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“Speaking Up For The Facts: The Communal Lives of Climate Change”
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I first started looking at climate change in the early 2000s – right here in E51-- when I encountered frustration with why the public didn't care or care enough about climate change. Scientists and journalists at that time were often at odds as to whose fault it was that the public wasn't engaged with the issue of climate change.

While the conversation has shifted and evolved, you can see that the challenges related to public engagement remain (referencing Gallup slides).

The title for this talk in fact could have had a question mark in front of it. It's a phrase that comes from President Obama's climate change action plan speech in 2013 where he asked Americans to “speak up for the facts.” He said:

“I'm going to need all of you to educate your classmates, your colleagues, your parents, your friends. Tell them what's at stake. Speak up at town halls, church groups, PTA meetings. Push back on misinformation. Speak up for the facts. Broaden the circle of those who are willing to stand up for our future.”

This is certainly not the first time this kind of plea has been heard in connection to climate change – Al Gore has trained many individuals to do just this in their communities using his now famous slide deck. Yet, it is likely the highest level political call – from a sitting president -- that exemplifies continued underlying ideals around what roles both science and information should play in western democratic societies. The implicit assumption is that information and the conveyance of facts will alter beliefs and behavior.

In his recent veto of the Keystone XL pipeline, President Obama has now characterizes the U.S. as a global leader on climate change. He cites evidence from national policy, cooperation with other nations, and attendance at the COP in Paris next month. Yet, public engagement in the US remains divided along political and religious lines – some might say those are more blurred than ever.

What I argue in my recent book is that climate change requires a negotiation with ethics, morality, and meaning-making in collective and individual terms, and an engagement with the processes of how facts and information come to matter beyond and within scientific contexts.

By engagement, I don't mean awareness or getting the facts straight – nor is it a matter of commandeering media so they speak properly about complex issues. Rather, it's a desire to know more about an issue, and “an ethical obligation, however fuzzily articulated, to become concerned and act in some way... It is a connection most often visible through, with, and between social networks that we are already a part of, whether it be our church, ethnic group, political party, workplace, school or other affiliation. Engagement at some point requires

collectivity; it feeds on community.” It’s what makes speaking up for the facts such a complex task.

Situated in and amongst diverse social groups, the questions at the center of the book takes on this task of understanding how climate change gets defined, asking what kinds of language, knowledge, and other moral and ethical commitments get used to discuss and mobilize groups and diverse publics.

The book looks at 5 different groups: journalists, scientists, CSR group CERES, American evangelical submovement CreationCare, and indigenous leaders in the Arctic associated with ICC. While these are quite different groups, there are surprising commonalities in and amongst the stark differences in their approaches and articulations. Today, I’m going to walk you through a few of the stories I tell in the book, and underscore some of the connections the book makes around epistemology, expertise, and vernaculars – and the challenges this creates for collaboration and information flows in pluralistic societies.

Take me to Church

In the late 2000s, I traveled to the suburbs of Orlando, Florida in order to attend the first-ever Creation Care conference at Northland, a mega-church run by Reverend Joel Hunter. The conference was intended to equip and enroll pastors in Creation Care, a newly emerging movement among American evangelicals interested in addressing environmental issues and in particular, climate change.

When I arrived at the conference I found that just like many small churches do on Sunday morning, Reverend Hunter was greeting each person individually as they came in the door for the conference. Waiting in line for my turn, I listened in as Hunter acknowledged the heavy-set white-haired man in front of me. Hunter made it clear that that the man was a well-known author. Hunter said he had read many of the man’s books and was excited and surprised to finally meet him.

Later at lunch, I found myself next to the author, and discovered he was indeed a well-known and influential pastor and writer. He had traveled to the conference with his college-aged daughter. I explained that I was conducting research on the diverse ways climate change is being communicated to Americans, and that Creation Care was one of several groups whose efforts I was looking at.

