director of Sustainable Business, and Ted Smith, co-founder of Silicon Valley Toxics Coalition (SVTC), who became a member of the stakeholder team once Dell joined Ceres. SVTC began when ground water contaminants were traced to high tech development in Silicon Valley. SVTC engaged in protests and consumer boycotts against Dell – even at one point being accused rather over-dramatically of “Hezbollah type tactics” because of a protest that involved Susan Dell, Michael Dell’s wife. In other words, these are not individuals or organizations one would necessarily expect to be sitting on a panel together. SVTC was eventually able to explain to Michael Dell, Smith said, that greening the supply chain was not just PR, it would increase his market share. Smith said the way they achieved that was by putting pressure on Hewlett-Packard to disclose since they were perceived as the market leader in sustainability, and then demonstrated that consumer demand for greener products and recycling did exist. Eventually, Dell hired Arbogast, and Arbogast said they chose to respond to the protests with “engagement.” In media reports I found, Dell does not give credit to SVTC, but Arbogast did not object to Smith’s version of events whilst sitting on the panel (Gunther 2007).

The questions afterwards were intense from the audience with some asking whether capitalism was up to “saving” itself, whose role it was to educate consumers, and still another who pointed out that sustainability does not always equal market share. Both parties readily admitted that stakeholder engagement hasn’t necessarily increased the level of agreement, but it has changed the nature of engagement. Smith pointed out that Moore’s Law states that technological innovation is exponential, but “the slope for sustainability is nowhere near as steep.” The challenge then is to increase that slope, Smith declared. Ceres’ solution is to do this through tools that promote both listening to stakeholders, and through reporting and disclosure.

The Dell discussion was followed immediately by Sandy Nessing from American Electric Power (AEP) and Andrea Moffat from Ceres. Moffat said that she and Nessing had met via a shareholder resolution, and that she was initially very surprised to hear from AEP. Nessing

pointed out that AEP is still very new to the issue of sustainability, and that they were “caught between the duty to serve and protect environment and society.” AEP, she said, was the biggest coal burner in 2007 and the largest carbon dioxide emitter in the western hemisphere, and that they had initially opposed the Clean Air Act. But, they had come a long way – pointing in particular to their newly released sustainability report. She said AEP executives had never conversed with the array of stakeholders Ceres brought in. It became apparent during the first session that they did not know how to listen, and there was a lot of anger after the first meeting. Executives had “no idea about the perceptions and expectations of AEP.”

Moffat, when it was her turn to speak described the executives as “shell-shocked” after their first meeting. She said they had a large table with 18 stakeholder representatives, and that Ceres had to turn other potential stakeholders away. She described the meetings as ones where the AEP executives sit at either end of the long table and the stakeholders sit in the middle and do most of the talking. Moffat said Ceres is not a “neutral facilitator” – “our goal,” she said “is to get companies to increase exposure and transparency.” Sustainability reporting is a “tool” that drives change in company strategy, and structures conversations. She said Ceres was pressing AEP on a range of issues from policy positions on climate change and carbon sequestration and alternative energy to efficiency, environmental health and safety, an aging workforce, and coal in the supply chain. She said AEP has a new position on carbon, which she doesn’t agree with, but it is on page 37 of their sustainability report – a report, which Board executives read and approved. As well, CEO compensation is tied to delivery on sustainability goals. Ceres’ goals are focused on this level of integration, both at the level of Board and among the companies’ executives.

Listening to these two cases of stakeholder engagement, one gets the sense that the process Ceres engages in is exactly that: a *process* of engagement with many twists and turns that re-orient how and what goals can be achieved.<sup>83</sup> Moffat called it “a complex relationship with milestones” and suggested that all parties must have “realistic expectations.” She said Ceres has to “sit back sometimes” and despite wanting to get to solutions, they have to “work towards prioritization.” Julie Fox Gorte, a Ceres board member and SRI executive who moderated the

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<sup>83</sup> There is a large, well-developed body of stakeholder management scholarly literature, which I won’t review here.

*Candis Callison, HASTS Program, MIT*

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session described her frustration with other stakeholders who are not as focused as she is on dealing with carbon-related issues (Ceres 2010).<sup>84</sup> Nessing said they've had at least one stakeholder walk out, and not want to talk anymore. Smith noted that there's an enormous amount of negotiation that goes on -- on either side of the table. If anything then, a minor critique of this process might be that it is too incremental in the progress it makes moving towards tangible change. However, it's worth noting that whatever progress does get made occurs as a result of negotiating ongoing tension that does not negate direct protest action, but it doesn't directly enroll protest action either. So, it takes a middle approach, and as in the case of Dell, makes progress as a result of direct conversations that may or may not build on the pressure already applied through protest.

This is what results from what Anne Kelly describes as Ceres' unique niche as "a convener" of diverse multi-sector parties in both the non-profit and corporate worlds.<sup>85</sup>

"There is an internal conflict within Ceres, a dissonance, that is really at the core of what we are. Because, on the one hand, we're supporting and partnering companies, and then, on the other hand, we're beating them over the head to take action. So, we live with that, and I think, do a pretty good job of managing that dissonance, and that, some would say, contradiction. Because, companies don't really want shareholder resolutions per se, and we have a very active global warming shareholder campaign, for example."

This is perhaps the best way to understand Ceres – as a suite of multiple pressure points where shareholder action, stakeholder teams, sustainability reporting, and other work Ceres does in the policy sphere and with investors work together to continually move forward, however incrementally, towards a different paradigm for management and accounting that includes material and financial risks related to the environment. What both Fox and Kelly emphasized in my interviews with them is that Ceres does not want sustainability issues to be relegated to a

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<sup>84</sup> Ceres' membership list of over 50 environmental and public interest organizations includes AFL-CIO, Rainforest Alliance, Sierra Club, Earthwatch Institute, Oxfam and Union of Concerned Scientists among others. Their longer list of foundations and investors includes Evangelical Lutheran Church in America, New York State Comptrollers Office, Trillium Asset Management Corporation, Calvert Group, California State Treasurer's Office. It is an agglomeration of these members as deemed relevant to the corporation that compose its stakeholder group. See more at <http://www.ceres.org/Page.aspx?pid=425>

<sup>85</sup> The stakeholder process is a far cry from the world Anne Kelly described in the early 90s and before where she said the first call she would make was to tell a company "you're being indicted." Instead, she said, that at the 08 conference, she marveled as Dell hosted a reception for its stakeholders where critics spoke to corporate executives over wine and cheese.



CSR department – rather, they want it integrated from the Board on down as a strategic and governance issue. This is part of what has made climate risk such an important tool for Ceres because it becomes as Kelly put it “a lens by which we see all the other issues.”

Climate risk calls companies to full integrate a spectrum of concerns and possibilities that relate to massive environmental changes. Companies must account for their emissions as well as infrastructure and supply chains that might be vulnerable to such changes. These responsibilities, if they are to be fully addressed can’t be relegated to a part of the company. What Ceres generally recommends doing is establishing some kind of in-company committee that straddles many different core areas of business, as well as developing some kind of accountability at the board level. I’ll elaborate on this further in my discussion of the Investor Network on Climate Risk (INCR).

## ***Greenwashing***

A major critique, which I heard from one environmentalist whom I met at another corporate social responsibility (CSR) event (and who is not a member or stakeholder participant) was about Ceres’ inclusion of a major carbon emitter like AEP. Ceres, it was implied, makes it too easy to sign on to their organization, and gain their “stamp of approval” and association. The inference being that it was better to continually hammer away at a company like AEP rather than reward them for any positive behavior with regard to the environment. As a result of my being from Canada where the enormous environmental cost of the tar sands development is well known, I was similarly surprised to see Suncor receive an honorable mention for their sustainability report. Suncor’s involvement in the tar sands would seem to preclude any reward for a report on their plans to move towards sustainability.<sup>86</sup> When I asked Kelly about Suncor in particular, she struggled to find the right words. She admitted that the extractive industries are perhaps the

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<sup>86</sup> In 2009, a large group of environmental groups around the world came together to call for an end to the tar sands development in northern Alberta, Canada. Even a former premier (like a governor) of the province, Peter Lougheed who presided over an earlier oil boom in the province has called for a moratorium on the development citing enormous environmental damage already incurred by the project in its early phases. See Nikiforuk 2010.

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“hardest,” and are the subject of internal debates at Ceres, but she said that they have opted to reward “best practices” for being best practices. And, she concluded that being “at the table” even with the “highly unsustainable version” of a company allows Ceres to attempt to divert them to more sustainable practices. These ‘internal debates’ point to the difficulty Ceres encounters as an organization in its role of wielding the stick and carrot – offering rewards or carrots through association and membership, and sticks through shareholder resolution and stakeholder management.

The spectre of what is often called ‘greenwashing’ looms large when it comes to rewarding companies – even by virtue of associating with them. Greenwashing is defined quite elegantly by Sourcewatch as:

“...the unjustified appropriation of environmental virtue by a company, an industry, a government, a politician or even a non-government organization to create a pro-environmental image, sell a product or a policy, or to try and rehabilitate their standing with the public and decision makers after being embroiled in controversy” (SourceWatch 2010).

In putting the greenwashing criticism both to other Ceres and SRI representatives, several argued similarly to Kelly, that effecting small changes through membership and/or association is precisely the point. Joining is “sometimes the thin wedge that gets things moving” as one SRI representative said to me when I asked about greenwashing. In other words, if companies do start out by thinking it may be a good public relations move, they often get pulled in much deeper than they could anticipate, and more often than not begin to make real changes that may have a wider effect. Peyton Fleming, Ceres’ Strategic Director of Communications, echoed Kelly’s perspective, but went further. He said,

“We don’t feel there’s much to be gained by working with companies that are doing everything right and are relatively small. We think the biggest gain could be [from] work[ing] with one of the largest companies in the business sector and if you get them to change their practices that will ripple through their industry.”

Fleming said that’s why they work with McDonald’s, Ford, big power companies, Suncorp, and some of the largest banks.

“A lot of people hate the companies I just mentioned, but on the other hand, we think there are things that you could point to within these companies that they’ve actually done a pretty good job at and hopefully they’ll do better. So yeah, we specialize in sort of working with highly imperfect companies.”

That’s not to say that investigation isn’t required. An SRI team I spoke with said they rely on employees much more than they did before to be whistleblowers, which perhaps puts an enormous onus on personal ethics. In contrast, another SRI executive, whose mandate it is to invest in companies with reliable CSR practices, told me they have 6 people in their firm doing research on greenwashing, and that they take the problem very seriously as a matter requiring investigation – not just happenstance revelations through whistleblowing.

Ceres goes one step further than reliance on either whistleblowing or research. They purport to build a kind of anti-greenwashing antidote into the structure of their involvement and ongoing relationship with corporations through the stakeholder process, stringent reporting, and through a policy of pushing companies to remain competitive in their commitments to “going green.” Chris Fox explained it to me this way:

“In terms of our board, it's half environmentalists, half investors. So, the environmentalists [are] always saying: ‘Nobody understands us and the urgency of climate change. We have to move quicker, we have to make productions faster, we have to get the world governments to agree.’ Well, there's a sense of impatience that we bring to it and we kind of challenge the investor and business communities to actually take bolder action than we have already taken, and for setting the standard for what constitutes responsible climate change behavior by investors and companies... We're constantly raising the bar in other words, and saying the standard that existed three years ago is no longer enough. That puts us in a relationship of tension with big companies like Exxon, who thinks: okay yes, they're doing the advertising campaign about how they care about climate change so that's probably enough. And, we're saying: ‘No there’s actually seven actions you should be taking to address climate risk that other oil companies are taking, you haven’t taken.’ You know, it's kind of our role to often help investors and journalists sift through what’s greenwashing and what’s actually responsible corporate action.”

Shareholder resolutions, stakeholder management, and sustainability reporting work together then to accomplish the task of moving companies out of their ‘comfort zone’ or public relations-only efforts and into “responsible corporate action.” Coziness, in a counter-intuitive way, results not in corruption, but in effecting positive social-oriented change. And, as Fox points out, it’s driven by the way Ceres structures itself such that forces within the organization remain in constant productive tension with one another. This in turn trickles down to how work gets tackled at the stakeholder tables, with shareholder resolution targeting, and other initiatives that Ceres undertakes to promote CSR tools, accountability, and education.

It’s Fox’s statement that undergirds what I heard at the conference when the Comptroller for the New York Pension Fund went as far as to call Ceres a “support service” for their initiatives. Ceres is a kind of workhorse in terms of pumping out reports, supporting shareholder resolutions, and creating stakeholder teams, but their staff, as Fox pointed out, is also intent on strategizing how and when to push major companies forward and further. This is in fact what keeps Ceres “competitive” because its key selling points are that it maintains enough independence and arms-length to make an association with it valuable, and part of that valuable association lies in the fact that real progress on issues related to that amorphous notion termed ‘sustainability’ occurs.

Fleming added one more aspect to this value by pointing out how influential many of Ceres’ reports have been in getting attention for issues (like climate) by relevant industries (like insurance and banking). He said they did this with climate change and banking responses to it, and then scored the actions taken (or not) by major banks, which in turn drove awareness to the issue. Banks then began to call and ask how they could build climate change into their business strategy.

“We don’t really use the reports to sell ourselves directly, but it’s mostly to identify issues sort of ahead of the curve and I do think there’s some recognition that we are reasonably good at that. Abby Joseph Cohen from Goldman Sachs has said that the “the reason I value Ceres is they sort of identify issues earlier than I would otherwise.” So that’s always a big challenge for us to sort of try and stay ahead of everybody else in terms of tapping issues before they get a lot of attention.”

How they stay “ahead of the curve,” Fleming said is by paying attention to “what investors should be caring about,” and asking companies questions about that issue or sets of issues. When I spoke to him in 08, the issue Ceres was tackling was water scarcity. They later issued a report on climate change and water scarcity.

One of Ceres’ key contributions as a “support service” has been the crafting of a standardized reporting system for companies doing sustainability reporting. Called GRI or the Global Reporting Initiative, it was launched in 1997 under Bob Massie’s leadership, and received a major boost in 1998 from the United Nations Environment Programme partnering with it. It was spun off from Ceres in 2002 and became a separate entity basing itself in Amsterdam instead of Boston.<sup>87</sup> At the 07 conference, GRI was celebrating its 10<sup>th</sup> anniversary and the third incarnation of its guidelines called “G3” for short. At his MIT talk at the Sloan School, Massie said they started GRI in order to craft something like the generally accepted accounting principles. He said the rise of the Internet at this time played an important role because of the low cost of international communication. There were (and continue to be) several competitive disclosure models, but none that covered all of the categories that Ceres does.<sup>88</sup> In addition, there were other scattered ways of addressing sustainability, he said noting that, “every company had a pet NGO; every NGO had a bunch of pet companies.” GRI provided unified reporting requirements for companies, comparable information for investors, and consistency and completeness for accounting purposes. By 2007, GRI had over 1000 companies that used its guidelines. However, Alison Snyder, the GRI representative at the 07 conference told me that only about 100 companies in the US were using the guidelines, and none of them were Fortune 500. Most of the GRI use is happening in Europe and South America.<sup>89</sup>

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<sup>87</sup> Bob Massie, in his talk at Sloan, pointed out that with GRI, many were “afraid” it was “a plan for the world done by Ceres” so Ceres decided to spin it off. He pointed out that this is common in the corporate world, but not so common among non-profits.

<sup>88</sup> See for example, the Carbon Disclosure Project, which companies like Dell participate in. Ceres points out in its literature that it’s a good option, but is a very narrow expression of sustainability reporting, focusing only on carbon emissions.

<sup>89</sup> GRI in its G3 iteration divides disclosure into three types: 1) profile which covers strategy and analysis, 2) management approach, and 3) performance indicators. There are 9 economic indicators (which include financial/material impacts of climate change on business), 30 environmental indicators (15 of which are core like water usage), 14 labor (Snyder noted these do not have the same maturity as the environmental categories), 9 human rights (“these enjoy the least amount of consensus that we’ve got them ‘right’ ... it’s best we can do right now, Snyder said), 8 society indicators (6 are core), and 7 product responsibility (4 are core). Depending on “application

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## ***Climate Risk and Ceres' Investor Network on Climate Risk (INCR)***

Following the successful launch of GRI in 1997 and its maturation over time until it was spun off in 2002, Ceres began to look for its next big project. Chris Fox told me that they had started an Energy and Climate Program in 2000 in order to “educate our network about the importance of climate change.” But in 2001, Ceres representatives had a momentous meeting with Nell Minnow, founder of the Corporate Library and well-known investor activist. Minnow also recently co-authored a textbook on CSR. Fox describes the meeting with Minnow this way:

“The meeting we had with her [Minnow] actually in September 2001 was influential because she cited these anthropologists who would go into Wall Street, and sort of studied what Wall Street talks about and is obsessed with. Risk was the term they realized was the most powerful. So, if you had to approach mainstream investors and said you should care about global warming in 2001, it would have led to the door being slammed, basically. So we came up with the idea of linking a new concept of climate change to an old concept of risk and kind of doing the scaffolding or whatever theorists call the ways that people learn new things, right? So, and the other psychological studies on people in Wall Street is that the fear of losing money is actually more powerful than the greed of wanting to make money and as fiduciaries and people responsible for other people's money, that's the biggest fear actually.”

This was the genesis for transforming climate change into “climate risk,” but Fox said that it wasn't just tapping into the concept of risk.

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levels,” Snyder told an interested group at the 07 conference, companies receive a grade, and extra merit if it has been externally reviewed. So, a C-grade would be for 10 indicators, B for 20 indicators, and A for 50 indicators including core, sectors, and management approach. Part of the GRI process also includes mapping stakeholders and Snyder called it an “iterative process.” In the question period, Snyder agreed that while a financial report means reporting on “what you own,” a sustainability report must factor in additional issues, particularly in the case of multi-nationals. What a company controls, owns, or influences is difficult to demarcate in joint ventures and globalized locations. Snyder used Nike as an example, a standard-setting company for Ceres because of its work on labor standards. Snyder said that while Nike doesn't own manufacturing plants, labor and human rights standards at those plants are still an indicator. This data, Snyder pointed out, is not public relations activity, but rather generates data that is needed by employees, customers, environmentalists, and investors. And, with the digital realm, these databases are being increasingly customized by users who control what data they want to see. Snyder considers GRI reporting to be part of stakeholder engagement.

Ceres was also helped along by major events that occurred in 2001. First, the IPCC made its strongest statement to date that year with the 3<sup>rd</sup> Assessment Report. Second, Bush rejected the UNFCCC's Kyoto Protocol, and so the "scientific community's sense of urgency and the environmental community's sense of despair" at facing another 4-8 years of no government pressure on corporations to account for climate change also drove Ceres to consider climate as a major issue to take up. Third, the Enron scandal broke that year – the largest US bankruptcy until Worldcom the following year in 2002. It's this third element that created the biggest opportunity for Ceres to begin talking about climate change as a risk amongst investors.

"...At that point [after the Enron scandal] investor anger at companies not being honest was at an all time high and there was a window that opened that we really -- we put the concept of climate risk through, and said there's another risk that's not been adequately disclosed to you and it actually has major financial implications for these companies and therefore your portfolios and you have a fiduciary duty to assess the financial risk posed by climate change. And, we just -- we just asserted that and just did our best to back it up with various lawyers and legal people but it was put into a study we did called "Value at Risk" that was done 2002. So that was the first time really that the term climate risk was used widely and we certainly popularized that term and just kept repeating it and now it's a common-place term."

But again, it wasn't just raising climate as a risk with companies and investors and building on both fears and/or new information. Fox said they purposely positioned climate risk as a "corporate governance" issue.

"...This became like the key that unlocked all these big pension funds because they had corporate governance departments... it just fit into a frame that they already got an approval for... then it was not a social or environmental issue, it was a corporate governance issue."

Environment, Social, and Governance issues, often short-handed to "ESG" are often put together, and sidelined instead of being integrated into the core strategy of a company, but corporate governance for investors is a core concern.

Fox said they used a "two-pronged approach" that prioritized getting the attention of investors. First, they went after large institutional investors like California Public Employees'

Retirement System (commonly short-handed to CalPERS), which Fox said was the largest public mutual fund in the US. Second, they went “on a separate track targeting corporate boards,” working with the theory that boards are “supposed to be accountable to investors.” Corporations are usually structured in such a way that CEOs report to the Board, and the Board is accountable to the investors hence the power of shareholder resolutions to shape major governance issues. Fox said the crucial breakthrough came when they got the US Treasurer and the California State Treasurer to collaborate. They had already been working together on corporate governance issues related to the huge losses to pension funds stemming from the Enron scandal.

Fox said that together Ceres and the treasurers had an idea for a “high profile event.” He said state treasurers are usually “political animals” and want to lead on the national and international stage, but there’s a risk in acting alone. The treasurers suggested doing something at the United Nations in New York, and what came out of that suggestion was the Investor Summit on Climate Risk (INCR) at the UN in November 2003. 60 treasurers attended and called for the creation of INCR. Since then, Summits have been held in 2005, 2008, and 2010. Attendees numbered 520 at the 2010 Summit, representing a total of 22 trillion in combined assets. INCR’s membership (not everyone who attends the Summit is a member) has grown from “10 investors with \$600 billion in assets to more than 90 investors with nearly \$10 trillion in assets. Members now include asset managers, state and city treasurers and comptrollers, public and labor pension funds, foundations, and other institutional investors.” What INCR points to as its many accomplishments includes promoting clean technology investments (4.9 billion in “low-carbon investments” since 2005), publishing research for investors on the implications of climate change, improving corporate disclosure and governance, issuing a call for international leaders to pass a treaty on climate (signed by 181 investors in 2009), issuing a call for US action in 2007 (called “Capital to the Capitol”), seeking mandatory disclosure regulation from the SEC, setting best practices for investors, and training investors on “climate risks and opportunities.” In 2010, it seems as if Ceres succeeded in at least one of these goals when the SEC recently announced that climate risk disclosure will now be mandatory (Johnson 2010).

On the website, INCR is listed as “a project of Ceres.” When I talked to Peyton Fleming, who began work with Ceres after the formation of INCR, he said that funding also drove its



particular incarnation. Fleming said that 75-80% of Ceres' funding comes through foundation grants. I was surprised to learn that fees from companies are not the main driver behind many of Ceres' projects and initiatives. Some of the foundation funding is earmarked for specific purposes – in this case, raising “awareness about climate change as an investor issue.”

Fox said their “marketing strategy” for the message of climate risk has been to just repeat the message: “that’s what big companies do; they continue advertising their products.” The implication being that climate risk as a discursive turn is actually “a product” for Ceres – a point I’ll return to in the next section. The goal, Fox said, was to make climate change “a top tier issue for investors and business leaders by framing it as a work issue... that way they have to manage it.” He said they try to do “a surround-sound strategy” first targeting investors since companies can’t ignore them: “that’s the most important group of messengers to communicate with the corporate world.” Ceres staff identify board members and staff of large investors. One institutional investor I met at the conference who was not yet a member said they definitely receive regular calls from Ceres staff members. Ceres is limited by their own small staff of 25 (that grew to 40 in 2008), but they do their best to do direct communication through phone, web, email, webcasts, meetings, conferences, and media campaigns.

Fleming and Fox said that Ceres is primarily focused on business and financial press – with their coverage doubling and tripling year over year during the period I studied them, but their online presence has yet to become as robust as they would like. Fox’s prediction was that as climate change increases in profile, “there will be much more specialization... who’s going to help me out as a consumer, who’s going to help me out as an investor, who’s going to help me out as a voter.” This kind of thinking about a proliferation of data such that different user perspectives will be required speaks to the changes in perspectives that have occurred related to climate change and its attendant prospects.

***“Just so you know, we love Exxon everyday”***

When I talked with Peyton Fleming about the popularization of the term “climate risk,” he said “the cost of carbon” is a similar term to climate risk that has also become much more common, but clearly it has much more to do with regulation as well. The cost of carbon refers to what the price is on carbon trading markets either in the US or Europe (Europe operates under the Kyoto Protocol), or a potential carbon tax that would charge a tax on all fossil fuel usage.<sup>90</sup> The cost factor, Fleming said, is what is likely to fundamentally change business practices, or at least, that’s the hope.

“Ultimately, we want to change business practices and Wall Street practices and how they start factoring these kinds of issues in, and we’re now seeing banks and Wall Street firms evaluating investments and including a cost of carbon in their decision making. That’s ultimately what we’re trying to achieve... Just as a company or a Wall Street firm looks at interest rates as an issue that they should be always paying attention to, we want them to also pay attention to what’s the cost of carbon got to be in this five-year investment or ten-year investment. And, are you factoring that into the value of the company or whether or not it makes sense to build that project? ...Those are the kinds of actions we’re trying to ultimately achieve because that will then move the markets to be more responsive to issues like climate change. So that’s sort of our grand vision is trying to move the capital markets to operate in a more sustainable way... you can only do that by creating *institutional change*. I mean the ultimate end game is to improve the world and improve environmental conditions and such, but you can only do that if you get companies and investors to start building *these kinds of metrics* into their way of functioning. (emphasis added)”

At the annual conference, this kind of reasoning is continuously couched in terms of what the investor wants, requires, needs. And, its kept at a rather high-level much like this explanation. There is very little mention of the problems with carbon development mechanisms (CDMs), whether or not emissions trading actually decreases emissions, or debates about whether “cap and trade” or a carbon tax are better options.<sup>91</sup> Instead, the focus is more generally on the transformative power of creating metrics that take into account climate change as a risk

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<sup>90</sup> For more, see Brahic C. 2009. What a slump in carbon prices mean for the future. *New Scientist*

<sup>91</sup> See for example the Durban Group for Climate Justice: <http://www.durbanclimatejustice.org/>

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and opportunity for individual businesses and industries. In pointing this out, I mean to signal that Ceres makes tactical choices about how much to challenge companies and capital markets, as opposed to partnering with other more basic critiques of the ways in which new risk paradigms have caused new inequalities and regionalizations to erupt (Beck 1992; 2002).

This focus on instituting new metrics, and augmenting the existing ones is particularly evident in reading through the many reports Ceres has released regarding climate change. New metrics provide a kind of ultimate lever for effecting change, and it goes back to something Massie said early on in my research: “what gets measured, gets managed.” Mindy Lubber uttered the same phrase in one of her conference addresses. Metrics offer a way of quantifying (and rewarding) success, and expanding current metrics is meant to trigger a new set of practices in order to meet their demands. Institutional change results because of the new practices and thresholds set for their related metrics – for example, the integration of clean energy technology or the reduction of greenhouse gas emissions.

And yet, one of the clearest complaints I heard at both conferences is that “Wall Street doesn’t get it” – “it” being sustainability and/or climate risk. When I asked Anne Kelly what that meant, she said those complaints were referring to “the absolute embracing of short-termism, the absolute insistence on measuring everything by a quarter.” At my first breakfast session at the 2007 conference, this was the subject of the meeting. They talked about the fact that civic society spoke a “different language” than Wall Street, and companies were “ beholden to analysts,” who don’t understand what the company is trying to do. One of the participants bluntly asked: “how do we create opportunities for companies to do something differently?” At another session later in the day that focused on how Wall Street finally might be coming around, one of the statistics an SRI contributor mentioned was that hedge funds don’t tend to hold stock for more than 60 days so that shortens the window even more than quarterly earnings reports. This is the central issue confronting companies that seek to make changes or investments in sustainability-oriented goals, which usually require much more than a quarter to see results or returns.

Anne Kelly explained what they're up against with Wall Street analysts this way -- rather memorably.

“Chris [Fox] did an interview with CNBC 6 weeks ago about Exxon Mobile. Chris was saying this [Exxon's lack of address of shareholder resolutions and climate change issues] is completely unacceptable. And the guy said: “Just so you know, we love Exxon everyday.” And, that was the quote from the Wall Street guy. And if you look at the way Wall Street rewards, why do bad companies continue to do well? Because Wall Street rewards them.”

Exxon continues to be “loved” by Wall Street because its earnings consistently rank in the number one place or right behind it (often battling with Wal-Mart), at the top of the Fortune 500 company list. It has been a continuous target of Ceres and CSR shareholder activism, but Exxon's directors refuse to yield even despite direct pressure from the Rockefellers, whose family founded Standard Oil, of whom Exxon is the current incarnation (Carroll 2008). Kelly mentioned that looking at Exxon is a good test for showing how much work Ceres still has to do, and is an instance where their efforts have failed to make substantial changes. Yet as I noted earlier, shareholder resolutions are generally as much about directing change within an organization as they are about garnering attention from media about the issue the resolution is putting forward. Such a strategy with Exxon is not entirely without merit or results then. Similar to the other social groups researched here, notably the Inuit petition, it attempts to change the discourse, and in so doing expands the notions associated with climate change as a form of life.

At the 2007 conference session I mentioned above on how Wall Street might be coming around to climate change as a pressing issue, one of the presenters put up a slide that showed all of the major investment banks – the majority of whom are encapsulated in the term, “Wall Street” – have begun to do something about climate change. One of the prime instigators has been the carbon futures trading that has gone in Europe in relation to the Kyoto-based emissions trading. Some like Goldman Sachs have begun to issue reports and speak out on the subject. One of the participants at the conference session said, “the race is on on Wall Street” to move on this issue.

At the conference, I met the new environmental director at Morgan Stanley, Jim Butcher, and later traveled to New York City to interview him in his Manhattan office. Morgan Stanley has a large unit that does carbon trading based in London, but is also looking to keep up with the pace being set on Wall Street. Butcher came from a scenario planning and consulting background, and he said Morgan Stanley was the only bank on Wall Street to have an internal scenario planning unit. He said the “business environment” was changing and they needed to “get on board.” He said they were in part spurred on by actions taken at Citibank and Goldman Sachs, but the Stern Review was also a key instigator of concern. He said that in 2006, climate change was not “on the forefront” of executives at Morgan Stanley, but that had changed. Butcher’s role is to review what Morgan Stanley is already doing, and engage in a broad stakeholder process. Risk and opportunity were something he saw as going together in part because of his scenario planning background. He said at the time of our interview in 2007 that climate change was not yet woven into research, nor was it consistently tracked, and he saw that as a weakness. Butcher said he saw himself as a translator of different perspectives, and that bringing the science together with the intensive “language of financial services” was part of his role.

In the year following my interview with Butcher, two Dartmouth College professors, Karin S. Thorburn and Karen Fisher-Vanden produced a report that quickly became news (Deutsch 2008; Fisher-Vanden & Thorburn 2008). They studied the stock performance of companies who joined Ceres and Climate Leaders, an EPA industry-government program that mandates greenhouse gas emissions reduction. They found that companies that joined Climate Leaders received a negative reaction. *The New York Times* quoted Thorburn as saying “The pattern was clear – the more aggressive the goal, the more the stock price fell.” Ceres membership, on the other hand, came with no significant reaction. Thorburn and Fisher-Vanden concluded that: “The stock market is saying, don’t count on voluntary initiatives.” In response, Mindy Lubber, Ceres’ Board Member Julie Fox-Gorte from Pax mutual funds, and representatives from Goldman Sachs and Morgan Stanley all agreed that the best run companies are those who also perform well by environmental metrics. Lubber, in particular, wouldn’t accept the finding that companies get dropped because of environmental initiatives otherwise, she argued, “you wouldn’t see so many companies addressing climate change with such a

vengeance.” Fox-Gorte also rejected the studies’ findings saying they were “measuring the most ultramyopic reactions” that reflect short-term thinking.

