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What Does Catastrophe Reveal for Whom? The Anthropology of Crises and Disasters at the Onset of the Anthropocene

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Abstract

The modernist usage of the word crisis conveys the idea of an event that acts as a historical judgment, marks an epochal transition, and sometimes leads to a utopian era. Furthermore, current uses of crisis in the political sphere often figure catastrophic events as the result of errors and malfunctions, drawing attention away from the quotidian and normatively accepted practices and policies that produce them. Anthropological definitions of disaster, in contrast, understand catastrophes as the end result of historical processes by which human practices enhance the materially destructive and socially disruptive capacities of geophysical phenomena, technological malfunctions, and communicable diseases and inequitably distribute disaster risk according to lines of gender, race, class, and ethnicity. Despite this fundamental difference between customary and scholarly definitions of crises and disasters, the former term is commonly used to refer to the latter by political elites and academics alike. This article reviews the merits and limitations of the crisis concept in the analysis of disasters on the basis of anthropological research on catastrophes during the last 40 years and provides an overview of the analytical diversification of disaster anthropology since the 1970s.



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INTRODUCTION

Crisis and disaster are words that are commonly used to describe extraordinary conditions. Crisis is often mobilized to indicate an individually or collectively experienced moment when the customary flow of everyday life is brought into question and when those states of affairs that were previously credited as normative come to be seen as no longer tenable. It is not uncommon to hear of personal crises, economic crises, and political crises in casual conversations and television headlines (Koselleck 2006, Roitman 2011). Similarly, the word disaster is often loosely used to refer to a situation where an expected course of events becomes catastrophically disrupted by factors considered to be beyond people's control or when the operations of a social group are disrupted in ways that exceed its capacity to maintain a sense of normalcy (Alexander 1997). Some scholars who specialize in the study of crises and disasters often cringe at the semiotic slippage that characterizes the social life of these two words, perceiving their varied usage as a threat to the terms' value as analytical devices in the social sciences and humanities. Historian of concepts, Reinhart Koselleck (2006), for example, once lamented,

From the nineteenth century on, there has been an enormous quantitative expansion in the variety of meanings attached to the concept of crisis, but few corresponding gains in either clarity or precision. (p. 397)

While preparing this review article, I also discovered that a number of anthropologists similarly express concern over the merits of crisis as a term for describing the tenuous sociopolitical conditions that often characterize catastrophes. Despite this fundamental tension between the concepts of crisis and disaster, researchers have made casual use of the former in anthropological discussions of the latter, sometimes as if they were synonymous. Take Torry's (1979) often-cited review of ethnographic studies of catastrophe, in which he uses crisis no fewer than 18 times when discussing people's reactions to socially disruptive geophysical phenomena. Beyond anthropology, crisis and disasters remain intimately linked in other fields of inquiry such as public policy, as in the case of Howitt & Leonard's (2009) *Managing Crises: Response to Large-Scale Emergencies*.

In this review, I do not intend to weigh in as an arbiter on the adequacy of crisis as a concept for analyzing disasters nor do I set out to provide definitive definitions of either term in the hopes of establishing lexical orthodoxy. Instead, I envision my task as grasping what is at stake in the varied usage of these two terms and illustrating how such an exploration is itself a part of the anthropological study of crises and disasters. I summarize this task in the question, "How does a critical examination of the crisis concept in light of the existing anthropological literature on disasters help us understand why catastrophes occur, how people interpret them and put them to political use, why they persist, and their role in processes of sociocultural formation and change?"

I address the preceding question by accomplishing three objectives. First, I provide a brief history of how anthropologists and historians have defined "crisis" and "disaster." Second, I demonstrate how, despite skepticism that the crisis concept has limited descriptive or explanatory value in disaster studies, it nevertheless remains implicitly interwoven into some of the more widely accepted analytical approaches in disaster anthropology such as political ecology and political economy. Third, I provide a review of the current theoretical diversity in the anthropology of disasters, how these varied approaches are in conversation with the major trends of contemporary anthropological research, and how they enable us to reflect on the merits and limitations of the crisis concept when examining catastrophes. In sum, anthropologists considering disaster research as a line of professional development and knowledge contribution will find a rich, varied, and exciting field that is sure to accommodate a variety of political, methodological, and theoretical interests.

A BRIEF HISTORY OF “CRISIS” AND “DISASTER” AS ANALYTICAL CONCEPTS

Crisis

Scholars who examine the history of crisis as a concept usually trace their analyses to classical Greece, where people used *Κρισις* (*krisis*) in the medical and legal fields to refer to a judgment or decision concerning an illness or trial (Koselleck 1988, 2006). The term was also used in the political realm to refer to a key moment that required one to decide whether to divorce or quarrel. Related meanings of *χρσις* also included the reaching of a judgment, making this classical usage the etymological foundation of the eighteenth-century notion of criticism (Koselleck 2006), which indicates that the terms crisis and critique are intimately related.

The crisis concept continued to evolve in the context of Medieval Europe, where it took on Judeo-Christian teleological overtones. Specifically, crisis became associated with the last judgment, an anticipated moment that marked the end of history, and the onset of a new era after which things would never be the same (Koselleck 2006, Roitman 2011). These meanings became the broader cultural background within which eighteenth-century historians came to imagine crisis as a moment that marked a transition between epochs, epochs being temporal contexts that were qualitatively different from one another. By the late nineteenth century, crisis as both epochal transition and judgment became the ground on which some founding figures of the social sciences imagined models of social evolution. Koselleck (2006), for example, sees such tendencies in Karl Marx's theory of social development, in which socioeconomic crises are brought about by the inherent contradictions of capitalism, and these crises eventually culminate in a final event that will bring about the utopian communist mode of production. Marx's view of history, then, amounted to a secularization of long-established Judeo-Christian teleological narratives of salvation and not necessarily an objective appraisal of historical development or of the future to come (Fabian 1983).

Roitman (2011) has further elaborated on Koselleck's critical history of the crisis concept by making the case that crisis is not only a distinct way of apprehending historical circumstances; rather, “crisis” also has a unique cultural history and is therefore not necessarily an assumption-free representation of a given situation. Because of the crisis concept's inherent assumptions (i.e., future orientation, judgment, epochal transformation, utopian deliverance), Roitman cautions against an uncritical acceptance of the term and calls on us to question which possibilities the concept enables and which it forecloses. A key concern is that, in its current political utilization, the term reduces our analysis of a particular situation to the query, “What went wrong?” Such a question steers the observer's evaluation away from the quotidian and normative practices that engender such occurrences as economic recessions and the flooding of cities (e.g., fiscal deregulation, river delta development practices inextricably tied to the development of capitalist economies) and presents catastrophic outcomes as the effect of errors or accidents that are aberrations of the normal operation of things.

Disaster

The etymology of disaster takes us to the mid-sixteenth century. Derived from the Old Italian *disastro*, the word was used to convey the idea that the positions of stars and planets could have destructive effects on human beings.¹ This particular view of disasters remained in use into the twentieth century, when the calamitous effects of floods, earthquakes, and technological

¹<https://www.merriam-webster.com/dictionary/disaster>.

malfunctions continued to be seen as unavoidable events that societies could only respond to, but not prevent (Oliver-Smith 1999).

