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The Sociology of Climate Change: Research Priorities

What do we know: What does Sociology bring to the table for studying the human dimensions of global climate change?

Sociology's expertise in the study of social inequality, social change and scientific knowledge position it well to make important contributions to human dimensions of global change research. Sociology is poised to study and explain the institutions, norms, governance practices, forms of participation and social movements that emerge. The discipline is particularly well suited to study and propose organizational changes necessary to both mitigation and adaptation at local and state levels. Sociological methods enable us to learn about societal aspects of climate change through qualitative approaches as well as quantitative analysis and modelling. As human dimensions funding streams already privilege modelling, GIS, remote sensing and statistical analyses, research using ethnographic methods should be encouraged. Interviews, focus groups, participant observation, text analysis and participatory action research are all useful means to explore the socio-environment. Similarly, funding tends to support research with economic or behaviorist conceptual frameworks but should also support those studies grounded in social theory, an additional strong point of sociology.

We know that it is critical that adaptation and mitigation be addressed simultaneously. Adaptation is a term from biology, which while very appropriate for all life in the context of climate change, does not convey well enough the challenge facing a hierarchical human society that persists in radically altering the biosphere despite evidence that this will be catastrophic. Uneven development globally and uneven relations of power within societies mean people will understand, react and respond differently to the idea of the changing climate and they will also experience its effects differently. Biophysical processes in conjunction with capitalism, racial inequality, patriarchy, the legacy of colonialism and anthropocentrism all play a role in enabling the changes we are now witnessing as well as the varying impacts. Finally, uncertainty has been exploited to support inaction on climate change. Uncertainty must become the way we know the planet such that policymakers and citizens do not demand the eradication of what is unknown before they will act. Three broad areas in which social science research is needed include an exploration of 1) ethical and political questions around disaster, social change and the relationship between the differently human and more than human; 2) knowledge production on the changing climate; and 3) the relationship among mobility, inequality and development.

What do we need to know: What are the major sociological research questions?

Ethics and Politics: Questions of responsibility, generosity, care and relationship arise from human induced climate change. How we theorize the human, the more than human and the relationship among different beings is important as the earth warms and significant, even sudden, socio-ecological change occurs. How might people come to think beyond responsibility toward family and nation and toward other human and more than human life? As sociologist Nigel Clark (2007, in process) has pointed out, it is theoretically and ethically important to be able to both

situate the human in relation to the long term geo-physical shifts that have moved the earth *and* to acknowledge human responsibility for anthropogenic emissions. Philosopher Elizabeth Grosz (2005) suggests that the nonmoral ontology of Darwin would not mourn extinction but would instead wait to see what might take the place of the extinct. Like Clark, she is interested in the creativity of nature, the way the biological incites culture to act. Research might also mobilize the concept of companion species (Haraway, 2007), for instance, to think through these relationships. Affinity politics across species and nations, like a climate politics drawing on the attachment of northern peoples to the polar bear (Slocum 2004), or of indigenous people organizing around the right to be cold (Yusoff, 2007) might provide insights.

What can various theoretical frameworks bring to the conceptualization of responsibility in light of more frequent disaster? Some nations are obvious agents in climate change, many more people will be victims and some few will be beneficiaries. What politics are arising from recognition of responsibility at a distance (Massey, 2005)? What does it mean to live with climate change when we know some people in certain places are more constrained than others in their ability to adapt? Stephen Pacala (2008) uses the term genocide for what will most likely occur in the Sahel when shifts in rainfall patterns induce widespread and long lasting drought. What does society do with that knowledge? Invoking morality to stem disproportionate and unsustainable use of resources seems unlikely to motivate a sense and practice of responsibility. In the context of the changing climate, research exploring these dimensions of the human and the nonhuman, particularly those which pose philosophical questions, would be helpful.

Anthropologist Joseph Masco (2008) suggests that one cultural obstacle to a viable US response to climate change is its historical position as an atomic power and its perception of threat. Innovative research into what characteristics of US society or the American state prevent or enable a response to the risk of climate change should be undertaken. It would also be useful to know what forms of environmental citizenship and lay science are developing around climate change. What different politics are forming to confront the perpetual emphasis in the US on the individual's efforts to protect the climate? What progressive or reactionary politics of place (e.g. local food) are building around potential climate changes? What new security apparatus will be justified to deal with the places and people experiencing insufficient water, food and fuel supplies? What will a declining empire do? The concept of biopolitics (Foucault, 1997) in which the state and the institutions of society assume the task of making live and letting die could be deployed in sociological research. State response to the dislocations resulting from climate variability should be followed to document the climate biopolitics that emerge. Studies should render visible the new affronts to human dignity and civil liberties as climate change poses additional opportunities to justify the use of military power and surveillance. Will the changing climate be a provocation to neoliberalism and capitalism and in what form? What non-capitalist practices are developing in the wake of climate variability? What will response to climate vulnerability under neoliberalism look like? What adaptation measures might result from a neoliberal political economic regime? Given the US emphasis on behavioural change and personal responsibility to confront obesity, risk of HIV, drug abuse and poverty it will be important to understand how people are enrolled in adaptation in neoliberal ways that may exacerbate the consequences of climate change for various social groups. Will they be required to weave their own safety nets in the face of new diseases, heat waves, water shortages, melting

and flood risks? What new institutions are developing that challenge and are complicit with neoliberalism?