The 2006 Ceres toolkit for corporate leaders that deals with “Managing the Risks and Opportunities of Climate Change” is also an attempt, like Butcher’s role, to bridge the language of financial services, and provide a roadmap for change. It makes clear how the Ceres methods fit together when it says on page two: “most successful corporations engage with concerned stakeholders, disclose their strategies to investors, and take concrete actions to manage risk and capitalize on opportunities.” In order to execute on these goals, it suggests 10 steps to developing “a comprehensive climate change strategy” that are grouped into a diagram with three overlapping circles each separately titled “assess, engage, or implement” – with the word “disclose” set around each overlap of the circles. The first four steps include creating a climate management team and a board oversight committee, measurement of greenhouse gas emissions, computing physical, regulatory, and financial risk exposure, and assessing strategic, branding, and product opportunities in relation to climate change. Steps 5-7 involve creating plans to reduce emissions and risk. Step 8 suggests engaging in policy dialogue about reducing climate risk and enhancing opportunities. The final two steps are public disclosure and engagement. AEP, GE, Ford, Chevron, and Bank of America are used as exemplars of best practices on various steps. In addition to setting new metrics, and as Fleming earlier point out, this is another key tactic of Ceres – getting industry leaders and major corporations on board.

What becomes evident reading this toolkit (as well as reports prepared on the banking and insurance industries) is that it’s not just about getting corporate leaders or large corporations to begin to take climate change seriously enough to change their practices and R&D investments. It is also about the power of association. Certainly, Ceres benefits from an association with these major industry leaders who are looking to make a change in their public image or to intervene in nascent policy debates early on. But, it’s not just an association with Ceres. The exemplars listed in the toolkit have begun to distance themselves from certain attitudes about climate change. Fox said that with apartheid, at some point, it became morally repugnant to be associated with it. Similarly, he felt that the year 2005 marked a turning point for climate change because of several factors far outside of Ceres’ control that were of immense benefit to INCR and the Summit.

“I think year 2005 is a critical year. Because of a variety of things that happened. Russia ratifying Kyoto in February. That was the moment where carbon was going to have a price. Industrialized nations were definitely moving ahead with regulating and then smart businesses like GE realized it was going to be a new market for low carbon products basically. So, and our second investor summit which was much bigger than the first -- twice as big -- it was on May 10<sup>th</sup>. And, GE announced its Ecoimagination initiative<sup>92</sup> on May 9 and so then the whole buzz was about how the biggest company in the world basically had just announced this. So that was the moment where the business community shifted and the kind of Exxon-Mobile dominated business world, you know, of the businesses funding different industry associations and climate deniers and skeptics and all that, just became irresponsible.<sup>93</sup> Because, if you really cared about your shareholders you’d be figuring out how to protect and enhance shareholder value in a carbon-constrained world because that’s now what we live in. It was like the moment where we just all acknowledged we live in a carbon-constrained world and that was going to be the future. And it was inevitable and it was going to affect your market.”

Kelly too agreed that this period was critical to the generalized sense of a sea change on attitudes towards climate change. Yet, she questioned whether it is a matter of trickling up or trickling down. Shortly after, both the Kyoto ratification and Ecoimagination, Fox and Kelly both noted that Hurricane Katrina hit, which for many Ceres members, both new and old, was an event that reinforced the idea of climate change as an unavoidable material and financial risk factor.

There is a similarity here to the tactics undertaken by anti-apartheid divestiture activism, which I earlier described in relation to Ceres’ founding. Katrina – the images of destruction and suffering in particular act to make climate change, and a continued avoidance of it morally repugnant. In this way, it creates an effect similar to the years immediately preceding the fall of the apartheid government in South Africa when the success of divestiture and accompanying moral judgment was evident. What these kinds of moral prescriptions do in the face of risk is perhaps less easy to determine in such stark terms of success and non-success, and the fraught

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<sup>92</sup> GE’s Ecoimagination initiative is about transforming their investments in research and development of alternative energy technology to the tune of \$1.5 billion by 2010 (up from \$400 million in 2005), but it also has a policy and public engagement aspect to it.

<sup>93</sup> See Oreskes & Conway, 2010 and Hoggan & Littlemore, 2010 for more on this.

process of creating and fostering a bandwagon for addressing risk – which inevitably leads to the re-organization of assemblages within the science-policy-media realms.

### ***Climate Risk and Recession***

The framework of risk not only speaks to a certain view of economics, the role of corporations, and notions of social responsibility, but also to the larger context in which media, politics, and bureaucracy are a part of the formation of what Ulrich Beck (1992; 2002) terms a “world risk society.” Risk and the spectre of catastrophic danger may act to unite societies, but in their demands that nations, or in this case, corporations unite and negotiate a response to the looming crises, they also create new conflict and political alliances, reorienting topographies of power, wealth, and capital, leaving in their wake new regionalization, inequalities, and exploitation. Positioning climate change as a risk implies that it can be rendered “predictable and controllable” in a modern society, and institutions, bureaucracy, and media rise to meet the challenge entailed therein. *Risk thus works as a motivator precisely because it both heralds oncoming, unstoppable change, and calls it into being.* This is the paradox of identifying climate change as a material and financial risk, and as an attendant suite of potential chaos and actual opportunity simultaneously.

This is not to say that the risk is not “real.” Perhaps one of the most staggering metrics Ceres has popularized through its report on the insurance industry is that the damage caused in 2005 by weather-related events rose sharply to 80 billion dollars worldwide, equivalent to four 9/11 tragedies. Others at the conference and at Ceres have thrown around more colloquially the notion that Katrina incurred costs three times the cost of 9/11. At the conference in 2007, one of my favorite moments occurred during the panel that was discussing whether or not Wall Street was taking climate change seriously as a risk factor. One of the environmentalists got up, and said – as a way of explaining the increased public attention and interest in climate change: “Katrina blew the door down, and Al Gore walked through it.” Bill McKibben later said a similar statement in his plenary address. “Al Gore” is a reference to the role of his phenomenally



successful and Oscar-winning film, *An Inconvenient Truth*, released a few months after Katrina hit in 2006. Gore also spoke at the 2006 Ceres conference, and presented his slide show there. I have used this phrase about Katrina and Gore many times in interviews with the varied people I've talked with for this dissertation, and usually it elicits a smile. But generally, a verification of the Katrina + Gore equation as the experience one had during the pivotal years of 2005-06 depend on the importance ascribed to popular culture and trends in public opinion polling. Corporations (and, by extension, those involved in CSR activism) are incredibly concerned about consumer trends, competitive advantage (what other corporations are doing or what direction their industry is heading), and maintaining investor confidence and shareholder value – all of which to greater or lesser degrees have some relation to public opinion. When Ceres talks about climate risk, these are exactly the levers they lean on, and events as well as popular culture in 2005 and 2006 finally began to provide some support for their claims.

I tentatively called 2007 the “summer of love” after I went to the Ceres conference because of the effusive tone of the participants, many of whom had waited for a decade or more for climate change to be taken seriously. 2007-08 was a period whose highlights include: a Supreme Court ruling saying the EPA could regulate emissions under the Clean Air Act, polar bears being listed as endangered species due to climate change concerns, insurance companies and Wall Street investment firms issuing high profile reports about climate change, retired US generals issuing a report making climate change a security issue, and the release of the 4th IPCC assessment report with more dire warnings than the previous. But, the 2008 conference lacked much of the ebullient tone of the year previous – instead, it was marred by the now epic subprime crisis, the roots of which in 2010, still continue to embroil the Obama administration and hamper economic recovery in the US and among many of the world's economies.<sup>94</sup> Citibank was deeply embroiled in the crisis, and yet, Michael Klein, the CEO of Citibank still agreed to give the keynote at the Ceres conference in 08. Klein began his keynote by saying that they continued with their commitment to focus on climate issues throughout the crisis because it's “so

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<sup>94</sup> The crisis managed to force into bankruptcy or force low priced acquisition (“firesale”) of 3 major investment banks: Lehman Brothers, Merrill Lynch, and Bear Stearns. The two remaining major investment banks, Goldman Sachs and Morgan Stanley agreed to become commercial banks and face more regulation. The credit crisis didn't just engulf the financial sector, the country of Iceland was also forced to declare bankruptcy, and many other smaller countries were also hit extremely hard with investments tied up in one or another to what was happening with American mortgages.

deeply integrated into our company that we couldn't pull back if we wanted to." Citibank had set targets of reducing greenhouse gas emissions by 10% by 2011 from 2005 levels.

Still, I wondered whether or not climate risk could stand the test of a major economic recession, and I asked Anne Kelly what they were saying about climate in the midst of 2008. She said they were positioning climate change as "another risk" that investors and companies may not be fully aware of or prepared to face.

"Well, we had used the sub prime as a proxy for climate and Mindy [Lubber] has quite a good phrase around this -- climate risk could be the next sub prime crisis. We didn't pay attention to sub prime for a long time and people kind of knew that that was building -- they knew that sloppy decisions were being made. They knew that risks were being taken, but nobody got on top of that and then, look what happened? And so she, sometimes characterizes climate change in the same way, a hidden risk that needs attention."

Looking back at how Ceres used the Enron scandal in a similar fashion, it certainly has echoes of the same logic. Crisis then doesn't have to work to supplant the groundwork laid by Ceres – rather, it can be the impetus for further development of risk preparation and awareness.

Bob Massie called climate change a "disruptive syllogism." He said it is the largest physical change, affecting certain industries and regions. It is hence embedded in every investment portfolio. Therefore, fiduciaries must assess what this change means for the investments they manage. Failure to assess equates to a breach of their fiduciary duty. This is the logic that pervades much of Ceres and SRI efforts to raise the issue of climate risk. But, syllogisms often have important exceptions that can cause their seemingly perfect logic to unravel.

This is where Hurricane Katrina and the research Kerry Emanuel released in the months before it hit become important verifiers of such logic-based assumptions. Kelly and Fox both pointed out that Ceres benefited enormously from studies that were already underway first when Katrina hit, and secondly, when the banking crisis hit. Fox said that Ceres was in the midst of putting the finishing touches on their report on the insurance industry when Katrina hit, and

Kelly said they had recently released their report on the banking industry when the subprime crisis began to unravel. Though the subprime crisis had nothing to do with climate change, Kelly said there were significant correlations that allowed them to capitalize on the risk paradigm.

“We looked at their relationship to climate and energy and climate governance and HSBC was number one with (it's a hundred point score) -- I think they had 90 or something, and the lowest point-getter got zero points and that was Bear Sterns, and we all chuckled. And there was a fair amount of publicity after that... it was just a coincidence that we happened to be looking at banks this year.”

The implication being that Bear Sterns was not a forward-looking bank concerned about the presence of risk in any of their portfolios whether it had to do with mortgages, credit, or climate change. Bear Sterns later collapsed in 2008 related to its role in the subprime mortgage crisis.

If we follow Beck's formulation through then, Bear Sterns becomes an example of the reorganization and reordering of new assemblages and institutions. Wealth in this case was not enough insulation from risk. Alternately, Karen Ho's explanation here might be that such risky behavior is endemic to Wall Street, creating more and more appetite for risk such that it unraveled the entire company – and, could also potentially unravel much larger swaths of the capital markets and the American economy for years to come. Risk, in other words, begets yet more risk. And certainly, as Beck also predicted, activism like Ceres' work becomes centrally important in identifying and communicating such risks – both the short-term evaluations of Wall Street and the possible long term chaos associated with climate change predictions.

### ***Insuring (and Educating) for Risk***

The insurance industry has been on the forefront of concern about climate change.<sup>95</sup> At the 2007 conference, representatives from Swiss RE, F&C Management, and Fireman's Fund participated in a panel on how they are managing climate risk. The Stern Review's findings were

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<sup>95</sup> Swiss Re was a major sponsor of *The Great Warming*, the film used by evangelicals as alternative to Al Gore's *Inconvenient Truth*. Ceres' report "From Risk to Opportunity: How Insurers Can Proactively and Profitably Manage Climate Change" names other actions taken by Munich Re, Lloyds of London, Allianz, and others.

*Candis Callison, HASTS Program, MIT*

*Information is not the Problem: spinning climate change, vernaculars, and emergent forms of life*

at the forefronts of their concerns because of its estimates about how much mitigation and adaptation would cost if actions to stem emissions are not taken now. Alexis Krajceski from F&C summed it up when she said that for insurance companies, it's about "accurate risk assessment" as well as keeping insurance affordable, and that they were counting on the wealth of "intellectual capital" they have with complex modeling to see them through. Swiss Re's representative, Mark Way began his presentation by saying that Swiss Re "first labeled climate change an emerging issue in 1996." He said that average losses are increasing and the individual burden doubles every decade due to the demographics and economics of coastal development. This was the primary concern for the entire industry, Christopher Tulou from the Heinz Center concluded. Heinz and Ceres have been working together with the insurance industry on climate risk issues with their Resilient Coasts Initiative. Tulou said "if there is a frontline, it's our coastal communities" who generate most of the country's GDP and contain two-thirds of its population. It's impossible to abandon these places, and so the "focus should be on protecting investments that are already there."

In my conversations with Kerry Emanuel, MIT's most prominent hurricane scientist whose work on the increasing intensity of hurricanes due to climate change was released a month before Hurricane Katrina, he similarly expressed concern about coastal development. He said that the federal and state governments were already subsidizing or providing insurance for communities in these vulnerable areas because insurance companies were unwilling to or their rates were prohibitively high. Conversely, Harvard's Dan Schrag whose research focus is not on hurricanes expressed a certain amount of skepticism about the insurance industry being involved in climate issues. He said that the insurance industry benefits enormously from something being labeled a "risk," because then they've got one more issue to provide insurance for. When I put this to Anne Kelly, she said that she would think more about this since it was the first she'd heard such a criticism. As she talked however, she noted that the losses in the industry were very real, and she thought this business concerns were still the primary motivating concern for action on climate change.

The concerns of the insurance industry, however, echo, perhaps in starker and more concrete terms, the long list of risks Mindy Lubber laid out in a speech she gave at an Ethical

Corporation conference session in Boston in 2007. She said that companies are facing (in this order) regulatory risks, physical risks, reputation risks, and litigation risk. Krajceski clearly agreed when she said that she thought it was a “real opportunity to be involved in public policy debates” and that “insurance companies have much to gain from deliberate action... and everything to lose from not participating.” In the question period following Krajceski and others’ presentations, a representative from Marsh insurance in the audience was called on to answer a question about policy changes. He noted the EPA ruling, the latest IPCC reports, and the possibility of litigation were all on the horizon of his considerations. He said they were “trying to elevate the level of public conversation” in order to account for these “tectonic shifts” in thinking about regulation, physical risks, and the need for disclosure.

In an effort to do just that, Marsh joined in a partnership with Ceres and Yale University to begin educating boards about how these issues were affecting corporations.<sup>96</sup> Kelly headed up this program on behalf of Ceres, and considers this an analog to INCR, but one that deals expressly with companies rather than investors. Called the Sustainable Governance Forum on Climate Risk, it is described as a “leadership development program designed to help... address the problem of climate risk.” Kelly told me that it brought together scientific, legal, business, and insurance aspects of climate change in an attempt to help corporate directors integrate it into company strategies.

“Ceres figured out wisely in 03 or 04 this top-down issue. That it’s really important to train the boards of directors and CEOs. These issues are so big. They’re a matter of long-term value and they shouldn’t be tucked into the ghetto of the EH&S [Environmental Health and Services] department... it’s a matter of risk. It’s a matter of long-term risk”

This is a message that was often repeated at the conference, and in other speeches I’ve heard Mindy Lubber give – that climate risk must be accounted for at the strategic level, and sustainability concerns integrated throughout the company. For companies then, it must come from both the Board and the executives in order for the kinds of change to occur that Ceres expects.

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<sup>96</sup> When I checked in with Kelly in 2008, she said that Marsh had changed CEOs, and it was no longer sponsoring the Forum so they were looking for an alternative partner at that time, but in searching their website recently, it would seem that Marsh is still listed as a sponsor.

Kelly said directors don't like words like "teach" and "educate" because "they feel like they already know everything," so Ceres uses "engage" and "convene" instead. The forum describes itself as highly exclusive, invitation-only, "intimate," and "collegial" with a "discussion-based format." Part of the reason for both the format and the need for "engagement," Kelly said, is that corporate directors in the US are an extremely "homogeneous" group – usually older, extremely wealthy white men. And while the climate risk framework has gotten through to some, there is a wide spectrum of knowledge. Kelly told me that she had one director come up to her after a session and say: "What's that word they were using? Starts with anthro..." and she said, "Anthropogenic?" And he said, "yeah I don't know what that means." She said that even within the Ceres membership this represents one end of the knowledge spectrum while Seventh Generation, Aveda, Interface, and other highly progressive companies represent the other end.

The launch of the Forum was made during a session of the Clinton Global Initiative, and former Secretary of State (under Clinton) Madeline Albright is on the advisory panel. The booklet describing and announcing the program has several bold quotes from corporate leaders, scientists and political leaders. One from *The Wall Street Journal* stood out to me. It said:

"The group US Climate Action Partnership (USCAP)<sup>97</sup> stressed that by proactively dealing with the issue, companies can earn a voice in planning policy and thus avoid 'stroke of the pen' risks in which new government rules can undermine a company's value overnight. 'If you're not at the table when these negotiations are going on,' said James Rogers, Duke Energy's chief, 'you're going to be on the menu' (Ball 2007a)."

These are the kinds of statements that motivate corporate executives and their company's directors certainly, but they also are exemplary of the kinds of work climate risk is doing for Ceres and others who have an interest in making climate change a CSR issue. Climate risk encapsulates a wide range of risks from regulation and litigation to material and competitive – all of which provide significant strategic concern for both investors and companies.

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<sup>97</sup> USCAP stands for United States Climate Action Partnership, which describes itself on its website as "a group of businesses and leading environmental organizations that have come together to call on the federal government to quickly enact strong national legislation to require significant reductions of greenhouse gas emissions." <http://www.us-cap.org/>

## **Conclusion**

What this chapter records is the work Ceres undertakes both with companies and investors in order to bring about a discursive shift and institutional transformation in corporate America. Climate risk is the latest and perhaps strongest of heralds that Ceres has been using to bring about such a transformation. Businesses and business media have, in recent years, often talked in terms of “going green” or becoming more sustainable, but it’s not always been clear what this means in concrete terms – or indeed, whether it means anything at all. Ceres attempts to move beyond both the morass of what sustainability might mean and the problematics inherent in the threat of ‘greenwashing’ by asking corporations to become accountable to a set of stakeholders that are usually composed of non-profit members of Ceres. It’s through this mechanism that companies begin a process of identifying how they will become more sustainable across a number of markers – including how they will respond to climate risk. GRI, the sustainability accounting system Ceres pioneered, requires an accounting of a baseline, any changes, and goal-setting. Ultimately, a sustainability report results, and Ceres too provides awards as well as limited kudos even for the most recalcitrant who make incremental changes – Suncor being the example I’ve used here.

Certainly, there are others who are working in the same space on CSR issues like Ceres, but Ceres’ tactical work with both investors and companies, producing reports, supporting and leading the charge on shareholder resolutions, and calling for policy changes and regulations set it in a category by itself. What became apparent to me through the course of my research with Ceres is that they tend to think of linguistic and vernacular changes as a kind of product. The uptake of terminology by the business community, writ large, being both the goal and the marker of success. Climate risk is such “a product” in terms of both the effort to conceive of it, and the success with which deployment has been met. Unlike the pastors in Creation Care who assume that their words will be paired with others, dissected, and discussed, Ceres’ word-products reverberate via marketplace circulation. INCR and the Summit at the United Nations proved to be key mechanisms and testing grounds for furthering the notion of climate risk, and have

attracted leading investors and companies such that the volume reinforces the weight and claim of risk associated with climate change.

Over time, climate risk has come to encapsulate regulatory, litigational, physical, and reputational risks. In order to transmit these risks to both investors and companies, Ceres' has built on the infrastructure left in place by anti-apartheid and anti-pollution activism with corporations. Much like apartheid, climate risk has become a present danger where action is required by companies in order to disassociate themselves from it. Unlike apartheid however the moral nature of climate risk is fraught with potential unintended consequences suggested through Ulrich Beck's work in the form of new alliances, assemblages, inequities, and other structural shifts and changes. As well, the notion of risk if we follow Karen Ho's work can work to both undermine arguments for addressing climate change and shareholder value. The higher the risk, as Ho's research narrates, the higher the reward.

One of the deep concerns for Ceres and its membership has been the reward structure in place through capital markets – more commonly referred to as “Wall Street.” Public companies are to a great degree valued by their publicly-traded share price on stock markets, which reward with a higher price/valuation based on quarterly earnings. Major changes on emissions reductions usually require investments that will take much longer to see returns than markets have the patience to wait for -- hence, the importance of a term like climate risk as well as the role of INCR and its annual Summit. They lobby for disclosure of the amount of risk a company is exposed to related to climactic changes, and demand changes to protect their investments thus giving “cover” to companies who need to make massive changes, infrastructural or otherwise, to address this risk.

In 2010, it looks as though Ceres may have seen one of its goals realized when the SEC set out non-binding guidelines that recommended disclosure on the risk of climate change. SEC Commissioners, of which there are five, noted that they were under immense pressure from investors to make this change yet they were careful to avoid taking a stance on climate change itself. Two of the five commissioners, noted as Republican appointees, voted against this decision citing the problem that climate change is still “unsettled” in terms of the scientific



claims associated with it. Clearly then, not all of Wall Street has come around to the notion of climate risk or the veracity of the scientific claims associated with climate change.

This is not the definitive story on either Ceres or business responses to the risks and opportunities that climate change has presented. I have not dealt with the rise of carbon trading or carbon off-sets, nor have I delved much into potential changes proposed through legislation which will directly affect many industries. As well, though I conducted research with The Climate Group and Ethical Corporation, these narratives did not end up forming part of this chapter. A wider account of the CSR movement around the notion of climate change could easily extend to many more chapters.

Instead, this account of Ceres is part of this dissertation's focus on how meaning is generated socially through use, action, and context, following Wittgenstein's formulations. Climate risk provides another facet by which to understand climate change as an evolving, emergent form of life. It sidelines science in favor of the language of business and investment such that action is required both by investors in their assessment of companies, and companies in their strategic planning. Sea-level rise and more volatile, disrupted weather patterns provide the impetus for assessing physical risk, while regulation, litigation, and reputational risk are aspects that pertain solely to a business environment. In so calling these other considerations into being, Ceres establishes itself as a pivotal element of the assemblage of institutions, vernaculars, and articulations that comprise infrastructures for an expanded notion of this form of climate change life.

## Chapter 5: Reporting on climate change: expertise, alarmism, hybridity, frustration

*June 2007, Portland, Oregon at Climate Change Bootcamp for Reporters*

In June 2007, the University of Oregon (UO) put on a day-long workshop for reporters titled “The Changing Climate Issue: Reporting Ahead of the Curve.” It was originally titled Climate Change Bootcamp when I first heard about it, and was sponsored by the Society for Environmental Journalists as well as The Climate Leadership Initiative (CLI) and the School of Journalism and Communications at UO. The idea behind it was that climate change was a story moving from the science pages into all other beats. “More than ever,” the conference description stated, “reporters in every part of the newsroom must understand some aspect of climate change and explain it to their publics.”

About 75-80 reporters attended – most were local reporters in the Pacific Northwest, though a few came from further afield like Chicago. Bob Doppelt, the executive director of CLI, who is also a local columnist and author on sustainability issues, opened the conference. He said that the idea for the conference had come the year previous when he was interviewed about a report. The report had given equal time to a skeptic. Doppelt called back and asked why. The reporter said they had “googled” and got someone from MIT. The unnamed MIT source called back about 10 minutes before the story was broadcast so the reporter decided to quickly conduct an interview and put it in the story.

Climate change as a story, according to scholars, scientists, and journalists has suffered mightily in the past from these twinned problems of balancing points of view (sometimes referred to as a problem of “balance as bias” – referencing the journal article by the same name by Maxwell and Jules Boykoff), and ‘parachute journalism’ (reporters being dropped into

climate change with little or no background on the science and/or debates) (Boykoff & Boykoff 2004; DiMento & Doughman 2007; Nisbet & Mooney 2007; Oreskes 2004a; Russell 2008; Ward 2008). The workshop was meant to avert these problems by: 1) offering the basics of climate change, which Doppelt described as explaining how scientists and policy makers think and arrive at conclusions, 2) how information tiers down from global conclusions to the Pacific Northwest, and 3) how to cover a fast changing topic that's complex in a balanced way.

The day-long program agenda began with renowned climate scientist, the Late Stephen Schneider from Stanford University.<sup>98</sup> Schneider began by trying to “distill out the urgency and uncertainty,” and said “what we're really talking about is risk management.” He joked that one of the participants was a kid when Schneider first testified before the Congressional Ways and Means Committee in 1976. He said “back then,” it was “all theory.” The difference between 1976 and 2007, he said, is that “the last 31 years nature has cooperated with theory... the most unequivocal part is that it's warming.”

He advised journalists to watch out for “mythbusters and truth tellers.” “All good science does not give you answers, it gives you probability distributions,” and scientists “worry endlessly about the tails” of those distributions, meaning the extremes or least likely scenarios. He argued that the real debate was about fairness as much as it was about efficiency, and used the melting of the Arctic sea ice as a case in point. It's “terrific” for the shipping industry who will be able to save on fuel costs, but not so good for the Inuit who depend on sea ice for their culture. Because the range of global temperature increase, estimated between one and six degrees, is “not even remotely settled,” the questions are really about “how to deploy resources and make decisions with complex science.”

During the question and answer period following Schneider's presentation, a question came from a radio reporter based in Seattle who said he was not a scientist, but an English major who had flunked geology, and was having difficulty trying to sort out climate change. He said: “our job is to give people what they need to find out what's true.” Schneider advised the reporter

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<sup>98</sup> Schneider passed away July 20, 2010, and was fondly eulogized by many journalists and scientists. *The New York Times* carried his obituary.

that “not all PhDs are created equal,” and that skeptics should be given “low status.” He said reporters should “do their homework,” and learn “whose websites are credible and whose are ideological” -- it was, he acknowledged, a tough story to cover in a day.

Throughout the rest of the day, a long list of well-known experts on reporting, economics, and regional impacts spoke to a highly engaged group of mostly young reporters, and a few meteorologists. Richard Harris provided the mid-day keynote, drawing on his 20 years of reporting on climate change for NPR. He said that while the last couple decades of settling the science have been difficult, the next decade will be about sorting through economic options. And, that will be much, *much* more difficult, he said, owing to the different models and assumptions that underlie economists’ observations and predictions about a future that includes risks related to climate change. *The New York Times’* former reporter, now Opinion section blogger Andrew Revkin said a similar thing when I interviewed him – that while we may have consensus on the basic science, there is no similar consensus on what to do about it. Yet, while many have moved beyond the basic fact of climate change, the last panel of the day revealed that local reporters are, to a large degree, still battling with audiences and editors not in tune with those who are part of the national and international conversations – what I have referred to as the science-policy-media conversations about climate change solutions.

The last panel was set up to dissect the fallout from a small chain of newspapers with editors and a publisher sympathetic to climate change. They had done a climate series that won awards for its coverage of environmental issues. Their readers, mostly an audience of farmers, said little until the chain publicized their awards and then the phones began to ring. The editor on the panel described a man who spent an hour on the phone with every member of management staff and the reporters involved, airing his dislike for the series. A skeptic yes, but it was also an argument about relevance, about how such a big issue fit within the vernacular of farming and everyday life in rural Oregon – it is an argument similar to the one made by Inuit people in Kotzebue, Alaska that I examined in chapter one. Namely, that even when climate change symptoms are obvious and felt, assigning them to this thing called “climate change” that circulates at the level of science-policy-media requires translation from one or many vernaculars to others. The way in which climate change is understood and articulated creates its form of life

(Fischer 2003; Wittgenstein 2001), and for reporters, this process and the vernaculars inherent lays down a challenging gauntlet requiring various kinds of negotiations inside and outside the newsroom.

Unfortunately for the local Oregon paper, the farmer who vociferously complained wasn't alone. Some subscriptions were not renewed or were cancelled outright, and the editor wondered out loud how long this trend would continue, whether it was short term, and whether all the non-renewals and cancellations were related to the series. There weren't any suspicions that it was an orchestrated campaign – rather, that skepticism had both trickled up and trickled down. In other words, farmers had formed opinions through unspecified means (social, media, social media, or otherwise) unrelated to the local paper so that when the paper presented their take on climate change, it was met with anger and disagreement.

Often for local reporters, they encounter similar resistance long before it gets to the public – from their editors. At the 2007 Society for Environmental Journalists meeting at Stanford University, one of the most striking panels I attended had nothing to do with climate. It was a panel of reporters from places like Tallahassee, Bar Harbor and Colorado Springs that were speaking about reporting on the environment in a conservative media market. One reporter in particular told of reporting on the Governor of Maine attending a special screening of *An Inconvenient Truth*, a newsworthy event in terms of policy and lawmaker influence. However, afterwards, an email went out to all staff from the editor saying, he didn't want any more reporting on climate change “until Bar Harbor is under water.”

The sentiments expressed by Oregonian farmers and a Maine editor reveal that for local media, the stakes are much higher than they are for Revkin or Harris at a national media outlet. When naysayers and skeptics weigh in, it's not participation that gets recorded at the local paper, it's cancellation. In other words, at this level, it's not just a matter of navigating expertise and varied scientific research and predictions – though that is an issue as the UO workshop and recent investigations into the strategy of skeptics can attest (Hoggan & Littlemore 2009).<sup>99</sup>

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<sup>99</sup> Hoggan and Littlemore (2009) present investigative evidence and arguments that show how skeptics have intentionally targeted local and regional media outlets due to their lack of resources for science analysis, and lack of

Rather, meaning and the form of life climate change takes play a far greater role for their audiences. Science is easily ignored or shut out by those uninterested in the stakes being pursued by either scientists or policymakers. Finding a way to engage wide and diverse audiences is, in part, why I chose to broaden my study beyond journalists and scientists to try and understand how other social movements were investing science with meaning and relevance outside the environmental movement, mainstream media discourse, and government/policy frameworks. This chapter and the next thus mark a return to the terrain upon which I first started researching climate change and media (Callison 2005).<sup>100</sup>

### ***Articulating risk and navigating forms of life***

The landscape confronting reporters is one in which many forms of life feed into a singular pluralized notion of climate change (Fischer 2003; 2009; Wittgenstein 2001). As I have variously explicated in previous chapters, these forms of life compete to define climate change, translating it to/from varied vernaculars, and prioritizing its attendant qualities in order to proscribe meaning and responses and actions based on applied moral and ethical codes. While this can be said of the social groups I have described here, it can also be said of skeptics, who as I have continually alluded, provide a kind of spectre or counterpoint to many of the actions taken by those who seek to present climate change as a fact requiring action. Part of the complaint of some prominent skeptics has to do with how facts are evidenced. Skeptics tend to favor empirical meteorological modes of compiling and projecting data, while climate science more often relies on more complex models and simulations that enroll empirical and theoretical data to arrive at a range of predictions (Edwards 1999; Lahsen 2008; Mooney 2007; van der Sluijs et al 1998). Indeed, one of the key questions confronting journalists is how to present a long-term

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savvy about discourse and tactics occurring in what I term the science-policy-media sphere. I reviewed their book for *Nature* in early 2010.