It was not until the 1970s and 1980s that a number of geographers, historians, and anthropologists began to make the case that disasters were by no means a result of unfavorably aligned stars, angry deities, or a “nature” that acted independently of the social world; instead, they were the result of human–environment relations that enhanced the socially disruptive and materially destructive capacities of geophysical phenomena and technological malfunctions (Hewitt 1983, Maskrey 1993, O’Keefe et al. 1976, Oliver-Smith & Hoffman 1999). This new perspective came to be known as vulnerability theory.

By the late 1990s, vulnerability theory became the most prominent analytical approach in the anthropology of disasters, its rise in importance due in part to the central role that Oliver-Smith & Hoffman (1999) gave it in the seminal edited volume *The Angry Earth: Disaster in Anthropological Perspective*. It is noteworthy that Oliver-Smith & Hoffman’s take on vulnerability drew heavily from political ecology, which takes political economy’s concern with inequitable power relations involved in resource extraction, commodity production, and wealth distribution and focuses it on the environmental impact of socioeconomic development (Biersack 1999, Smith 1984). In this version of vulnerability theory, disasters became “one measure by which we can judge the success of adaptation to the environment” (Oliver-Smith & Hoffman 1999, p. 27), meaning that catastrophes came to be figured as a critique voiced by the environment’s material agency, which judged a society or population for its maladaptive practices. The similarity to the modernist conceptualization of crisis in Marx’s work identified by Koselleck is evident here. In this case, however, it is not the social evolutionary history of capitalist development whose unresolved contradictions articulate a judgment. Instead, judgment is passed by the social disruption and material destruction that manifest when geophysical phenomena or technological malfunctions interact with a population’s environmentally disruptive practices and body politic.

In other instances, anthropologists have invoked the concept of crisis as a means of theorizing disasters in even more explicit terms (Faas & Barrios 2015). Referencing Sahlins (1972), Solway (1994) and Oliver-Smith (1996) have called disasters “revelatory crises” and *crise revelatrice*, respectively, in which “the fundamental features of society and culture are laid bare in stark relief by the reduction of priorities to basic social, cultural and material necessities” (Oliver-Smith 1996, p. 304). Solway justifies the use of this terminology, pointing out that, for Sahlins, a *crise revelatrice* is a circumstance that exposes contradictions inherent in a given mode of production, making them observable to a wide range of actors, including anthropologists and those directly affected by the particular event.

Solway’s work, however, is troubled by a tension that she herself acknowledges: Whereas disasters reveal a society’s fundamental contradictions to outside observers and participants alike, political actors can also exploit catastrophes as scapegoats or supernatural judgments that conceal the inequities, policies, and land use practices that led to calamity. Furthermore, the emergency phase of a disaster can be used to justify development and political power consolidation agendas that would have otherwise been difficult, if not impossible, to promote. Consequently, Solway’s observations beckon these questions: For whom does a disaster reveal what? Is the revelatory nature of disaster contingent on the observer possessing a political ecological anthropological gaze but not necessarily a universally self-evident condition—a subjectivity-transcending critique voiced by the environment itself—that is readily apparent to all observers alike?

The tensions inherent in Solway’s use of revelatory crisis bring us back to Roitman’s concerns about the analytical blind spots of the crisis concept. With regard to disasters, the latter’s claim that the invocation of crisis in today’s political culture distracts the observer from the normalized practices that lead to catastrophe merits some refining to differentiate between scholarly definitions

of *crise revelatrice* and popular uses of crisis. Vulnerability theory and political ecology, for example, provide an analytical perspective that highlights precisely those normatively accepted practices (e.g., financial gain-focused development that deprioritizes concerns about environmental impact, inequitable distribution of risk according to hierarchized racial, national, gendered, and class-based differences) that shape disasters. For subaltern groups, who often suffer the brunt of a catastrophe's sociomaterial effects, a disaster may also serve as a means to illustrate the precarious circumstances imposed on them by racism, economic systems, and development policies (Jones & Murphy 2009, 2015; Kroll-Smith & Brown-Jeffy 2013). At the same time, the anthropological literature provides us with multiple examples in which various social actors mobilize a disaster to air moral grievances, to further their preferred development agendas, or to reassert their political power (Barrios 2010; 2011; Breunlin & Regis 2006; Gamburd 2013; Schuller 2012), actions that can ignore or perpetuate the human-material relations that gave a catastrophe its form and magnitude. The revelatory quality of disasters, then, is not a guaranteed outcome of catastrophe but is contingent on the observer's particular socioculturally contextualized gaze, interests, and positionality.

Before proceeding, I offer one final note about terminology. Some disaster experts prefer to make a strict differentiation between the terms disaster and catastrophe. They reserve the former to signify the diachronic processes in which human practices enhance the destructive and disruptive capacities of geophysical phenomena, technological malfunctions, and communicable diseases, whereas they use the latter to convey the nonanthropological understanding of disaster as an isolated event that begins with the manifestation of a hazard, that cannot be prevented, and that occurs as an anomaly unrelated to the quotidian order of things. In other instances, disaster scholars choose to use the words disaster, catastrophe, and calamity interchangeably as a stylistic choice to avoid overly repetitious prose, relying on all three terms to refer to the anthropological understanding of the phenomenon. Titles such as Rozario's (2007) *Culture of Calamity: Disaster and the Making of Modern America* and Hoffman & Oliver-Smith's *Catastrophe & Culture: The Anthropology of Disaster* (2002) come to mind as examples of the latter trend. In this review article, I choose to follow the second of these conventions to ease the flow of my prose.

THE ANTHROPOLOGY OF DISASTERS IN THE TWENTY-FIRST CENTURY: THEORETICAL DIVERSIFICATION AND PRESSING CHALLENGES

The last two decades have witnessed great diversification in the theoretical points of departure that anthropologists use to ascertain what is revealed, what is at stake, and what is brought into being in how people, governmental agencies, and a variety of organizations (nongovernmental, nonprofit, philanthropic) engage disasters. This heterogeneity demonstrates that catastrophes provide a fruitful ground both for making anthropology public and for theoretical innovation. Scholars in the field are engaged in conversation with several of the broader discipline's principal analytical trends, including (a) Foucauldian-informed analyses of problematization, (b) governmentality and biopolitics (Collier & Lakoff 2015, Marchezini 2015), (c) ethnographically grounded critiques of neoliberalism (Gunewardena & Schuller 2008), and (d) science and technology studies (STS)-inspired theorization of human-material relations and agency (Masco 2009). Cutting across these topics is a continued concern with postcolonial critiques of national orders and subalternity (Browne 2015; Hsu et al. 2015; Jackson 2011a,b; Lipsitz 2006) as well as affect theory and memory (Barrios 2017, Beriss 2012, Samuels 2015, Simpson 2013, Ullberg 2013). In this section, I review the engagement of disaster anthropology with the above-listed trends and provide an overview of the various kinds of topics and hazards that concern anthropologists as well as the conceptual directions in which this latter hazard-oriented work takes the field.