The Production of Climate Knowledge: Important work across the social sciences has demonstrated how knowledge is produced locally and globally in different forms. Some have pointed out the centrality of global climate models to knowledge when the world's sense of climate change is far more varied (Demeritt, 2001). Research conducted collaboratively with indigenous communities that documents different forms of knowledge production and response to knowledge is important to bring into the climate debate (Batterbury, 2008). Studies in areas that will be significantly affected by climate change, such as the Sahel, islands like Tuvalu and the Arctic or the poor neighbourhoods of Philadelphia and Dhaka, that enable people who live in these places to be partners in the research and development of adaptation strategies as well as in the documentation of changes at the household-regional level should be encouraged. People in these places have ways of identifying environmental changes that complement and make more complex the data obtained through quantitative analyses or questions asked via a Western scientific ontology (Ingold and Kurttila, 2000).

A persistent feature of US climate politics has been the refusal among many in the population to accept the role of humans in climate change and to acknowledge the need to abate those emissions. Interdisciplinary ventures to explore how biophysical and social science researchers communicate scientific knowledge are important. What has changed in discussions among the public and these communities over climate variability and climate impacts? What boundary objects (Star and Griesemer, 1989) are created to knit together disparate knowledge communities or what engaged universals are formed through which frictions of difference (Tsing, 2004) as groups with different social positions and knowledge attempt to enact change together? Science studies plays a crucial role in revealing how the output of global climate models, for instance, become accepted wisdom (Lahsen, 2005). The suggestion that we should recognize the affective power of driving (Braun 2008) is a critical intervention, important to heading off moralistic arguments, but also a reality that has long frustrated urban planners and climate activists. The sociology of scientific knowledge seems often to tend toward critique instead of a process of mutual exchange and learning. The latter should be encouraged.

Mobility, development and inequality: Climate change will exacerbate social inequalities. In the US, poor people, some non-white populations, the elderly, the mentally and physically disabled, single women with children and people residing here illegally will be most affected by heat waves in cities, flooding, hurricanes and other disasters. What changes are or should be occurring such that these groups are not disproportionately affected? Studies exploring how the protective capacity of the state might be augmented (rather than just the adaptive capacity of the vulnerable) would be useful. Multi scale studies exploring vulnerability that results from changes that can be less definitively linked to climate variability should also be pursued. The gender dimension of climate activism and/or resistance to the idea of climate change as well as gender specific vulnerabilities should be researched. What enables women and men in patriarchal societies to accommodate the changing climate? What changes can be observed in gender relations in light of climate impacts? What gendered, household level ingenuity is occurring in the face of drought, heat or flooding?

Theorizing connections between race and climate is an area in which further research might be done. The different vulnerabilities of non-white populations in cities, coastal areas, deserts and the far north and the process by which those vulnerabilities developed and changed is an obvious area. The difficulty of pinning an effect to climate change may continue to make climate impacts a politically charged issue. What effect might this have on groups making claims that the (new) diseases or disasters they suffer are a consequence of climate change? Research might also focus on the connections being made by activist and academic communities between environmental justice and sustainability. Interest in local, regional or planetary sustainability and environmental protection has been the domain of predominantly white environmental groups. Blindspots about the work of race in a variety of human-environment issues (e.g. alternative food) persist. Evidence of connections being made between climate change and racial justice by environmental groups would be valuable. Environmental justice work, concerned with the disproportionate exposure to pollutants in of color and poor neighbourhoods has more recently turned to white privilege and climate change. Is outcry about the changing climate being mobilized within an identity politics or is it being incorporated into analyses in ways that theorize institutionalized racism, uneven development and the geography of environmental change?

The challenge of the varying mobilities of human and nonhuman life will be significant over the coming decades. Research on the ease or lack thereof in human and nonhuman mobility should be conducted. In North America, trees have moved across landscapes as glaciers advanced and receded, but they are now hindered by development. The Inuit are less able to adapt than other social groups due to socio-economic factors (Ford, 2008) and the affective attachment to the cold, to ice, certain foods, the northern sunlight and darkness may inhibit mobility. What institutions within nested, shifting scales enable or prevent the movement of people from places that are no longer able to support their water needs?

Climate mitigation and adaptation strategies might be studied as part of a long series of international development initiatives. From this vantage point, the pursuit of carbon credits via joint implementation, among other programs, should be further investigated and ethnographies of the powerful—environmental regulators, public health, bilateral aid institutions, lending bodies—should be pursued. The cross border nature of water resources will, additionally, be an area in which analyses of power, race, gender, and participation will be important to examine. More broadly, resource user interactions with the environment around the world should be explored to understand the rules established around resource management, where vulnerabilities are likely to manifest and user flexibility and resilience (Bolin et al., 2008; Farley et al., 2008). Studies should be supported that use a political ecology approach: multi-method fieldwork to explore nature-society relations through the lens of power relations, multi-scaled processes, user practices, cultural knowledge and the material environment (e.g. Robbins, 2004; Rocheleau, 2008). This framework enables researchers to continue to study the intersections among, for instance, capitalism, development ideologies, environmentalism, global environmental changes and local livelihood strategies involving a variety of ways of knowing and managing land, forests, fauna and water in the context of climate change.

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