<sup>100</sup> Since I began this research, I have also taken a job at the School of Journalism at the University of British Columbia in Vancouver, Canada. Most of the writing of the dissertation has been done at my office at UBC. Prior to my entering graduate school in year 2000, I worked as a journalist in a variety of mediums for about 7 years. My initial degree at MIT was in Comparative Media Studies where I received a Master of Science in 2002.

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uncertain issue like climate change that requires action and engagement without sacrificing journalistic norms of objectivity and non-advocacy.

The stark differences between local and national levels of reporting that I have begun with here marks a starting point in this chapter for examining the task that confronts journalists in articulating for wide publics the various aspects of climate change. Navigating expertise in the midst of ongoing, evolving research presents a particularly daunting task, and making that into news such that professional norms for storytelling are observed provides another set of constant and imposing hurdles even for seasoned reporters on the subject. In particular, navigating not just expertise, but *the tonal qualities* – particularly alarmism, as well as skepticism have been central to this process. The array of political, advocacy, and policy-oriented groups, as well as social movements present another set of challenges both in terms of their role in the ongoing saga of climate activism and policy development and the immediate feedback now available through online media outlets.

Journalists, in many ways, and in particular with climate change, are tasked with articulating the ongoing societal relationship with notions of and futures with risk. Ulrich Beck (1992; 2002) has theorized that the current epoch is marked by a transformation from modern industrialization to a risk society, marked and marred by unintended and unpredictable consequences. In these terms, predictions related to climate change illustrate that industrialization has created human comforts and widespread urban living, as well as visible, felt instability and chaos at the earth's poles that will filter downward/upward to the industrial infrastructure that spawned such chaos at some point in the near and/or distant future. This disconnect between cause, consequence, and the conditions that make decisions that cause such consequences possible define the risk society such that, Beck argues, “its heart rests in the mass media, politics, and bureaucracy – not necessarily at the site of its happening” (2002 p. 4). This is the disconnect that vernaculars, as described in the previous chapters, bring into sharp focus – that the discourse at the level of science-policy-media is not always recognizable on the front lines whether they're in rural Oregon or Alaska. Local reporting provides a site of tension and a clash between seemingly disparate forms of life – a moment where observations of causes and

effects on the ground talk past each other, making it easy to deny, ignore, or rage against the claims and/or priorities of each other.

Even aside from this negotiation of multiple forms of life, many journalists, by their own standards, have pointed out that media in general have not done ‘a good job’ on climate change – by this, I mean to say that they haven’t succeeded in fully bringing publics into a specific constitution of ‘climate change’ as a scientific concept or media form of life (Boykoff & Boykoff 2004; DiMento & Doughman 2007; Revkin 2005b). Andrew Revkin characterized it this way in a 2006 draft of an article he sent me via email.

“Global warming is perhaps the prime example of an environmental issue that the media have largely failed to handle in an effective way... By ‘effective,’ I do not just mean accurate. I mean that we have largely failed to communicate what science can tell us about climate in a manner that allows the public to absorb the information and integrate it into how decisions are made, both at the personal and societal level. The tendency of the media seems to be either to overplay the sense of imminent calamity or ignore the issue altogether because it is not black and white. That has left society, like a ship at anchor, swinging cyclically with the tide. And like an anchored ship, we are not going anywhere.”

In other words, climate change has not achieved the status of becoming meaningful, nor actionable. And, like Beck has pointed out, those who attempt to herald the changes associated with risk often end up swinging between hysteria and cynicism or indifference. Despite the power afforded to media to shape discourse then, mainstream media has struggled with its own sets of negotiations as climate change has developed as both a news story, scientific fact rife with uncertainty and a wide spectrum of possible outcomes, and an issue for advocacy. Every journalist I spoke with or heard speak on numerous panels and at workshops I attended during my 18-months of intensive fieldwork can, like Revkin, cite multiple instances of such challenges, and many have developed a point of view about how and what has gone wrong and right with reporting on the issue.

But, what has thus far been sidelined from these critiques of whether or not journalists have done ‘a good job’ of alerting publics to the risks inherent in climate change are two aspects



– 1) the changing infrastructures and processes of media, and 2) the underlying assumption that information drives participation in democracies. As I laid out in the introduction to this dissertation, American society, since voting reforms in the 1800s has hung on the notion that information leads to participation. An informed citizenry is at the heart of ideals related to journalism. Most journalists consider it their duty to inform the public – this is the point of news. As the journalist in Oregon put it: “our job is to give people what they need to find out what’s true.” In this short statement is bundled a firm view of what role media should play in society, how society should work in concert with media, and vice-versa, and what it means to be, as Michael Schudson (1998) would term, “a good citizen.” Yet, changes to media in the form of new sources, the collapse of business models that support traditional sources like newspapers, declining audiences for all forms of media, 24/7 reporting, and the continued fragmentation of audiences has produced a very different landscape than the one normally envisioned where journalists perform the duties of a fourth estate (2007e; 2008c).

Schudson has theorized that the informed citizen is giving way to a “monitorial citizen” who, overwhelmed with the onslaught of data, due partly to the rise of new media, chooses to engage in surveillance more than actual information-gathering. Schudson compares this form of citizenship to parents at a pool who keep an eye on everything, ready to jump into action should the need arise. Theories of collective intelligence are in part based on what Schudson calls the monitorial citizen, as are newsroom fears about audience decline and fragmentation (Benkler 2006; Jenkins 2006a; b; Jenkins & Thorburn 2004; Levy 1997). The ramifications for democracy may not be clear, but the ways in which this affects reporting are beginning to amplify – where blogging not only responds immediately to published journalistic accounts, but records the incremental shifts in science-policy-media forms of life. The hybridity of concern, fact, and discourse form a kind of amorphous set of assemblages, modes of speech, and disciplining materials enrolling scientists, journalists, and advocates.

This chapter attempts to track the ways in which the science-policy-media form of life has been elaborated in the midst of these massive changes within media and its infrastructure as well as the challenge that other forms of ‘climate change life’ present to the information-driven ideal of citizenry inherent in conceptions of objectivity in journalism. It first will dial back to the

history and mechanics of telling climate change stories and adjudicating expertise. And, then will dig more deeply into the ways in which alarmism has emerged as a central concern, as questions have shifted from the fact of climate change to what should be done about it. Here, too the role of journalist as educator, informer, or advocate are up for debate as “new antagonisms open up between those who produce risk definitions and those who consume them” (Beck 1992, p. 46).

### ***The Reporters' Guide***

“Understanding climate presents an enormous intellectual challenge. It involves all of the ‘earth sciences’ – physical sciences, life sciences, and some would say even social sciences. It goes way beyond meteorology (the science of weather) and beyond the atmosphere itself. Climate results from the interaction of the sun’s radiation, the Earth’s orbital mechanics, the circulation and chemistry of the Earth’s atmosphere, the changing polar icecaps and glaciers, the deep ocean currents, the weathering and shifting of the Earth’s crust, and even the plants and animals that populate the Earth’s surface. And now, even humans.”

So reads the third paragraph of the first chapter of the third edition of *Reporting on climate change: understanding the science* by Bud Ward (2003).<sup>101</sup> It neatly illustrates the work required to knit together wide ranging and diverse scientific research in order to form predictions about and arguments for a changing climate. Ward prefaces the guide by saying that all of the data is drawn from the IPCC, and in somewhat cryptic terms also mentions that balance “among diametrically competing perspectives” does not necessary deliver a “higher standard of accuracy.”

The latter foreshadows Maxwell and Jules Boykoff’s article on “balance as bias,” which looked at major newspapers’ coverage of climate change and concluded that in an effort to observe professional norms of balancing divergent opinions, reporters had over-represented skepticism about climate change. The same year, 2004, Historian of Science Naomi Oreskes published her work on scientific consensus in *Science*. Oreskes found that of the over 900 peer-

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<sup>101</sup> The guide’s three editions were funded by a combination of Department of the Energy’s Office of Science and NOAA.

reviewed articles she found that dealt with climate change, none questioned the basic premise that climate change was occurring. Her later work with Eric Conway in *Merchants of Doubt* (2009) further points out that skeptics have benefited from a strategy titled “teach the controversy,” borrowed from evolution/creation debates where less widely-accepted and credible views are elevated to equal status under the rubric of teaching all points of view. In this way, doubt gets “produced” via the elevation of experts and the downplaying of widespread consensus. These strategies are particularly difficult to navigate for reporters who are assigned a climate change story without a grounding in its debates, and with an over-reliance on Internet search engines to find experts – as Bob Doppelt pointed out at the beginning of this chapter.

That climate change would require a 10-chapter guide by Ward in order to help reporters properly find their feet on the science, and that it was in its third edition already by 2003 speaks to the enormity and longevity of the issue. That further articles by the Boykoffs and Oreskes were required to clarify the position of scientists speaks to the controversy inherent to the way the issue has been reported. Rarely, or some would argue never, has an environmental issue enrolled so many disciplines and kinds of research – nor, has one been so overtly politicized either. Certainly, reporters have not been tasked before with a global science-based issue such that it can and often has subsumed all other environmental issues in its portend for a future laced with a wide spectrum of risks.

When Stephen Schneider spoke at the UO event that I describe at the start of this chapter, he explained the IPCC as an ultimate navigational tool. He said that it is because of the vast amount of evidence collected that the IPCC began its work as a “meta-research council,” whose primary task is to weight the literature in order of what evidence is most reliable. The IPCC has produced four assessment reports in 1990, 1995, 2001, and 2007. The complex flow-chart on the IPCC website, the sheer number of authors and others involved, as well as the long process of negotiations involved in issuing these reports speak to the difficulty of achieving agreement on what science matters, what that evidence is saying, and what reasonable predictions can be made in order to guide policy. “This is not a job for you and your neighbor,” Schneider advised. In other words, adjudicating research is a job requiring a high level of expertise, and yet, despite the presence and the strength of the IPCC’s declarations, particularly from 2001 onward, journalists

have been, and I would argue, are still continually asked to do exactly that. It's in this sense that journalists act as a social group vying for the trust of the public along the lines that evangelicals ascribe to "messengers" – those who can be trusted to evaluate the messages of science, scientists, and the discursive conclusions of science-policy-media.

Boyce Rensberger<sup>102</sup> was for many decades a science reporter with *The New York Times* and then the Washington Post,<sup>103</sup> two leading papers that still retain science reporters (Russell 2009b). Rensberger said that when he began reporting on global warming in the early 1990s, the science was a lot more controversial. The Montreal Protocol has just come out a few years previous in 1987 banning chlorofluorocarbons (CFCs), chemicals proven to contribute to the ozone hole. Rensberger had reported on the ozone hole, and asked atmospheric scientists working on the ozone whether they thought about the case for global warming. Despite Hansen's landmark testimonies in 1986 and 1987, Rensberger said the ozone scientists he spoke with "were fairly skeptical" about the work their colleagues "down the hall" were doing – the scientists said there were a lot of things they didn't know.

"At that time there was a lot of uncertainty and it was completely appropriate for stories to have input that expressed the range of scientific opinion. And so, I wrote a story – it was another one of these big package things -- that looked at the science behind it. It did not take any alarmist tone or anything like that. What's the evidence, where's the uncertainty, what's the strongest case you can make for it, what's the strongest case you can make against it."

Rensberger said he "got hammered" by "environmental activist groups" for this story – so much so that they called a congressional caucus meeting on global warming that was mostly attended by congressional staff in order specifically to discuss the article. The fear was that the issue wasn't "as cut and dried as they were led to believe," and they wanted to know what the truth was. It was a public meeting so he went and sat in the back of the room without anyone noticing.

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<sup>102</sup> When I spoke with him, he was nearing the end of a decade-long post as the head of the prestigious Knight Science Journalism Fellowship Program at MIT. I met with and interviewed him several times before and during fieldwork, prior to his retirement from the Knight Program in 2008. He later moderated a conference panel I organized at MIT, which I describe in more detail in the dissertation's conclusion.

<sup>103</sup> The Washington Post consolidated all of its science, environment, and health reporting under one editor in 2009, creating a new section that enrolls all three broad topics. It also signed a content-sharing agreement in 2008 with major online environmental source, Grist.org. (Russell 2009)

Well-known NASA climate scientist James Hansen<sup>104</sup> was among the speakers at the meeting, and according to Rensberger, Hansen got up and said, “well, the facts in the article are okay. It’s just the *tone*.” Rensberger said he was “puzzled” by this, and talked with a lot of other people including Bud Ward and Stephen Schneider. They pointed out that he was focusing on the uncertainties, which Rensberger said “is what a good science reporter does... we’re trying to get people some basis for judging whether a finding is – whether you should believe it wholeheartedly, or you should take it with a grain of salt or whether you should say – well, that’s interesting. Let’s wait and see how it turns out.” Rensberger cited Ward, Schneider and others as pointing out to him that “most environment stories had been written from a sort of whistleblower, alarm calling, watchdog point of view, which is the classic traditional stance of journalists in the US.” A stance that Rensberger was quick to point out is the reason “why journalism is protected under the constitution. It’s supposed to serve the public and be the eyes and ears of the public to report if something is going wrong in the government or anything else that affects us.” But, he said, in his stories, “rather than taking that alarmist tone, I just tried to do it straight down the middle.” He said that previous to this experience with global warming, he was even accused of calling the ozone hole a hoax because he said it was a solved problem and “not to worry.”

I took a look back at Rensberger’s articles for *The Post* during this period, and found a 5311 word story – so a big package, that was published on the eve of the 1992 Earth Summit in Rio de Janeiro. Rensberger cites the IPCC’s 1990 report – the first assessment report as evidence that scientists have not confidently concluded that the rate of warming will be dangerous, nor that it is human caused. He quotes the report as saying “It is not possible at this time to attribute all, or even a large part, of the observed global-mean warming to the enhanced greenhouse effect [the extra warming attributable to those human-produced gases] on the basis of the observational data currently available.” And he points out early on that: “Seldom, in fact, has an issue risen to the top of the international political agenda while the facts of the matter remained so uncertain.” He quotes Hansen’s 1988 testimony, noting that “the most visible

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<sup>104</sup> Hansen has recently chronicled his turn to activism in a 2010 essay in a forthcoming book “The Day After Tomorrow.” Andrew Revkin excerpted part of it in his 2010 blog post: “From Climate Science to Climate Activism — The Sequel” <http://dotearth.blogs.nytimes.com/2010/08/25/from-climate-science-to-climate-advocacy-the-sequel/>

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scientists have tended to be those who express alarm and call for immediate, massive action in the name of prudence.” S. Fred Singer, a now well-known skeptic was quoted as a severe critic of Hansen who agreed with the IPCC report, calling it “an excellent compilation... filled with appropriate cautions and qualifications.” With this as a precursor, Rensberger then launches into the vast body of the article establishing it as a guide and “‘toolkit’ for nonspecialists who believe the future of the planet should be taken seriously.” Rensberger then walks through many of the details including historical climate shifts, an estimation of emissions, the greenhouse effect, and computer modeling in depth, with a prominence (it ran on page A1) and detail I’ve rarely seen in a newspaper since I began closely looking at the issue in 2003.

In a history of climate change that includes some analysis and summaries of the media coverage particularly of this period, Historian Spencer Weart (2009) notes that most journalists, like Rensberger at that time, reported on “the issue as if it were a quarrel between two diametrically opposed groups of scientists” Weart argues that this in part because of efforts made by conservative think tanks, but he also notes that it was indeed “hard to recognize that there was in fact a consensus, shared by most experts – global warming was quite probable although not certain.” The latter is definitely where Rensberger said his motivation lay – in the actual lack of consensus on the issue. Weart concludes that “the media got that much right” when they “emphasized the lack of certainty.” Indeed, Weart points out that it was the need for a “better representation of what scientists did and did not understand” that spurred the IPCC to form and continue its work of negotiating and producing consensus statements and views. Yet, as the IPCC became more certain about anthropogenic causality and dangerous warming potential with their second report in 1995 and third in 2001, Weart says, media and the public generally paid little attention to the changes. At the same time, industry-funded think tanks and skeptics continued to grow in influence and profile (Hoggan & Littlemore 2009; Oreskes & Conway 2010). It’s out of this that the Boykoffs’ and Oreskes’ research emerged in 2004, and critiques by journalist Ross Gelbspan and Bill McKibben grew in prominence. Gelbspan went as far as to allege that his journalist colleagues had been duped by or sold out to fossil-fuel interests (2004).

## ***Frustration all around***

It's into this highly charged political atmosphere that the need for a guide like the one Ward wrote three editions of begins to make further sense. As Rensberger's story illustrates, reporters needed (and still need) to be able to navigate the scientific research, the institutions publicizing findings, as well as the industry, advocacy, and political interests in order to adequately cover the issue and its ongoing developments, as well as any fallout that might occur as a result of their reporting. Ward began in 2003 to go one step further than the guide when he began working with Anthony Socci, a scientist then with the US Global Change Research Program. Ward said Socci called him one day and asked for a couple copies of his book. Ward said he saw Socci's call as an "opportunity to seek him out and meet face-to-face," having already been familiar with his work. Ward asked if he could deliver the books personally and "bend his [Socci's] ear" for 30 minutes. "It was well worthwhile," Ward said, "it led to a partnership between the two of us."

Together Ward and Socci garnered EPA funding and then NSF funding, along with in-kind support from other government agencies like NOAA and NASA to put on regional workshops in order to educate reporters about the state of knowledge on regional and local impacts. These workshops eventually became a remarkable series of six 2-day scientist and journalist workshops managed by the Metcalf Institute for Marine and Environmental Reporting. They were held at universities in Rhode Island, San Diego, Seattle, New York, Berkley, and Washington DC between 2003 and 2007.

Ward said that with the workshops, they "made a conscious decision to basically fly below the radar stream... we didn't want to seek publicity." Metcalf posted the links to summaries from the workshops, which are in many ways riveting. They include some of the leading science journalists and scientists (a group that includes Revkin, Rensberger, and Schneider among others) debating with one another, airing their grievances about Science or Media writ large, and educating each other about their respective professions. In Ward's book based on the workshops, *Communicating on Climate Change: An Essential Resource for Journalists, Scientists, and Educators*, he says this was the express purpose – for scientists and

journalists to educate each other. But, he also goes further in the book saying from the start that “frustration was the impetus behind the workshops” (Ward 2008 p.1). Scientists were roundly frustrated that the media didn’t get it, and that public engagement suffered as a result. Journalists were similarly discouraged that they still had to convince their editors and the public, and battle the rapid pace of change that was transforming their newsrooms, downsizing staff, and putting more demands on their time.<sup>105</sup>

In my interview with Ward, he noted that he thought the workshops “help[ed] create community that certainly journalists knew scientists up-close and personal at a level that they didn’t before... They have a much better understanding of each others’ issues including like who writes a headline...” In his book, Ward said that scientists were generally surprised to learn that journalists did not write their own headlines – that editors did, and that journalists were quite often frustrated with this process and its outcome. He said it was a bonding moment as scientists also bemoaned the way their universities’ public relations staff also oversold and sometimes mischaracterized their research with press releases. This community and trust-building process is not an insignificant by-product.

In the edited book that acts a textbook for many environmental and science journalists, *Field Guide for Science Writers*, almost all of the contributors (including Revkin) note that building relationships with scientists is one of the most important things journalists can do to ensure the success of their stories. In journalism, it’s what’s often called “cultivating sources,” and it’s important not just for expert opinion and advice, but also for keeping up to date with a topic area and aware of new possible stories. Journalists routinely cover a wide variety of stories even when assigned to a specific “beat,” and relationships with scientists can provide early awareness of research and/or assistance with evaluating the state of ongoing research and its accomplishments or lack thereof. In short, having a scientists as a trusted source provides journalists with a guide to a research area they might otherwise not have time to gather enough tools, skills, or evidence to properly evaluate.

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<sup>105</sup> I heard many of these concerns at the Society for Environmental Journalists annual meeting at Stanford in the fall of 2007. They actually had a panel titled “Journalists and Scientists: Can this relationship be saved?” that had scientists who were part of the Aldo Leopold Program at Stanford, and leading science journalists on it. The Leopold Program is a program for early or mid-career scientists to teach them how to talk to and think about media.



In terms of the work of reporting, balance – quoting one side and then the other – was an issue that took center stage early on at the workshops. Scientists argued, Ward said, that peer-reviewed articles should not be equally weighted against opinion, policy debates, or political views. At the November 2003 workshop, Ward makes a point of citing Rensberger’s affirmation of the growing scientific consensus. Ward writes:

“While there may once have been a legitimate 50/50 split of viewpoints on some climate science questions, Rensberger argued, the preponderance of scientific evidence had since accumulated to a point where responsible reporters should give the scientific consensus on anthropogenic climate change much greater weight than dissenting claims challenging the mainstream scientific conclusions. The journalistic tenet of accuracy now demands that the established science be given total or near total prevalence in coverage of certain aspects of climate change science.”

By the time the workshops finished in 2007, this was the dominant view of most journalists I spoke with due in part to a host of likely factors including these workshops, the Boykoffs’ article, Gore’s film, and the fourth IPCC report released in 2007.

### ***Telling the Story: Long range predictions for hurricanes and the Arctic***

Even with consensus established, however, climate change presents a genuine challenge as a story. Many journalists, including those at the workshops, note that climate change is a story that “oozes” and doesn’t “break.” In other words, it doesn’t quite fit the mold of what is characterized as “news” primarily because it isn’t happening on a timescale or in ways that demand immediate attention. And, finding a picture that illustrates conclusive proof of the fact that climate change has begun is nearly impossible. Andrew Revkin, whom I’ll profile in the next section more closely, put it this way in a speech he gave in 2005 to the Dempsey Environmental Conference at Willamette University:

“I may well be the only reporter at *The Times* who thinks of a century-scale story, the saga of global warming, as breaking news. My impression is that some of my bosses still

don't get it, but they kind of let me keep at it, in the way that a family tolerates an eccentric uncle with odd habits.”

Certainly, climate change has dawned on most editors' radars as a story of import since 2005. Though, editors were a common complaint at the workshops Ward and Socci organized. Ward's later project after the six workshops was to hold a couple of workshops for news executives and editors (Russell 2008). Ward has since established an ongoing online forum for commentary with the Yale Forum on Climate Change and Media that provides a resource for media, as well as an ongoing evaluation of how its doing.

Time-scale, then is one issue, but climate change also defies the framework most have developed for thinking about weather as an empirical, felt experience. It relies on statistics, theory, a wide range of evidence and research, and global modeling to make a case for massive disruptive changes that will introduce a range of variabilities that may or may not begin happening immediately. With the exception of most glacial melt and sea level rise, it may be difficult to recognize them, in most cases, as conclusively connected to the notion of climate change. Yet, the norms of storytelling for news require that journalists find a way to make an esoteric, futuristic concept like climate change relevant, concrete, visible, and legible for the average reader/viewer/listener. Such journalistic dictates stem in part from the democratic ideal of an informed citizenry being given the opportunity through media coverage, as Revkin put it earlier, “to integrate” information into their lives. With media changes and its forms in flux, ever pressed for space and time for analysis, complex issues like climate change present some distinct challenges.

Hurricane Katrina provides a case in point. It was a larger, more catastrophic hurricane than had previously been witnessed in the Gulf of Mexico, cutting a wide swath of tragedy throughout the Gulf and destroying much of the city of New Orleans. Shortly before it hit, leading hurricane expert and MIT scientist Kerry Emanuel had published an article in *Nature* saying that it was likely, based on his modeling, that climate change would increase the intensity (not frequency) of hurricanes. In the days following Katrina, he said his phone rang continuously with journalists looking to make the connection between climate change and hurricanes. *Time* magazine's first cover in the aftermath read “Are we making hurricanes

worse?” Small print underneath the large type read “the impact of global warming” and “the cost of coastal development.” *Time* wasn’t alone; many news outlets ran with the story -- some even making a distinction between intensity and frequency. Al Gore’s film built heavily on the devastating images wrought by Katrina’s destruction. It would seem that Katrina was the first catastrophe that could be considered evidence of climate change, a portent of future risk, and a reason to act now. This was certainly evident in my research with Ceres, and in the use by insurance industry reports of weather-related destruction costs in the year 2005 – the year Katrina hit.

Neither Emanuel nor any of his scientific colleagues who work on climate change related science would say Katrina’s ferocity was a product of climate change. The Gulf waters were warmer which likely increased Katrina’s intensity. But, that wasn’t necessarily caused by climate change. Indeed, what Emanuel points to as a problem for all hurricane-prone areas is inappropriate coastal development. And, what later was revealed to be a primary issue in the destruction of New Orleans were the state of the levees (McQuaid & Schleifstein 2006). Yet, it’s still possible to point to Katrina as an example of what the globe could be in for in the years ahead as carbon warms the atmosphere and is absorbed by the ocean (Rahmstorf et al 2005).

In contrast to Hurricanes over the Atlantic, the Arctic provides the most immediate, reliable evidence of current climactic changes and their effects. Drastic images of melting the melting polar ice cap – “the north pole” make for dramatic evidence of climate change. The image of Greenland’s receding ice cover year over year shows a clear and present trend towards warming – it was a much circulated image from the 2001 IPCC report. As well, charismatic megafauna, like polar bears play a lead role in stories about the Arctic.

*Time* magazine’s iconic cover in 2006 was titled “Be Worried. Be Very Worried.” Classically written as a hook or peg that makes climate change present for the reader, the sub-headline underneath reads: “Climate change isn’t some vague future problem – it’s already damaging the planet at an alarming pace. Here’s how it affects you, your kids and their kids as well.” Beside it is a lone polar bear stranded on an ice flo in the middle of melting waters. Polar bears were placed on the endangered species list as a “threatened species” in 2008 as a result of

climate change predictions. Al Gore's film has a dramatic animation of a polar bear drowning because it has run out of energy trying to find another ice floe to rest on. Never mind that Inuit people, particularly in Canada were upset by the listing as polar bears are not yet endangered and form a basis for hunting and guiding businesses throughout their part of the Arctic (Palin 2008; Watt-Cloutier 2007).

High up on the American Arctic coast, the media descent into the small coastal town of Shishmaref, Alaska where buildings are literally falling into the sea was at some point seemingly *de rigueur* for most journalists covering the story. ICC's Patricia Cochran told me early in 2007 that the town had asked for a brief respite from the media inundation. Kivalina has since taken up the slack with its lawsuit against oil companies, and the two remain popular media destinations as does another Inuit center, Greenland. As I detail in chapter two, coverage of the initial announcement in 2005 and subsequent submission in 2006 by Sheila Watt-Cloutier and 62 Inuit of a human rights claim against the US also laid claim to some of the attention thrust on the Arctic as the "bellwether" or "front line" or "barometer" or "canary in the mine" of climate change, to borrow from a few of the overused popular metaphors. When I spoke to one seasoned reporter about the potential for the Inuit claim to garner attention for climate change, he harrumphed and said: "that'll last a day." Despite the newsworthiness of the claim, the Arctic, it's implied, suffers from some of the same 'here and now' relevancy issues that climate change does with the majority of Americans. This is a different kind of metonymy than was originally envisioned by those behind the claim -- who saw the claim as signaling the Arctic as a herald of what was to come globally.

Andrew Revkin has reported extensively on the Arctic for *The New York Times*, traveling there repeatedly with scientists to cover climate change research. He wrote a book about "the North Pole" for kids in 2006. And, he also broke the news of the Inuit claim in an article he wrote in 2005. In an interview he gave to Brooke Gladstone at NPR's *On the Media*, Revkin had this to say about the Arctic and corresponding sea level rise (Gladstone 2006).

"When you look ahead at the Arctic later this century, there's not a scientist around studying this stuff who doesn't see the prospect of basically a blue pole at the top of the world for the first time in human history, meaning summertime open water ocean, just

like the Atlantic or the Pacific, all the ice gone. But when you look at the near term, there's been a lot of melting, a lot of strange things going on with the sea ice that they can't ascribe this particular year to our influence on the climate system. They know it's contributing to change but there's enough variability in the Arctic that you can't make a slam dunk case. So that's a nightmare for the media. You know, my editors -- the one thing that makes them glaze over immediately is the word 'incremental'. That's like, at *The Times*, and I'm sure any other newsroom, that's a death sentence for a story."

In other words, Revkin sees it quite differently than those who wrote the headlines for *Time* magazine and tagged it to a polar bear on the precipice of drowning, or so it was supposed to seem. Moreover, incremental is what Revkin says is the primary concern, but variability could well be a bigger death knell for climate coverage.

In a session I sat in at a conference titled *The Impact of Diminishing Ice on Maritime and Naval Operations* in Washington DC, as well as at the Arctic Science Summit Week, I heard US Army Cold Regions Research and Engineering Laboratory (CRREL) scientist Jacqueline Richter-Menge speak about the state of Arctic sea ice cover. She and Jim Overland from NOAA's Pacific Marine Environmental Laboratory, lead authors of the 2006 *State of the Arctic* report and subsequent "report cards," showed the dramatic time-lapse animation of sea ice recession. Whenever I have seen such sea ice melt presentations, it is at that point where the evidence seems, even to my seasoned eye, overwhelming. Multi-year ice, the thickest ice cover has been melting at a previously unfathomable rate. The Arctic seas freeze up in the winter again, but that ice is not as strong or thick as multi-year ice, which has been frozen over periods of many years. Richter-Menge was careful to say that what she was presenting is what they are witnessing now. She said very clearly that they didn't know what the future held. She said it was possible that the sea ice could freeze up again and stay frozen for ten or fifteen years, and then melt off like this again. Speaking as she was to people focused on infrastructure in the Arctic, both industrial and military, this is not exactly the kind of stable news one might hope for if, for instance, one was looking to support a new shipping route through the Northwest Passage.

What's a reporter to do with a scenario like this? Change is definitely occurring, but what that looks and feels like for global and regional infrastructural needs, not to mention geo-

political games (of which there are many in the Arctic) remains indeterminate.<sup>106</sup> As Boyce Rensberger's experience shows, the question of alarmism has haunted climate reporting from its earliest days as a public issue. By alarmism, I mean to imply the degree to which journalists can point to changes and warn the public of certain, impending change, as well as, the problem of how to think through what climate change means both personally and collectively, and in policy and political arenas. While the early years questioned whether or not it was happening, the current questions revolve around how climate change will unfold and what to do about it.

Alarmism, as Ulrich Beck (1992) points out, is a frequent charge in a society fraught with risk and unintended consequences. And as journalists experiment with the right tone of articulating that risk, they are increasingly met by various kinds of what James Hoggan and Richard Littlemore (2009) term an "echo chamber." They use it specifically to reference the work that skeptics do to reinforce and produce doubt where skepticism is backed up through conferences, public talks, op-eds in regional and local papers, and other forms of presentation. I want to broaden its use here to talk about the way news stories ricochet throughout the blogosphere and other online media and social media (Twitter, Facebook, etc) such that journalists are pulled into dialogue about the way questions get framed and their adjudication of expertise. Where climate change had to run the gamut of balance and consensus in the past, increasingly what's considered "good reporting" must negotiate the terrain of alarmism and advocacy.