Disaster Anthropology by the Hazards

Anthropologists and related social scientists research a variety of subjects, including urban and wildfire (Charnley et al. 2015, Faas 2016, Faas et al. 2016, Jones & Murphy 2015, Nielsen-Pincus et al. 2013); technological disasters such as toxic contamination, oil spills, and nuclear meltdowns; environmental contamination (Button 2010, Button & Eldridge 2016, Fortun 2001, Petryna 2002, Sternsdorff-Cisterna 2015); tsunamis (Gamburd 2013, Hastrup 2011); floods (Casagrande et al. 2015); epidemics (Briggs 2004, Button & Schuller 2016b, Mitchell 2002); seismic movements (Benadusi 2016); landslides (Barrios 2017, Oliver-Smith 1986); climate change (Companion & Chaiken 2017, Crate & Nuttall 2016, Howe 2015, Maldonado et al. 2013, Masco 2009); forced migration and relocation (Audefroy & Cabrera Sanchez 2014, Briones Gamboa 2010, Cernea 1997, Guggenheim & Cernea 1993, Macías 2009, Marino 2015, Marino & Lazrus 2015, Oliver-Smith 2009, Scudder & Colson 1982); gender (Hoffman 1999, Enarson 2000, Ensor 2009); and community resilience (Barrios 2016, Tobin & Whiteford 2002), to name just a few.

When reviewed from the perspective of specific hazards and topical interests, the literature pushes anthropological analyses in numerous innovative conceptual directions with regard to the notion of “disaster.” As I explore later in this article, research on urban and wildfire challenges the discrete analytical categories of preceding versions of vulnerability theory, which render disaster-making processes as an encounter between socially constructed conditions of risk on one hand and “natural” hazards on the other (Charnley et al. 2015, Franklin 2008). A similar observation can be made of anthropogenic climate change: Its related hydrometeorological effects present researchers with phenomena (e.g., tornadoes, super storms, hurricanes) whose force and magnitude are shaped in part by human behaviors such as industrialization (R. Soc. & US Natl. Acad. Sci. 2014). Hazards, we could say, can no longer be thought of as having a purely “natural” ontology; rather, the human and social now reside within them as well.

Ethnographic studies of technological disasters and climate change also press for a reconsideration of how we understand the spatial and temporal dimensions of disasters. Anthropological research on toxic and oil spills calls on us to critically examine how state legal systems and liable corporations mobilize scientific expertise to specify when a disaster begins and ends, what the spatial distribution of its catastrophic effects is, who a legitimate claimant of reparations or aid is, and how and by whom the varying monetary value of human life is established across the globe (Button 2010, Fortun 2001). Rather than being easily observable self-evident qualities of a disaster, the spatial and temporal distributions of catastrophes are the products of specific people’s technoscientific and legal practices, which are not detached from political economic forces. In fact, socially disadvantaged populations who are most affected by technological disasters often challenge the socially produced spacetimes of disaster and create new “enunciatory communities” (Fortun 2001) that include activists, academics, and sympathetic scientists in an effort to influence the determination of where and when a disaster begins and ends and who is worth what.

Anthropogenic climate change has also urged anthropologists to reconceptualize the temporal dimensions of disasters. Although anthropological definitions of disaster emphasize the understanding of the phenomenon as a process that often precedes the emergency phase of a catastrophe by hundreds of years, many of the hazards involved in anthropological research trigger emergency phases that are sudden and dramatic in their onset. Category 5 hurricanes that flood entire cities in a matter of a few hours or days and earthquakes that kill tens of thousands of people in a matter of seconds lend themselves to the facile declaration of crisis situations that enable the channeling of state and nongovernmental organization resources to affected areas. In contrast, what has been characterized as the slow onset of anthropogenic climate change’s effects (e.g., sea-level rise, polar ice cap melt) creates a unique circumstance where public or governmental recognition of a crisis

situation becomes the subject of debate, skepticism, and institutional procrastination, often leaving those communities in immediate need of assistance with mitigation or relocation to linger or fend for themselves in the face of overwhelming circumstances (Maldonado et al. 2013, Marino 2015, Marino & Lazrus 2015).

Problematization

Anthropology stands out among the disciplines involved in disaster research because of its lengthy history of examining the contingent and culturally situated ways that people interpret, make knowledge about, and engage with their world (Lévi-Strauss 1966, Sahlins 1983). This interest was renewed as scholars in the field began a dialogue with the work of Foucault (1970, 1980) in the 1980s and 1990s. Elaborating on Foucault's concern with problematization, Rabinow (2005) made a call for anthropologists to investigate the sociohistorical processes that make it possible for people to define certain phenomena as problems in distinct ways. Such contingent forms of problematization, in turn, shape what might be revealed to whom during a crisis and influence how people might imagine disaster risk reduction (Howe & Pandian 2016).

One case in point is Masco's (2006, 2009) work on the role of the US nuclear weapons development program, which involved an inseparable entanglement of geopolitics and technoscience, in shaping the knowledge-making mechanisms and forms of environmental consciousness that make it possible to understand climate change as a "planetary crisis" (Masco 2009, p. 7). Similarly, an upcoming generation of disaster anthropologists are following this line of inquiry (Boke 2015, 2016; Brooks 2015; Reddy 2015, 2016) by taking a critical look at the historicity of the scales of analysis, variables, affective attachments, and categories used in making knowledge about and imagining responses to a variety of disaster-related phenomena, including drought, climate change, and seismic movements.

Anthropology's ethnographic tradition also provides the methods by which we may diversify the ways that we understand problematization. Going beyond the world of technoscientific experts, anthropological engagement with subaltern communities illuminates how populations directly experiencing disasters articulate their own narratives about risk and hazards (Marino 2015, Marino & Lazrus 2015). Subaltern ethnographic interlocutors often challenge national development initiatives that disproportionately impose disaster vulnerability on historically marginalized populations (Howe 2015, Torres 2016). Promoters of megadevelopment projects also mobilize hegemonic notions of risk to legitimize the socioenvironmental impact of their programs (e.g., industrialization, hydroelectric dam construction) while simultaneously creating hazards (toxic exposure, flood risk, subsistence system disruption) that go unacknowledged in official state representations of "progress" (Button & Eldridge 2016; Howe 2015; Jackson 2011a,b; Mitchell 2002; Torres 2016). Rather than being revelatory crises, disasters are perhaps better described as contested arenas where hegemonic visions of societal advancement are challenged by the voices and experiences of those most impacted by catastrophes.

Biopolitics and Governmentality

In the early twentieth century, when "modern" anthropology was coming into its own, ethnographers could uphold the illusion that the people with whom they worked were part of isolated cultures, social islands that remained untouched by European or North American cultural influences or capitalist market forces (Biersack 1999, Strathern 1987). Today, disaster anthropologists understand that catastrophes always take place within and across the boundaries of nation-states and that disaster mitigation inevitably involves the interaction of human populations with governmental,

nongovernmental, and intergovernmental agencies (Barrios 2014, Gamburd 2013, Schuller 2012, Zhang & Barrios 2017). These are institutions whose missions and objectives are, in one way or another, tied to an unfolding and intricate history of conceptualizing state governance, a history that continues to connect distant places and imaginations.