The pastor’s daughter was enthused. Fresh out of college, she had recently spent a year abroad and came back converted to concern about the environment -- much to her father’s dismay. 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. 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. He said, it can’t be the reason to act – the appeal has to be on “moral” grounds; it has to be about “stewardship.”

This statement was reinforced throughout the speeches at the conference, and in interviews I’ve since had with Creation Care leaders. Specifically, when I spoke to the Executive Director of the Evangelical Environmental Network, Jim Ball – one of the main organizers behind the conference, the Evangelical Climate Initiative, and the 2002 well-known campaign “What Would Jesus Drive?” He confirmed what the author had said, and explained the work of the nascent Creation Care movement as one of “blessing the facts.” He explained his work this way:

“... 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... 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, and made a conclusion that this is a problem, and that we as Christians need to address it. So, okay I’ll listen to that.”

These interactions remain stunning to me both for their clarity and because they pose very differently configured questions 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 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?

How should we think about the role of media in communicating complex scientific issues?

What does it mean to be actively engaged with and for climate change?

These questions have become that much more stark given interventions recently by Pope Francis both through the encyclical and through his tour of the U.S. When I was doing fieldwork at the time of my fieldwork back in 2008, evangelicals at that time were asking for insight from Catholics about how to be civically active. In the book, I describe this scene at an early Creation Care conference that is something like a bad joke – a pastor, a priest, and an imam. But the priest was a bishop and he said something that resounded for me when I read the encyclical – that the church does not impose, she proposes.

All my friends who went to Catholic schools as children always guffaw when I say this, but this is a powerful distinction when reaching out both across a diverse set of contexts for Catholicism and beyond the Catholic church. And it’s in this sense that the encyclical poses a much larger question – or rather, scales up an already large question. What I see this document asking is not just what it means for Catholics to be civically active, but what it means to be active globally on a global issue from a moral and ethical stance?

And for this, it's important to ask what kind of influence the encyclical has – what the nature of its influence is. Sandra Harding in her study of evangelicals back in the 1980s and 90s pointed out that what pastors said was so important because of the discursive culture of the church – what is said is discussed, turned over, taught, paired with other articulations. IF it is similar in a Catholic context, then how the encyclical trickles down, how it is interpreted, reframed within Catholic contexts is crucial to understanding what ethical and moral actions look, sound, and feel like when it comes to climate change? For example, who gets to define what an acceptable risk is?

For our purposes today, I want to situate my thinking within STS scholarship about the public understanding of science and media changes, and then I'll return to some more stories from the field towards the end of my presentation.

Understanding Publics and Sciences

Most of the dominant thinking in the last couple decades about how to get science across to the public is based on the public understanding of science models that assume several elements: an authoritative stance for science, a set of solid stable facts that can be communicated, the need for a democratic public to know, and a measurable lack of scientific literacy among the general public. You can hear some of this in Obama's speech, and certainly in many of the models for science communication that have come out of the IPCC and other major reports.

PUS models reflect the sentiment that if the public only knew more facts, or "all" the information, they would be compelled to act on its ramifications and potential impacts, exercising their duties and obligations as citizens to undertake collective action and activism through political and practical means.

STS Scholars have critiqued these kinds of models for their lack of recognition of the heterogeneity of science and of diverse publics. These models ignore how the social and scientific are "embedded" in one another, and the wider commitments individuals maintain that prioritize their involvement with and desire to know about issues.

Not only that, Sheila Jasanoff has particularly pointed out that how, when, and on whose terms scientific evidence is accepted is a distinctly cultural process, one that she terms civic epistemologies. This process is deeply embedded in institutions, and has ramifications for how policies are framed and how decisions get made about science and technology.

Further problematizing these models is the key point media scholars have made about our democratic love affair with information, and that is that: more information does not necessarily lead to more or better understanding or participation in the political process (Gans 2003; Schudson 1998).