### ***Not the "shrill voices crying doom": blogging, alarmism, and the Middle***

No one reporter is more closely and consistently linked to the coverage of climate change during the past two decades than Andrew Revkin, who late in 2009, left his reporting job with *The New York Times*. While at *The Times*, Revkin reported on a prodigious number of stories related to climate change -- by his own count, hundreds. In talking with almost everyone I encountered during the course of my research, his reporting was considered a primary exemplar

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<sup>106</sup> The "geo-political" high stakes "game" that stands out the most was the when the Russians sent a submarine down to plant their flag on an undersea continental shelf, claiming their territory (and the oil and gas therein).

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in terms of its quality, reach, influence, and longevity. If there was a category for a widely acclaimed ‘expert’ on *climate change reporting*, Revkin would be at the top of the list. Not that he doesn’t have his detractors on both the left (progressive) and right (skeptic) ends of the spectrum – respectively, people who either think he isn’t ‘blowing the whistle’ hard and long enough to effect massive political and personal change, and those on the other end who think he has it all wrong and is part of a vast conspiracy to misinform and defraud the American public. But, then climate change reporting tends to be a lightning rod for all kinds of passionate response and criticism – such is the nature of the issue, and the difficulty of reporting on it.

Revkin began reporting early on climate change beginning around the time of James Hansen’s pivotal testimony to the US Senate in 1988. He explained to me that his initial coverage of climate was on a major issue previous to climate change: nuclear winter – the opposite of global warming trends related to climate change. Predictions of nuclear winter were later downgraded to merely being the potential for a “nuclear autumn” through research conducted in part by Stephen Schneider. Revkin said that it was through this story that he “became really interested in this idea that humans have become a global scale influence on planetary systems.” His first book on global warming came out in 1992 – long before the notions of “scientific consensus” took hold. In 2006, he wrote a book for kids on climate change titled *The North Pole was here* in part because his wife is a science teacher.

With polling numbers on the upswing and a crush of media attention pointed towards climate change in mid-2007, I asked Revkin where he thought the state of climate reporting was at that point. His reply lacked much of the optimism I heard from many at this point in time.

“The media went from the tendency of ignoring it all together through that stage of equivocation where they just use the old media template of the balance template, yes person and a no person. To now, it’s just - it’s almost over- simplified... because we know the basics, you know, more CO<sub>2</sub> equals warmer world that means we know everything with equal confidence. And if anyone who looks carefully at science knows that’s not the case. The things that matter most to society are the least certain. Whether it’s the pace of sea level rise or where regionally you’re going to have the worst outcomes or what’s going to happen with hurricanes.”

Even if one avoids the common pitfall of overemphasizing the views of skeptics, climate change requires an ongoing negotiation with a variety of expertise in order to adequately analyze and explicate the ramifications of scientific findings. Indeed, climate change reporting requires that reporters develop a familiarity with several different fields of climate science, differing climate models, and as of the last several years, different methods and schools of thought in the field of economics as well. Reporters should also be at least somewhat aware of the various kinds of multi-level, often global institutions and advocacy groups at work on climate issues in order to understand the behemoth of decades-long public debate within which their stories may well circulate. New media has added another dimension to this as well. There is a dedicated section of the ‘blogosphere’ that is alive and well to most climate stories and responds vociferously with occasional support, but more often, blistering critique.<sup>107</sup>

In 2007, Revkin began replying to and intervening in the blogosphere with his own now very popular blog called *Dot Earth* on the *New York Times* website. But, prior to that -- just as I began my research in 2007, Revkin published an article on January 1, 2007 in *The Times* that captures the next evolution of the difficulties and stakes of reporting on climate change. Headlined “A New Middle Stance Emerges in Debate over Climate,” the article reported on “some usually staid climate scientists in the usually invisible middle” who were speaking up “amid the shouting lately about whether global warming is a human-caused catastrophe or hoax.” In the aftermath of Hurricane Katrina and Al Gore’s film, Revkin makes the point that there were many who looked to capitalize on increased public and media attention to climate change as an issue of pressing concern, requiring immediate, even drastic actions to avert certain peril. Certainly, as my chapters on Ceres in particular illustrates, Katrina was a wake-up call to many corporations and the insurance industry in particular about the reality of physical risks inherent in climate change predictions. But, in this article, Revkin captures a kind of backlash to the forward momentum the Katrina + Gore equation seemed to be generating at that time.

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<sup>107</sup> I ended up on the receiving end of some of this when I gave a positive review for the new book, *Climate Cover-up* in *Nature*. Several emails were sent to me that either tried to instruct me that climate change was a hoax, or lambasted me for being caught up in it. As well, my name showed up in blog comments as someone whose “weasely words” were in keeping with others who unthinkingly supported the veracity of climate change.

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In trying to establish evidence of “the new middle” among climate scientists, Revkin quotes MIT Scientist Carl Wunsch as saying:

“Climate change presents a very real risk... It seems worth a very large premium to insure ourselves against the most catastrophic scenarios. Denying the risk seems utterly stupid. Claiming we can calculate the probabilities with any degree of skill seems equally stupid.”

The debate then is not over whether or not climate change is an issue or poses a problem with society, rather it’s about how to talk about it and build “public support.” It’s about the “appropriate response.” Revkin later quotes Mike Hulme from the UK as saying he found himself “increasingly chastised by climate change campaigners when my public statements and lectures on climate change have not satisfied their thirst for environmental drama.”

Hulme’s fear was that “the discourse on catastrophe is in danger of tipping society onto a negative, depressive and reactionary trajectory.” Hulme and Wunsch are operating in two very different national media environments. And, while it is easily argued that the internationalization of climate research and advocacy as well as the global 24/7 media marketplace have rapidly connected these environments, the political and polling responses to climate change couldn’t be more different in each context. The UK has managed to consistently rank higher in public opinion on climate change than the US, and has a government seeking to enact policy changes related to climate change unlike the then current Bush Administration and Republican-held Congress.

Despite these differences, Hulme, Wunsch, and several other US scientists including Roger Pielke, an active US political scientist on climate issues consider themselves apart from what Revkin characterizes as the “shrill voices crying doom [that] could paralyze instead of inspire.” Pielke’s term for this “middle” group is “nonskeptical heretics.” It’s a confusing term, and one that requires some grounding in the scientific and policy debates, as well as the debates over how to get climate change across to the general public. The nonskeptical half of the term refers to the fact that these scientists in “the middle” are not skeptical of the scientific facts related to climate change, but they are *heretical* because they are unwilling to go along with the

strong urges to advocate vigorously for immediate change in the face of the likely catastrophe predicted by various climate models.

The worry Revkin explains is that Gore's now very popular film both pushes the panic button and doesn't go far enough in proposing adequate responses. He paraphrases Jerry Mahlman, a climate scientist at NCAR in Boulder, Colorado as saying that climate change needs to be treated as "a risk to be reduced" rather than "a problem to be solved." In contrast, James Hansen and John Holdren, well-known climate scientists were quoted as those who "say there is no time for nuance," and that "moderation in a message is likely to be misread as satisfaction with the pace of change." That scientists would be discussing discursive strategies for engaging the public, and that it would be considered "news" reflect the tenor of this moment in public climate change discussions and news coverage. What's more is that the presentation of facts presents a view on the urgency of those facts as well – a point I'll return to in chapter 6.

The response in the blogosphere provides another facet that registers in part the hybridity of the digital-traditional discussion and coverage of this issue. Almost immediately after Revkin's article was published, Patrick Kennedy at *The Daily Kos*, Roger Pielke, and Carl Pope, founder of Sierra and *Huffington Post* blogger took up Revkin's article, generating discussion and responses online. Kennedy, while quick to defend the veracity of Gore's film with minor exceptions based on his own research of scientists' responses, thought Revkin did a good job of reporting on the "real debate."

"With the new Democratic congress and the cooperation of the mainstream media, the phony debate, with climate scientists on one side and the [Senator] Inhofes of the world on the other side, will, with luck, disappear in 2007. The real debate, not limited to climate scientists, is about what is the best way to engage the public and policy makers on the serious challenge we face from global warming and move forward."

Kennedy's reference to "the Inhofes of the world" is an allusion to skeptics like the Senator from Oklahoma who called climate change "the greatest hoax ever perpetrated on the American people."<sup>108</sup> Responses to Kennedy's blog post ranged from support for Revkin to disgust that he

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<sup>108</sup> Earlier in 2007, he had brought in, among others, medical doctor and novelist Michael Crichton, author of "State of Fear," for testimony before the Senate committee Inhofe chairs.

was attacking Al Gore and suggestions that *The New York Times* did not want to see anything done on climate change.

Carl Pope on the *Huffington Post* (HP) headlined his post “Why Media Doesn’t Get it?” He argues that, “The American media needs to cover global warming as the urgent real-action-required-now challenge that it is.” He lists a recent NBC story as well as Revkin’s story as evidence that the American media is not covering climate change as such. Though Pope calls Revkin “one of the best writers in the most respected paper,” he took issue with the fact that Revkin’s story reinforced “the misleading notion that there remains a serious scientific debate about whether or not we need to take action.” Again, that scientists would be debating action and response and not the veracity of findings and methods speaks volumes about the ways in which scientists have been drawn into a “debate” of some kind of things decidedly non-scientific and unrelated to their expertise. Pope’s fear was that if the media didn’t “get it,” then the public wouldn’t either, in enough time to make a difference. What lies perhaps at the root of such fears is what Beck characterizes as the need for ways to integrate a spectrum of information about risk into institutionalized mechanisms for communicating and addressing those risks. This spectrum of risk is an essential characteristic of climate change as an emergent form of life that, as Pope signals, exists on ethical terrain (Fischer 2003).

Revkin responded twice on an interim blog he kept at Amazon.com before launching *Dot Earth* on the New York Times website. He initially noted that the piece was “generating quite a few sparks,” citing Kennedy and Pielke’s blog. And, he said that one “veteran climate scientists” had sent out a mass email saying Revkin had “done a ‘great disservice’ by writing it [the article] and concluded ‘shame on you.’” His second post directly addressed Carl Pope, and copied the response he had posted on Pope’s blog. He said:

“While it may be old news to Carl and many Huffington readers that virtually all serious scientists agree that more CO<sub>2</sub> will make the world warmer (thanks in part, hopefully, to my 20 years of coverage ), this does not mean most Americans have absorbed this point yet. There are tens of millions of disengaged or doubtful or simply uninformed people out there, many of whom shy away from loud voices. For them, the public discourse is largely (and incorrectly) a big Fox-style debate. My goal was to point out that \*even\* the

normally-invisible middle in climate science sees human-forced warming as dangerous and requiring a prompt response.”

Revkin goes on to argue that those in “the middle” don’t want to sound “alarmist,” but are not skeptics in any way, nor do they offer “comfort” to those who downplay the role of humans or the lack of need for action. His main point is that “the middle” shouldn’t be left out of debates about “how best to limit climate risks in a human-warmed world.” This blog clarification notwithstanding, this isn’t necessarily the point I might have taken from the story, itself. The debate about alarmism and how to talk about climate change seemed much more central in the original story than discussions on whether or not said scientists are able to participate in actual discussions about limiting risks. But Revkin’s clarification is helpful in that it sets these “middle” scientists up as trying to set a different frame for discussion about how to limit risk. At the end of the blog post, Revkin points to his new energy challenge series as a continuation of the discussion about what to do about energy sources and climate change.

When I asked Revkin about this exchange with Pope and the story he wrote, I prefaced my question by saying that I too had heard critiques about alarmism in Gore’s film from scientists I had spoken with. I said that I had also heard several observe that skeptics were (now) saying that climate change may be happening, but not to the degree Gore dramatizes in the film. So, alarmism as a critique cuts both ways – it can be used to overhype or to deter from change. Revkin responded this way:

“The more one side tries to work hard to make - to motivate people around the idea that we face a climate crisis that requires urgent action, the more that it can almost empower those saying it’s all a hoax if it’s done in a way - if the crisis is defined by oversimplifying the phenomena. Because it - then it leaves - you open to criticism that you are not, you know, being careful with science. Instead of saying, yeah it’s a crisis but it’s on a century scale and the worst impacts are going to face generations yet unborn, which is most likely the reality and makes it much harder to sell, but at the same time, it is true to the facts. So - so there's kind of like this dynamic in this issue that sort of drives it to the edges because everyone hates the middle, which is where we know the most. And - but the middle is gray and in our current political dynamic, gray doesn’t really work.”

That there's something between crisis and dissent does not generally make news, and environmental policy too is often driven by major crises – Alar on apples, the Exxon-Valdez oil spill, the Cuyahoga River catching fire because it was so loaded with polluting toxins and chemicals, to name a few.<sup>109</sup> Climate change instead presents questions of ethics about how to deal with risk, and what kinds of institutions and assemblages should be created, mutated, and destroyed in order to address a future with risk (Fischer 2003; 2009). How much do we want to leave for future generations to deal with? How much do we want to hope that the risks inherent in predictions related to a warming climate aren't all that bad? If the media is meant to “speak truth to power” – where is the truth and power located in this equation?

Beck notes that risk society could also be considered the “science, media, and information society” where debates and struggles occur over how to define risk, and its degree, scale, and urgency. “The middle” that Revkin identifies is exactly this kind of problem, buffeted as it is by those on either side who make claims to what must or should not be done in order to prepare for the immediate or distant future of risk. And, as I also noted earlier, Michael Schudson (1998) has argued that the informed citizen that undergirds dominant democratic ideals is rapidly being reformed into a monitorial citizen with access to multiple and continuous streams of information. The journalist then is caught between demarcating the outlines of risk, multiple forms of life, as well as traditional notions and obligations associated with professional norms.

### ***Educating, informing, advocating, or running it through “the simple machine”***

When I went to speak with James McCarthy, a well-known scientist at Harvard who chaired the IPCC Working Group Two for the 2001 assessment report, he encouraged me to talk with Cornelia Dean, the former Science Editor for *The New York Times*, who is still a science

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<sup>109</sup> In my interview with Bud Ward, he indicated that these major environmental incidents were among the key reasons why the Society for Environmental Journalists was originally formed.

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writer for *The Times* and now teaches science students at Harvard about media.<sup>110</sup> McCarthy and Dean had offices across the hall from each other at Harvard at the time of my interviews with them. McCarthy said that Dean and he had many conversations/debates about the duty of journalists with regard to educating and informing the public. McCarthy, like many scientists I talked to, saw journalists as educators, but he said Dean drew a fine distinction between educating and informing the public.

When I asked Dean about this, she said: “I think the responsibility of the journalist is to give the news and what I’ve said is, if people end up learning something in the process, I do not object to that, but my job is to give the news...” She said people have to be able to discern right up front, in the first three paragraphs why a story is important. She said:

“It’s very easy in science journalism to lapse into writing what is going to sound like an encyclopedia entry. And it is my belief, untested, that people are not necessarily going to be engaged by encyclopedia entries the way they will be engaged by news. Now very often you’ll write a story about something and there will be little sidebar that says, you know the chemistry of the atmosphere, or ...the life cycle of the whatever, or a graphic that explains it. And so you’re educating people, but what we’re actually doing, I would say, is giving them the background they need to understand the news that we are telling them about”

It is not just a matter of getting information across then. The duty of journalism is caught up in the norms and expectations of journalistic storytelling and the conventions of what is perceived as news. And, *The Times*, more than almost any other newspaper has set the conventions and expectations of what to expect from science news coverage.

Dean told me that she sometimes worried about the influence of the Science section of *The Times*, and found it “a bit frightening.” She said that when she was the Science Editor she thought *The Times* “spoke with too loud of a voice on matters of science... because we had so little competition.” Dean explained that what they wrote had all kinds of “ramifications” and sometimes “would move the stock market.” She said she felt that burden “was imposed” by “the

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<sup>110</sup> Since I spoke with Dean, she has also published *Am I Making Myself Clear?: A Scientist's Guide to Talking to the Public* (2009).

failure of other news organizations to step up to the plate,” and she felt it was “a burden we [The New York Times Science section] should not be asked to carry.” With the further fragmentation of the market and the elimination of science sections and pages from many newspapers, Dean said she looked to the blogosphere to take its place with journalism performing a role of verification<sup>111</sup>. This is certainly what Revkin’s blog illustrates both in terms of its popularity as a science outlet, and in terms of its role as a verifier.

Dean said that science reporting is often hampered because they “have to assume much more ignorance” than other news beats. She used the example of DNA to illustrate the concept of a “headline word”. A headline word is when something ceases to need an explanation. 20 years ago, she said, DNA needed to be explained much like RNA would now, but somewhere along the way, it became a part of what was assumed knowledge – it became a headline word. She said a colleague at *The Times* uses a sports metaphor to explain what science reporters are up against: “it would be as if you were writing about sports and every time you wrote a baseball story you had to tell your readers what first base is.” So, education is part of a reporter’s task, but only insofar as it furthers the goal of explaining what is news about a particular area of research.

Sometimes this notion of education is connected to a supposed dearth of science literacy among the public. I have heard repeated calls to do better with American schooling in order to nip this problem at its inception, and get Americans properly engaged with science at a young age. Some journalists I spoke with say they aim for a grade 7, 9, or 12 level of science education – others, like Dean, say they are writing for a reasonable curious adult reader. Journalist and author Chris Mooney and social scientist Matthew Nisbet have made the point that scientists often think that educating the public (or journalists) means making them think or see what scientists do. Then, the public, it’s reasoned, might come to the same conclusions and controversies would evaporate (2007). But what this chapter illustrates is that even on a challenging subject like climate change, this is decidedly not the role journalists covering science see for themselves – as either parrots or cheerleaders.

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<sup>111</sup> Kovach and Rosenstiel come to the same conclusion in their seminal book (updated 2007). This book is used as a textbook by many journalism schools.

In contrast to Dorothy Nelkin's findings in the early 1990s, journalists who cover science regularly for leading publications are no longer likely to cover science with unbridled enthusiasm. Boyce Rensberger who began as science reporter in the 1960s said there's been an enormous change in the professionalization of science reporting, and with science itself.

"In the 60s, science reporters were largely people who saw themselves as translating what scientists do for the general public... They kind of took in the science in one ear or maybe in both ears and then processed it and typed it out in some simpler form. I had an editor once who talked about *running it through the simple machine*. So, from that it would come out in a form that - this was in Detroit where there is a big Polish population - so, it was Mrs. Poppazuski was the one who had to understand what we were writing about: a Polish immigrant who was more concerned with day-to-day survival than bigger issues. And so science reporters and medical reporters took press releases and announcements from scientists, looked at the journal sometimes and just wrote - took it all at face value. Today, that's very different. The journals are covered much more closely. Science reporters are much more knowledgeable about science. They are much more skeptical about it. They know that scientists make all kinds of claims. Some of which are responsible, but highly uncertain by definition. Cutting edge science is looking into things that we don't know much about therefore it's highly uncertain."

Certainly, American views of science coming out of the post-war period were focused on the progress technology offered, and there was an eagerness for news of "discoveries," or as Rensberger put it, "amazing breakthroughs." Breakthroughs are still sought after, and amply reported on - indeed, the hype is what is often required to fund research that is required to alleviate critical medical problems (Burri & Dumit 2007; Sunder-Rajan 2006). But, that trope has been affected by issues like the threat of "nuclear winter" that turned out to be more of an "autumn," and medical advice that turned out to be incorrect or damaging for the purpose it was intended as in the case of thalidomide, for example.

Climate skepticism builds on the erosion of the authority of science, which as I detailed in chapter three on Creation Care is definitely greater among some social groups than others owing to historical-social histories with scientists and scientific precepts like creation. But, for



those not suspect based on their religious beliefs, the problem is endemic to science itself. Part of the problem is that science as a process – often two steps forward, and one step back -- is not the usual purview. The public, and mainstream media still to a certain degree are looking for answers and definitive predictions – the “simple machine” Rensberger referred to is still alive and well outside the cadre of leading science reporters I interviewed for this dissertation.

Dean similarly acknowledged that, “science reporting is prone to cheerleading,” because of its history of covering heroic discoveries, vaccines that save lives, and machines that turn out to be incredibly useful. She said that hasn’t been the case with climate change where the news is often depressing (and others might add: alarming), but part and parcel of the science as discovery mode of thinking is an erasure of what Dean so articulately points out in Kuhnian fashion: “all science is provisional...it’s capable of being overturned.” She explained science as a process: “science looks in nature to answer questions about nature and test those answers with observation and experimentation.” Science as provisional means that there will be moments where science errs, and figuring out those moments is a challenge both for scientists and those who report on them. That science is a process dependent on errors and failures and not a search for solutions is still subterranean even in the formulation of it as provisional.

Rensberger pointed out two other major developments in the coverage of science – the splitting off of an environment beat, and “the rise of advocacy groups as much more potent players in the public education scene.” Advocacy groups are a major element to navigate for journalists reporting on climate change – a point evident in Carl Pope and others’ responses to Andrew Revkin’s stories. Not only do advocates often lobby reporters and inundate newsrooms with press releases, many also respond to stories either positively or negatively through blogs and other social media outlets like Twitter and Facebook. Rensberger pointed out that advocacy groups often present a “selected subset” of evidence where it supports their position on an issue, and Dean responded that she considers them a “news source,” meaning those she reports on. But increasingly, as Revkin’s *Dot Earth* blog shows, advocates form a part of a larger conversation with journalists. And, according to at least one advocate I’ve spoken to, Revkin actively encourages and seeks their comments by sending out emails when he has stories that he knows will touch on their areas of interest and activism.

If science journalism is prone to cheerleading, then environmental journalism has shown more of a predilection towards advocacy – as have some areas of environmental science like conservation biology (Takacs 1996). Rensberger pointed this out early on, as did a history of the Society for Environmental Journalists by John Palen (1998), one of its charter academic members who is also a former journalist. When SEJ was formed, it immediately had advocates wanting to join, but the founders were committed to a high level of independence. They formed a separate category called an “associate” member in order to include advocates, and those like co-founder Bud Ward, for example who moved back and forth between journalism, non-profits, and government agencies at one point in his career. In fact, Ward’s role was so key in SEJ that it was the National Safety Council, and NGO public service organization whom he worked for that provided the initial meeting place, and the amendment to membership categories to include associates or non-practicing journalists became known as the “Bud Ward amendment.” I maintain an academic membership in SEJ.

Advocacy is still a feature in environmental journalism, and there are a spectrum of beliefs on the issue. Ross Gelbspan has moved over, according to most opinion to being an advocate. Chris Mooney, author of *Storm World* and *The Republican War on Science*, told me that he sees part of his work as being education and another part advocacy in addition to journalism. But, it was Dean who articulated the position of those avowedly against any connection with advocacy. When she wrote *Against the Tide: The Battle for America’s Beaches* in 2001, she said she was very careful about being perceived as an advocate on the highly contentious issues she covers in this book. She said:

“I wanted to write a book that would present information that I thought people ought to know about when they consider what they should do on the coast. I have a personal opinion but... there are very few things that people have no opinions about, right? ...I wanted to make it impossible for people with another opinion to dismiss my book as the work of an advocate. ...You have to inoculate yourself against the possibility that someone is going to say there’s no reason to pay attention to that -- we’d know where she stand... I think the journalist in some ways has the same problem as the scientist, if you

become known as an advocate, people will tend to dismiss what you're saying as having been pre-cooked."

Dean, in a follow-up conversation by email, said that this did not mean she gave "equal weight to all sides." Her book sought to explain, she said, and came to be seen as an account of the "negative consequences" that have resulted from "many of our coastal development practices."

I'll return to the theme of advocacy on the next chapter on scientists. I raise it here because climate change reporting has often been accused of advocacy, particularly by those who have a vested interest in making sure it remains off the radar of the American public. Such assaults fly in the face of professional norms and the journalistic tenet of objectivity.

Stephen J.A. Ward, in his examination of objectivity and journalism explains it this way: "The precarious epistemic position of journalism in the public sphere makes it imperative that we conceive of truth-seeking in journalism as the diligent application of fallible methods over time." S.J.A. Ward quotes from the 1933 principles of *The Washington Post* as "telling the truth as nearly as the truth may be ascertained," or in an updated version by *Post* reporter Carl Bernstein, who describes reporting as attempting to get "the best obtainable version of the truth." Journalism's truth is both iterative and a courageous staking of claim in the face of mounting evidence and pressure. While at the same time, it is also a task of "dividing the world into news and non-news" thereby excluding some voices, context, or attendant facts for the sake of assembling a rational, objective narrative that may or may not evolve further.

What media is most often able to deliver then is a version (or versions) of the truth: a professionally coded point of view or an interpretation of 'what is really happening.' And while there is the arresting headline to create, there is a tacit acknowledgement of such interpretations building up over time and space. Yet, professionalism and the system by which news is produced have created enormous barriers for others to add to dominant interpretations and conclusions. This is in part what the confrontation with new, social, and multiple media entails – and what makes blogging and the echo chamber such a rich, multi-layered set of interventions. The increasing circulation of other narratives has laid bare the notion that facts get constructed, produced, and socialized. Still, the circulation of journalistic truths form parameters and

limitations as to what counts as truth, particularly for those detached from the events at hand – and even more so, I would argue when it comes to climate change and its reliance on navigating expertise.

In 2010, Revkin's *Dot Earth* Blog moved from the news section to the opinion section of *The New York Times* when he took a buy-out package in late 2009 and ceased to be a staff reporter. Some reports like that by Bud Ward, now the editor of the *Yale Forum on Climate Change and Media* pointed out that Revkin was exhausted by the pace of 24/7 reporting as well as several articles he'd written that caused major furors – one of which is the “the middle” story I earlier analyzed. Revkin remained relatively quiet about those factors on his blog. When it moved to the opinion section he said that such a move allows him “to say what I think in ways I could not when I was a Times reporter” (2010). Does this make him an advocate? Some of the comments to this blog post titled “Dot Earth 2.0” lamented the end of what they felt was a last bastion of real debate and discussion, where both (or many) sides of arguments were well represented. Revkin answered this by saying:

“Don't expect momentous changes. I'm not going to suddenly be revealed as an ardent liberal or conservative. I am an advocate, for sure — for reality.”

This is likely a statement many journalists committed to telling the story of climate change would agree with, and speaks to the ethical obligations inherent in reporting. Yet, what form of life composes which spectrum of reality – in other words, reality for whom, and by whom?

## **Conclusion**

When I left the SEJ conference, I rode Caltrain back to San Francisco and serendipitously shared a row of seats with a prominent scientist, who had attended the conference as a panelist on one of the climate change panels. I was still thinking about the local reporters I opened this chapter with so I asked him if he ever spoke to local media. He paused, and seemed kind of astonished at his own answer, which was no. We talked at some length about the way in which climate change had a hard time gaining traction and getting covered by local media. Science, in

general, is most often reported at the national level, and even then, national reporting too is caught in the midst of industry-wide flux.

Immediately following the period of my fieldwork, in 2009, the death of newspapers was feared to such a great degree that Senate committee hearings were held to discuss their demise. No such hearing was precipitated when science sections were cut out of newspapers. *The Boston Globe*, for example, decided to cancel its science section well before the hearings (Russell 2009a). Its reporters remained on staff. Despite the rising proliferation and complexity of science issues, *The New York Times*, *The Washington Post*, and wire services are among the few that maintain science reporting staff.

Andrew Revkin's career trajectory illustrates the ways in which notions of audience and journalism are changing. He is among an elite and small cadre of science journalists who have shaped the science-policy-media conversations about climate change – indeed, it is arguable that Revkin has established a standard for journalistic articulations of it. Yet, even before he left his full-time reporting role, he was already experimenting with the ways that blogging and social media opened up new avenues for interaction and experimentation. What blogging makes possible and evident is a tracking of the minute shifts and ways in which climate as a form of life is continually expanding and contracting. Blogging provides a way for direct public response to what journalists like Revkin are reporting on, and bloggers create audiences of their own that continue to debate and respond to what is being reported on and what blog commentaries are being offered on the reporting. As media technology expands with applications and platforms like Twitter, Facebook, and Tumbler (to name a few leading contenders in the social media landscape), these conversations and interactions will only expand, change, and transform existing media platforms (Domingo & Heinonen 2008; Hermida 2011; Jenkins 2006a; b; Jenkins & Thorburn 2004; Usher 2010).

Ulrich Beck's 1992 observations about the risk society are turning out to be extremely prescient when applied to climate change reporting – regarding their role as articulators, cries of alarmism (or indifference), and the increasing antagonism between producers and consumers of risk. The Late Stephen Schneider put it aptly when he told the reporters in Oregon “all good

science... gives you probability distributions” – in other words, a range of risks that produce a range of unevenly distributed effects and potential scenarios that benefit some and devastate others. Yet, scientific consensus as its reproduced in media often elides a wide spectrum of risks in favor of generating a unifying message so the public is not confused – this is what Revkin’s articulation of a “middle” pushes against. Charges of alarmism are levied by skeptics at anyone who acknowledges the ill effects of future with climate change, but it’s also applied to those unable to articulate adequately just what a spectrum of outcomes might entail.

Climate change reporting has begun to shift towards thinking through what to do about climate change. At the SEJ conference in 2008, one reporter claimed that all climate stories were by then already being funneled to policy and political reporters at their media outlet – in other words, that it had ceased to be a ‘science story.’ But, the definition of climate change as a form of life still remains in flux as science-policy-media definitions encounter resistance from other forms of life. And increasingly as blogs and other forms of media intervene to shift the reception of original reporting, this resistance is likely to produce more hybridity, expertise morphing, and debate for those with a stake in how risk is accounted for.

Finally, media change is not only altering how media is produced and consumed, but also the role of information in society. Whether and how the public comes to be engaged with climate change is determined not only by access to information about it, but by the form of life it assumes. Journalists are messengers whose ability to invest meaning, ethics, and morality are limited by professional norms of non-advocacy, near-objectivity, balance, and accuracy. Climate change sounds different coming from the pulpit, Inuit people discussing direct effects and experiences, or even Ceres representatives discussing climate risk than it does from journalists most often invested in a science-policy-media account. Accounting for this difference and the vernaculars therein provides a challenge for societal expectations of actively engaged citizens and the delineation of civic epistemologies.

## Chapter 6: Negotiating heterogeneity and the public sphere: risk, expertise, and near-advocacy

When Sir Nicholas Stern released *The Economics of Climate Change: The Stern Review* in November 2006, it unleashed a maelstrom of controversy in science, policy, and media circles. Commissioned by then UK Prime Minister Tony Blair, Stern's 700-page report focuses on whether it makes sense or not to pursue a mitigation strategy in the face of a range of scientific climate change predictions. It argues that "strong and early action far outweigh the economic costs of not acting," and that "climate change will affect the basic elements of life for people around the world... Hundreds of millions of people could suffer hunger, water shortages and coastal flooding as the world warms." Stern estimates that not acting to avert climate change could cost the equivalent of losing 5% global GDP annually – a figure that could rise to 20% "if a wide range of risks and impacts is taken into account." Reducing greenhouse gas emissions now, in contrast, could limit those costs to 1% annually.

By the time Stern's Review was released, the UK government had already chosen to pursue mitigation policies, and some critics saw Stern's work as rubber-stamping that choice. Debate flared too among scientists who saw Stern's report as favoring the higher end of IPCC-sanctioned predictions. The most reported debate, however, was among economists. The most contentious element was the discount rate, an economic term denoting how models comparatively value present and future costs and benefits. Citing ethical grounds, Stern used a near-zero rate to compare dollars spent now on emissions reductions with dollars in the future. Yale's William Nordhaus disagreed vehemently and very publicly with Stern – their debate at Yale in February 2007 was reported on by *The New York Times* as a "juicy" academic fight with public policy ramifications. Nordhaus argued that a 3% discount rate is more palatable – that "benefits accrued in 25 years' time are worth about half their current value." The idea behind

this valuation being that it's better to do less now since in the future, we'll all be richer and able to cope better with whatever warming brings.