Of particular interest here is Foucault's work on the historical transformations in the ways that people thought about the reasons for government and legitimized sovereign power in Western Europe between the eighteenth and nineteenth centuries. As a result of this process, Foucault (1978, 2004) identified the rise of a new logic of governance, which he called biopolitics: the concern of sovereign power with fostering human populations as biologically living and economically active beings. Although the story of this transition is often narrated as one of progress, Foucault saw it as a shift in knowledge making, bodily disciplining, and governance techniques that gave rise to novel ways of imagining, experiencing, and defining the self. Associated with this emerging form of biopolitical governance were novel security mechanisms (e.g., public health, modernist planning, political economy) devised to create a milieu for the fostering of the population as a primarily living entity (Foucault 2004).

In the last two decades, anthropologists have demonstrated how disaster research presents numerous unique opportunities to further elaborate on Foucault's theorization of biopolitics (Barrios 2017, Collier & Lakoff 2015, Makley 2014, Marchezini 2015). Collier & Lakoff (2015), for example, identified the emergence, during the second half of the twentieth century, of a new approach to governance in the United States, which they call "reflexive biopolitics." The objective of reflexive biopolitics is to avoid the disruption of mechanisms of population security (e.g., transportation infrastructure, manufacturing centers, communications networks) by geophysical hazards, technological malfunctions, and intentional sabotage. The relevance of their work for a critical examination of the crisis concept in disaster anthropology is that, whereas a political ecological approach to disasters would have us examine the normative human–environment relationships of modernist population security that often engender disaster (capitalist development), vital systems security works toward maintaining just such relationships and insuring that they are not disrupted by human or nonhuman agents. Reflexive biopolitics could be said to be the antithesis of the revelatory crisis because its purpose is to prevent a situation that will incite reflection on the socioenvironmental impact of security mechanisms.

One concept related to reflexive biopolitics and vital systems security is that of resilience, which has received significant attention from anthropologists as well. In the fields of community psychology and disaster risk reduction, resilience is often defined as the qualities and capacities that allow a community to recover following a shock (Norris et al. 2008, Sherrieb et al. 2010). For anthropologists rooted in the political ecology approach to vulnerability, a focus on building resilience also threatens to steer policy and analytical concern away from the human practices that shape disasters and promote the resilience of those development trends that shape vulnerability, increasing the risk of disaster (Barrios 2016).

Disaster studies have also helped enhance our understanding of the implications of disaster mitigation initiatives in which the concerns, subjects, and techniques of biopolitical governance do not map neatly onto the subjectivities, socialities, affective attachments, and livelihoods of disaster-affected communities (Audefroy & Cabrera Sanchez 2014, Barrios 2017, Marchezini 2015, Gamburd 2013). The biopolitical imperative to foster and protect life as a primarily biological phenomenon, for example, can manifest in the form of decisions on the part of mitigation specialists who dismiss the meaning-laden and affectively experienced social and human ecological relationships among people who reside in areas deemed at risk for disasters (Audefroy & Cabrera Sanchez 2014, Barrios 2017, Marino 2015, Marino & Lazrus 2015). Biopolitical concerns in disaster mitigation can downplay subaltern logics that weigh disaster risk against other more immediate and

pressing socioeconomic threats such as disruption of subsistence practices, unemployment, armed conflict, and absence of basic services, which often drive socioeconomically marginalized people to settle in disaster-prone areas (Barrios 2017). Furthermore, the legitimization of the biopolitical state's authority on the basis that its disaster response practices save lives can function as a powerful justification for enacting policies that further exclude subaltern populations from urban spaces and economic resources and muffle their voices in the political arena (Marchezini 2015).

Disaster anthropologists have also examined the kinds of identities and social movements that emerge when governmental organizations fail to meet the expectations set up by biopolitical states, that is, the idea that the state will actually care for people as biological beings. Ethnographic research on technological disasters is particularly informative in this regard (Benadusi 2016, Button 2010, Button & Eldridge 2016, Fortun 2001, Petryna 2002, Sternsdorff-Cisterna 2015). Of particular concern here are situations when state institution and private industry responses to technological disasters (purposely or inadvertently) produce uncertainties among affected populations about long-term exposure to radioactive levels and toxins or when companies or government agencies deny the culpability of negligent parties whose actions resulted in the loss of human life or infrastructure. Uncertainty in the aftermath of technological disasters often drives survivors to develop grassroots forms of scientific expertise and authority and to make demands before state institutions in biological terms—what is often recognized as biological citizenship.

In his work on biopolitical governance, Foucault (1978) also noted that the drive to care for the national population as a biological entity involved not only the fostering of life, but also the state's use of violence to protect such life, an approach known as thanatopolitics. This observation has inspired a flurry of philosophical (and now anthropological) research led by Agamben (1998) in his examination of the state of exception and sovereign power's attempt to monopolize the right to kill (but not sacrifice) human life for the greater biopolitical good. Whereas Agamben's work focuses on the concentration camp as the prime example of thanatopolitics—where state actors attempt to reduce those who are deemed social undesirables to biomass, who can be killed without moral or ritual transgression—anthropologists are looking at disasters as instances in which urban planners and political elites engage in kindred experiments with sovereign power (Makley 2014). What is unique in the context of disasters, however, is that reconstruction policies and recovery plans often involve decisions made under the justification of a state of emergency to extinguish certain forms of social, but not necessarily biological, life. This is often done through actions such as the neoliberal redevelopment of public housing and the resettlement of rural subsistence agricultural communities to suburbanized development schemes (Audefroy & Cabrera Sanchez 2014, Barrios 2011, Córdoba 2012, Marchezini 2015).

Neoliberalisms

In the last two decades, social scientists have begun to pay more attention to the role of disaster contexts in the shaping of relationships among people and between people and things that policy makers and developers deem necessary for the reproduction of capital (Adams 2013, Button & Oliver-Smith 2008, Gunewardena & Schuller 2008, Johnson 2011, Klein 2007, Rozario 2007). Part of this focus involves documenting and analyzing how political and socioeconomic elites have come to imagine capitalism since the global economic crisis of the 1970s; this collection of representations, practices, and policies is often termed neoliberalism in the social sciences.

As with crises and disasters, contending with the various ways that the concept of neoliberalism is understood and defined is challenging. In some instances, neoliberalism is referred to as the globalization of capitalist production that followed the global economic crisis of the 1970s (Harvey 2005). In other instances, it is used to refer to the idea that market liberalization (e.g.,

deregulation of financial and labor markets, reduction of environmental protection policy) is the most adequate means to reach optimal social ends (di Leonardo 2008). Neoliberalism has also been used as a way to describe the imagination where all facets of human life are subjected to judgments of financial and biopolitical cost-benefit analysis at the expense of other meanings and attachments (DiFruscia 2010, Povinelli 2006). The challenges of defining neoliberalism include (a) recognizing and documenting the diversity of arrangements among people, resources, private and public sectors, and policies that are sometimes covered under the term, and (b) addressing the difference between such diverse arrangements and the ways they are officially represented and imagined by policy makers (Ong 2005, 2006).

