

ANTHROPOLOGY AND CLIMATE CHANGE

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Climate change anthropology to date has devoted itself primarily to 'observation studies': investigations of how communities perceive and respond to the local physical impacts of global warming. I argue for the utility, and necessity, of a complementary research programme in 'reception studies': investigations of how communities receive, interpret and adopt the global scientific discourse of climate change that is now spreading rapidly to even the most remote societies. Using the Marshall Islands as a case study, I demonstrate the powerful influence of this discourse on local views of environmental change, belying recent arguments that anthropologists wishing to access emic notions of climate change must exclude the influence of foreign scientific education from their analysis.

I. INTRODUCTION

Understanding the challenge that climate change poses and crafting appropriate adaptation and mitigation mechanisms requires input from the breadth of the natural and social sciences. Anthropology's in-depth fieldwork methodology, long engagement in questions of society–environment interactions and broad, holistic view of society yields valuable insights into the science, impacts and policy of climate change.

It is widely recognized that climate change stems from interactions between human society and the biological and physical systems of our planet. So, it seems clear that solutions must draw both from the social sciences and the natural sciences. But how can the full range of the social sciences be brought into research on climate change and the search for solutions? The roles of economics and political science seem crucial, since pricing mechanisms and policies are needed to promote mitigation and to support adaptation. Psychology explores the ways to make this problem, often seen as distant and uncertain, stand out more prominently in human thinking and motivation. Sociology studies the variety of organizations, such as urban governments and consumer groups, which address climate change. Anthropology, though, might seem too remote, and too focused on traditional cultures or ancient civilizations, to have much to offer.

Anthropologists tend to concentrate on qualitative rather than quantitative data. Their focus on in-depth fieldwork makes it difficult for them to work over large geographic areas, yet these are the scales at which climate model results are the most reliable. Anthropology offers analytical and methodological tools for scientists to ask new and important questions, which might include: Who participates in the production of knowledge about global climate change.

Most cultural interpretive or phenomenological examinations of climate change tend to focus on change perceptions on the part of diverse peoples, often through the lens of their "local knowledge." This perspective is the predominant one, given that it flows naturally from prior work that socio-cultural anthropologists have done

on small-scale societies or local communities where they tend to gather data on people’s “emic” (insider) views. While local knowledge may recognize the reality of climate change and other sustainability issues, for large segments of people, perhaps particularly the privileged, their specific cultural perceptions may also serve to downplay or even deny what is occurring, or that human activities have anything to do with it (Milton 1996). This creates a need to address culture specific change resistance (Reuter 2010).

II. CONTRIBUTION OF ANTHROPOLOGY TO THE STUDY OF CLIMATE CHANGE

we analyze climate change in terms of the human systems that generate greenhouse gases, the ways in which different groups perceive and understand climate change, its varying impact on people around the world and the diverse societal mechanisms that drive adaptation and mitigation. We outline here three key contributions that anthropology can bring to the study of climate change. First, the discipline draws attention to the cultural values and political relations that shape climate-related knowledge creation and interpretation and that form the basis of responses to continuing environmental changes. These insights come from the in-depth fieldwork that has long been the hallmark of anthropology. The second contribution is an awareness of the historical context underpinning contemporary climate change. Contribution of anthropology to the study of climate change Jessica Barnes¹ , Michael Dove¹ , Myanna Lahsen² , Andrew Mathews³ Pamela McElwee⁴ , Roderick McIntosh⁵ , Frances Moore⁶ , Jessica O’Reilly⁷ , Ben Orlove⁸ , Rajindra Puri⁹ , Harvey Weiss⁵ and Karina Yager¹⁰ Understanding the challenge that climate change poses and crafting appropriate adaptation and mitigation mechanisms requires input from the breadth of the natural and social sciences. Anthropology’s in-depth fieldwork methodology, long engagement in questions of society–environment interactions and broad, holistic view of society yields valuable insights into the science, impacts and policy of climate change. Yet the discipline’s voice in climate change debates has remained a relatively marginal one until now. Here, we identify three key ways that anthropological research can enrich and deepen contemporary understandings of climate change. Anthropology’s broad, holistic view of human and natural systems, which highlights the multiple cultural, social, political and economic changes that take place in our societies. Societal dynamics, as drivers of change, always interact with, and often outweigh, climate change — an issue that needs recognition for the success of public policies. Anthropological contributions therefore complement research from other disciplines and further global dialogue on the science and policy of climate change. As discussions on climate change expand to include not only physical descriptions of the phenomenon but also questions of different groups’ receptivity to the science, policy response, and characterization of impacts, these contributions are becoming increasingly critical to a productive debate.