On the first day of February, 2007, this is generally what I expected to hear when MIT held "a discussion of the Stern Report" in advance of the one *The Times* reported on at Yale. The MIT event didn't feature Stern in person, but it did include a long roster of well-known professors who work on climate science, economics, and policy: Paul Joskow, Ron Prinn, Harold Jacoby -- to name a few of the participants.<sup>112</sup> When I arrived, the room was already packed with faculty and students. I ended up sitting on the floor, on one of the steps leading from the lecture hall seats, which made taking notes a bit awkward, but I soon became grateful for a seat. Before the event even started, the steps around me also became crowded and the doorway area jammed with those not able to find a seat on the floor. A significant crowd, especially considering it was the week before MIT was formally back in session for the spring semester.

Joskow went first, and explained the report and the kinds of claims it was making. He asserted, using polling numbers as a reference that climate change is "an issue of education and ultimately of convincing the people." Prinn, an IPCC author, followed, saying that the Stern Review was an example of "how an economist interpreted the scientist." He acknowledged that Stern's group used the same approach the MIT Joint Program on the Science and Policy of Global Change does (which he co-directs with Jacoby, who's an economist) of "an integrated assessment with some attention to uncertainties." He then began a multi-point critique of how and where the Stern Review was flawed in terms of conceptual uses of data, overstatement of accuracy, an error in assessing hurricane damage, and its bias towards high-end impacts. John Reilly, also from the Joint Program followed Prinn and continued the critique, noting in particular that it ignores any of the benefits of climate change. Jacoby was next and took issue with the wide range between and 1 and 20% of GDP related to costs and impacts, citing

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<sup>112</sup> The full list as advertised: Moderated by Professor Robert M. Solow, Institute Professor and Professor of Economics Emeritus. Panelists include Professor Paul L. Joskow, MIT Department of Economics; Professor Stephen Ansolabehere, MIT Department of Political Science; Dr. A. Denny Ellerman, MIT Center for Energy and Environmental Policy Research; Professor Henry Jacoby, Sloan School of Management and MIT Joint Program on the Science and Policy of Global Change; Professor Ronald Prinn, Department of Earth, Atmospheric and Planetary Sciences and Center for Global Change Science; Dr. John Reilly, MIT Joint Program on the Science and Policy of Global Change; and Dr. John Parsons, MIT Center for Energy and Environmental Policy Research.



specifically the income elasticity of energy use. With each critique, there seemed a crescendo building. The next person, however, changed the tenor of the room completely.

John Parsons began by introducing himself as from the Technology and Policy Program at MIT. He said that *climate change is a “risk management problem,”* and he said that Stern was one of the first to come at it from a “risk perspective.” He put two slides together that showed the steep increase in global temperature with corresponding risk factors and a Stern image showing dollar values, and said – “the whole point of the report is to go from this (the temperature slide) to this (the dollar values). He said Stern had to make some “heroic assumptions” to make that leap: “If you take the average, you don’t get large consequences.” He said there are two basic processes for “how to intervene in public policy debates.” One one hand, scientists and economists can say what they know, inform discussion as far as “reliable science” allows, “unpack key points to be addressed” – hoping that “the public will debate all imponderables and value judgements.” On the other hand, Parsons said they can “produce a bottom line answer,” go all the way “no matter how reliable,”<sup>113</sup> “make best ethical judgements,” then “turn the crank and spit out cost and benefit numbers.” And, Parsons said, the latter is what the Stern Review did.

When he finished, Parsons received the only applause that afternoon. The other speakers who followed him offered an analysis of public polling, and a talk on how the Stern Review provides a framework for “understanding a global public good.” But, during the question and answer period, the discussion turned immediately back to the points Parsons had made. Joskow was first to speak. He agreed that research needs to be “packaged.” He told a story about the first time he had to testify at a senate hearing, and his mentor at MIT looked at his testimony and said he had to double the numbers by changing how he stated them. It wasn’t a matter of

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<sup>113</sup> By “reliable,” Parsons is referring to the issue of uncertainty. This is not a matter of what’s true or false, or of falsification – it’s a matter of what can be conceived of as a likely scenario. Most scientists work with a sliding scale of certainty. This became evident in the IPCC’s fourth assessment report where they began talking about likely and very likely scenarios. Similarly, the ACIA used such language. It doesn’t include “outliers,” which some scientists I talked to are also critical of – by outliers, that means change that is faster or slower than the expected range of rates. I’ve heard at least two talks about the possibility of “abrupt climate change” from paleoclimatologists based on their reading of evidence from the distant past, but they are not generally mentioned as within the usual range of potential scenarios. I quoted Stephen Schneider in the previous chapter as saying that scientists “worry endlessly about the tails” on probabilities, and this is another example of that problematic.

changing the result or the actual numbers per se, but of how they were *presented*, in order to both help others understand the ramifications of that particular research and to have an effect within policy discussions. Joskow said that was a major education for him about the policy arena. Others concurred with his experience, citing their own similar experiences.

### ***Insurance, risk, and the ricochet***

Engaging the public, explaining the science, transforming scientific data into economic ramifications – these are the difficult tasks that confront those wishing to see climate change addressed in the political and policy arenas. That science must be transformed to compete for attention – that it must, in a sense, be “sold” in a busy marketplace of competing interests, ideas, and priorities is something the Stern Review and responses to it, however inadvertently, illustrate. Science, as many in STS have pointed out, doesn’t speak for itself. Parsons explained action on climate change as an “*insurance policy*.” – a term I’ve similarly heard the Late Stephen Schneider use as a way to understand what the scientific findings *require* in terms of both speaking for them, and how they might economic and policy decisions. Schneider, in two instances I witnessed, asked the audience for a show of hands as to who had “fire insurance” – in answer to which almost everyone raised their hands. Then he asked how many people have ever had a fire to which one or two raised their hands. He then said this was an example of where proof and certainty that something will occur are not required in order to compel us to take action against it by purchasing insurance, and the same rationale should apply when considering policy responses and personal actions regarding climate change. Action should be taken in accordance with, and as a result of the very existence of risk.

Yet, such a formulation still leaves climate change open to debates about the degree, location, scale, and full extent to which insurance is required. If we follow the housing insurance metaphor, insurance requires more and more information – a detailed list of what we have and don’t have so that losses can be accounted for and remunerated. Expertise, then, is continually

required in order to evaluate how much, what kind, and on what scale “insurance” is required. “Insurance” also implies that risk can be controlled, managed, and accounted for.

As I pointed out in the previous chapter on journalists, Ulrich Beck sees debates about the extent and nature of risk as defining characteristics of a risk society. Beck also argues that the very nature of risks in a risk society are difficult to account for – that visions of manageability are a mirage in the face of uncertainties that go beyond the ability to know. Indeed, as I put it in chapter four on Ceres, that risk both heralds change and calls an assemblage of institutions into being in order to deal with it. And, in so much as debates generate assemblages, new modes of speech, and material forms of training and intervention, they constitute emergent forms of life (Fischer 2003; 2009; Wittgenstein 2001). Debates about the nature of climate change’s risk factor and insurance possibilities represent the continual reorientation that is the emergent science-policy-media form of climate change life.

Science in many ways is the foundation or epicenter for the pluralized forms of climate change life that I have discussed here (Lahsen 2005b; Miller & Edwards 2001; Oreskes Forthcoming). Evidence across a diversity of scientific practices has generated the initial thing called climate change. Yet, it has rapidly spun out from the vernacular in which it was birthed, into other vernaculars – the hybrid one I’ve termed science-media-policy, which has much in common with ricocheting akin a pinball machine has replaced *science* as the epicenter in which climate change as a risk requiring action is debated, reframed, sometimes combined with other forms of life that comprise climate change as a pluralized singular (i.e. marshaling evidence from Inuit or Ceres’ forms of climate change life), and “packaged” for diverse publics.

This accounts in many ways for the collapse of scientific and economic boundaries. The risks articulated through scientific methods and predictions cannot be understood or used by policy and media without ramifications, implications, and often, dollar signs being attached to their predictions and probability distributions. The Stern review, and the MIT vignette collapse economic and scientific expertise, eroding the differences in professional norms, rigor, types of evidence and modeling. Increasingly, however, this is the jumble of evidence, claims, and approaches that comprise climate change in the science-policy-media sense. Schneider in a 2007

lecture at MIT, speaking as he was to peers in the Joint Change program run by Prinn and Jacoby as earlier noted, praised them for their interdisciplinarity – meaning science (atmospheric, ocean, earth) and economic modeling along the lines of the Stern Review. Schneider said this was the future for climate change where scientific findings and economics must work together, but that it was a difficult partnership to do and do well. He cited MIT’s program as one of the few models he could point to where it was being done well.

Economic valuations attached to scientific predictions provide the kind of ultimate tools for making an issue relevant and actionable in the policy and media circuits of American assemblages and institutions. As Parsons pointed out, what the Stern review did was take a range of predictions and make them into “cost and benefit numbers” so that policies can be adopted with a full view of the range of consequences and risks inherent to such adoptions. But, can numbers account for risk? Do GDP percentages mean much outside of the science-policy-media circuits?

The answer, I have argued throughout this dissertation, depends on what form of life one subscribes to, who the messenger is, and what meanings and codes of morality and ethics are employed through such messengers and messages. Cost and benefit numbers, like science, don’t speak for themselves. The pluralized form of climate change life as I am configuring it is an unruly, emergent, morphological beast then, replete with incommensurable forms of life that compete, and in so doing, continually define and redefine the pluralized singular version. This is the rub for experts who seek to intervene based on their own predictions and those belonging to their community of practitioners in theory, empirical observation, or modeling. Even with economics providing the ultimate layer of applicable, actionable interpretation and translation for diverse publics, the science-policy-media forms of life are continually in motion and in competition. Each utterance is met with a pinball-like ricochet of responses from advocates, skeptics, and other experts – forming yet more layers of sedimentation in the debates about what to do, how to consider the problem (or whether it is one), and how to engage diverse publics (Fischer 2003; 2009; Haraway 1991; 1996; Jasanoff 2004; 2005; Latour 2004a; b; 2005).

Even while economic heralding tries to move the discussion along to addressing risk, it also points back to the nature of the problem and those who debate its existence can seize on this, demanding yet more information and confirmation that such a risk can be forecast. Economics as a layer meant to provide the ultimate in relevance does not provide meaning, morality, or ethics – rather, it hollows out or carves out a form of life that makes risk manageable, approachable, legible, even rational. Yet, such “packaging” is continually undone and redone – the illusion of legibility and rationalization masks climate change’s inherent variability. There are no “right answers” to the dilemma of either defining climate change or its attendant spectrum of risks, and yet the mirage of more information continues to present itself in the distance as if at some point knowing enough or knowing in the right way will ultimately guide society towards action. Doing something or nothing then has serious consequences and catapults risk and its streams of information and information practitioners into the realm of the political (Beck 1992).

In this chapter, I want to examine this process of how the epicenter of climate change *morphs and ricochets*, forming what I am calling vernaculars for and of science-policy-media forms of life. In particular, I want to focus on how scientists, heavily involved in this process, who have in practice, become spokespeople for the scientific and/or economic risk factors of climate change, think about advocacy, expertise, and media. Their experiences illustrate the ways in which science, policy, and media are not separate spheres, and bleed into one another creating a kind of reverberating assemblage that scientists are forced to navigate, and package in what I am terming *near-advocacy*. Advocacy is a transgression of professional norms for scientists and constitutes what Ludwig Fleck (1981) has called a “slogan word,” that has acquired a “magical power” as a call to battle either for or against its intended meaning and application. Near-advocacy, in contrast to advocacy, implies this other action of turning findings into numbers, of finding ways to make findings and predictions into interventions that might have some traction in the science-policy-media iterations of what climate change is and what should be done to avert its inherent risks.

I want to begin then with an instance of expertise in 2006 Senate Committee hearings in order to better situate how science expertise and its packaging is easily disrupted, re-oriented, and turned into mere ricochet. From here, I will examine the ways in which the IPCC acts as a

consensus building assemblage for expertise. Following this, I will examine ways in which near-advocacy and advocacy is theorized and understood by leading practitioners who regularly contribute expertise in the science-policy-media forms of life. The second half of the chapter will provide a closer investigation of relations between notions of risk, expertise, and near-advocacy as they've unfolded in hurricane research, training grounds for young scientists, and as they're instantiated in science-policy-media arenas.

### ***On a 'swift boat' to the Senate***

From 2003-2007, the Oklahoma Senator James Inhofe chaired the US Senate Committee on Environment and Public Works. During this time, Inhofe convened several hearings on climate change-related topics. Two of the more memorable ones were undertaken in 2005 and 2006. In 2005, Inhofe brought a hearing on the role of science in environmental policymaking. The committee invited Richard Benedict, a well-known scientist and science policy expert who worked extensively on the Montreal Protocol that addressed the ozone hole, William Gray, a noted hurricane scientist who also happens to be a climate change skeptic – along with several others, including Michael Crichton, an MD and novelist. Crichton's 2004 thriller, *State of Fear* features global warming as a background with ecoterrorists attempting mass murder – it includes footnotes, graphs, and bibliography, lending it a kind of scholarly feel. Crichton was brought in to evaluate the veracity of climate change, much to many climate scientists' and others' derision (Janofsky 2005; Schmidt & Mann 2005).

Inhofe's final hearing as chair was in 2006 – he remains the ranking minority member, but with the Senate becoming Democratic-controlled, California Democrat Barbara Boxer became the next (and current as of 2010) chair. The 2006 hearing was titled “Examining Climate Change and the Media,” and it featured a mix of four trained skeptics and non-skeptics – all of whom were trained in geology. On the side of those who supported widespread scientific consensus on climate change: paleo-climatologist and geologist Dan Schrag and historian of science and geologist Naomi Oreskes, both of whom I talked with about this project. The

hearing was meant to address what Inhofe considered to be the hysterical, alarmist media coverage of climate change. The hearing minutes run 85 pages long, including testimonies and discussion (2006a).

Inhofe began the hearing by accusing media of becoming an advocate, and abandoning “objectivity” and reporting on hard science, and presented a number of articles from various papers as evidence –including the one I examined by *The New York Times*’ Andrew Revkin in the previous chapter on “the middle”. Inhofe’s concern is that: “poorly conceived policy decisions may result from the media’s over-hyped reporting.” Inhofe’s statements were followed by other senators who disagree and agree (Barbara Boxer and Frank Lautenberg). After the Senators had a chance to begin, they brought four expert witnesses forward. The first was David Demming from the University of Oklahoma, a geologist and geophysicist. Demming is a known skeptic who works at two conservative think tanks. Dan Schrag was next. He departed from his written statement, going over his allotted time much to the obvious consternation of Inhofe who instructed him to wrap it up and “cut it short” throughout the rest of the hearing, even during the question period. Schrag started by saying that the media are covering this issue in a very political era, but he, as an earth scientist, sees things differently. He explained very clearly the problem with carbon dioxide and other greenhouse gas emissions, and expressed concern about computer modeling. He cast the problem of climate change as an “experiment on the planet” of which we don’t know the outcome and suggested that the insurance paradigm was the right one to use when thinking about climate change as a problem.

Schrag was followed by Robert M Carter, a marine geologist and noted skeptic from Australia. He denounced scientists like James Hansen who use such overly complex computer models that “ordinary scientists” like him can’t understand it. Carter was followed by Naomi Oreskes who explained her research on scientific consensus. Oreskes first walked through a brief summary of the scientific research (stretching back to John Tyndall in 1859) that led to scientific conclusions about climate change. Then, she recapped her well-known 2004 peer-reviewed article in *Science*, which she said she undertook to ascertain just how much disagreement there was about climate change in the scientific community.

During the question period, Inhofe praised Schrag for being a leading scientist and then derided him for his involvement with Al Gore, and his appearance with Gore at the Moveon.org event that launched the film, *The Day After Tomorrow*. He asked why Schrag was getting involved in “the politics.” Schrag responded by saying that he was there to point out the problems with the science in the film since it was so clearly “distorted.” Inhofe was surprised by Schrag’s answer and said so, noting that his staff neglected to inform him of Schrag’s position on the film. He asked Schrag what his criticism of the science in the movie is. Schrag proceeded into a brief synopsis of what’s wrong with the movie – the sheer lunacy of an abrupt shift in climate change occurring in a matter of days being his primary target, as well as the mischaracterization of the thermohaline circulation.

Later on, Inhofe moved back to question Schrag again, and said something about Schrag saying earlier that there was no science behind *Al Gore’s movie*. Schrag responded and corrected him, saying that the movie he said there was no science behind was actually the fictionalized *Day After Tomorrow*. Inhofe then proceeded down a long and winding path towards a question, along the way noting Richard Lindzen’s op-ed in the *Wall Street Journal* and the *Time Magazine* cover with the polar bear saying “Be worried. Be very worried,” as well as the predictions in 1975 of a Little Ice Age. He ended with a question about the Kyoto protocol. Schrag responded by saying:

“I am not a fan of Kyoto for a variety of other reasons that we don’t have to talk about, but Kyoto was viewed as a first step which would be followed by a series of additional steps that would ultimately reduce emissions by a substantial amount more. So showing that Kyoto by itself would only make a small difference is sort of irrelevant to the point because ultimately Kyoto was only viewed as a small step (p.42).”

After the hearings, Inhofe’s office released a press release claiming victory, namely that the hearings had “revealed that ‘Scare tactics should not drive public policy’.” Despite Oreskes’ testimony, Inhofe was quoted as saying that “the so-called ‘scientific consensus’ does not exist.” With regard to Schrag, Inhofe stated:

“I was particularly interested in testimony by Dr. Daniel Schrag of Harvard University, who believes that manmade emissions are driving global warming. Dr. Schrag said the



Kyoto Protocol is not the right approach to take and agreed it would have almost no impact on the climate even if all the nations fully complied.”

How Kyoto as “a first step” gets twisted to “not the right approach... [with] almost no impact on the climate” is rather difficult to ascertain, and it infuriated Schrag. He said that after the hearing, he was “really angry,” and called it a “total waste of time.”

Schrag is no stranger to the political sphere. Not only is he a professor at Harvard who runs a lab with varied research and the Center for the Environment, Schrag is a prodigy who published his first academic paper at the age of 15. He went on to study at Yale, and double majored in geology and political science. He said he became interested then in science and policy, and later, when he came to Harvard as faculty, ended up with an office down the hall from John Holdren. Holdren, at the time, was advising President Clinton on new research related to climate change and offered to pass on anything Schrag was doing. Schrag said he was excited about this “connection with the real world” and the return to his interest in science and policy. Unlike Holdren, Schrag has maintained a vigorous scientific research agenda, publishing 8-10 papers a year. But, he remains interested in the policy side of things. That is, until this hearing. When I interviewed him in 2007, he said that he had become incredibly frustrated with government during the past six months, and had begun working much more heavily with business.

But unlike a scientist without the means to talk back to the science-policy-media assemblage, Schrag took his anger and molded it into a searing op-ed for *The Boston Globe* titled “On a swift boat to a warmer world.” He said he came to the hearings as a “climate scientist” and an “optimist” – an optimist who believes that “we can fix the climate change problem.” He said he knew Inhofe was a skeptic, but he hoped to educate the other lawmakers. He then watched “in horror” as the two skeptic witnesses, associated with industry funded think-tanks, “spouted outrageous claims intended to deceive and distort.” It was unfortunate, he added, that “the format does not allow for direct debate.” He concluded that while some Senators like Boxer had tried to defend the scientific community, “no one stood up and called the hearing what it was: a gathering of liars and charlatans, sponsored by those industries who want to protect their profits.” The press release’s mischaracterization of his comments only added insult to injury.

And it was later, he added, that he found out that Inhofe's communications director, Mark Morano was behind the swift boat veterans' attack ads against John Kerry when he ran for President in 2004. Hence, the title he gave to his op-ed.

It is somewhat ironic that Schrag testified alongside Oreskes. Oreskes research on scientific consensus, in some sense, provided the impetus for that term to become so widespread. It has been critiqued by some non-skeptics who feel that science must retain its skepticism –its ability to question dominant paradigms. Still others have pointed out that there is still plenty of debate on the details, making the notion of consensus less unified than the term ordinarily would suggest. However, the utility of the term is clear in the phrasing Oreskes used at the hearing. “Scientists, my study showed, are still arguing about the details, but the overall picture is clear. There is a consensus among both the leaders of climate science and the rank and file of active climate researchers.” In other words, “scientific consensus” exists so that scientists don't have to undergo what Schrag did or what Schneider describes. It is a working term, a slogan word, in Fleck's terminology that exists to support the claims and presentations of scientific spokespeople. It exists so that expertise can be redirected from questions of veracity to those related to solutions and policy. Yet, these questions are a part of the whole –they are much more difficult to disentangle than merely setting a basic tenet of scientific fact straight might entail. In fact, for skeptics, consensus leads right back to the need for more information – to more fully elaborate the problem, the players, and the assemblages that make consensus possible and reliable. In terms set forth by Creation Care leaders, it raises the issue of the messenger, and the vernacular they use in order to garner and grant trust.

Consensus in some respects has had the opposite effect of clarifying the framework in which to understand climate change. Oreskes pointed out in the question period that she has been the subject of repeated attacks by skeptics for her 2004 paper.

“Since my paper was published in Science magazine in 2004, I have received hate e-mail. I have received threatening phone calls. I have been threatened with lawsuits by people who deny the scientific evidence of climate change. So there has been enormous pressure on academics not to speak up on this issue, and it is not just a matter of Government science. It goes across the board (p. 35).”

“Packaging” then, as the MIT forum described it, is not enough to intervene in the science-policy-media forms of life. Scientists who choose to become science experts like Schrag or Oreskes must advocate for their research, debate its veracity, and endure attacks. They must engage in forms of near-advocacy in order to articulate science as properly open on some counts and closed on others – demarcating what risks are known and which aren’t, for a heterogeneous public sphere where forms of life proliferate, compete, debate, and sometimes misconstrue events and claims in order to claim victory for one side or the other.

### ***IPCC: Doing harm to science?***

Midway through 2007, on the near-eve of the release of the Fourth Assessment Report, *Der Spiegel* published an article by Uwe Buse that looked at the way the IPCC was operating in the media (2007). Buse characterized the IPCC’s advocacy for its reports in media as “hysterical,” citing noted skeptic, former IPCC author, and MIT Professor Richard Lindzen’s description, and “emotionalized.” Emotionalized was the word IPCC’s head Rajendra Pachauri had used to describe Al Gore’s film, *An Inconvenient Truth* – so, Buse was in effect putting the IPCC in the same bin of actors as Al Gore, a politically-identifiable advocate.

Buse, while acknowledging Lindzen on his characterization of the IPCC, was not skeptical about climate change. Instead, he posed the question: “Is activism trumping science?” Buse felt that the IPCC, instead of acting like an expert advice-giving body like it was designed to be, had become more like a political pressure group aligned with like-minded politicians, pushing for changes in greenhouse gas emissions. He quotes Pachauri and well-known climate scientist Stefan Rahmstorf (a contributing author/blogger to Realclimate.org, an influential blog authored by a group of scientists, including Michael Mann) as saying they see climate change as an “existential issue” and they don’t want to be asked why they “didn’t do anything” about it by those dealing with the fallout from climate change a half-century or more from now. As a way to understand such scientists, Buse interviewed Peter Weingart, a sociologist of science from Universität Bielefeld in Germany. Buse paraphrases Weingart as saying: “Scientists usually

learn only to reflect on the results of their work, not on their role within the social decision-making process. As a result, they join forces with politicians who share their views. And in this way they do harm to science.” It’s unclear from this quote where and when Weingart’s views begin and end, and whether he agrees with Buse’s characterization of the IPCC as indeed being active and advocate over and above their role as objective scientists.

Scientists being unaware of “their role” in “the social decision-making process” goes against the idea of activism. For certainly, to be politically active on any scale, one must be keenly aware of one’s voice and the power inherent. Curiously, the position struck by the *Der Spiegel* reporter also removes agency – as if scientists should stay stuck as cogs in the ongoing big wheels of Mertonian norms, providing expertise without opinion, valuation, recommendation, and/or attention to impacts. Beginning with Ludwig Fleck (1935) and Thomas Kuhn (1962), the history of science and STS have continuously demonstrated how the social continually intervenes in the production of scientific knowledge, despite best efforts and/or pretensions otherwise. Scientists are constrained and act within institutional norms, to be sure, but they are in constant negotiation with them as well.

What presents an additional conundrum is the global nature of climate expertise and media coverage. *Der Spiegel*’s criticism of the IPCC and its concern that IPCC activism was “harming” science may or may not be related to the German context and expectations about how scientific expertise should behave (Jasanoff 2005). But, what happens when civic epistemologies gets translated and circulate their critique and evaluations of evidence much further? Similarly, the Stern Review was produced for the UK Government within the context of British public opinion and education, and as *The Economist* pointed out, the 1% GDP metric is routinely used to explain why action must be taken now. This metric was vociferously debated in the US exemplifying the multi-national nature of expert networks active on climate issues. Moreover, in Fleck’s terms, what is a “slogan word,” or even form of life in one country can be translated and redeployed differently in another country, creating new frictions and accessing different symbolic power and spokespeople. Yet, despite these global channels of media coverage and expert debate and/or collaboration, scientists still must contend with their national contexts in terms of the ramifications of their utterances, the esteem of their colleagues, and the

stability of their funding. *The inter- or multi-national rapidly becomes national and even local*, particularly when dealing with those opposed to action on and/or the veracity of climate change.

I had just read the *Der Spiegel* article when I went to interview James McCarthy at Harvard University. McCarthy is the Alexander Agassiz Professor of Biological Oceanography. He holds appointments in the Department of Organismic and Evolutionary Biology and the Department of Earth and Planetary Sciences at Harvard. McCarthy has also served in many high-ranking positions on national and international scientific committees – his involvement with climate goes back to the mid 1980s when he was chair of the International Geosphere-Biosphere Program that was part of the International Council of Scientific Unions. He has worked with the IPCC for the past two decades, according to his bio, but most prominently, I would say, as the chair of Working Group II for the 2001 Third Assessment Report. Working Group II assesses impacts and vulnerabilities related to climate change. He was also a lead author on the Arctic Climate Impact Assessment Report that followed the 2001 IPCC reports. When I spoke to him, he was the President-elect of the American Association for the Advancement of Science (AAAS), and still continuing an ongoing research program in his lab at Harvard.

Though McCarthy hadn't read the *Der Spiegel* article, I summarized it and asked him about where he saw the dividing line between science and politics, particularly in relation to the IPCC. He said that climate science necessarily attracts those who have a sense that their work is important to society, and those who want to be involved in sharing their research more broadly .

“Well, you know there are some scientists that just want nothing to do with anything like this: “Leave me alone, I just want to stay in my quiet laboratory. ” But I would say that’s a relative small fraction of people who are working on subjects in this area [i.e. climate]. Now that may sound like a hair-splitting distinction, but its my own personal view that people are working on subjects related to this area... because they know there is some importance to that knowledge that is quite different from studying... some highly specific phylogenetic analysis of an obscure group of spiders that lives only in Madagascar or whatever and spending your whole life on that, which people do... I think a conscious decision to work in an area like this [ie. climate]... is not independent from a sense that this is important knowledge for society... I personally believe that if our science is

supported by the federal government, ... that we have responsibility to share this information.”

McCarthy said he wrote something along these lines for his election to the AAAS. He sees the public appreciation of the importance of science as crucial to supporting the ongoing funding system. And, he says, while scientists should be doing what they love and enjoying it, the onus is on scientists to allow their research findings “to be used in addressing societal problem when society asks us to do so.”

He explained that with the IPCC, *governments nominate authors* for working groups. When he was chair of Working Group II, he said he had over 1100 CVs to sort through, and ended up with 80 or so whom he thought could make strong contributions. Those who were chosen made an “investment that would never reward the way a scientific paper or next proposal” would – they spent weekends, nights, and generally worked at a “grueling” pace. He said he felt that “what the IPCC does is advocate for the very best science that we put into the decision making policy arena.” The process then of producing consensus through the IPCC is one that is inherently political, based on government selection and nomination processes in addition to being about both the diligence of contributing authors and the scientist-policy-experts who choose from the government-limited pool (Lahsen 2010).

In terms of media, McCarthy said reporters sometimes get it wrong, and sometimes scientists get in a tough position when they go beyond the science either due to their own desire to have research become news, or as a result of wanting to answer reporters’ questions. His own position is: “if I don’t think a reporter is going to get something right, then hey, I will not want to interact with them.” Still, he said, he can’t think of a single instance where he thinks science has been “sullied” by any of this.

The *Der Spiegel* article and McCarthy’s response to it bring to the fore some of the key issues for scientists working on climate change related research. First, McCarthy claims that scientists drawn to work on climate issues are, for the most part, already keenly aware of their responsibilities towards society, and the import and funding of their research. Second, this raises questions about advocacy – about where scientists may choose to channel their energy, and

whether such work has an effect on their ability to dispense expertise as required and requested by society. And, last, it raises issues about media involvement and the responses both from the wider public and other scientists when their colleagues choose to advocate for anything -- even if what they're advocating is as McCarthy puts it "for the very best science" to make it to policymakers.

### ***When "the public stakes are high"***

John Holdren has been a prominent figure in science policy for several decades. When I spoke with him, he was a professor of Environmental Policy at Harvard's Kennedy School and the outgoing president of the AAAS, as well as the Director of the Woods Hole Research Center. He agreed to answer some of my questions by email as he was traveling at the time of my request in mid 2008. Several months after we exchanged emails, he accepted the position of Science Advisor to President Obama. His appointment to Obama's administration was roundly seen as a victory for those advocating action on climate change. Not only has he been outspoken on the issue, his work at the AAAS had included crafting a statement on climate change. Many conservative critics were unhappy because of what they saw as his alarmism, but more specifically, much of their criticism was focused on earlier work he had done with Paul Ehrlich, including co-authoring a 1977 book suggesting highly controversial policies (abortion, sterilization) to deal with overpopulation issues (Eilperin & Achenbach 2008). In between population and climate change, Holdren was also heavily involved in nuclear issues, and when the Nobel Peace Prize was awarded to the Pugwash Conferences on Science and World Affairs in 1995, Holdren gave the lecture. It was titled "Arms Limitation and Peace Building in the Post-Cold-War World."

Holdren became an engineer (Aeronautics and Astronautics) at MIT, and later did his PhD in theoretical plasma physics at Stanford. He has taught and practiced in both areas. I asked him whether he saw himself as a scientist, policy advisor, advocate, or some combination thereof. He noted his training, and then wrote:

“a major pre-occupation of mine since my graduate-student days has been trying to understand the implications of what we know about science and technology (in general and in specific domains) for crafting solutions to major societal problems that sit at the intersection of S&T [science and technology] with the human condition, notably energy, environment, development, population, and nuclear weapons.”