Disaster anthropology offers us the possibility of ethnographically documenting the specific kinds of ideas, legitimizing narratives, relationships, and practices that are often covered under the blanket term neoliberalism and pushes us to think in terms of the plural, that is, neoliberalisms. Furthermore, in keeping with Roitman's admonition to focus our analyses not solely on "what went wrong," the anthropology of disaster capitalism requires us to not simply accept neoliberalism as a ready-made explanation for catastrophes or the perpetuation of their social effects via neoliberal recovery policies. Instead, this field of research provides us with a context for looking at how novel arrangements of people and resources that may very well engender the next catastrophe are made and justified in the aftermath of disaster itself (Freudenburg et al. 2009).

The case of the "recovery" of New Orleans in the aftermath of Hurricane Katrina illustrates the contributions that the anthropology of disaster stands to make to scholarly discussions of neoliberalism. Anthropological research has demonstrated that the neoliberalization of the city's reconstruction did not manifest in the form of a reduction in the size of government and a strictly free market takeover of recovery duties. Instead, post-Katrina reconstruction featured the establishment of arrangements between public and private sectors, where federal agencies awarded no-bid contracts to various companies (ranging from case management service providers to construction contractors), a practice that amounted more to a corporatist style of cronyism than to a market liberalization of urban reconstruction (Adams 2013). Such an arrangement, Adams (2013) shows, did not result in the most disadvantaged disaster victims being better served by the private sector but did contribute to the higher valuation in the stock market of companies involved in the city's recovery.

In other instances, expert urban planners invoked distinctly neoliberal narratives of financial cost-benefit analysis to justify the closing, demolition, and transformation of public housing facilities into mixed-income housing developments under the justification that the former did not turn a profit (Barrios 2011). These legitimizations ignored the key role of public services in buttressing the local tourism industry by providing housing to low-level, service-sector workers. The result was the prolonged exclusion of the most disaster-vulnerable New Orleans residents who were not able to return to a city with rapidly rising property and rental values. These examples demonstrate that the myriad conditions covered under the catch-all terms disaster capitalism or neoliberalism require ethnographic scrutiny in order to recognize the recovery decisions made on the ground by political elites and recovery "experts," as well as the implications of those decisions for mitigation or the continuation of a disaster's social effects.

Science, Technology, and Environment

During the last 30 years, significant growth and theoretical innovation have taken place in the fields of STS and the anthropology of science. Two major contributions from this realm of inquiry include the critique of modern epistemology's separation of nature from society and objects from subjects and how these separations are assumed in the examination of relationships among people, technology, and the material environment (Latour 1993, 1999; Pickering 1995;

Pickering & Guzik 2008). This critique provides particularly important insight for disaster studies, in which anthropologists have identified the analytical limitations of the nature–culture divide for understanding disaster vulnerability (Bankoff & Hilhorst 2004; Oliver-Smith 1999, 2002). Whereas some analyses of disasters continue to inadvertently reiterate the nature–culture split through the use of concepts such as “natural hazards” (which threaten society from outside) and social construction of vulnerability (in which people are the primary agents in shaping disasters), STS has demonstrated how material agency can manifest in unexpected ways as a result of human practice (Masco 2006, Pickering 1995, Pickering & Guzik 2008) and how such manifestations of agency can influence cultural change as well.

The relevance of this observation for the anthropology of disasters is evident particularly in scholarly work on forest fire, in which ethnographic and sociological studies show that human settlement patterns and treatment of a particular territory (e.g., refusal to allow periodic burning) can dramatically transform the severity of “wildfires.” At one time, forest fire may have been referred to as a natural hazard that manifested from without society (McCaffrey 2004), whereas settlement and land use patterns may have also been referred to as “social construction of vulnerability” that, when combined with the external hazard, produced a catastrophe. Anthropological research, however, demonstrates that the forest fires that concern people are anything but strictly natural or outside the bounds of society (Charnley et al. 2015, Faas et al. 2016, Franklin 2008, Nielsen-Pincus et al. 2013). Instead, the intensity of fire is shaped by human actions that allow for the accumulation of fire fuel (i.e., deadfall) in ways that would not occur in the absence of people with distinct cultural preferences concerning aesthetics and comfort. When human beings eradicate less virulent periodic fires and oppose controlled burns, forests accumulate higher levels of combustible material, allowing future forest fires to reach higher temperatures and cause more damage. What results is an ontological transubstantiation by which the social could be said to reside within the natural and vice versa. Fire as a natural hazard, then, is neither purely “social” nor “natural”; it is a dialectically emergent manifestation of human–environment relationships, the analysis of which defies the modernist separation of nature and society (Charnley et al. 2015, Franklin 2008).

STS-informed understandings of human–environment relationships have the potential to greatly enhance political ecological approaches in disaster studies. One of the challenges of ecological theory is the assumption of systemic stability, which also facilitates the notion of adaptation to such stable conditions. The ideas that ecological systems are coherent and harmonious and that disruptions in such harmony can be rectified through either natural processes or ritual have now been thoroughly critiqued (Biersack 1999, Rappaport 1984). Studies of science and technology offer a different perspective on the matter, suggesting that ecologies are neither bounded nor monistic but are emergent webs of dynamic co-constitutive relationships involving people, meaning, and things (Ingold 2000, Masco 2006, Pickering 1995, Pickering & Guzik 2008). Just as people’s actions change forest environments and give rise to new forms of fire, so do newly manifested natural or technological hazards enable the possibility of new social movements, identities, and forms of problematization. The dynamic and emergent qualities of human–environment relationships require anthropologists to think beyond adaptation to stable environments or ecological circumstances and to document and theorize how social and material worlds come into being through human–environment engagements in a variety of loosely connected sites.

CONCLUSION

Modernist conceptualizations of crisis would have us think of disasters either as historical judgments that lay out the root causes of disaster for all to see or as the onset of new epochs during

which life, meaning, and subjectivities are radically transformed. The anthropological literature, however, has us recognize that the revelatory nature of disasters is contingent on the sociopolitical vantage point from which the beholder problematizes disaster, a perspective that has implications for why catastrophes are either mitigated or perpetuated. Disaster anthropology also shows that the catastrophic phases of disaster are themselves part of the process of culture change (Taylor 2015, Torry 1979), affecting the very vantage point from which people interpret disasters, which indicates that there is a dialectical relationship between the languages we use to speak about, interpret, and judge disasters and the phenomenon itself.

An anthropological critique of the crisis concept, however, does not amount to a resigned or cynical acceptance of increasing disaster risk and disasters' inequitable impacts on populations affected by environmental injustice and imposed vulnerability. Anthropology and its related disciplines (e.g., geography, sociology, history) have made great strides in the last quarter century in identifying the human practices and policies that give disasters form and magnitude (Integr. Res. Disaster Risk 2011, Oliver-Smith & Hoffman 1999). If disasters are not a transcendental critique that reveals the environmental and social impact of unsustainable development practices to all who observe them, it is because they are always subject to interpretation and politicization. This reality highlights the importance of making disaster anthropology public through educational curricula at all levels and through public outreach via multiple forms of media.