Our democratic ideal in this society is such that awareness is a gold standard for social and political movements, and with good reason. Michael Schudson has traced this back to progressive voting reform rhetoric in the 19th century, and it has handily guided our media

institutions through to the end of the 20th century. Democratic ideals are such that citizens are required to self-educate, distill facts, and come up with opinions on issues of the day in order to express themselves in the voting booth or through other means.

It's this problem that initially got me interested in thinking about climate change.

Media change

Climate change has been an issue of scientific interest since at least the 1980s, or before, depending on what marker one uses. But really, as I mentioned at the beginning, it wasn't until the early 2000s that communicating climate change to a disinterested American public became a widely discussed issue of concern.

Much of that early 2000s discussion involved media, scientists, and environmentalists regularly handing out blame to themselves and each other for the lack of traction this issue had with the general American public (See Boykoff et al, Gallup, etc).

Many blame the presence of skeptics who continue to tout climate change as replete with uncertainty, contrasting it with an ideal of more settled science that would warrant action.

The predominant response to skeptics from science, policy, 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 what Eric Conway and Naomi Oreskes might term the "production of doubt."

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's more is that science has usually been portrayed as above this kind of fray. The usually conceived scientific ideal is impartial, non-partisan, fact-driven, objective (Mertonian in nature), or as many scientists pointed out to me: providing data regardless of creed or association.

Drawing on these democratic and scientific ideals, it is often asserted that the discovery of objective facts and the dissemination of that information should and will engage the public, and drive action. In other words, if we put the facts out there – if we *speak up for the facts*, people will respond, become concerned, and change their minds and eventually, their behavior.

But much of what we depend on to deliver information is in the mist of immense upheaval.

I used to show slides that showed a straight decline like this one for magazines, but the picture is much more complicated than it's ever been.

We're watching as the role of social media in circulating news increases, and the revenue for professional newsgathering decreases (by a 1/3 since 2006). The industry as a whole has yet to find a way to plug into these changes in audience behavior.

Leading media scholars have been talking for a while about thinking of this emerging landscape as an ecosystem – as a way to account for the way individuals plug and re-plug the bits and pieces of information they gather from many sources.

Andrew Chadwick and others have suggested thinking of the current landscape a hybrid space for the cultural production of news and information. News and information are woven into social awareness streams that represent a constantly updated public account of the experiences, interests and opinions. Users reframe or reinterpret messages through networked platforms that extend the dissemination of news through social interaction, infusing hybridity in news production, selection and dissemination (Chadwick, 2011; Papacharissi & de Fatima Oliveira, 2012). Alex Bruns and Jean Burgess have suggested that communities then filter news through their own established interests and news frames, resulting in a distribution of attention that is different from that of the mainstream media or of general public debate.

The point being that the question of how we address the audience's appetite for a wide range of sources is still very much up in the air.

What's becoming increasingly apparent is that this transformation has meant that journalists who were traditionally seen as informers, agenda-setters, and watchdogs have now become forum-providers, a kind of chief discussant if you will, and third (or fourth or fifth) party verifier. This is still a very new role for journalists and news providers to navigate, or even understand.

When the AAAS conference was held in Vancouver, a prominent visiting science journalist described reporting on climate change as something like parking your car under a bunch of starlings.

Funny, right, but poignant too.

But it's not just journalists who are facing a newly configured public forum. Scientists too are under pressure, as you many of you have probably keenly felt if you've been out there amongst climate skeptics.

Indeed, then it's not just media and the vaunted role for newspapers that are under scrutiny and sometimes attack, but that of information and expertise. In our new world of many sources, claims and counter-claims abound about what's happening with climate, with the Arctic, and what the future may hold.

So, where does this leave us in thinking about a complex issue like climate change – an issue replete with uncertainty, evolving scientific knowledge, and a large active set of commentators online debating the science and politics of the issue.

The instinct for many has been to assert the role of experts, valorize peer-reviewed evidence and consensus, and to downplay the high engagement that occurs in the swirling vortex of public discourse.