He said it was essential that those with a deep understanding of “S&T” participate because if they are “disqualified” from participating in “crafting and promoting sensible policies on the problems that cannot be understood, never mind solved, without a deep understanding of the relevant S&T, we are heading for even deeper trouble than we're already in.” He traced his own involvement with the climate issue back to a book he co-wrote (with a journalist) on energy in 1971 where he said the “impacts on climate were likely to be the ultimate constraint on energy use.” Not incidentally, that book, *Energy: A Crisis in Power* was published by the Sierra Club, and has been referred to as a work about the concept of “peak oil” (Bailey 2009; Holdren & Herrera 1971).<sup>114</sup> Such conclusions would be seen as a work of advocacy by some, and certainly, by most, as taking a position on what scientific research means for society and what steps society should take to address this.

Holdren agreed with McCarthy that climate change, as well as other issues Holdren has worked on like nuclear energy and nuclear weapons, attract “those interested in the S&T/society interface and interested in the communication and public-education challenges that go with that interface.” But he went further, saying there were two sub-groups of scientists guided by “different philosophical/ideological/political orientations” – those who see the technologies as posing “big risks” that need to be “properly guided and regulated,” and those who felt the bigger danger was “losing the potential benefits” through too much regulation and guidance. He said that many of the *same* people who work on climate change had also gotten involved with nuclear weapons and nuclear energy. On all three issues, he said, “the public stakes are high,” and the complexity and interdisciplinarity of the science and technology involved require most laypeople to have to “‘trust the experts’ on the S&T dimensions.” As well, the point about there being two sub-groups is not inconsequential – on all three issues, he said, “ideology and political agendas strongly affect many people's inclinations about what should be done (generating many

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<sup>114</sup> Explain peak oil here



complications around the intrusion of ideology and political agendas into the interpretation, communication, and public understanding of the relevant S&T).”

Holdren firmly comes down on the side of action, regulation, and “guidance” even if that means forced sterilization to deal with overpopulation -- a recommendation that he made in the 1970s, but for which I could not find any evidence of a retraction. It’s crucial to point out then that Holdren doesn’t set one side up as true and factual, and the other as false and ideological. Rather, he concludes that “ideology and political agendas” have an affect, “generating many complications” about how facts get communicated to the public – paving the way, possibly, for such a distinction in hindsight, or at least leaving it open for interpretation. As the opening responses at MIT to the Stern review and the article on IPCC activism similarly point out, there are significant issues with how expert opinion and scientific evidence, conclusions and predictions are presented to the public. This poses a set of questions, following Michel Foucault’s ideas about power and knowledge: What position must a scientist occupy in order to speak and be heard? How are regimes of power and truth reinforced by discursive strategies? What kind of multi-vocality is possible?

STS Scholar Sheila Jasanoff has pointed out that such expertise corresponds to institutional imperatives specific to nation-state contexts and their inherent civic epistemologies (“the criteria by which members of that society systematically evaluate the validity of public knowledge”)(Jasanoff 2003; 2005). In this case, those interested in climate have, to varying degrees, come of age in a context informed by scientists active on public policy issues. And, in McCarthy and Holdren’s case, they also feel compelled to do so out of an ethical obligation to either address difficult societal problems and/or because their special knowledge allows them both the purchase and obligation to help find solutions. Holdren cited a long line of connectedness between those active on nuclear and climate issues, and McCarthy as well as others I interviewed cited groups like the Union of Concerned Scientists as exemplary forbears and contemporaries. The importance both agreed was that all activism and/or advocacy stay “consistent” with the “relevant science.”

Science-policy-media arenas, which create a kind of assemblage owing to the

reverberations that are felt within and between these spheres, commonly denoted as separate. Expertise is a key bridge between where scientists act as translators, encountering and generating friction. These scientists may advocate for a particular position or set of actions related to what their scientific research has revealed, but this is not advocacy in the strictest or most colloquial sense, and it exists on a wide spectrum of actions. Instead, I'm terming it "near-advocacy" to illustrate the ways in which labeling it as advocacy elides the slippery tasks undertaken of being expert, citizen, *and* scientist, and making science relevant in the policy and media arenas.

Part of what has forced this *near-advocacy* is the fact that climate change is seen by many as a partisan issue – globally this is true, but most particularly in the US where legislation and policy has yet to reflect scientific consensus on the issue. The hearings conducted by Inhofe are one example of this. This partisan divide informs how and what expertise is sought. Journalists have usually, in recent times, made a strong distinction between scientists based on their independence from advocacy and government entities, but they are increasingly extending strong distinctions to this other element of near-advocacy as well. To put it bluntly, whether or not a scientist is labeled as a skeptic or not matters, but these slogan words (Fleck 1981) do not tell us upon what grounds experts have reached their conclusions. Still, this sits uncomfortably with the ideal that academic scientists should be seen as arbiters who should, like the *Der Spiegel* article implies, conform to standards of unbiased objectivity and expert, *politically uninvolved* advice.

### ***Hurricanes and climate change***

MIT atmospheric scientist Kerry Emanuel subscribes much more closely to the ideal of objective, politically uninvolved advice, and yet, his elevation by media and advocacy groups has made that somewhat more complicated. Emanuel became extremely well known by media and the public as a result of a *Nature* paper published shortly before Hurricane Katrina. It became the basis for many news stories that cited the increase in intensity (which was a correct characterization) and frequency (which was incorrect at that time) of hurricanes in a warmer

world. Emanuel was later lauded as one of the 100 most influential people in 2006 by *Time Magazine*.

In speaking with Emanuel through 2007 and 2008, one gets the sense that while he doesn't seek public attention for his research, he's certainly not averse to public engagement either. Perhaps, this is the lot for scientists who work on hurricanes. During my first interview with him, his audible answering machine picked up several times, and had reporters leaving messages, wanting to know his response to this season's hurricane predictions put out by William Gray. Emanuel also wrote *Divine Wind* in 2005, a beautifully-illustrated coffee-table sized book that explains the history and science of hurricanes for general audiences. Yet, he draws the line when it comes to advocating based on his research findings. When I asked him about scientists and advocacy, he said that he considered science to be "anti-advocacy," and that it should be available to any group that wants conclusions obtained through science. He said:

"I think the best thing that we [scientists] can do is inform, that's where we're powerful... The problem comes when we ourselves become advocates and that -- gets to be dubious because it compromises both impartiality, and just as importantly, the perception of it... *[It] makes us close our eyes to new evidence* that might come along that goes the other direction so we have to be very, very careful to suppress the desire to become advocates, I think. I don't like the notion of a scientist advocate. I don't like it. ...I might say I'm very concerned about global warming and I think we should do something about it but when it comes to advocating a particular plan, if I'm not the kind of scientist who studies policy and its effects on society, I would be stepping outside my expertise. And I don't think that's wise."

Emanuel then is on the other end of the spectrum from Holdren, certainly. Where Holdren seems himself as a vital contributor to policy, Emanuel is more likely to leave policy making to others who might rely on his advice and research findings. Yet, as I have considered Emanuel's involvement in public spheres, it is difficult to establish where and what is termed advocacy – hence, the term near-advocacy. The next few paragraphs will establish what I am saying.

Emanuel underwent the first test he outlines – of having his eyes opened to new evidence (see italicized quote above), shortly after I talked with him. In April 2008, he published a new

article in the *Bulletin of the American Meteorological Society* based on new modeling techniques that threw into question what the link between climate change and hurricanes might be (Berger 2008; Emanuel et al 2008). He summed it up this way to Andrew Revkin of *The New York Times*:

“The models are telling us something quite different from what nature seems to be telling us. There are various interpretations possible, e.g. a) The big increase in hurricane power over the past 30 years or so may not have much to do with global warming, or b) The models are simply not faithfully reproducing what nature is doing. Hard to know which to believe yet” (Revkin 2008a).

This kind of uncertainty should make it difficult to use hurricanes as an icon for climate change, and yet, Al Gore, journalists, and environmental organizations have done exactly that. The poster for “An Inconvenient Truth” shows the eye of a hurricane bleeding into smokestacks emitting smoke – clearly making the connection visually between the emission of greenhouse gases and hurricanes.

It was Hurricane Katrina that allowed many to point to climate change as a real and present danger, capable of inflicting massive loss of life and infrastructure – thanks in large part to Emanuel’s paper. Investigative reporting and analysis later revealed that the state of the levees were a major cause of much of the damage. Emanuel responded this way when I asked him about the weight assigned to Katrina.

“We've been worried about New Orleans for decades. Katrina wasn't that extraordinary as a hurricane, as a meteorological event. It was extraordinary as a social phenomenon. You can't pin Katrina on global warming because as I said its likelihood might be a bit higher because of global warming... and people jumped on that as... proof. That... is not correct and yet, at the same time, it has to be confessed they're taking the global problem more seriously now so they arrived at kind of the right answer through the wrong line of reasoning (laughter) and nobody tried to make them do it that way. I mean, nobody in my community claimed -- I don't think -- that Katrina was a signature of global warming. The press did sometimes or they interpreted my work. ...[It's] a quirk of timing with that *Nature* paper coming out the same month that Katrina happened... it's peculiar the way things work.”

Trying to situate one's research amongst the vast messaging in the science-policy-media forms of life is, as Emanuel signals here, a near impossible task. Framing, as I argued in chapter three regarding Creation Care and at the beginning of this chapter, when attempted proactively not only instrumentalizes the concept of cognitive models (Goffman 1974), but it ignores the way messages, frames, claims, and forms of life are continually morphing, ricocheting, and in motion.

While the 'social phenomenon' of Katrina may have happened on Emanuel, he has not shied away from engaging with media and public debate, nor clearly, is he averse to some kind of address of climate change. That's not to say he isn't annoyed by how he is sometimes covered. The day I interviewed him, I asked him about a recent quote in *The New York Times* that had him criticizing Al Gore. The reporter had left off a key phrase that torqued Emanuel's quote from: "I thought he [Al Gore in his film] overstated the role of carbon dioxide in the glacier cycles" to "Gore overstated carbon dioxide" – a significant change. Emanuel told me: "That's an important distinction to make. I don't think he's overstating it for the future; he overstated its role in those particular variations." He said this kind of de- or re-contextualizing of his quotes happens all the time. Emanuel still responds regularly to media requests, but he also penned a long essay in the *Boston Review* in 2008, that clarified his own stance, his thoughts on the IPCC, and media coverage of climate change. It was later turned into a book.

The *Boston Review* essay makes it clear that Emanuel holds opinions about what's been going on with climate change both inside and outside of science. He applauds the work of the IPCC in its assessment of scientific evidence and explains its work and role extremely clearly for a lay public. The essay stops short of suggesting specific policy solutions – it's titled "What We Know about Global Warming," but it does end by delineating the partisan atmosphere in the US, theorizing why it might be difficult to achieve actions related to climate change.

When I spoke to him, our conversation was much more wide ranging, he talked about the situation at National Oceanic and Atmospheric Administration (NOAA) and with the Hurricane Center. He felt that the Hurricane Center had been turned into a political tool, and that the NOAA directives restricting their scientists' ability to speak to media were draconian. Chris

Mooney, in his book, *Storm World* (2007) profiles Emanuel as well as other hurricane scientists, bringing into sharp relief the differences between empiricists like William Gray, and modelers like Kerry Emanuel. Mooney opens the book by describing a scene at the American Geophysical Union (AGU) where Emanuel interrupts his talk to castigate NOAA for restricting its scientists from speaking to the media, and receives a spontaneous applause from the audience – an audience, it’s worth noting, of scientists, primarily.

In addition to his views on NOAA, Emanuel holds extremely strong views on coastal development. He advises insurance companies, sits on boards, and is well versed on the way the insurance industry works. He’s disgusted by the way Massachusetts has handled insuring property along the coast, and said that insurance rates include a subsidy for those generally very wealthy people who choose to live on the coast. Insurance companies have roundly pulled out of the coastal market, refusing to insure for clearly obvious reasons to someone who studies hurricanes. Massachusetts was forced to step in to the gap, and now provides most of the coastal insurance in the state – at an affordable price thanks to subsidies from other regions of the state. He was dismayed that journalists hadn’t picked up on this story – one that had far reaching effects in terms of policy and potential losses.

I began asking about this because I was intrigued when he, along with 9 other leading hurricane scientists released a statement on July 25<sup>th</sup> 2006. It begins:

“As the Atlantic hurricane season gets underway, the possible influence of climate change on hurricane activity is receiving renewed attention. While the debate on this issue is of considerable scientific and societal interest and concern, it should in no event detract from the main hurricane problem facing the United States: the ever-growing concentration of population and wealth in vulnerable coastal regions.”

The statement ends by calling for government and industry to “undertake a comprehensive evaluation of building practices, and insurance, land use, and disaster relief policies that currently serve to promote an ever-increasing vulnerability to hurricanes.” Again, it stops short of calling for specific actions or policies, but it does use science and their positions as leading scientists to call for change. Emanuel said there was no response to the statement.

Is such a statement advocacy or near-advocacy? Is it something akin to what the *Der Spiegel* article accuses the IPCC of doing, or has the IPCC somehow gone further? Is the IPCC advocacy work different because of the many environmental organizations that support the cause they're associated with, and the many that don't? To put it in climate change terms, there aren't any analogues to Al Gore, Greenpeace, Sierra, or WWF looking to rein in and reassess coastal development, nor are there any Cato Institutes or Competitive Enterprise Institutes that are for unchecked coastal development. The lack of response either from policy or advocacy groups makes it difficult too then for reporters to cover such a statement in any ongoing way. The blogosphere may yet prove an alternative to mainstream reporting. As I pointed out in the previous chapter, it provides a nimble record and avenue of response for tracking, charting, and intervening in and connecting to many forms of life, including and most prominently the science-policy-media one.

### ***The problem with "advocacy"***

Given his deep research into this area, I asked Chris Mooney what he thought about the statement, Emanuel's involvement with insurance companies, and about advocacy in general. He said he felt that the scientists who made the statement "didn't have a choice" – they couldn't pass that task off to anyone else because "they were the newsmakers." He saw the experience that Emanuel (and others who were part of *Storm World*) has undergone as "transformative," and as an "uncomfortable shift" into the role of newsmaker. He said he wasn't surprised by the ties to insurance companies, and he saw this as another important role for scientists because of their access to "important" information.

"I want our scientists to be providing that kind of information... I don't want them to, in some way, have their work skewed by commercial ties, but I don't have any reason to think that's true. ...this information is too important. I wouldn't expect them to remain completely unattached from the people who want to use it."

With regard to the IPCC, Mooney was similarly cagey about calling them “advocates.” Instead he pointed to the long tradition, like Holdren did, of scientists getting involved on issues – “of taking advocacy positions.”

“Do you know how many issues Albert Einstein was an advocate on? I mean there’s a very long tradition of the scientific community engaging in advocacy positions on arms control, for example. ...that in some ways was more political than just saying we’ve got to raise attention about the fact that the planet is changing ... None of them are saying what the policy answer is. ...It’s a tricky interface but I would be unhappy if scientist never said anything...I think it would be inconsistent with the tradition of what scientist have always done... A lot of the greats in science have had their moments by taking a stand, they have taken some wrong ones too.”

In the end then, Mooney, who also wrote *The Republican War on Science* and is well-versed in the mash-up of politics, science, and media ended up taking a similar position to Emanuel regarding advocacy. Namely, that scientists are free to offer their research as expert advice, but should stop short of policy recommendations. Yet, the line is much more grey than such a statement might at first appear. Providing scientific findings and “taking an advocacy position” that encourages action based on those findings is something that scientists have often done on key, contentious societal issues. Indeed, important information may even require scientist to form ties with those using it both inside and outside government. Still, the tag “advocacy” seems to signal something completely different than this process, and may even, reinforcing Fleck’s concept of slogan words, be “degrading.”

Cornelia Dean put it rather differently, and perhaps closer to McCarthy’s formulation than Holdren’s. She considers scientists’ contributions to public debate to be part of their obligation as citizens, but she also points out that scientists aren’t necessarily rewarded for it.

“There still are too many scientists who think that their job is to make findings, and report them in the scholarly literature, and that if they have done that, they have satisfied the obligations of citizenship. And I think they have an obligation of citizenship to participate in the discourse of the nation. And because their voices are, on the whole, missing, the quality of our public discourse is debased, especially nowadays when so many issues have



ascience component. But, you know, science as an institution does not reward this kind of behavior. Not only does it not reward, it can punish it. So that I think has to change.”

Dean teaches a seminar class at Harvard for scientists about the media, and after our interview wrote a book about this subject as well. This thinking is part of her curriculum, and she further articulated this conundrum of how far and how much a scientist thinks they can say.

“What you will hear a lot of scientist say is that its not our job to make policy which is their way of saying, just as the journalist says: I’m not going to come down on one side or the other of whether or not human-induced climate change is for real. But, scientists are going to say: I’m not going to come down on one side or the other, whether you should have CAFE [Corporate Average Fuel Economy] standards or whether you should do this or that. To which, I say: fine. But, the people who are going to make those decisions in an ideal world would make them with the best available information that they could have. And, the people who have that information are you, and you all should make sure that when these decisions are made, whatever the state of information is that you have, is in the room at the same time. But even they – scientists -- get very nervous about it... like they know they are approaching the arena of policy, the hair starts to rise on the back of their neck and they get agitated. ... I think that’s because they foresee, probably rightly, that there will be criticism from their colleagues.... if they are perceived as being in the media too much, and too much is very little in the world of science.”

This is a fascinating parallel to make between the professional norms of objectivity and independence in journalism and science. And yet, what Dean is saying is that scientists in fact should intervene in ways journalists shouldn’t.

Both Dean and I attended a media panel at Harvard’s Kennedy School where Journalist Ellen Goodman had made the statement that no graduate students in science should be allowed to graduate without knowing how to talk to media.<sup>115</sup> When I asked her about it, Dean agreed with

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<sup>115</sup> Science and Democracy Lecture and Panel Discussion: Professor Yaron Ezrahi, Hebrew University of Jerusalem “Necessary Fictions: Imagining Democracy after Modernity” April 9, 2007, 5-7 PM, Starr Auditorium, Kennedy School of Government. Panelists: Ellen Goodman, Boston Globe; Fellow, Shorenstein Center, KSG, James McCarthy, Organismic and Evolutionary Biology, Harvard University, Steven Shapin, History of Science, Harvard University, Cass Sunstein, Chicago and Harvard Law Schools

the statement and said that was part of the impetus behind her teaching a class at Harvard. I told Dean that I put some of these issues to current graduate students at MIT who work on climate issues. In particular, I put it to one who was active politically and one who was not. The politically active student said he also agreed with Goodman's statement, but he said he thought it would probably hurt him if his own political activity were a well-known fact in his department. And, he said that if scientists are seen to be talking to the media a lot, it does hurt their reputation. The other non-active student said he didn't think most scientists were going to talk to media anyway. He said it would only be a few elite scientists who do that kind of thing. He saw any kind of media training or obligation to speak as kind of pointless 'for the rest of us.'

At the AAAS meeting in 2008, I heard a similar expression from a participant in one of the sessions who was talking about how he had 'paid for it' among his colleagues when he had spoken to media. A funding officer from a major government agency spoke up and said: "I thought we fixed that." She said, I thought we made it clear that this kind of thing is encouraged now, and scientists would not be penalized for speaking to media. The participant replied that that sentiment of not speaking publicly or to the media was still very prevalent, and heads nodded around the room.

When I told Dean about the MIT students' response. She said, that whether they want to admit it or not, they are "ambassadors for science" just like she is an ambassador for journalism. Not only that, but, many scientists are funded by taxpayers through their education and professional lives, as McCarthy earlier pointed out as well. Though, Dean acknowledged that this is not necessarily the best relationship: being indebted, and as such, required to participate. She returned instead to her views of citizenship and its obligations. And, she said she understood the concern about being labeled an "advocate."

"I can see why they worry about appearing to be advocates or appearing to have adopted a position when in fact the only position a scientist can legitimately adopt is the position of skeptic<sup>116</sup> because it [science] is an enterprise of skepticism, but that's not to say that you

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<sup>116</sup> Dean, in fact, doesn't call climate "skeptics" by that term because she feels so strongly about science as an enterprise of skepticism. Instead, she refers to skeptics as "dissidents." I've stuck with the term "skeptic" here because it is the most commonly used term, but Dean raises an excellent point about language.

can't say: ...this is what the data tell us... And, that can start to look a lot like advocacy when the facts are heavily piled up on one side.”

Scientists being beholden to Mertonian-like norms, uncodified, fluid, and negotiable as they may be, is not necessarily new insight. What makes the climate situation that much more complicated is the fact that near-advocacy often means choosing a side or defending one's work as being one side or the other, and that process begins as early as graduate school. One of the two graduate students I referred to above was sucked into the vortex of public scrutiny when his first published journal article was picked up by a skeptic blogger, and used as evidence against the veracity of climate change. The student was forced to put up a website stating his position on climate change, and defending his work against those who might recast it in support of *their* position. This is increasingly what it means to do science related to climate change. It means openly subscribing to (or rejecting) “scientific consensus,” usually by way of the IPCC, where as Dean puts it, “the facts are heavily piled up on one side.”

### ***Mediarology and hostility***

The Late Stephen Schneider, a Stanford Professor for Interdisciplinary Environmental Studies and of Biological Sciences, was well-known for his expertise debunking nuclear winter, and more recently for his work on climate change, including quite prominently with the IPCC. During the course of my research, I heard him speak to both scientists and journalists at varying venues. No stranger to writing his own op-eds, testifying before congress, or speaking with reporters, Schneider, over the years, developed a theory about the way media, policy, and science worked together. On his website, there was an extended essay on the topic, footnoting many of his own media and policy interventions, called “Mediarology.” For Bud Ward's book, *Communicating Climate Change*, Schneider provides a sidebar summarizing his theory.

Schneider begins by stating that in most “advocacy-dominated” stories, journalists usually report “both sides of an issues.” But, he argues, in science, “it’s radically different” owing to the “spectrum of potential outcomes, often accompanied by a history of scientific assessment of the relative credibility of each possibility.” Instead of adapting to such a major difference, journalists employ what they normally would in a legal or political setting and lock scientists into “one of two boxed storylines: ‘We’re Worried’ or ‘It will all be OK.’” Schneider echoes the concerns Dean and the graduate students I spoke with brought up: “Being stereotyped as the ‘pro’ advocate versus the ‘con’ advocate regarding climate change is not a quick ticket to a healthy scientific reputation as an objective interpreter of science. In actuality, it encourages personal attacks and distortions.”

If the blogosphere is any kind of metric, this is an eloquent summation of exactly what has happened to many scientists, including most of those I interviewed for this research, as well as journalists like Andrew Revkin and others who’ve become prominently associated with reporting on the story. When Schneider talks about journalists in this general fashion, it’s clear he’s not referring to Revkin, Dean, or others (Richard Harris at NPR or Seth Borenstein at AP, for example) in the small cadre of prominent elite science journalists whose careers have been dedicated to covering complex science issues. Instead, he’s talking about the much wider coverage this issue receives throughout different forms and levels (i.e. local, regional, national) of media. That said, the Boykoffs’ paper, “Balance as Bias” looked at leading newspapers like the *New York Times*, *Washington Post*, and the *Houston Chronicle* – all of which had science sections at that time, when it concluded that reporters were erroneously reporting as if the science was not clearly indicating the veracity of climate change. Richard Harris publicly challenged the Boykoffs’ conclusions in particular with *The New York Times* reporting done by Revkin. Based on such critiques, it’s worth recasting this as such. Despite the presence of some high quality reporting on climate change, the sense among most scientists I’ve talked and that have been recorded in venues like the AAAS or Bud Ward’s scientist/journalist workshops is that journalists have, by and large, erroneously forced scientists into pre-made categories along the lines Schneider describes in order to both simplify the story and report adequately on a much-debated issue.

Some scientists like Michael Mann, whose research includes the much-maligned by skeptics, and much-used by advocates (including Al Gore) “hockey stick” graph (featured in the 2001 IPCC report and later investigated by an NAS committee) have fought back by establishing their own blogs. Realclimate.com is run by several leading scientists including Mann and Stefan Rahmstorf, who was interviewed in the *Der Spiegel* article. MIT’s Carl Wunsch was horribly mischaracterized as a skeptic by the documentary producers behind the UK Channel 4 film, *The Great Global Warming Swindle*, he too fought back with a website statement. During my research, he did not respond to requests for interviews, but according to others, MIT was investigating legal action on his behalf. The graduate student I talked with whose research was similarly mischaracterized by a blogger, who was likely not a journalist, used the Internet as well to clarify his position. The Internet, then, has proven a “work around” to dealing with the conundrum Schneider presents.

Yet, mainstream media remains a problematic dilemma for many. Kerry Emanuel explained the problem as attributable to media, general scientific literacy, and scientists’ desire to speak to a public somewhat informed about science.

“The problem with communicating to the public is that we want to assume that they have a rudiment in scientific reasoning, not that they’re experts or that they’re familiar with the jargon, but they generally know something, a little bit about science. And, we’re not happy or even willing to communicate with people who simply think that they shouldn’t [have to] know anything about that. And unfortunately, that does include a lot of reporters, whose backgrounds tend to be in the humanities where they’ve been taught to be hostile to science and scientific reasoning”

Echoing Boyce Rensberger’s “simple machine” which I described in the chapter on journalists, Emanuel told a quite funny story to illustrate his point.

“I once had a reporter years ago in my office and he was trying to get me to keep simplifying things way beyond what was reasonable and I finally -- I think out of exhaustion and exasperation said to him, ‘Well, it’s like this: cold air sinks and warm air rises” and he paused and said, “Okay. Now, could you explain that in terms of anybody could understand?’ (laughter)... The public from the scientists have to meet in the middle

maybe not exactly in the middle but there is -- there is a level of ignorance which we simply can't deal with and that's true in any field, right.”

Emanuel used The Weather Channel as an example of educating the public, noting that over 20 years, they've educated their segment of viewers about satellite imagery and other meteorological elements -- because the viewers were interested and wanted to learn. It's worth underscoring on this point that this is the work that social groups like ICC, Ceres, and Creation Care perform. They help to foster and meet an appetite to know, to learn, connecting climate change to existing forms of life, practices, knowing, and beliefs.

When I put the notion of “hostility” to science to Cornelia Dean, she countered that science reporting has usually been too close to “cheerleading,” as I noted in the previous chapter. Mooney too, pointed out that science reporters should not be included in such characterizations because they often “love” science, are careful about representing findings, and have enormous respect for their sources. Still, Mooney's next book, after I conducted my research was titled *Unscientific American*, and deals expressly with the problem of literacy in America.

Harvard geologist Dan Schrag, who runs the Center on Environment, where Dean teaches said he's had a “running argument” with her about who's fault the state of science reporting is – Schrag blames media; Dean blames scientists' inability to communicate well. He told me that Dean, who doesn't have scientific training, jokes she was made the Science Editor at *The New York Times* because she was seen one day walking around with a copy of *Scientific American* under her arm. (Dean confirmed this story.) Despite having a high regard for Dean's reporting, Schrag said:

“To me that's the problem. Would you hire somebody to be editor of the financial section who had never known anything about economics? It would never happen, right? Will you hire somebody to be head of the political reporting if they never actually had any credentials in reporting on politics? It wouldn't happen. But somehow [with] science, they allow people who have no education in science to suddenly then talk to scientists and report back... as if that's better because they are not biased by too much knowledge. That's pretty anti-intellectual. ...They don't say: “oh you went to the museum last week? Great, you can be the arts editor. ” It doesn't work that way. And

in science news, it is unfortunately that way. If you asked how many people have more than an undergraduate degree and most of them aren't even in science, it's every small. But some of them are very good despite that, but you know that is the standard right? That the newspapers do not, and the media, they don't value that."

Though such a critique might apply to Dean, whom Schrag clearly respects, it doesn't apply to former *Times* reporters, Andrew Revkin or Boyce Rensberger who both have science degrees at the undergraduate level. What Schrag's comment does raise, however, is the ways in which newsrooms have a much different mode of adjudicating who can articulate scientific findings for diverse publics, and the answer is not always someone who has a background or training in science.

Perhaps an even greater problem than the one Schrag identifies is that even as science writing and environmental journalism programs have sprung up in places like Columbia and MIT, science sections in newspapers have disappeared over the last couple decades as newspapers themselves undergo major financial turmoil. Columbia, in fact, cancelled its environmental journalism program recently owing to this problem. The rise of the Internet and blogging then presents problems and opportunities not just for those advocating for/against climate change, but for media in general and newspapers specifically.

### ***Navigating science-policy-media***

Schneider uses the courtroom metaphor to articulate what scientists are up against when they enter the public discourse arena. He makes only passing distinction between the arenas of policy and media – seeing them as they are, in fact, seamlessly intertwined – reinforcing one another, providing an echo chamber of responses back and forth. Yet, there are distinctions to make between what each is dependent on, and what incentives promote certain kinds of responses and practices. The role of money, pressures on existing models and structures, as well relations to conceptions of civic duty differ significantly. My point about the science-policy-media assemblage is that they more often than not work in concert to craft and un-craft forms of

life, promoting some and sidelining others. Schneider articulates what he sees as the root of the problem this way:

“The fundamental question related to climate change, then, is this: How can we encourage advocates to convey a balanced perspective when the judge and jury are Congress or public opinion, the “lawyers” are the media, and the polarized advocates get only 20-second sound bites on the evening news or five minutes in a Congressional hearing to summarize a topic that requires hours just to outline the range of possible outcomes, much less convey the relative credibility of each claim and rebuttal?”

One might suspect that Schneider would then call for a reform of the system of public address – the way Yale scientist James Gustave Speth did in a keynote lecture I attended at MIT in 2005. In the lecture, Speth castigated the media, yearning for the days when Walter Cronkite, the emblematic scion of yester-year symbolizing a time when media was more simple to sort out and gauge (and possibly, manipulate), would have been able to elevate an issue like climate change. His solution was to find a way to talk directly to the public through advertising if necessary. Granted media coverage has increased since Speth’s lecture, but his suggestion of somehow going around the media speaks to the level of frustration.

Schneider, however, offers a path of navigating the system. He begins by asking a set of questions that gets at the underlying expectations of what function expertise is supposed to fulfill:

“Is there a solution to this advocacy-truth conundrum? On the one hand, it is an expert’s responsibility to honestly report the range of plausible possibilities (what might happen?) and their associated (usually at least partially) subjective probability distributions and confidence levels. (What are the odds?) On the other hand, an expert may have a personal opinion on what society ought to do with a particular On the other hand, an expert may have a personal opinion on what society ought to do with a particular risk assessment. Can a scientist who expresses such value preferences about a controversial topic also provide an unbiased assessment of the factual components? This may be a feasible tightrope to walk, but even if one is scrupulously careful to separate factual from value-laden arguments, will advocates and advocacy institutions buy it as “objective”? An active effort to make our biases conscious and explicit via outside review is likely to help



keep our science-advocacy more objective. The more we discuss our initial assessments with colleagues of various backgrounds, the higher the likelihood of illuminating our unconscious biases, allowing us to better manage the “advocacy-truth” conundrum.”

In this quote, Schneider identifies a distinction between facts and values/opinions. When he spoke to a group of journalists at a climate change bootcamp I attended in Oregon, he made a similar distinction – telling the journalists present to identify the difference when they pursued sources for their stories. For scientists, he recommends a path much like the one he’s taken (one which, for STS readers, has pertinent echoes of Donna Haraway therein) where values and biases are made explicit through a “hierarchy of backup products” that include op-eds, books, and popular articles that clearly distinguish between what’s reliable and what’s speculative. And he argues that scientist must not “abdicate the popularization of scientific issues” to those less knowledgeable, or those wishing to simplify the science.