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LITERATURE CITED

- Adams V. 2013. *Markets of Sorrow, Labors of Faith: New Orleans in the Wake of Katrina*. Durham, NC: Duke Univ. Press
- Agamben G. 1998. *Homo Sacer: Sovereign Power and Bare Life*, transl. D Heller-Roazen. Stanford, CA: Stanford Univ. Press
- Alexander D. 1997. The study of natural disasters, 1977–1997: some reflection on a changing field of knowledge. *Disasters* 21:284–304
- Audefroy JF, Cabrera Sanchez BN. 2014. Populations déplacées par les désastres et par le changement climatique au Mexique. In *Terres (Dés)humanisées: Ressources et Climat*, ed. C Bréda, M Chaplier, J Hermesse, E Piccoli, pp. 239–59. Louvain-la-Neuve, Belg.: Acad.-L'Harmattan Press
- Bankoff G, Hilhorst D. 2004. Introduction: mapping vulnerability. In *Mapping Vulnerability: Disasters, Development, and People*, ed. G Bankoff, G Frerks, D Hilhorst, pp. 1–9. London: Earthscan
- Barrios RE. 2010. You found us doing this, this is our way: criminalizing Second Lines, Super Sunday, and habitus in post-Katrina New Orleans. *Identities: Glob. Stud. Cult. Power* 17:586–612
- Barrios RE. 2011. “If you did not grow up here, you cannot appreciate living here”: neoliberalism, space-time, and affect in post-Katrina recovery planning. *Hum. Organ.* 70:118–27
- Barrios RE. 2014. “Here, I’m not at ease”: anthropological perspectives on community resilience. *Disasters* 38:329–50
- Barrios RE. 2016. Resilience: a commentary from the vantage point of anthropology. *Ann. Anthropol. Pract.* 40:28–38

- Barrios RE. 2017. *Governing Affect: Neoliberalism and Disaster Recovery*. Lincoln: Univ. Neb. Press
- Benadusi M. 2016. The earth will tremble? Expert knowledge confronted after the 2009 L'Aquila earthquake. *Archivo Antropol. Medit.* 18:17–32
- Beriss D. 2012. Red beans and rebuilding: an iconic dish, memory and culture in New Orleans. In *Rice and Beans: A Unique Dish in a Hundred Places*, ed. R Wilk, L Barbosa, pp. 241–63. London: Berg
- Biersack A. 1999. Introduction: from the 'new ecology' to new ecologies. *Am. Anthropol.* 101:5–18
- Boke C. 2015. *Will there be food when the trucks stop running?: An exploration of affective landscapes of preparation in Vermont*. Presented at Annu. Meet. Soc. Appl. Anthropol., 75th, Pittsburgh
- Boke C. 2016. "Care." Theorizing the contemporary. *Cult. Anthropol.* July 12. <https://culanth.org/fieldsights/913-care>
- Breunlin R, Regis HA. 2006. Putting the Ninth Ward on the map: race, place, and transformation in Desire, New Orleans. *Am. Anthropol.* 108:744–64
- Briggs C. 2004. Theorizing modernity conspiratorially: science, scale, and the political economy of public discourse in examinations of a cholera epidemic. *Am. Ethnol.* 3:164–87
- Briones Gamboa F. 2010. Inundados, reubicados, y olvidados: traslado del riesgo de desastres en Motozintla, Chiapas. *Rev. Ing.* 30:132–44
- Brooks E. 2015. *The community as petri dish: scaling water insecurity and climate change in a California town*. Presented at Annu. Meet. Soc. Appl. Anthropol., 75th, Pittsburgh
- Browne KE. 2015. *Standing in the Need: Culture, Comfort, and Coming Home after Katrina*. Austin: Univ. Tex. Press
- Button GV. 2010. *Disaster Culture: Knowledge and Uncertainty in the Wake of Human and Environmental Catastrophe*. Walnut Creek, CA: Left Coast Press
- Button GV, Eldridge EN. 2016. A poison runs through it: the Elk River chemical spill in West Virginia. See Button & Schuller 2016a, pp. 19–43
- Button GV, Oliver-Smith A. 2008. Disaster, displacement, and employment: distortion of labor markets during post-Katrina reconstruction. In *Capitalizing on Catastrophe: Neoliberal Strategies of Disaster Reconstruction*, ed. N Gunewardena, M Schuller, pp. 123–46. Lanham, MD: AltaMira Press
- Button GV, Schuller M. 2016a. *Contextualizing Disaster*. New York: Berghahn
- Button GV, Schuller M. 2016b. Introduction. See Button & Schuller 2016a, pp. 1–18
- Casagrande DG, McIlvane-Newsad H, Jones EC. 2015. Social networks of help-seeking in different types of disaster responses to the 2008 Mississippi River floods. *Hum. Organ.* 74:351–61
- Cernea MM. 1997. The risks and reconstruction model for resettling displaced populations. *World Dev.* 25:1569–87
- Charnley S, Poe MR, Ager AA, Spies TA, Platt EK, Olsen KA. 2015. A burning problem: social dynamics of disaster risk reduction through wildfire mitigation. *Hum. Organ.* 74:329–40
- Collier SJ, Lakoff A. 2015. Vital systems security: reflexive biopolitics and the government of emergency. *Theory Cult. Soc.* 32:19–51
- Companion M, Chaiken MS, eds. 2017. *Responses to Disasters and Climate Change: Understanding Vulnerability and Fostering Resilience*. Boca Raton, FL: CRC Press
- Córdoba E. 2012. *Desastre y reubicación en Nuevo Juan de Grijalva: primera ciudad autosustentable del mundo*. BA Thesis, Benemérita Univ. Autónoma Puebla
- Crate SA, Nuttall M, eds. 2016. *Anthropology and Climate Change: From Encounters to Actions*. New York: Routledge
- di Leonardo M. 2008. Introduction: new global and American landscapes of inequality. In *New Landscapes of Inequality: Neoliberalism and the Erosion of Democracy in America*, ed. JL Collins, M di Leonardo, B Williams, pp. 3–20. Santa Fe, NM: Sch. Adv. Res. Press
- DiFruscia KT. 2010. Shapes of freedom: an interview with Elizabeth A. Povinelli. *Altérités* (1):88–98
- Enarson E. 2000. *Gender and Natural Disasters*. Work. Pap. 1. Geneva: InFocus Progr. Crisis Response and Reconstr. http://natlex.ilo.ch/wcmsp5/groups/public/@ed_emp/@emp_ent/@ifp_crisis/documents/publication/wcms_116391.pdf
- Ensor M. 2009. Gender matters in post-disaster reconstruction. In *The Legacy of Hurricane Mitch: Lessons from Post-Disaster Reconstruction in Honduras*, ed. MO Ensor, pp. 129–55. Tucson: Univ. Ariz. Press

