

Global Climate Change and Society

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Summer 2002

What is Global Climate Change?

I suspect that even the most civically disinterested members of modern society, when asked about the dominant concerns of the day, would mention ‘global warming’ without much hesitation. The topic seems unavoidable; its pervasion is perhaps most conspicuous when deployed as a scapegoat for both extreme weather events and seasonal anomalies across the globe. When translated through the prism of modern media, the nebulous issue appears convoluted and decontextualized. My observation draws in part on a recent series of reader opinion pieces published in the *Denver Post*. The respondents were commenting on previous editorials – subjects ranging from Kyoto political posturing to western wildfires – that explicitly addressed the climate change issue. What is immediately obvious in the series is that climate change is not really an *issue* at all, but rather a broad collection of related but distinctly different issues. These issues extend beyond the isolated notion of a ‘physical’ climate to the ‘human climate’ we inhabit; it is therefore more apt to speak of global change and avoid a redundancy. More importantly, the six articles remove the debate from the realm of the specialists and present popular, first world perceptions of global change.

“Why on earth anyone would steer the conversation away from reducing the number of transportation contraptions that spew poisonous gas into our air is beyond me.”

“Global warming will cause temperatures to rise and will thus be responsible for increasingly intense weather such as the droughts and fires we are currently experiencing...The claim...that fighting global warming will hurt our economy, is not true.”

“The global climate has been changing for centuries...no one knows why, but it certainly wasn’t due to more CO₂ in the atmosphere...Until the reasons are understood, I’m not in favor of eviscerating the U.S. economy.”

“The auto industry is claiming that proposed regulations in California (on greenhouse gas emissions) would wreck the economy...Stupidity gets tiresome after a while, especially with the world at stake.”

“None of the scenarios The Post cited means the end of life as we know it...Humanity, and particularly America, is impressively adaptable.”

“...Energy producers will have to recognize that burning fossil fuels is forcing global temperatures upward and making our air that much less breathable...Individuals – combined with eventual government and corporate action – can and will pull us back from the brink of environmental catastrophe.”

Taken together, the snippets exhibit inconsistencies in problem definition, scientific understanding, economic implications, and overall extremity of change. What strikes me first in these statements are judgements of extremes. While two respondents perceive a global environmental catastrophe with the world at stake, another believes future scenarios are far from meaning an end to life as we know it. The definition of the core problem to solve is interestingly variegated. Two respondents refer specifically to the automobile; however, the first seems to think carbon monoxide poisoning is the problem, while the other explicitly cites a greenhouse gas (carbon dioxide) as the culprit. A third respondent, combining both of the concerns above, ascribes blame not to the automobile but to energy producers. Also divergent are the respondents’ views of economic impacts. Will measures to counter global change cause no harm or eviscerate (or wreck) the economy? In the face of such uncertainty, the approaches for action are similarly

varied. Two respondents, respectively, believe that reducing the number of cars or reducing the emissions of cars is the obvious answer. A more skeptical respondent, arguing that longer-term climatic variability is not strongly coupled to greenhouse gas concentrations, believes more science should precede action. Adaptation, as opposed to mitigation, is the obvious policy for one respondent. And, as opposed to top down regulation of fossil fuel use and emissions, one respondent believes mitigation must start with the individual and extend to institutions – an explicitly bottom-up approach.

My point in dissecting what to many might seem a rather trivial set of exaggerated claims is not to belittle the public's awareness of global change. More systematic surveys have assessed the public sentiment towards and understanding of climate change. Immewahr (1999) found that, while global warming maintained the highest salience of all environmental issues among the public, miscommunicated science and poorly defined goals for dealing with the issue frustrated most survey participants. Without a unified scientific voice on the subject, many participants turned to impressionistic or anecdotal notions of what may or may not constitute climate change. More dire still was agreement that, with no unequivocal explanation of causality, the problem must ultimately stem from intrinsic human greed.

What is lacking is not awareness of global change but an adequate means of obtaining pertinent information to understand the issues involved. The disorientation of the public is symptomatic of a much larger societal deficiency in how we manage knowledge. The two aspects of management I aim to highlight – disciplinary organization and communication – provide at least a first order explanation for why global change as an issue remains so devilishly elusive.

Disciplines and Specialization

The modern intellectual project that grew more or less out of the enlightenment is characterized by specialization. To achieve success in the modern academy is to advance understanding; to advance understanding requires a thorough, exhaustive knowledge of the subject matter; an exhaustive knowledge of the subject matter requires a willful exclusion of extraneous

information. Perhaps this is what is really meant by ‘discipline’: the ability to discipline one’s thinking so as not to incorporate confounding details beyond the scope of one’s study. This reductionist approach has produced marvelous advances in scientific understanding of discrete entities and isolated systems, or those easily compartmentalized and studied with an appropriate set of tools. Similarly, it has allowed the social sciences and humanities to articulate the human experience entirely within the human dimension.