STS Scholars have continually shown that the social is an inherent, constitutive part of the production of scientific knowledge, meaning that facts and values are always hybridized. Sheila Jasanoff calls this the idiom of co-production such that scientific knowledge is “embedded in social practices, identities, norms, conventions, discourses, instruments and institutions – in short, in all the building blocks of what we term the *social*” (3). Bruno Latour’s recent suggestion is that Science and the sciences are in fact two different beasts – the latter being completely aware of its contingent partial processes of gathering knowledge while yet, for the most part, often subscribing to the objectivity inherent in the conception of Science. Reading Schneider through Jasanoff and Latour, it would seem that he is indeed cognizant that the social always intrudes in practice, and yet, there is utility in more traditional divisions and purifications such that expertise might have resonance with older ideals.

Part of that utility lies in the multi-layered complexity of what it means to speak within the continually reorienting topography of an American-based science-policy-media assemblage of sorts -- something akin to a vast network of complex stakes and alliances. Anthropologist and STS Scholar Michael M.J. Fischer might describe this, using Donna Haraway’s term as “a cat’s cradle situation” where every move affects every other element, reorienting the ‘topography’ of

the situation. Fischer, writing about transformations in science and technology describes this topography in his essay on “Emergent Forms of Life” as one where institutions are mutating, new technologies are reconfiguring perception, massive economic and state restructuring, and the recognition of new long-term risks prevail. Fischer argues that current modes of pedagogy and theory aren’t able to address fully the questions of “heterogeneity, differences, inequalities, competing discursive logics, and public memories; complex ethics of advocacy and complicity; and multiple interdigitated temporalities” (39). The seemingly ungrounded ways of acting are emergent forms of life or a “sociality of action,” replete with ethical dilemma, the face of the other, and historical genealogies, “requiring reassessment and excavation of their multiplicity” (58). Certainly, this is the case with climate change where reorientation, mutation, and veritable rabbit warrens of histories and meanings proceed, challenging those new and old to their layered applications at any given time.

## **Conclusion**

This chapter has narrated some of the ways in which scientists have been pressed into advocacy positions on behalf of the veracity of the science, and the need to address the future consequences inherent in climate change predictions. There is a wide ranging spectrum ranging from intense involvement in policy like John Holdren and Stephen Schneider or intense involvement with the IPCC like James McCarthy and Schneider to more spontaneous, event-driven involvement by Kerry Emanuel, Dan Schrag, or Naomi Oreskes. It’s clear particularly in talking with Emanuel and in relation to the *Der Spiegel* article whose criticism rings loudly throughout this chapter that such responsibility sits uncomfortably with Mertonian norms. In trying to articulate the how and why of advocacy, rationales from both scientists and the journalists who have covered them rationalize using either historic scientific advocacy (by Einstein, for example) or to the realm of citizenship and an obligation to taxpayers who fund research.

“Near-advocacy” explains what scientists, like Emanuel, the IPCC, or even, the MIT scientists I initially describe are doing when they press for action related to what their research reveals. The distinction being that they are not recommending specific policies. Rather, they are acting on the import of the information they possess, and the ethical responsibility they assign to such expertise. What that looks like when it reaches what I am terming the science-policy-media assemblage where discourse and discursive strategies continually circulate is a constantly shifting topography. By both media and vested policy forums, scientists are often forced into categories that allow little flexibility – either one is for or against the notion of climate change. And, this choice to join public discourse can be roundly met with ramifications in their own departments.

After my research concluded, the strained relationship between Emanuel and MIT colleague and noted skeptic Richard Lindzen became news thanks to Beth Daley, the science reporter at *The Boston Globe*. She reported that though they had once been quite good friends, their relationship had become strained because of their divergent views on climate. Where Emanuel had previously been circumspect about his involvement, he had increasingly become vociferous about the need to act on climate change. Lindzen remained in the opposite camp and has always been well-quoted by media and policymakers, including Senator Inhofe. Lindzen in his criticism of Emanuel, according to Daley, went for the equivalent of the academic jugular that Cornelia Dean and the graduate students I talked to described. Lindzen accused Emanuel of wanting to see his name in the paper, of media fame getting to his head, of wanting to raise the profile of the department – thereby, undermining his scientific credibility.

Following the blogosphere, the backlash was not towards Lindzen or Emanuel, but it was directed at Daley, who reported on the outlandish claims made by Lindzen about Emanuel and did not outline the consensus/skeptic divide more clearly. The press once again had maligned a leading scientist in the views of most. ClimateProgress said it was “the worst climate piece” ever, and quoted Emanuel’s response as: “The only group that has really profited from the denial of global climate change is the media, who have a strong vested interest in keeping a debate going.”

This is the work “scientific consensus” as a tool is supposed to do for climate scientists. Scientific consensus was intended to move the questions from: is it real and do scientists agree to what should we do about it. The risk framework allows for the latter to proceed down through the range of possibilities posed by the IPCC and other organizations that have weighted the evidence emerging from climate research. And yet, these eruptions continue via media, via policy, via communal disputes – via the assemblage of science-policy-media. The social continually intrudes on any notion that expertise exists without context – both intended and unintended as the Senate hearings and Stern Review responses I detail at the beginning of this chapter illustrate.

### ***Postscript***

Since I conducted my research, major questions have been raised about scientists and advocacy -- about those caught up in the vortex of science-policy-media. First, in 2009, a computer hack released reams of emails sent to and from the Climatic Research Unit at the University of East Anglia. Prominent scientists like Phil Jones and Michael Mann were accused of withholding information, interfering with the peer-review process, and worse: deleting or manipulating data to make a better case for climate change. Five subsequent reviews of the emails in both the US and the UK have cleared the scientists involved of any of the allegations. The incident was dubbed “climategate” by media, and certainly, reporting on the allegations was much more prevalent than it has been on the absolutions.

Second, in early 2010, the IPCC was forced to acknowledge that it had made a mistake about the rate of recession and disappearance of Himalayan glaciers. Rajendra Pachauri, the head of IPCC, at first refused to take responsibility for the mistake, and there were immediate and furious calls for his resignation. He did not resign, however.

Perhaps, feeling the pressure, the Union of Concerned Scientists began an ad campaign recently that features scientists as they were as children. They’re hoping to connect the public to

scientists by humanizing them. A rather humorous response on Grist.org to the ads pointed out that while it may help the public to better situate climate scientists as real people, it does little to connect people to the science. And further, it masks the lessons inherent particularly with “climategate” – that, with the rise of the blogosphere, the calls for open access to data have only increased. Opening up one’s childhood photos is decidedly not the kind of access such lessons call for.

## **Conclusion: Information is not the problem**

When I spoke at an event in British Columbia in early 2010, and presented some of this research, I was asked a question that has typified the dominant, and often desperate discourse about public engagement: how can we better inform the public about climate change? After having laid out in brief a changing media landscape, varied forms of life, and a democratic ideal rapidly in flux as notions of expertise, advocacy, and translation morph and ricochet among the vernaculars and experiential forms of life, I sought for a way to better encapsulate – to translate my own research for a diverse public in search of ways to address a pressing issue. My slightly exasperated reply was to say: More information is not the point -- we must find ways to link it to what people already care about. This is where the title comes from for this dissertation.

If democracy is to deal with complex scientific issues, it must find a way to move past the traditional categorization of expertise and the attendant emphasis on information, and move into the realm of negotiating with meaning, ethics, and morality. I have suggested here that climate change constitutes a pluralized singular form of life. By pluralized singular, I mean to signal the multiple, competing forms of life (Inuit TK, climate risk, creation care, science-policy-media) that feed into, configure, and continually revise definitions of and models of/for climate change. For climate change to remain a term of reference that signals multiple, competing, teeming forms of life, it requires continual translation, articulation, and re-articulation. And, as I have shown, this process is full of friction as civic epistemologies, forms of life, advocacy, and expertise evolve and bump up against one another in a process of socialization, negotiation, and meaning-making (Fischer 2003; 2009; Fortun 2001; Jasanoff 2004; 2005). Indeed, this research tracks the formation by which evidence comes to matter and have meaning for groups, and the ways in which this process transforms the definition of and questions posed by climate change.

A society dominated by continually evolving inter-related chains of post-industrial risks (Beck 1992; 2002) must simultaneously confront the definitions of such risks, as well as the

questions of how they will unfold and ways to respond. Climate change presents these confrontations starkly as a simultaneous intellectual, scientific, and moral challenge – it is both a problem of assessing what is happening, what might happen, and how to act in the world. The presentation and circulation of information provide only partial answers, and I argue, require a partnership with codes for meaning, ethics, and morality in order to delineate what the stakes and risks entail locally, regionally, and globally. Framing long-term uncertain issues in order to generate immediate action requires such partnerships and translations, generating assemblages, modes of speech, and material forms of training and disciplining.

In many ways, the journey of this dissertation has been a circuitous route through varied vernaculars (Harding 2000). The initial chapters on social groups provide multiple points of entry to understanding the ways in which climate change has been translated and re-articulated for and by groups, morphing ideas about who can speak for, about, and to the issue. Who the messenger is, how climate change matters for the group, and how they code it for immediate response and action determines these forms of life. In the final two chapters, I have argued that the epicenter of climate change has moved from its birth as a scientific concept to the circulating, interconnected arena of science-policy-media, enrolling vernaculars and assemblages of institutions and their attendant forms of life. It's here that the competition for defining climate change is continually played out, and finely articulated and re-articulated, enrolling some translations, rejecting others. Indeed, this is what comprises emergent forms of life (Fischer 2003). Media change has begun to create spaces and records of these evolutions (and revolutions) through blogging, and the re-contextualizing and re-positioning of mainstream articles in social media. How verification, professional norms, and accountability play out with in and around new forms of media remains to be seen.

I want to turn now to a “para-site” (Faubion & Marcus 2009; Marcus 2000) that I co-organized near the end of my fieldwork at MIT in order to illustrate more closely how forms of life compete, form, and reform climate change and how the spectrum of risks might be approached. Marcus uses the term, para-site to refer to spaces for interaction, collaboration, and reflection that are consciously co-constructed and orchestrated by both researchers and subjects/informants. Para-sites reflect “the reality of fieldwork as movement in complex,

unpredictable spatial and temporal frames” and create “space outside conventional notions of the field in fieldwork to enact and further certain relations of research essential to the intellectual or conceptual work that goes on inside such projects”(2010b). These spaces have often existed informally in anthropological fieldwork where subjects, patrons, and researchers come together in order that dialogue and co-expression might allow for ideas, interpretations, and concepts to be tested, and mistakes corrected.

### ***A Fieldwork Para-site: MIT Disruptive Environments Climate Change panel***

When I was in the initial stages of conceiving of this project, I began to *think with* a group of my colleagues at MIT’s History, Anthropology, and STS Program (HASTS) about how all of our projects (endocrine disruption, climate change, toxics, and ecological remediation and restoration) overlapped. Together, we strategized about a way to elucidate the threads we saw running between our projects – threads related to what I have termed the science-policy-media assemblages and the competing forms of life we witnessed in our disparate, often itinerate fieldwork sites.

In April 2008, we organized a weekend conference titled, *Disruptive Environments: Academics, Activists and Journalists in Conversation*. The first night began with the topic of climate change and was followed the next day by panels that dealt with toxics, endocrine disruption, oil and gas development, health, and efforts at restoration. The climate change panel, the only one open to the public without advance registration, was made of what I considered to be a “dream” list of contributors – almost all of whom I had interviewed for this dissertation: Boyce Rensberger, Kerry Emanuel, Andrew Revkin, Naomi Oreskes, and Kevin Conrad. Their talks illustrate the diversity of perspectives about how to approach the communication of climate change, as well as the ways in which the assemblage of science-policy-media operates and is constantly shifting amidst a terrain of advocacy and ethics.

Rensberger, who moderated the panel, talked about the early days of reporting on climate change before it was a widely held tenet of scientific consensus. He compared reporting in



general to sports reporting: “we want to know who’s winning and who’s losing,” but he said this was extremely hard to do with climate change. He talked about the past 20 years of climate change, beginning with James Hansen’s 1988 testimony, noting the ways in which the “nature and magnitude of uncertainties” kept changing. He summarized the job of journalism as being that of ‘comforting the afflicted and afflicting the comforted.’ He suggested that climate change would produce winners and losers, and asked whether something can still be done to help make a difference for “losers,” and for everyone else. He was not optimistic that changes for the better were imminent or even possible.

Rensberger was followed by Emanuel, who explained the science as fitting into three categories: empirical observations, theory, and modeling. Emanuel repeated what he called his “polemic” – that most reporters, Revkin and a few other science reporters excepted, are hostile to science because of their humanities training. His talk in this panel gave an eerie prediction of the story about him and another scientist in *The Boston Globe* that would be published later that year. Emanuel criticized media for its focus on personalities, conflicts, and debates. He imagined a scenario in which two scientists who are best friends have a professional disagreement, and a resulting article characterizes them as “hating each other.” The problem, he said, is that with all the drama, the “science gets lost.” He then talked about the uncertainties that keep scientists “up at night,” summarizing the state of climate science replete with such uncertainties, and ended by asking: “how do you communicate that?”

Oreskes explained that it was the questions that emerged from her previous research into continental drift that led her to investigate how settled the science was related to climate change. She described how she came to write about scientific consensus, and her own more recent research into skeptics or “realists” as she said many skeptics now like to be called. She talked about what gets constituted as “political,” and newer arguments about what’s realistic regarding adaptation and mitigation, making interesting parallels to the Civil Rights era when what was “realistic” was used as a weapon against arguments for emancipation.

Conrad is the only person I didn’t interview for this research. He is the Ambassador of Environment and Climate Change for Papua New Guinea (PNG), and the Executive Director of

the 30-member Coalition for Rainforest Nations that is part of the Earth Institute at Columbia University. We had originally invited Sheila Watt-Cloutier, but she was unable to make it owing to scheduling conflicts, and Conrad had recently been in *The New York Times* in a story by Andrew Revkin. Conrad had chastised the US publicly at the United Nations Framework Convention on Climate Change (UNFCCC) negotiations in Bali in 2007, saying: “I would ask the United States, we ask for your leadership. But if for some reason you’re not willing to lead, leave it to the rest of us. Please get out of the way” (Revkin 2008b). PNG, like many low-lying islands in equatorial regions is in danger of serious inundation due to sea level rise related to glacial and sea ice melt at the poles. In other words, they suffer from vulnerabilities similar in scope, but different in specifics to Arctic peoples.

In his talk, Conrad spoke about his youth in PNG, and being sent by his parents to boarding school in Los Angeles in order to be “civilized and educated.” He later specialized in finance and became a banker. He talked about being “drafted” by the PNG Prime Minister who asked him to figure out a way for PNG to halt deforestation, while achieving their goals and aspirations – they were, at that time, in conflict with the World Bank. Conrad suggested the Kyoto Protocol. He then talked about his role as a lead negotiator, about balancing responsibilities, philosophies about who pays, and who should take the lead in making changes.

When Revkin began, he mentioned the story on Conrad, and Conrad interjected in somewhat feigned indignation: “you called me a mouse!” Revkin laughed and said, “the mouse that roared! Yes!” This was the headline on Revkin’s video story about Conrad’s confrontation of the US in Bali (Revkin & Ferrell 2008). “The mouse” characterization was a way for Revkin to illustrate the might of PNG relative to the US, and the courage required to utter such a statement in the face of continued delays and stalling tactics used by the US throughout much of this decades’ climate negotiations, and particularly in advance of drafting a replacement for the Kyoto Protocol. It is also an allusion to the 1959 film by Peter Sellers based on a series of novels by Irish writer Leonard Wibberly who imagines a fictitious small European country that continually takes on superpowers and wins.

Revkin then went on to describe the struggle to tell the climate change story (“a relentless ooze”) in the midst of a “vast universe of ideas” every day, and the twin “tyrannies of space and time” that make it difficult to tell those stories. He talked about how difficult it is to negotiate between experts, advocates, and skeptics masquerading as experts and funded by industry. He said that advocates like Al Gore use ideas as tools “to get the job done,” and that means journalists need to be careful about how they report on advocacy because of the tendency to frame climate change as a catastrophe. He ended by telling a story about how one of his colleagues at *The New York Times* got a story about open water at the north pole terribly wrong, making *The Times* “a laughing stock” temporarily.

As way to sum it up, Revkin tried to parse climate change into separate kinds of climate stories. In one category, he put the ‘what and why is it happening,’ and ‘how much is our fault’ type questions. He saw these as primarily being science questions – ones that have no room for advocates to weigh in. In another category, he saw much more broad stories about policy, economics, and values – the ‘how much do you value the future’ type questions. This category, he thought, was much more broad, and complex, and could potentially enroll advocacy groups of all stripes – skeptics, Al Gore, Greenpeace, for example, would all be included.

The counter to Revkins’ categorization came in two forms. Earlier, Oreskes had shown how the political continually intervenes in the scientific –pure science questions, in other words, are far from pure or non-political. But, a further counter came at the end of the evening following the nearly last question during the Q&A period. Oreskes had just finished making the point that most policy action will be based on the science that is already quite “certain” and “settled,” and this is what the public, congress , and journalists “need to know” regardless of how exciting and newsy the “new stuff” from science might seem. Conrad responded by saying: “I hate to say this but the media and science are often kicked out of the room” when policy and governance decisions are being made. He said media are seen as “reactive” – they report after the fact, and science is not helpful once policymakers get down to the “tough business” of making hard decisions about what to do about scientific predictions. Science, he suggested, has to be translated in order to be useful in policy decisions.

Reflecting on this evening, it becomes apparent that how to get the message across, and whether or not real change (in the form of policy changes) follows is still very much a moving target. And, as Conrad points out, translation is a key feature of how, whether, and in what direction change occurs. Each of these speakers can be characterized as leaders in their field – several of them have sat together on panels much like the one we organized. They are used to discussing the problems of politics, reporting, science, and publics. Conrad in this sense was an outlier – much like the social groups this dissertation analyzes in chapters one through four. He questioned at the beginning of his talk why he was there, and yet by the end of the evening, formulated his own distancing categorizations that put advocates and policymakers in a position of difference, where translation is required and the ability to make decisions rests. And yet, articulations remain well within the realm of media, enrolling advocacy, science, and policymaking resulting in a shifting assemblage. Their networked routes and relationships largely determine what kind of issue climate change might become in terms of public engagement.

### ***Climate change and competing forms of life***

By bringing together media, scientific expertise, and social groups, the question at the heart of this research has been: why should anyone care about climate change? Such a question speaks to establishing meaning, negotiating ethics, and assigning morality – the elements that, I argue, drive the impetus to act on scientific information. Questions about veracity, rates of change, or mitigation and adaptation policies, as well as the translation of science for non-science audiences remains. But, the underlying argument is that for wider publics, what flows from ‘so what’ is a drive to know and understand more, to do something, to adopt a position, to want to be part of discussions about what ought to be done. While the fact of climate change needs to be defined as part of the ‘so what’ question, the ways in which facts are socialized is key to its establishment, particularly if action is required related to the facts.

One of the primary ways in which facts get socialized is related to how they get talked about. I have used Ludwig Wittgenstein's approach to language throughout this dissertation in order to understand the broad ways in which climate change is a *form of life*. I have tried to show the ways in which the meaning of climate change is generated socially through use, action, and context. Even though climate change may have begun as a scientific concept, it has flourished as it's been adopted, torqued, politicized, paired – in short, it's been filled with meaning through its interaction with belief systems, practices, and other systems of knowledge. The panelists above illustrate this to some degree; my research goes much further. The discursive strategies undertaken by the spokespeople and groups investigated here are ultimately heterogeneous, emergent and multi-vocal -- defying any "framing" of climate change in a static, solely scientific or progressive/liberal environmentalist fashion.

By following the mainstream science-policy-media discourse through the articulations of journalists and science experts active in some aspects of the public sphere, it becomes clear that the overlap of these varying interconnected discursive spheres form a kind of epicenter where vernaculars, translations, and forms of life jostle and compete. Economics is rising as a way to discuss valuation and ethical dilemmas, and has, since my fieldwork concluded, become even more common, particularly as risk assessment becomes a dominant paradigm for understanding climate change. Science and economics are not in any way divorced from the "other conversations" going on among the social groups/movements outside mainstream discourse, but neither are science and economics the primary factor in these conversations. One only has to look at polling that reveals partisan differences related to climate change acceptance/belief to see that science is not necessarily the ultimate authority even on what is typically labeled a "question of/for science."

Taking the pluralized form of climate change into account thus raises several sets of questions with regard to social groups. In each of the chapters, I have continually posed a variation on these questions: If climate change is not a matter of the public understanding of science, then how is it being communicated by, to, and for any of these groups? What kind of an issue is it for those who are not drawn in by scientific evidence? What kind of language is left when science is not the primary tool for presenting the issue and its implications?

As opposed to science being the sole means for understanding and relating to the environment, the social groups I researched each use a different vernacular for talking about climate change: 1) traditional knowledge and human rights (Inuit), 2) climate risk and shareholder value (Ceres), 3) creation care and blessing the facts, 4) journalists articulating risk, and 5) near-advocacy in a constantly reorienting topography of science-policy-media replete with its varied productions of care and doubt. Constituent to all of these ways of considering and talking about climate change is an articulation of reasons and impetus to act. Human rights, shareholder value, and care for the poor or disadvantaged are based on established codes of morality and ethics – they require those who pay attention to these factors to act in order to address risks associated with climate change. Science experts and journalists use science and economics to formulate a requirement to act on this information, but vary in their advocacy and articulations of such actions.

I have theorized that in the instances where science is not the sole evidence upon which decisions are made or positions are struck, that scientific findings are a *partner*. It means that at times, in STS terms, the science is “black-boxed,” and in others, it is complimented by another knowledge system. The Inuit bring traditional ecological knowledge in the form of oral histories, ground truthing, and other qualitative and quantitative observations and interactions with the natural world alongside science. With Ceres and Creation Care, science is most often put away as settled, or in any case, not up for discussion except in terms of its ramifications ethically and/or morally. Yet, science is never completely absent. It hovers in the background, being moved carefully to the foreground when and as needed, however briefly as an affirmation and to underscore the rationalization or logic already underway. Risk presents a conundrum for how to define its scope, scale, and location, and in so far as science is understood as a spectrum of possibilities, it allows for each of the groups to account for potential benefits and losses.

## ***Articulations & Political Assemblages***

The paths between the IPCC, major media, centers for science like Harvard and MIT are well-trod routes where science, media, and policy interact, and globalized values stand in for the more specific ones established in the five groups covered here in this dissertation. Negotiation is apparent here too, however. Science provides the method for evaluating evidence and sets of professional norms for safeguarding its veracity and creating consensus. But, it does not have a set of ethics that might guide decisions. Individual scientists, as has become evident here, do have their own sets of ethics. And while professional norms prevent advocacy to a great extent, some, like Kerry Emanuel have seen the science as requiring of them the work of *near-advocacy* – *following* one scientific expertise as it travels into the public arenas, *caring* for the science and attempting to ensure that it not be distorted, or misused. Full advocacy subordinates the science to political goals, but near-advocacy follows science into practical realms while trying to maintain the integrity of the science on its own terms. Some scientists have gone so far as to get involved in policy; others have been pushed by a confluence of factors.

Journalists have struggled at the local level with the ways in which climate change is either empty for large swaths of the public – seen largely as a remote futuristic scientific concept still being debated, or full in the politically partisan sense. And, while these struggles go on at the national level as well, the negotiation is quite different. Where the science is settled, the immediacy and implications of it are not. Figures like Revkin and Rensberger adjudicate expertise, advocacy, and near-advocacy in an attempt to fulfill the role of arbiter for the public, fulfilling their role as a fourth estate, watchdog, worthy of the public trust. Journalists' expectations are that others will trust them whilst they trust no one, not even the experts. Cornelia Dean explained it to me as an old adage in journalism: if your mother says she loves you, you should check it out. As blogging and forms of social media proliferate, it has become increasingly apparent that journalists are both being checked out, and are increasingly required to verify others as well (Kovach & Rosenstiel 2007).

This question of expertise and what form of life it represents is one this dissertation research foregrounds. It is in some ways a continuation of debates about the role of expertise in the public domain – one begun by Walter Lippman in the 1920s. However, unlike Lippman’s formulation, the question of expertise is not only about dominant knowledge paradigms. Instead, the social groups I have studied here ask who speaks for climate change. Is it the Inuit who are experiencing it first hand? Is it business leaders who recognize the need to disclose on how climate-related risks affect the long term status of their companies? Is it Christians who speak about the moral reasons to pay attention to the potential impacts of climate change? Expertise in these senses is being morphed by those who are investing climate change with particularities all the while reinforcing its universality, its status as a many faceted form of life.

### ***Climate change as risk and reminder***

Kim Fortun’s analysis of the aftermath and advocacy after the tragedy related to the Bhopal gas explosion led her to ask how to account for the ways in which disaster creates community. She theorized that enunciatory communities come together in response to a temporary paradox, as a result of contradiction, force, and double binds. Advocates establish “how the past should be encountered,” and “what counts as adequate” in terms of description and explanation. While Fortun is describing something different, there is a similarity to the global connectedness, exclusions, expansiveness, ethics, and (predictions of) catastrophe she describes.

Reading climate change through Fortun’s work led me to ask: how do we account for the way *risk* creates, or rather, *reminds us* that we are community? Climate change presents a range of predictions that vary in scope from mild and inconvenient to world-altering, even near-disaster-movie kinds of scenarios, if we include abrupt climate change within the range of possibilities. It makes clear that what gets put up into the atmosphere circulates and has an effect on polar communities far from the origins of *most* greenhouse gas emissions (notwithstanding the north’s own grid related to housing and transportation). For those with a security focus, it makes clear how dependence on natural resources can exacerbate seeds of conflict that might, in prosperous times, go uncultivated. In short, it breaks down many of the barriers that wealth,



capital, and power have erected between geographically and socially disparate places. And, at the same time, as this dissertation illustrates, climate change provides the impetus for creating and fostering networks fueled by much of the same wealth, capital, and power -- through routes established by science, media, and national and international policy.

The issues of justice, equity, and connectedness sit uncomfortably on the terrain of mitigation and adaptation solutions -- of who and what is considered “vulnerable” enough to warrant immediate action. Advocacy on climate change attempts to establish *how the future should be encountered and considered in the present*. This is most evident in policy discussions and economists’ debates about the discount rate as I have described them here. But, policy, in fact, ties all the groups together – it is the tool that will, by most estimations, determine what the future will look like. It’s policy that makes evident the moral and ethical codes of each group, as well as the professional norms that guide any efforts at intervening based on these codes.

Creation care’s interventions into policy about climate change have been about concern for impoverished countries (an albeit undefined, somewhat utopian vision of otherness and poverty as opposed to environmental justice at home) in American legislation. The Inuit have intervened regarding cultural and communal survival at the international levels with the human rights petition, seeking to put pressure on the US. They continue to work at the international, regional, and national levels of policymaking so that their voice is heard within the Arctic, and as an Arctic voice reminding the world that there are people, cultures, and communities at stake at one of the poles. Ceres has been working both on legislation that might put a price on carbon and regulate emissions, but also at the level of the SEC so that disclosure of risk might be regulated. Science experts meanwhile work with the IPCC or through other mechanisms in order to see the science predictions receive the response they warrant – the work I’ve described as near-advocacy.

Predilections towards alarmism (justified and otherwise), as is the concern among science experts and journalists are very much related to how one experiences a future with climate change, and what ethics one applies to the portent of such a vision. One journalist I heard speak said it this way: alarmism is needlessly ringing the alarm bell, but what if the alarm bell needs to

be rung? Sheila Watt-Cloutier put it even more strongly in the present when she said, “I think that some people have not fully come to understand... there is no disconnect between suicide and climate change.” Inuit people have been facing an epidemic of suicide particularly among the youth, and in this formulation, climate change continues the process of foreclosure on hope, begun by encounters with colonialism and the enduring structures it put in place via education and the now slowly evolving mechanisms for governance and self-determination.

What this brings to the foreground then is *the route* between feeling, experiencing, knowing climate change as either a prediction or lived experience and making changes to policies that might address the causes and effects of climate change. That route is multifarious, marked by shifting assemblages of science-policy-media as I have described them in the journalist and science-expert chapters. The social groups thus provide an added dimension of those outside the juggernaut of newsmaking scientists and formal policy negotiations. Bringing them together exposes the ways in which vernacular guides the formulation of climate change as an experience, dictum, and ethical directive both for the group and the public at large. Climate change becomes the starting point for an articulation of how we, as global communal members, fit together under a rubric of ethically and morally shaped relations. But, that “fit” is a moving target, and one that plays differently depending on what nationalistic, professional, or capital-oriented audience climate change is being presented to. This is indeed what makes it difficult to engage wide publics with climate change as a fact requiring action.

### ***Climate change in a changing media landscape***

Risk has been characterized, particularly by science experts and increasingly by journalists as the means by which uncertainties can be expressed and integrated, and actions justified. Ceres has long advocated climate risk as their term that motivates capital markets to take stock of their exposure to possible future chaos and/or catastrophe. Weather-related losses offered by the insurance industry stand as one type of convincing quantitative evidence of what future trends might look like. For scientists, interrelations of models of local level weather

patterns and long term predictions remain an elusive challenge though the Arctic is one key exception as its permafrost, sea ice, and glacial melt continues unabated. Inuit experiences in these Arctic regions, and Creation Care foci on vulnerable equatorial regions like the one Kevin Conrad represents put climate change even more squarely in the present with upward trends of losses, temperature, and human suffering in the offing.

As I pointed out in the chapter on Ceres, using Ulrich Beck's formulation, risk acts to unite societies, but it also creates new loci of conflict, alliances, inequalities, exploitation, and regionalizations. At the geo-political level, this is what much of the climate negotiations at the UNFCCC or IPCC make wholly evident. But, policy negotiations provide only one part of the equation. The shifting assemblages of media, bureaucracy, institutions, and advocacy groups provide another window on the ways in which risk both acts as a herald of change *and* calls it into being. Climate change effects change precisely because of its status as a risk that could reorient topographies of wealth, capital, and power – how or whether the status quo can be maintained or disrupted depends on the view one has of both the present and the future.

Justifying and calling for such changes requires a momentum that begins for many with shifts in public opinion, and for this, media, and communication in general remains a crucial factor. This in part explains the calls for the media to do better at getting the point across, motivating the public, getting the science right so that the fact something should be done becomes self-evident – as a part and parcel requirement with the information and knowledge of climate change as fact. Yet, has media been expected to do what it is incapable of doing – invest meaning, ethics, and morality in a particular issue such that the public is called to act?

In thinking about the role of media and information, I have built on observations by Herbert Gans and Michael Schudson that information does not necessarily lead to participation. And yet, American democracy, to a large extent, is built on the notion that the public needs to be informed in order to participate, in order to do their duty as citizens – whether it be casting a vote or advocating through various means for change in society. That information – that the public needs in order to be, as Schudson puts it, “good citizens” – is seen to flow largely through media.