- Faas AJ. 2016. All the years combine: the expansion and contraction of time and memory in disaster response. See Companion & Chaiken 2016, pp. 249–58
- Faas AJ, Barrios RE. 2015. Applied anthropology of risks, hazards, and disasters. *Hum. Organ.* 74:287–95
- Faas AJ, Velez A-L, FitzGerald C, Nowell BL, Steelman TA. 2016. Patterns of preference and practice: bridging actors in wildfire response networks in the American Northwest. *Disasters* 41:527–48
- Fabian J. 1983. *Time and the Other: How Anthropology Makes Its Object*. New York: Columbia Univ. Press
- Fortun K. 2001. *Advocacy after Bhopal: Environmentalism, Disaster, New Global Orders*. Chicago: Univ. Chicago Press
- Foucault M. 1970. *The Order of Things: An Archaeology of the Human Sciences*. New York: Random House
- Foucault M. 1978. *History of Sexuality*, Vol. 1. New York: Random House
- Foucault M. 1980. *Power/Knowledge: Selected Interviews and Other Writings, 1972–1977*, ed. C. Gordon. New York: Pantheon Books
- Foucault M. 2004. *Security, Territory, Population: Lectures at the Collège de France, 1977–1978*, ed. M. Senellart. New York: Picador
- Franklin A. 2008. A choreography of fire: a post-humanist account of Australians and Eucalypts. See Pickering & Guzik 2008, pp. 17–45
- Freudenburg WR, Gramling R, Laska S, Erikson K. 2009. *Catastrophe in the Making: The Engineering of Katrina and the Disasters of Tomorrow*. Washington, DC: Island Press
- Gamburd MR. 2013. *The Golden Wave: Culture and Politics after Sri Lanka's Tsunami Disaster*. Bloomington: Indiana Univ. Press
- Guggenheim S, Cernea MM. 1993. Anthropological approaches to involuntary resettlement: policy, practice, and theory. In *Anthropological Approaches to Resettlement: Policy, Practice, and Theory*, ed. M. Cernea, S. Guggenheim, pp. 1–12. Boulder, CO: Westview Press
- Gunewardena N, Schuller M, eds. 2008. *Capitalizing on Catastrophe: Neoliberal Strategies in Disaster Reconstruction*. Lanham, MD: AltaMira Press
- Harvey D. 2005. *A Brief History of Neoliberalism*. Oxford, UK: Oxford Univ. Press
- Hastrup F. 2011. *Weathering the World: Recovery in the Wake of the Tsunami in a Tamil Fishing Village*. Oxford, UK: Berghahn Books
- Hewitt K, ed. 1983. *Interpretations of Calamity: From the Viewpoint of Human Ecology*. Boston, MA: Allen and Unwin
- Hoffman S. 1999. The regenesis of traditional gender patterns in the wake of disaster. See Oliver-Smith & Hoffman 1999, pp. 173–91
- Howe C. 2015. Latin America in the Anthropocene: energy transitions and climate change mitigations. *J. Lat. Am. Caribb. Anthropol.* 20:231–41
- Howe C, Pandian A. 2016. Lexicon for an Anthropocene yet unseen. Theorizing the contemporary. *Cult. Anthropol.* Jan. 22. <https://culanth.org/fieldsights/803-lexicon-for-an-anthropocene-yet-unseen>
- Howitt AM, Leonard HB. 2009. *Managing Crises: Responses to Large Scale Emergencies*. Washington, DC: CQ Press
- Hsu M, Howitt R, Miller F. 2015. Procedural vulnerability and institutional capacity deficits in post-disaster recovery and reconstruction: insights from Wutai Rukai experiences of Typhoon Morakot. *Hum. Organ.* 74:308–18
- Ingold T. 2000. *The Perception of the Environment: Essays on Livelihood, Dwelling, and Skill*. New York: Routledge
- Integr. Res. Disaster Risk. 2011. *Forensic Investigations of Disasters: The FORIN Project*. IRDR FORIN Publ. No. 1. Beijing: Integr. Res. Disaster Risk. http://www.irdrinternational.org/wp-content/uploads/2012/06/FORIN-REPORT_web.pdf
- Jackson AT. 2011a. Diversifying the dialogue post-Katrina—race, place, and displacement in New Orleans, U.S.A. *Transform. Anthropol.* 19:3–16
- Jackson DD. 2011b. Scents of place: the displacement of a First Nations community in Canada. *Am. Anthropol.* 113:606–18
- Johnson C, ed. 2011. *The Neoliberal Deluge: Hurricane Katrina, Late Capitalism, and the Remaking of New Orleans*. Minneapolis: Univ. Minn. Press
- Jones EC, Murphy AD, eds. 2009. *The Political Economy of Hazards and Disasters*. Lanham, MD: AltaMira Press

- Jones EC, Murphy AD. 2015. Social organization of suffering and justice-seeking in a tragic day care fire disaster. In *World Suffering and Quality of Life*, Vol. 56, ed. RE Anderson, pp. 281–91. Dordrecht, Neth.: Springer
- Klein N. 2007. *The Shock Doctrine: The Rise of Disaster Capitalism*. New York: Picador Press
- Koselleck R. 1988. *Critique and Crisis: Enlightenment and the Pathogenesis of Modern Society*. Cambridge, MA: MIT Press
- Koselleck R. 2006. Crisis, transl. MW Richter. *J. Hist. Ideas* 67:357–400
- Kroll-Smith S, Brown-Jeffy S. 2013. A tale of two American cities: disaster, class and citizenship in San Francisco 1906 and New Orleans 2005. *J. Hist. Sociol.* 26:527–51
- Latour B. 1993. *We Have Never Been Modern*, transl. C Porter. Cambridge, MA: Harvard Univ. Press
- Latour B. 1999. *Pandora's Hope: Essays on the Reality of Science Studies*. Cambridge, MA: Harvard Univ. Press
- Lévi-Strauss C. 1966. *The Savage Mind*. Chicago: Chicago Univ. Press
- Lipsitz G. 2006. Learning from New Orleans: the social warrant of hostile privatism and competitive consumer citizenship. *Cult. Anthropol.* 21:451–68
- Macías JM, ed. 2009. *Investigación Evaluativa de Reubicaciones Humanas por Desastres en México*. Tlalpan, Mex.: CIESAS
- Makley C. 2014. Spectacular compassion: “natural” disasters and national mourning in China’s Tibet. *Crit. Asian Stud.* 46:371–404
- Maldonado JK, Shearer C, Bronen R, Peterson K, Lazrus H. 2013. The impact of climate change on tribal communities in the US: displacement, relocation, and human rights. *Clim. Change* 120:601–14
- Marchezini V. 2015. The biopolitics of disaster: power, discourses, and practices. *Hum. Organ.* 74:362–71
- Marino E. 2015. *Fierce Climate, Sacred Ground: An Ethnography of Climate Change in Shishmaref, Alaska*. Fairbanks: Univ. Alsk. Press
- Marino E, Lazrus H. 2015. Migration or forced displacement? The complex choices of climate change and disaster migrants in Shishmaref, Alaska and Nanumea, Tuvalu. *Hum. Organ.* 74:341–50
- Masco J. 2006. *Nuclear Borderlands: The Manhattan Project in Post-Cold War New Mexico*. Princeton, NJ: Princeton Univ. Press
- Masco J. 2009. Bad weather: on planetary crisis. *Soc. Stud. Sci.* 40:7–40
- Maskrey A, ed. 1993. *Los Desastres No Son Naturales*. Bogotá, Colomb.: La RED, Intermed. Technol. Dev. Group
- McCaffrey S. 2004. Thinking of wildfire as natural hazard. *Soc. Nat. Resour.* 17:509–16
- Mitchell T. 2002. *Rule of Experts: Egypt, Techno-Politics, Modernity*. Berkeley: Univ. Calif. Press
- Nielsen-Pincus M, Charnely S, Mosely C. 2013. The influence of market proximity on national forest hazardous fuels reduction treatments. *For. Sci.* 59:566–77
- Norris FH, Stevens SP, Pfefferbaum B, Wyche KF, Pfefferbaum RL. 2008. Community resilience as a metaphor, theory, set of capacities, and strategy for disaster readiness. *Am. J. Community Psychol.* 41:127–50
- O’Keefe P, Westgate K, Wisner B. 1976. Taking the naturalness out of natural disasters. *Nature* 260:566–67
- Oliver-Smith A. 1986. *The Martyred City: Death and Rebirth in the Andes*. Albuquerque: Univ. N. M. Press
- Oliver-Smith A. 1996. Anthropological research on hazards and disasters. *Annu. Rev. Anthropol.* 25:303–28
- Oliver-Smith A. 1999. “What is a disaster?”: Anthropological perspectives on a persistent question. See Oliver-Smith & Hoffman 1999, pp. 18–34
- Oliver-Smith A. 2002. Theorizing disasters: nature, power and culture. In *Catastrophe & Culture: The Anthropology of Disaster*, ed. S Hoffman, A Oliver-Smith, pp. 23–48. Santa Fe, NM: Sch. Adv. Res. Press
- Oliver-Smith A, ed. 2009. *Development & Dispossession: The Crisis of Forced Displacement and Resettlement*. Santa Fe, NM: Sch. Adv. Res. Press
- Oliver-Smith A, Hoffman S, eds. 1999. *The Angry Earth: Disaster in Anthropological Perspective*. New York: Routledge
- Ong A. 2005. Ecologies of expertise: assembling flows, managing citizenship. See Ong & Collier 2005, pp. 337–53
- Ong A. 2006. *Neoliberalism as Exception: Mutations in Citizenship and Sovereignty*. Durham, NC: Duke Univ. Press