But, if we are to take seriously the fundamental view expressed through an STS lens of coproduction, which sees social and scientific as embedded in one another, or Jasanoff's notion of civic epistemologies where publics have distinctly cultural and national ways of coming to accept evidence then -- a radically open, networked, and often mediated public discourse is perhaps not a problem to be expunged or ignored.

Double Binds

What these experiences in doing fieldwork led me to consider and analyze are two distinct but connected issues --

The first is the double bind inherent to climate change -- that in order to move publics to care, climate change must both maintain fidelity to scientific facts and at the same time, become much more than that.

The double bind is a concept first offered by Gregory Bateson and has been advanced by Kim Fortun in her work on the Bhopal gas explosion and the work social groups did in the wake of that disaster. It denotes situations where persistently mismatched messages, obligations or explanations that are related and equally valued, but incongruent must be accounted for simultaneously.

So when I say it must become much more than a scientific fact -- I mean it's from how climate change is understood, translated, and discussed that a rationale to act begins to become apparent.

This leads me to the second point I want to highlight briefly here and that is -- the way in which we discuss issues is deeply connected to how we know what we know and to the social affiliations we maintain.

I use the term "vernacular" in the book in order to explain what I experienced when I talked with people, like those working with ICC -- who were actively working to mobilize their concerns about climate change. The ways they were talking about climate change drew to a great extent on how they experienced the world, what mattered to them, and how they conceived of a future they wanted for themselves, their social group -- and often, for society as well.

Climate change and discussions about it are what I call a form of life, following Ludwig Wittgenstein -- where meaning must be established as well as rules, grammars, and associations for how to talk about it. This became my method without realizing it. I sought out different ways in which this same thing -- climate change -- became meaningful in quite different contexts.

Climate change poses an intellectual, scientific, and moral challenge -- in other words, it is both a problem of assessing what is happening, what might happen, and how to act in the world. Drawing on Mike Fischer's elaboration of Wittgenstein in relation to sci-tech, climate change

might be conceived of as an evolving, emergent, overlapping, pluralized *form of life*.

How climate change comes to be meaningful outside of a scientific context depends on how it gets talked about and reframed/reformatted/recontextualized within what people are already concerned about.

I started by talking about evangelicals, but one of the other groups that I followed and interviewed were the leaders of the Inuit Circumpolar Council.

What intrigued me was the way they sought to express and translate for wide publics a way of being in the Arctic in the midst of climate change that transforms a loss of sea ice into loss of human life, culture, tradition, and means for subsistence. But not only that, they sought to embed this view of the Arctic within their own longstanding calls and histories of calls for self-determination within the region – to as Sheila Watt-Cloutier has often said, put a human face on the Arctic, or as Aqqaluk Lynge has often said: to partner in how and what decisions get made in the Arctic.

Kotzebue, Alaska

One of my field sites was in Kotzebue, a town of about 3000 on the Arctic coast of Alaska. Kotzebue was hosting a language symposium organized by the Inuit Circumpolar Youth Council. I was invited by Patricia Cochran, international chair of the Inuit Circumpolar Council who was from the nearby and much more famous town of Nome, Alaska.

Language retention, on the face of it, really has nothing to do with climate change, but when Patricia told me that representatives from all over Alaska, and some from Greenland, Canada, and possibly Russia would be in attendance, I quickly agreed, thinking it would be a good spot to talk with lots of people about their experiences with climate change, “southerners,” and media.

In the Kotzebue school gymnasium where most of the roughly 80 people in attendance including two other social science researchers were known to each other, I was a bit of a curiosity. 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 -- what is for them, a southern tribe in northwestern BC – I’m Tahltan from Telegraph Creek. I told them I was 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 that first morning of the conference, 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.”

But, it's not as if environmental change related to massive warming trends all over the Arctic isn't discussed. The headline on the regional paper for Kotzebue talked about the recent hearings by the Alaska Climate Impact Assessment Commission, which had two individuals 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.