Media, however, is in the midst of free-fall in terms of technological changes, business models, and public attentions. The rise of new media, evidenced here particularly in the chapters on journalists and science experts has made apparent the wide variety of voices and responses to mainstream discourse. I had expected to find the social groups I researched to be heavy users of the renegade change application that is new media, but for the most part, many were still focused on getting and keeping the attention of mainstream and/or leading reporters like Andrew Revkin, or as was the case with Ceres, getting the attention of the business press. This was beginning to change towards the end of my research as the full potential of social media began to emerge more widely. The confluence and difficulty of strategizing with and for media, as is often the case with social groups with limited resources, illustrates just how tenuous and changeable the media landscape is.

Revkin at the conference event I opened with described his experience so far (5 months at that point) running his blog, *Dot Earth*. He spoke about the questions related to sustainability, including energy and climate issues as “a journey,” and then he summarized a conversation he had with the late Steven Schneider. Revkin had said to Schneider that the questions related to this journey of confronting sustainability issues was much broader than journalism. Revkin had said: “can journalism handle it and can science handle it?” To which, Schneider replied: “The question is can democracy survive complexity?” Certainly, when information is at the heart of such a question, it gets more and more difficult to see how the public and policymaking can adjudicate increasingly dense, difficult, and complex interests, information, and resulting configurations of possible action. Climate change does indeed present such a challenge to democracy – one that requires a shift towards acknowledging the force and presence of multiply instantiated forms of life, replete with interconnected assemblages, translations, articulations, and vernaculars.

## **Appendix A: Creation Care: Starting a movement one leader at a time**

As many scholars have evidenced (Marsden 1984; McCammack 2007; McKenna 2007; Nole 1994; Noll 1988; Simmons 2009), evangelicals began to re-emerge onto the U.S. political stage during the era of Ronald Reagan. In what looks to be seminal early coverage in 2006 of the current emergence of Creation Care, Bill Moyers' program explains the might of evangelicals as being one quarter of the voting population. After a segment that profiles Tri Robinson's work at the Boise Vineyard Church in Idaho, Moyers explains the emergence of evangelicals politically through a clip of Ronald Reagan saying:

“MOYERS: Back in 1980, millions of evangelicals underwent a political conversion and gave their hearts to Ronald Reagan. Reagan never called himself an evangelical, but he understood the Bible's role in their faith and the role they could play in his political future.

RONALD REAGAN: Now, I know this is a non-partisan gathering and so I know that you can't endorse me, but I only brought that up because I want you to know that I endorse you and what you are doing” (Moyers 2006).

The NAE, where Richard Cizik worked until recently, is one of the key lobbying arms for evangelicals, and they evidently see their 65-year history in similar terms to Moyers. On the fairly detailed history page of their website, the NAE characterizes Reagan's election as US President as an epochal shift for their organization.

“...The new phase of NAE history swung into full gear with the election of Ronald Reagan in 1980. Reagan had come to power with the wide support of evangelicals. NAE, increasingly consulted about administration appointments and policy, seized opportunities to influence government further and enjoyed unprecedented access to the White House. The Republican president courted evangelicals for support speaking at the 1983 and 1984 NAE conventions. This was the first time a U.S. president had ever visited an NAE function.”

And while evangelicals are likely most well-known for the pro-life movement and their opposition to gay marriage, the NAE lists a much broader set of interventions on issues like drunk driving, church audit procedures, equal access to public school facilities for religious organizations, and foreign/security policies. During the most recent two terms of George W. Bush's administration, evangelicals again took up a prominent place in politics and policy-making. According to their website, Bush, in his 2004 address by satellite to the NAE convention uttered the refrain from Reagan: "You cannot endorse me, but I endorse you."

Yet, despite an apparent thirty year triumph of evangelical political might, there have been ongoing shifts within the evangelical movement that caused the NAE to experience something of an organizational crisis in 2001. NAE points to the growth of the megachurch and strong parachurch organizations, demographic shifts and baby boomer attitudes, and the always loose alliance it held together under strongly revered leadership like that of Billy Graham. What grew out of this crisis was both a return to and embrace of the megachurch and a new set of alliances with parachurch organizations like James Dobson's Focus on the Family and Charles Colson's Prison Fellowship Ministries to name a few. The first example of this emerging shift is the 2004 "For the Health of the Nation: An Evangelical Call to Civic Responsibility" adopted unanimously by the Board of the National Association of Evangelicals (NAE), and the second is the 2006 Evangelical Climate Initiative (ECI). The 2004 document set the stage for broadening civic engagement towards "a Biblically balanced agenda," that includes social justice issues like poverty and human rights, as well as "Creation Care." ECI in 2006, however, threatened the newly formed alliances and regeneration of NAE, opening a major rift between conservative Evangelicals interested in civic engagement and political influence.

ECI brought together parachurch representatives (the Salvation Army, InterVarsity, World Vision, Evangelicals for Social Action), megachurch pastors (Rick Warren, Joel Hunter, Rob Bell, Brian McLaren), prominent Christian journalists and editors (David Neff and Andy Crouch from *Christianity Today* and Jim Wallis of *Sojourners*), and Christian college presidents (Wheaton, Greenville, Seattle Pacific University, Asuza Pacific, etc). It is a long list of 280 signers that includes not just the luminaries I've bracketed, but many smaller churches, organizations, and publications that represent a wide spectrum of evangelicalism. The disclaimer

at the top, however, notes that these people sign as individuals not as institutional representatives so clearly, this is about thought leadership as much as it is about organizational redirection – either that or fear of backlash from one’s own congregation. ECI was organized by the Evangelical Environment Network, which *Fast Company* described in 2006 as having one employee – Jim Ball. Ball is also the official spokesperson for ECI though one is as likely to see Hunter, Cizik, or several of the other high profile signatories quoted in media coverage. ECI benefited enormously from the involvement of Cizik, who as I noted at that time served as the VP of Government Affairs and had been with the organization for over 20 years. NAE’s website largely credits him with the 2004 “Civic Responsibility” document, but makes less mention of ECI.

Shortly before ECI was released, another set of evangelicals that included 22 well-known names like Dobson, Colson, and other prominent evangelicals like Richard Land sent a letter to the NAE asking them not to sign on to the ECI because “the science was not settled” (a Bush administration and Republican party position at the time), and any efforts at mitigation would lead to rising energy costs and therefore, difficulties for the poor. This group formed the Interfaith Stewardship Alliance, and released a counter-declaration called the Cornwall Declaration, which like ECI continues to gather signatories well into the thousands (Goodstein 2006). In particular, Cizik was singled out for his role as a representative of NAE, noting that his position in favor of ECI did not reflect the beliefs of NAE’s members. Cizik, in my interview with him, pointed out that the one-third of the original signers were NAE board members, and that all of the signers were, with one exception, mainstream evangelicals. In other words, this is not a fringe group of evangelical leaders. Still, in the end, he was not a signatory of ECI despite his fervent believe in the project. I asked Ball why Cizik had become such a lightning rod for opponents of ECI, and he said it was likely because of Cizik’s media prominence, and the resulting perception that Cizik was driving all of this. In other words, if opponents to Creation Care could get rid of Cizik, then somehow, it would solve the political problem Creation Care was rapidly creating.

Cizik was featured prominently in Vanity Fair’s “Green” issue, Moyers’ program, and Fast Company, among many others – statements made by Cizik to Fast Company and others of

his speeches were excerpted in the letter from ECI opponents.<sup>117</sup> *The New York Times* story on ECI put the conflict, not the content of the declaration front and center, particularly the pressure on Richard Cizik to resign or be fired. The letter stated that Cizik spoke his own political opinions as if they were either scientific fact, or as the opinion of NAE. Though none of the letter's signers were NAE board members, they were concerned about the status of what they considered to be "an important Christian institution in today's culture." Cizik was confronted with some of this directly by Bill Moyers in his interview with him, where Moyers quoting from unnamed critics said that Cizik had been called "unchristian." Cizik, obviously shocked, says: "they said that? And then gathers himself and responds, "well I've been called un-American!"

These critiques refer to very public bashing of Cizik directly by Senator James Inhofe when he appeared on Pat Robertson's *700 Club* television show, and by James Dobson on a national radio broadcast. Inhofe calls Cizik a global warming alarmist, and behind closed doors, reportedly referred to Cizik as a "liberal wolf in sheep's clothing." He notes in his press blog that Cizik was pictured "walking on water" in *Vanity Fair*. Dobson claimed Cizik was "dividing evangelicals," but he also went on to misquote Cizik claiming that Cizik said it was "the most important social issue of the day," "immoral," and that what he was proposing would "put millions out of work." Dobson stated that the, "the net effect is anti-capitalistic and underlying hatred for America." *Fast Company* characterized it as a "family feud." And yet, the NAE rallied to his side, refusing to respond to Dobson's letter or attacks, and instead affirming Cizik and his work on climate change. Cizik in my interview with him noted that this affirmation said "very clearly to James Dobson... 'You don't speak for us'." Hunter in his book defends Cizik directly by pointing out that the methods of media have crossed over into the evangelical community namely that of "radicalizing someone's position so that they can knock it down more easily." Hunter says that this doesn't mean debate shouldn't continue, but he also asks "is debate a prerequisite to doing everything we can to be good stewards of creation?"

Cizik told me that the attacks have been "painful" and "very upsetting" for his family. He agreed with me that Dobson's issues are primarily about politics, but he also said "his

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<sup>117</sup> When I interviewed him over the phone, he was just finishing up with a film crew from Europe that had come over to interview -- part of my phone interview with him ended up in their b-roll, a term used for extra shots gathered to cover voice-over parts of documentary and news stories.



[Dobson's] problem is with God," and that Dobson also needs to refamiliarize himself with the Bible – particularly, the verse in Revelations where it says God "will destroy those who destroy the earth." In general, Cizik sees those who detract from the message of Creation Care as what he calls "Dalmatian" theologians, meaning they think, "the Bible is inspired in spots and part of it is authoritative but part of it isn't." DeWitt, Ball, and Hunter talk more generally about transforming the interpretation of the Bible into what DeWitt calls "an ecological handbook" (Roberts 2006b). What they are completely in sync on, however, is the notion of transformational leadership, and this is the vision that Cizik set out at the Creation Care conference in his address.

When I interviewed Cizik over the phone, I had not had the chance to meet him in person. Most articles describe him as tall and lanky with intensely blue eyes. He fit that description, but like most of the leaders I encountered, he also projected a fierce charisma and engaging presence, befitting a man on a mission. Unlike the others who spoke, Cizik brought a distinctly political and activist message to the conference. He acknowledged that "he gets into trouble every time he speaks" because he talks politics, and suggested opening in prayer to which the audience laughed, but then joined him reverently in prayer. He referred to what he does in roundabout terms: "some call me a lobbyist. I don't use that word myself. I'm a representative for a religious community." Noting he takes some of his thinking about strategy and tactics from Newt Gingrich, he started by talking about how much change has occurred in the past five years in terms of "visioning" a new way forward for evangelicals particularly on this issue. He argued, quoting from USA Today's articles on the new evangelical demographics and how they might affect the 08 federal election: "the old guard is being replaced by the new young bright faces with a broader agenda."<sup>118</sup> But he noted that evangelicals still have a 'vision problem,' and he warned that they were "at risk of God taking his blessings away" if they don't put this vision forward. With that, he launched into how he sees both the vision and transformational leadership taking shape, using the fight of abolitionists as a prime example. He said that "climate change is the civil rights issue of the 21<sup>st</sup> century... many of our parents sat on their

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<sup>118</sup> Cizik in a quote for the Wall Street Journal later in 2008 said that up to 40% of evangelical vote could be turned towards Democrats.

hands and this is our crisis issue; we dare not sit on our hands.” Transformational leadership is required to bring along those who had not yet joined in the movement.

He noted that while the NAE was not unified entirely, there was a much bigger problem that evangelicals had encountered in the political sphere: “partisan intransigence.” Mike Huckabee’s attempt at securing the Republican nomination was a prime example where the party leadership had not been listening to the people, essentially saying: “we know how you should vote, and what you should be concerned about.” Noting that evangelicals had been called “the new internationalists” for their partnership with the ACLU, Buddhists, and even feminists like Gloria Steinem on various issue of importance, Cizik argued that evangelicals have a “special responsibility.” Evangelicals are no longer “outsiders,” but are more like the Old Testament prophet Daniel, who as an advisor to the Persian King, faced a “tragic moral dilemma.” It is up to evangelicals to address the environment because “in that fantasy land called Washington, there are politicians protecting friends, oil, gas, utilities.” The work can’t be done “with an email petition or a mouse click for carbon neutrality... you need politicians to pay attention, and not patronize you. This kind of godly action can only be uploaded the old fashioned way by speaking truth to power, face to face.” Evangelicals, and indeed, America, “need young Daniels.”

In a condensed print summary, Cizik perhaps comes off as less folksy than he is in person. What was remarkable was the way he moved fluidly from talking about “what was on his heart” to political analysis and activism to evangelical history and then old-fashioned exhortation. Polling results and strategies for political cooperation are as likely to come from him as are Bible verses and theological implications. When I asked him in our interview whether he wanted to see policy or personal change among evangelicals, he said he wants both. “Belief and action are two sides of the same spiritual coin for evangelicals.” This phrasing, more than any other I have heard, most succinctly sums up the way in which Creation Care is approaching their work within the evangelical community, and outside it, as representatives working towards political change.

## Appendix B: Creation Care: Going to Church

ECI is clearly a flash-point in debates about civic engagement that have been going on for some time within conservative evangelical circles. I was curious as to what that looks like at the level of everyday church attendance so I visited two of the churches that Creation Care leaders either pastor (Hunter's megachurch) or attend (Richard Cizik's community church). They were in many ways polar, opposite experiences. Let me begin with a bit of background on Hunter's approach to church.

During the first half of the Creation Care conference, Hunter made reference to the younger generation and their lack of issue with screens as intermediaries in their church attendance. He described an attendee of his own church who was inducted as a member while logged on at an airport Starbucks. Hunter has pioneered and written a book called *A Church Distributed* that pioneered this kind of thinking about church attendance and involvement. In the book, he acknowledges a much wider, more structured set of satellites than the Starbucks anecdote with "linked" churches in New Hampshire, Egypt, Namibia, South Africa, Sri Lanka, and the Ukraine.

Hunter describes a distributed church in many ways – as both a noun and a verb. As a noun, it's "A church that centers on God and revolves around others rather than insisting that 'our church' is the center of the universe. This is a 'Copernican Revolution' of the church" (p. 162). He goes on to use words and phrases like "intentional distribution," "ultimate connection," "a network of churches sharing resources with one another," and "connected to many who are outside the local congregation." As a verb, it's "putting the resources of the church as close to people as possible, offering meeting points and access to resources, in order to assist Christians in helping others." He further elaborates on the verb with accompanying definitions that include: "connecting to outsiders, "arranging the church around relationships," and "reorienting ministry efforts from inside to outside."

Two things stood out to me when I first read Hunter's page of definitions for the transformation he was trying to describe and encourage. First, the scientific, Kantian metaphor of a "Copernican Revolution," and second, the ways in which network connections and relationships sounds very much like a discussion of social or new media theory. As I dug into his text, I realized that in referring to scientific revolution, he was talking both about a paradigm shift and an institutional shift. A distributed church goes against the normally hierarchical, "traditional" church organizational scheme, which Hunter initially describes as a kind of insanity and insularity where insanity is "being trapped within yourself" (p. 11) unable to relate to the world outside. He advocates instead an ecosystem-like transformation that is Biblically-based alternating between both ecosystem models of science and Bible verses to explain the ways in which interdependent relationships reflect the nature of the Trinity – God the Father, Son, and Holy Spirit. He advocates the dismantling of the church as homogenizing, ineffective institution, and moving it structurally towards a social network that grows by affiliation rather than acquisition and accumulation. Life as a Christian in a distributed church, he warns at the beginning, is defined by worship and service where the local church seeks constantly to include, enroll, and establish relationships outside of itself in contrast to the insularity of church-as-an-island.

Hunter's bibliography is an interesting study as well, bringing in Albert-Laszlo Barabasi's *Linked : The New Science of Networks*, Thomas Friedman and Peter Drucker's popular books, and Joseph Nye's work on soft power, among others. The relevance then to cultural, political, and media analysis such that the "network society" is in the ascendant is more than passing. Technology too provides multiple metaphors throughout the book, and is a key enabler to this new way of thinking about church. For Northland, the technological path began after 9/11 when their ranks exploded. They had to find an off-site location to hold the overflow, and a means of piping the service there. It was based on these experiences that worshipping via the web became a naturalized part of Northland's reach. Like any good media theorist, Hunter is careful to define this connection as bi-directional and multi-faceted as opposed to a one-way broadcast.

Hunter uses many personal examples to both explain the roots of why he thinks this is the path that should be more traveled by churches. He grew up attending a traditional community church with his grandparents, particularly after his father died and his mother was an alcoholic and unable to care for him for a period of time. He spent many years working in a more traditional church, and feeling beleaguered by the lack of outreach and relief that a wide Christian network might provide for a struggling or successful church. What he is proposing in short is fairly radical, but it is a path increasingly being taken in various incarnations by other mega-churches around the country. It's not quite the direction of the "emergent church" that seeks to overhaul doctrine, theology, and style. Rather, what Hunter proposes is a structural change that retains the conservative values of the evangelical church, but not necessarily its political leanings.

Hunter's stance on Creation Care as well as his proposals for structural change in the way church gets done in America and globally made me curious to attend Northland on a Sunday morning. Northland is a large warehouse style church that can accommodate 3100 parishioners with a full stage, large balcony, big lobby that includes a coffee shop and bookstore. I arrived just as the service started, and luckily had gotten a ride from my less interested family (who had tagged along for the Orlando theme parks) so didn't have to traverse the network of parking lots and attendants motioning cars towards parking. I wasn't greeted at the door by anyone, and quickly made my way to the balcony doors in order to get a good spot for seeing just how vast a 3000 person church feels.

A worship band was playing, and people were standing and singing. By worship band, I mean drums, guitars, piano, vocalists on the microphones. The huge video screen behind showed lyrics in order for attendees to participate in the singing. I looked around the balcony area, and found many families seated together, along with a lesser number of singles and couples. The sanctuary was dark like a theater so it felt something like attending a musical/theater show of some kind. I peered intently at those whose faces I could see in order to gauge participation. Most people were not singing, but they weren't fooling around or talking with one another either. There was a kind of reverence about "being in church" still present.

The worship band didn't play long before Hunter came to the stage. The huge video screen allowed that we could all make out his facial expressions and feel the sense of his presence a little more closely even in the "nosebleed" section I was in. He spoke engagingly about what the church's mission and identity are -- what it meant to be a distributed church. It was part of a series he was in the middle of, and he made reference several times to those who were joining in online or at satellite centers. He ended by talking about caring for "the least of these," referencing the poor that Creation Care is also focused on as a rationale for acting on climate change. And, then as suddenly as he had appeared, he vanished and one of the singers emerged to sing, to my total shock, Peter Gabriel's hit song from the 1980s, "In your eyes."<sup>119</sup> Behind him, the large video screen played heart-rending images of poverty from around the world – some of which seemed torn from the pages of *National Geographic*.

The song's multi-purpose use is evident, reading the lyrics – one could be singing of spiritual redemption or the fulfillment of finally finding a lover to fill the loneliness. And, certainly the reference to seeing the doorways "to a thousand churches" conflates the two in a way. But, this kind of borrowing from the blatantly secular was still surprising. Evangelical churches are usually known to hew a little more closely to a spectrum that ranges from hymns to worship songs, or at most, Christian rock on Saturday nights at youth-oriented meetings. The song, too, has some significant history. It has been covered by many artists since its debut in 1986, but it's known equally well known for being featured in the 1989 Cameron Crowe film "Say Anything," where it's featured twice, and most memorably when John Cusak's character holds a boombox over his head to play the song in order to win his romantic counterpart.

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<sup>119</sup> "In Your Eyes" by Peter Gabriel

in your eyes  
the light the heat  
in your eyes  
I am complete  
in your eyes  
I see the doorway to a thousand churches  
in your eyes  
the resolution of all the fruitless searches  
in your eyes  
I see the light and the heat  
in your eyes  
oh, I want to be that complete  
I want to touch the light  
the heat I see in your eyes

When the service ended, most of the people made their way out of the balcony area as quickly as possible, and I followed along interested to see more in the light of day. The lobby was extremely crowded as groups of friends met to talk with one another, and others headed to the door. It wasn't easy to strike up conversations with anyone in the lobby. The coffee shop had a long line-up, and a few, like me headed to the bookstore. The bookstore was a treasure trove Creation Care themed books – some I'd heard of, some not. My large purchase meant that I got several more free books from a series by Hunter on developing spiritual maturity. I left the church that day not having spoken to anyone other than the bookstore clerk.

The counter point to this experience had come months earlier when I attended the church Richard Cizik attends in Richmond, Virginia. I headed out of Washington DC on interstates and ended up on rural routes, going past gated communities, and found a small white church matching the name Cizik's administrative assistant had given me. I got there just in time, and it was already packed with cars parked on the grass in front. The singing had begun when I entered, but the door usher met me with a large friendly smile and found a spot for me immediately in the back row.

The church was small seating perhaps 100-150. Everyone sat on hardwood pews. Most of the members were not members of a visible minority group. The family beside me smiled warmly when I sat down beside them. It was near Christmas time so the church bulletin had a hallmark style image on it of young children sitting on a parent's lap reading, with a festive background. Traditional hymns were sung accompanied by a piano or organ – I can't quite remember which. The pastor was clearly speaking to people he knew well when he got up to attend to church business. The first thing he did was call on everyone to shake hands and greet their neighbors. The woman beside me, whose family was on the other side of her, found out who I was and what I was doing. She said she knew Richard Cizik, but didn't see him there today. She wasn't exactly sure what he did, but knew he worked in "ministry" somehow. She said he was a very active member of their church.

The pastor then called on someone to describe how the church's float had gone in the town's parade. A woman described how they had joined with several other community churches to put together a float, and she felt it had gone well though she had several suggestions to better the effort for the next year. When the pastor moved to his sermon, he talked engagingly about Christ as the Prince of Peace. He seamlessly wove world events regarding Israel and the Middle East into his message, and called for the parishioners to see that peace is only found through Jesus. The sermon was over quickly. There didn't seem to be any children's services that were separate. A hymn and a prayer closed the service, and then people began to file out.

The pastor warmly and earnestly spoke to everyone and shook their hand as they filed out. He was kind and engaging when I, an unfamiliar face got my turn, and again, he found out what I was doing. He said Cizik was not in attendance today, but he usually was – though he acknowledged, he had been traveling a lot. I didn't talk to too many more of the parishioners, but I got the feeling if I had stood around about five more minutes, I would have had a lunch invitation to consider. Unfortunately, I had a meeting and a conference in Washington DC to get back to, or I might have stuck around to find out if lunch was really a possibility.

I was disappointed to miss an opportunity to meet Cizik in person, but I was glad for the opportunity to see a community church in action. It helped to situate the work of Creation Care more fully. Hunter's church is well ahead of most churches in terms of thinking about Creation Care. It has completed a church audit, has people assigned to thinking about 'going green,' and effects an urbane air of sophistication, but many churches like Cizik's have quite different needs and steps to take. In these contexts, it may be difficult to bring up politically charged issues, but the political and the world outside of the church doors is never far from their consideration. These porous communities that take the communal and the tenets of their faith seriously are those whom Ball, Cizik, Hunter, and others that are spearheading Creation Care are hoping to inspire.



## Appendix C: Fieldwork Travels and Interviews

### Formal Interviews/Meetings:

#### 2005

First interview with Boyce Rensberger, 8.19.05

First interview with Kerry Emanuel, by telephone, 9.8.05

#### 2006

Interview with Brian Smith, Earthjustice, by telephone, 1.31.06

Interview with Jeff Tollefson, MIT, 5.24.06

Interview with Amanda Graham, MIT, 6.12.06

Interview with Richard Sears, Shell/MIT, 6.25.06

#### 2007

Interview with Laura Orlando, freelancer- Ms Magazine, 2.22.07

First interview with Sheila Watt-Cloutier, 3.6.07

Interview with The Climate Group, by telephone 3.26.07

First interview with Bud Ward, 3.29.07

Second interview with Kerry Emanuel, 4.4.07

Interview with Ellen Goodman, by telephone, 4.19.07

Second interview with Boyce Rensberger, MIT, 4.20.07

Interview with Amy McCreath, MIT, 4.23.07

Interview with MIT graduate student 1, 4.24.07

First Interview with James McCarthy, 5.1.07

Interview with MIT graduate student 2, 5.2.07

Interview with Susan Joy Hassol, by telephone, 5. 2.07

Second interview with James McCarthy, Harvard, 5.8.07

Interview with A. Nicole Stuckenberg, Dartmouth College, 5.11.07

Interview with David Carlson, IPY, Rock Island, IL, 5.18.07

Second interview with Bud Ward, Providence, RI 5.20.07

First interview with Chris Fox, Ceres, 5.23.07

Interview with Richard Cizik, NAE, by telephone, 5.24.07

Interview with Cornelia Dean, Providence, RI, 5.24.07

First interview with Dan Schrag, Harvard, 5.25.07

First Interview with Anne Kelly, Ceres, 5.25.07

Interview with Simran Sethi, Treehugger, by telephone, 5.24.07

Interview with Jim Butcher, Morgan Stanley, New York, NY, 5.30.07

Interview with Peter Griffin, MTV, New York, NY, 5.30.07

Third interview with Kerry Emanuel, MIT, 6.4.07

Informal Meeting/Interview with Solitaire Townsend, Futerra 6.7.07

Informal Meeting/Interview with Tobias Webb, Ethical Corporation 6.7.07

First interview with Charles Wohlforth, by telephone, 6.15.07

First interview with Megan Alvanna-Stimpfle, ICYC, by telephone, 6.27.07

Interview with Chris Mooney, 6.29.07

Interview with Caleb Pungowiyi, Kotzebue, Alaska, 7.8.07

Interview with Patricia Cochran, Kotzebue, Alaska, 7.7.07

Interview/Meeting with Tony Penikett (Nunavut representation), 7.10.07

*Candis Callison, HASTS Program, MIT*

*Information is not the Problem: spinning climate change, vernaculars, and emergent forms of life*

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Interview with Meade Tredwell, Polar Research Board, Washington DC, 7.11.07  
Interview with MIT graduate student 3, 7.16.07  
Interview with Andrew Revkin, by telephone, 7.19.07  
Interview with Daniel Grossman, Watertown, MA, 7.25.07  
Second interview with Charles Wohlforth, Anchorage, AK, 10.16.07  
Meeting/Interview with Henry Huntington, Anchorage, AK, 10.16.07  
Meeting with Patricia Cochran, Anchorage, AK, 10.15.07  
Interview with Peter Larsen, Nature Conservancy, Anchorage, AK 10.17.07  
Interview with Sheila Watt-Cloutier, Saskatoon, SK, 10.21.07  
Second interview with Megan Alvanna-Stimpfle (ICYC), Washington DC, 11.29.07  
Meeting/Interview with Igor Krupnik, Smithsonian, Washington DC, 11.30.07

## **2008**

Interview with Dan Schrag, Harvard, 2.1.08  
Interview with Richard Lindzen, MIT, 2.1.08  
Interview with Ross Virginia, Dartmouth College 2.18.08  
Informal meeting with Aqqaluk Lynge, Dartmouth College, 2.19.08  
Interview with Jim Ball, Director of EEN (Creation Care), by telephone, 3.3.08  
Meeting with Patricia Cochran at UNPFII, New York City, 4.21.08  
Interview with Carl Christian Olesen (Puju) at UNPFII, New York City, 4.23.08  
Interview with Jacqueline Richter-Menge, CRREL, Hanover, NH, 4.28.08  
Interview with Petyon Fleming, Ceres, Boston, MA 6.5.08  
Second Interview with Chris Fox, Ceres, Boston, MA 7.8.08  
Second Interview with Anne Kelly, Ceres, Boston, MA 7.11.08  
Email Interview with John Holdren, Harvard, 8.12.08

## **Conferences:**

### **2007**

Arctic Science Summit Week, Dartmouth College, Hanover, New Hampshire (March)  
First Nations Climate Change Conference, Vancouver, BC (March)  
Ceres 2007, Boston, MA (April)  
Harvard ID Conference, Cambridge, MA (May)  
Harvard Looming Crises Conference, Cambridge, MA (May)  
PR training day and Ethical Corporation Conference, Boston, MA (June)  
Climate Change Bootcamp for Journalists, Portland, OR (June)  
National Communications Association, Orono, ME (June)  
Inuit Circumpolar Youth Symposium, Kotzebue, AK (July)  
Impact of Diminishing Ice on Naval and Maritime Operations, Washington DC (July)  
Society for Environmental Journalists, Stanford University, Palo Alto, CA (Sept)  
Arctic Energy Summit Week, Anchorage, AK (Oct)  
Northern Research Conference, Saskatoon, SK (Oct)

### **2008**

Alliance for Global Sustainability, MIT, Cambridge, MA (Jan)  
Global Climate Change and Sea-level Rise: A conversation between Scientists and Media, St. Petersburg, FL (Feb)  
Creation Care Conference, Orlando, FL (Feb)  
Association for the Advancement of Science, Boston, MA (Feb)

Disruptive Environments: Academics, Activists, and Journalists in Conversation, MIT, Cambridge, MA (April)  
United Nations Permanent Forum on Indigenous Issues, New York City, NY (April)  
Ceres 2008, Boston, MA (April)  
The Future of Media and Public Institutions, UBC (May)

**Other Events:**

**2007**

Economic Impacts of Climate change at MIT (January)  
Energy Myths at MIT (January)  
Stern Review panel at MIT (January)  
MIT Museum soapbox on Global Warming featuring Kerry Emanuel, and a second featuring BU Biologists trying to build an amateur-led and visual database on local climate change indicators (January, March)  
Multiple Climate Project presentations (March – present)  
MIT Henry Kendall Memorial Lecture (“Uncertainties in Climate Forecasts”) by Stephen Schneider (April)  
MIT panel on Evangelicals and the Media (April)  
MIT lecture by Patrick Moore, co-founder of Greenpeace (April)  
Harvard panel following Yaron Ezrahi’s talk with James McCarthy and Ellen Goodman (April)  
Harvard lecture by Vaclav Smil (April)  
Middlesex Academy lecture by James McCarthy (May)  
MIT’s Boston Underwater Walking Tour (life after climate change) (May)  
MIT lecture by Bob Massie, founder of Ceres (May)  
Globalhealing.net lecture by Sheila Watt-Cloutier (attended virtually) (May)  
Harvard screening of "Everything's Cool", with Ross Gelbspan (June)  
Breakthrough Book Event with Michael Shellenberger and Ted Nordhaus, Seattle, WA (October)  
Attended Richard Cizik’s church in Fredricksburg, VA (November)  
Harvard Natural History Museum’s climate change exhibit (ongoing in 2007)  
Dartmouth’s Thin Ice, perspectives on climate change exhibit (ongoing in 2007)

**2008**

Dartmouth lecture (“Oceans, Climate, Infectious Disease and Human Health”) by Rita Colwell (February)  
UBC invitational lecture, Sheila Watt-Cloutier (February)  
MIT lecture by Samuel W. Bodman, US Energy Secretary (April)  
Harvard panel on Religion and Science (April)  
Harvard School of Public Health workshop for Journalists and panel on communicating Climate Change (April)  
MIT EAPS event – Stephen Schneider speaking (June)

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