- Ong A, Collier SJ, eds. 2005. *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems*. Malden, MA: Wiley-Blackwell
- Petryna A. 2002. *Life Exposed: Biological Citizens after Chernobyl*. Princeton, NJ: Princeton Univ. Press
- Pickering A. 1995. *The Mangle of Practice: Time, Agency, and Science*. Chicago: Univ. Chicago Press
- Pickering A, Guzik K, eds. 2008. *The Mangle in Practice: Science, Society, and Becoming*. Durham, NC: Duke Univ. Press
- Povinelli EA. 2006. *Empire of Love: Toward a Theory of Intimacy, Genealogy, and Carnality*. Durham, NC: Duke Univ. Press
- R. Soc., US Natl. Acad. Sci. 2014. *Climate Change: Evidence and Causes*. Washington, DC: US Natl. Acad. Sci. <http://nas-sites.org/americasclimatechoices/events/a-discussion-on-climate-change-evidence-and-causes/>
- Rabinow P. 2005. Midst anthropology's problems. See Ong & Collier 2005, pp. 40–54
- Rappaport RA. 1984. *Pigs for the Ancestors: Ritual in the Ecology of a New Guinea People*. Long Grove, IL: Waveland Press
- Reddy E. 2015. *When can we repair that field station? Mexican technoscientific earthquake risk mitigation meets narco violence*. Presented at Annu. Meet. Soc. Appl. Anthropol., 75th, Pittsburgh
- Reddy E. 2016. Stability. Theorizing the Contemporary. *Cult. Anthropol.* July 12. <https://culanth.org/fieldsights/920-stability>
- Roitman J. 2011. Crisis. *Polit. Concepts Crit. Lex.* Winter: <http://www.politicalconcepts.org/issue1/crisis/#fn-17-1>
- Rozario K. 2007. *The Culture of Calamity: Disaster and the Making of Modern America*. Chicago: Univ. Chicago Press
- Sahlins M. 1972. *Stone Age Economics*. Chicago: Aldine and Atherton
- Sahlins M. 1983. Other times, other customs: the anthropology of history. *Am. Anthropol.* 85:517–44
- Samuels A. 2015. Narratives of uncertainty: the affective force of child-trafficking rumors in postdisaster Aceh, Indonesia. *Am. Anthropol.* 117:229–41
- Schuller M. 2012. *Killing with Kindness: Haiti, International Aid, and NGOs*. New Brunswick, NJ: Rutgers Univ. Press
- Scudder T, Colson E. 1982. From welfare to development: a conceptual framework for the analysis of dislocated people. In *Involuntary Migration and Resettlement: The Problems and Responses of Dislocated People*, ed. A Hansen, A Oliver-Smith, pp. 267–87. Boulder, CO: Westview Press
- Sherrieb K, Norris FH, Galea S. 2010. Measuring capacities for community resilience. *Soc. Indic. Res.* 99:227–47
- Simpson E. 2013. *The Political Biography of an Earthquake: Aftermath and Amnesia in Gujarat, India*. London: Hurst
- Smith N. 1984. *Uneven Development: Nature, Capital and the Production of Space*. London: Basil Blackwell
- Solway JS. 1994. Drought as revelatory crisis: an exploration of shifting entitlements and hierarchies in the Kalahari, Botswana. *Dev. Change* 25:471–98
- Sternsdorff-Cisterna N. 2015. Food after Fukushima: risk and scientific citizenship in Japan. *Am. Anthropol.* 117:455–67
- Strathern M. 1987. Out of context: the persuasive fictions of anthropology. *Curr. Anthropol.* 28:251–81
- Taylor S. 2015. The construction of vulnerability along the Zarumilla River Valley in prehistory. *Hum. Organ.* 74:296–307
- Tobin GA, Whiteford LM. 2002. Community resilience and volcano hazard: the eruption of Tungurahua and evacuation of the faldas in Ecuador. *Disasters* 26:28–48
- Torres B. 2016. *La construcción social el riesgo ante proyectos de desarrollo hidro-energético en la víspera del fin del mundo: estudio de tres casos en la Cuenca del Papaloapan y el Istmo de Tehuantepec (1940–2013)*. PhD Thesis, Col. Michoacán, Zamora de Hidalgo
- Torry W. 1979. Anthropological studies in hazardous environments: past trends and new horizons. *Curr. Anthropol.* 20:517–40
- Ullberg S. 2013. *Watermarks: Urban Flooding and Memoryscape in Argentina*. Stockholm: Stockholm Univ. Press
- Zhang Q, Barrios RE. 2017. Imagining culture: the politics of culturally sensitive reconstruction and resilience building in post-Wenchuan Earthquake China. See Companion & Chaiken 2017, pp. 93–102