Located on a barrier island, Kivalina is suffering debilitating coastal erosion and sea level rise. Shortly after my time in Kotzebue, Kivalina filed a lawsuit against all of the oil companies in order to try and pay for what will be a hugely expensive and complicated relocation plan for the community. So then, not only is climate change a lived reality, but there are many looking for creative solutions to the very pressing nature of that lived reality.

Still incredulous hours later about the "only on CNN" comment, I talked with Patricia Cochran about it. She agreed with the woman I had spoken to. She said: 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 – whalers forced back in, more storms, more intense storms, early sea ice break up, coastal erosion, cotton grass moving in, moss overtaking lichen, moose moving north, trees showing up on the tundra. She said, "If you were to ask our elders about the changes in the ice conditions that they've seen over their lifetime, well, boy, that would be a three month conversation."

Patricia has spent most of her professional life looking to move past the neat categorization of such observations as mere anecdote. She sees people like herself and her predecessor, Sheila Watt-Cloutier as "interpreters." They act both to translate the relevance of scientific findings like those put forward by the Intergovernmental Panel on Climate Change (IPCC) to their own people, and the concerns of their community to the world at large.

What this looks like in practice is translating both the science and experience of climate change into a human-scale and community issue.

Sheila Watt-Cloutier along with 72 other Canadian and American Inuit undertook on a formal and legal level through human rights frameworks and discourse. In 2006, they brought a human rights claim before the Inter-American Human Rights Commission regarding US inaction on greenhouse gas emissions. Sheila was later nominated for the Nobel Peace Prize for her work on this petition.

She calls it "the right to be cold" when she talks about it outside of her community, and this is also the title of her newly released Canadian book. Her goal is to -- as she articulates it: "put a human face" on climate change, stemming from her prior work on persistent organic pollutants that were found to be winding their way from factories in the lower 48 to the Arctic.

It's in this that the deeply ethical terrain begins to emerge – one that speaks to both the past and the future.

Climate change like many environment issues have benefited from advocates attempting to

establish how the future should be considered and encountered.

But as Inuit work around human rights and climate change demonstrates so strongly, climate change also turns on establishing *how the past should be encountered and understood*, and the myriad of systems and institutions that define the complexity of tackling big issues in our democracies, riven as they are with still-present colonialism and its structural disparities that continue to reproduce inequality and oppression.

How climate change is interpreted and reframed within differing contexts is crucial to understanding what ethical and moral actions look, sound, and feel like. For example, what does climate change tell us about our connection to each other and to the natural world? The papal encyclical tries to lay this out, but avoids any discussion of the past or the role of the church in the past.

Environmental issues and facts have a communality that touch on problems from the past, long interactions with systems and institutions, and how we talk about issues and facts are lined with meaning-making, ethics, and morality regardless of how clean, scientific, and transcendent they might seem.

As I've waded into climate change and come to understand it as an issue that requires work to make it meaningful, ethical, and moral, what I've also come to see is the need to sit in that complexity and to develop listening skills. But how do we define listening when many involved are often speaking past each other? When does epistemology matter? How to navigate this new terrain of ethics and morality where double binds become that much more important?

Climate change contexts

Part of this perspective stems from noticing how different climate change sounds in other contexts.

For corporate social responsibility advocates working with Wall Street investors and corporate leaders, climate change concerns were rearticulated as "climate risk" in order to situate the issue within existing financial frameworks that require attention to fiduciary obligations and responsibilities and an accounting for risks that would harm an investment.

In a church setting, as I started with, evangelical leaders talked about climate change as being part of Bible-based concerns and dictates to care for the poor and to be responsible stewards of creation.

What juxtaposing these articulations alongside scientists and science journalists reveals is that science is, in many ways, its own vernacular. Journalists and scientists who are committed to informing and engaging the public through various means must then not only translate science for wide public consumption, but also negotiate with the ethical and moral implications of scientific findings. In doing so, they negotiate with their own professional norms and obligations around detachment and objectivity along a spectrum of what I term, near-advocacy.