At the present moment in time, there is a feeling that not only the physical but also the intellectual landscape is changing in the wake of global climate change. There are climate sceptics who still question the global crisis and especially the anthropogenic nature of the current trends of change, but most

of the enlightened world agrees that the Earth system is facing a major challenge, even if climate is also a concept to which a variety of social meanings adhere.

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Meanings are social facts and have social effects, and humanity in some ways stands at a threshold. It is a threshold perceived and conceptualized by humans, for whom environmental and climatic issues are some of the most daunting elements in the future of the planet. This is ‘the inconvenient truth’ portrayed by Al Gore,

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who managed to capture a worldwide audience to his film (and his book), aiming explicitly at raising global awareness and urge governments to take political responsibility.

Beyond public campaigns, but feeding into them, scientific investigations have addressed the complexities of climate change and mounted diverse scenarioDeterminism concern human behaviors and [cognition](#), others frame themselves as an answer to the debate on [nature and nurture](#). They will suggest that one factor will entirely determine behavior. As scientific understanding has grown, however, the strongest versions of these theories have been widely rejected as a [single-cause fallacy](#).^[27]

In other words, the modern deterministic theories attempt to explain how the interaction of both nature *and* nurture is entirely predictable. The concept of heritability has been helpful in making this distinction. idea that each of human behaviors, beliefs, and desires are fixed by human genetic nature.

Behavior involves the idea that all behavior can be traced to specific causes—either environmental or reflexive. John B. Watson and B. F. Skinner developed this nurture-focused determinism.

According to Vidal de la Blache, results in a “human world full of different *genres de vie* (‘lifestyles’), distinctive to particular people living in particular places” Possibilism explains that the climate does not dictate what people would become, but rather that the climate offers the opportunities for people what they choose to be. People adapt to the different conditions the earth has to offer at different places and that is how different living conditions and habits arise.

III. IMPACTS OF CLIMATE CHANGE ON ANTHROPOLOGY

Changes in the greenhouse gas concentrations and other drivers alter the global climate and bring about myriad human health consequences. Environmental consequences of climate change, such as extreme heat waves, rising sea-levels, changes in precipitation resulting in flooding and droughts, intense hurricanes, and degraded air quality, affect directly and indirectly the physical, social, and psychological health of humans. For instance, changes in precipitation are creating changes in the availability and quantity of water, as well as resulting in extreme weather events such as intense hurricanes and flooding. Climate change can be a driver of disease migration, as well as exacerbate health effects resulting from the release of toxic air pollutants in vulnerable populations such as children, the elderly, and those with asthma or cardiovascular disease.

It is critical that adaptation and mitigation decisions and policies be developed with a sound basis in the best current science on climate change and its effects. There are gaps in our understanding of the relationship between climate change, the environment, and human health. In its 2010 report, *A Human Health Perspective on Climate Change*, the NIEHS-led Interagency Working Group on Climate Change and Health identified major research areas that need to be further explored and understood.

Climate change has brought about possibly permanent alterations to Earth's geological, biological and ecological systems. These changes have led to the emergence of not so large-scale environmental hazards to human health, such as extreme weather, ozone depletion, increased danger of wild land fires, loss of biodiversity, stresses to food-producing systems and the global spread of infectious diseases. The World Health Organization (WHO) estimates that 160,000 deaths, since 1950, are directly attributable to climate change. Scientific research throughout the past decades has demonstrated how climatic changes have important impacts on the livelihoods of people around the world. For most of developing countries their level of structural and social vulnerability, are a dangerous combination and a formula for impacts of higher magnitude. Therefore, climatic phenomenon such as tropical storms, floods and droughts, more often become tragedies in these countries. This paper analyzes the impacts of such phenomenon in the human development of people across the world. Some of the climate change related issues analyzed in this paper are: droughts and water security, tropical cyclones and storms, rising tides, warming seas, coral bleaching, fish stocks, melting glaciers, heat waves and cold spells and the impact on human health.

IV. CONCLUSION

Climate change on anthropology provides its greatest value when it can provide the human face of climate change-to translate its effects into the realities of real time households and communities managing their complex source systems under stress. Here we have proposed that the resilience of a social ecological system is the relevant target of the anthropological perspective and toolkit. The case of beel freshwater systems using the gher technology provides insights into the contribution that anthropology to make to local level problem solving. In these coastal systems, the urgency of response to climate change cannot be understated, and we agreed with

current analysis that the adaptive co management provides the most space of maneuverability in climate change response.

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