Recent emphasis on interdisciplinarity in academia has hinged largely on an idealistic notion of a more open and collaborative intellectual environment. However, without a significant impetus to cultivate such an environment, success stories of discipline-breaching have been few and far between. Yet global change presents a complex set of issues that cannot be discussed without integration. In place of an argument supporting integration for its own sake, society now has a collective goal of understanding and addressing global change that is pursuable only by transcending disciplinary boundaries.

The difficulty arises in the apparent time lag separating the quest for integration and the institutional response time. Our enlightenment organizational structure for knowledge management – the file cabinet of ‘-ologies’ – is perhaps more resistant to change than anticipated. Although the call is not for a wholesale dissolution of academic disciplines, even the incremental steps of improving collaboration across disciplines is proving to be frustratingly slow. As a result, the project of understanding global change in the academy remains discrete, disciplinary, and unconnected.

Thus, while the production of knowledge regarding global change is increasing, the fragmentation of that knowledge remains nearly static. This, more than media or other cultural influences, results in a parceling of information to the public that does more to obscure the issue than inform it.

Communication

It has been said that we live in the age of the sound byte. In an unfortunate marriage of convenience, this most expedient means of information transmission is ideally suited to capture the knowledge emanating from the divided institutions described above. It is therefore unsurprising that public perceptions of global change are puzzled and frustrated. In a playful thought experiment, consider the most accessible sources of information to which we might be exposed that bear some relevance to the issue.

A major newspaper article summarizes the latest findings in *Nature* of high frequency variation during the late Pleistocene that far exceeds what we've experienced over the preceding decades. The cover of *Scientific American* tells of an article forecasting the onset of the next glacial period once the geologically 'brief' period of anthropogenic warming has occurred. *The Learning Channel* reports on the latest advances in sequestering carbon dioxide so as to obviate the need to curtail fossil fuel use. A *Greenpeace* newsletter points to the viability of renewable energies as a solution. An editorial in the *New Yorker* argues that the real problem lies in a metaphysical distortion of nature and our place within it. A roundtable radio discussion emphasizes the ultimate issue of equity in addressing the impacts of change that will vary across the globe.

Each of these seemingly disparate perspectives on global change, irrespective of their validity, are ultimately derived from sources either within or linked to academia. In turn, that fragmented origin is maintained as the information is disseminated through the manifold conduits of the modern media. Until a more unified version of the global change story is offered by the academics we've entrusted to elucidate it, the public eye will see nothing more than a jumble of half-truths and content-free facts.

Where to From Here?

Global change is a human issue. I have thus sought to understand it as my fellow humans do (i.e. middle-class Americans), based on their voiced concerns. Some might claim that the unending complexity of changes both stemming from and influencing global change necessarily

throw any framing of the overall problem into disarray. Yet such a conclusion bears some resemblance to current government policy towards climate change science, insofar as an insufficient understanding is used to justify research in lieu of action. Whether more science, more philosophy, or more debate will better clarify the issue is trivial; as argued above, our institutions for managing that knowledge are ill-prepared to organize it in a meaningful way.

Rather, I propose redirecting the global change discussion to overall societal goals. It seems undeniable that we live in an era of rapid change, pervading not just the most technologically advanced cultures but the entire world. The times are exciting and worrisome simultaneously. It seems an opportune time to revitalize Western democracy by reevaluating our societal goals within this shifting cultural and environmental milieu. Opening this discussion in the public sphere, while admittedly idealistic, is to me the only recourse capable of adequately and honestly addressing the impacts of a changing physical, social, and economic climate on individual lives. Of course, foremost in the discussion will be trade-offs. What level of our standard of living are we willing to sacrifice to protect other more sensitive economies? What degree of genetic modification are we willing to accept to accommodate climatic shifts that do not suit current agricultural demographics? Many other examples come to mind, but each expresses the same fundamental question: what mix of adaptation and mitigation can we agree upon to best ensure the lives we hope to live?

Starting the discussion of global change with goals negates the need for a unified, catch-all definition of the problem, the quest for which has so confused the thoughts of concerned citizens like those introduced in this essay. By seeking direction first, we can avoid the disorientation caused by allowing the various projections of future change shape the ends we seek in deciding our future. I believe our species is richly endowed with the attribute of resilience. This characteristic 'human hardiness' should not be overlooked in considering the impacts of a changing physical and social environment. I envision the future of our society, together with the globalized world we now inhabit, to be best served by pursuing the goals that best define our

collective values. What about a changing climate? I offer a simple adage. To mitigate, we should take an umbrella; to adapt, we should ensure we know how to open it.

Reference Cited

Immewahr, J. 1999. "Waiting for a Signal: Public Attitudes toward Global Warming, the Environment, and Geophysical Research." A report from *Public Agenda* @ www.publicagenda.org, pp. 6-14.