Near-advocacy operates on a spectrum that recognizes both the collective and individual efforts of scientists and journalists to negotiate and develop their own relationship-building efforts with “the facts.” Near-advocacy is an attempt at defining those instances where knowledge of some facts and implications of these facts compel scientists and journalists to speak about the ethics related to their findings. Mike Hulme, a leading climate scientist and some might argue social scientist given his recent work, has suggested that the new role of scientists has produced “struggles to find new institutional forms and processes to shape knowledge into a usable form.”

In looking at how scientists have been called as experts by both media and the state in both the Bush and Obama Administrations, it’s clear that they must “engage in forms of near-advocacy in order to articulate science as properly open on some counts and closed on others—demarkating which 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.”

For journalists, truth-seeking, a major tenet of journalistic codes of ethics, related to climate change has been defined as reporting in a way that reifies and relies on scientific consensus and organizes new evidence and findings such that ethical implications emerge. Telling stories such that the ethical becomes the central focus or a central outcome goes beyond “just the facts” and requires an evolution of journalists’ relationships with and articulations of traditional norms like balance, objectivity, and accuracy.

I argue in the book that scientists and journalists are both required to employ a theory of the social, or at the very least, a theory of what role they think experts should play in public and political fora. It’s in this space of gauging and heralding risk that stances related to near-advocacy are formed and circulated. Climate change as a set of amalgamated predictions even without cost/benefit analyses demands an ethical positioning of both fact and expert. Scientific knowledge and scientists as situated and interacting with social and cultural forces draws in part on Jasanoff’s concept of coproduction, and on the observations and experiences of Hulme, Oreskes, and others who have been actively speaking up for the facts.

Questions related to climate change are thus not only about how it is defined, and what it means, but who gets to speak for and about it? Who are the experts? Who can speak to what a future with climate change means?

If we think more broadly about information and how it circulates in our own lives, who and what is considered an expert is related to a great extent to credibility. Many will trust the word of a *New York Times* reporter or a MIT-trained scientist – and we’re likely to assume everyone else does too. Our ideals about who and what are credible are inherently social and cultural, based on collective and historical experiences with institutions and a trust in the methods used to arrive at conclusions, analyses, and predictions. That’s the logic behind much of the work done by many environmental activists – they appeal to wide publics to act, based on evidence most will agree is credible.

Amongst those I interviewed and researched for this book, I encountered this straightforward route, but also, a wider range of alternative means of establishing credibility and expertise. This

is how my research became about trying to understand the many ways and means by which scientific evidence comes to matter, what kind of an issue climate change is in specific contexts, and how it is articulated as an issue of concern.

I often half-joke now that I would like epistemology to become a household or 'headline' word because how we know what we know -- and how facts get established -- are becoming increasingly open to scrutiny. Just look at the comments after an online story and you see this play out in various ways.

In considering climate change as only (or primarily) a science-based or science-laden issue, deeper ethical and moral discussions about our relationships to the natural world and to each other often get lost. The range of probable and possible outcomes, and the risks inherent remind us that we are community.

Recognizing the power of social affiliations and networks and accompanying moral and ethical concerns alongside evidence-based analyses and predictions does take us into a potentially robust and even more rambunctious public discourse. We have yet to develop the kinds of digital and other mechanisms that would actively facilitate this discourse.

Indeed, we're barely past the gate in terms of thinking beyond a broadcast model of news and information, and in terms of contending with differing epistemologies. But, there are glimmers of hope here and there as social movements like Occupy and Idle No More demonstrate in terms of bringing together varied groups around shared concerns.

My hope is that this book contributes to broader thinking about the social and communal life of facts, and to *contending* with what it means to collaborate, and to have shared goals without shared assumptions about how evidence has come to matter.