A Special Section

Disasters in the Twenty-First Century: Modern Destruction and Future Instruction

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Sociologists are becoming increasingly aware of the changing nature of risk in late modernity and the shifting landscape of the sociological study of disasters. This increased "consciousness of catastrophe" is directly related to the empirical fact that the number of "natural" and "technological" disasters have increased substantially over the past 30 years. In the past eight years, some 422 disaster declarations have been issued in the United States alone – etching disasters as an important part of contemporary American experience (Bogues 2008). The number of people and communities affected by this most recent spate of catastrophic events reflects a global intensification of death and destruction that invites analytical and empirical application of a critical sociological imagination. While affecting society as a whole, these "focusing events," or "destabilizing events," have also had an impact on scholarly enterprises, shifting the attention of sociologists from more traditional areas of professional inquiry to the expansion and application of innovative concepts and methods to the study of disasters (Birkland 1997; Picou and Marshall 2007). This paradigm shift means that disaster research is being actively re-imagined throughout the broader discipline.

Disasters have always threatened human communities. Indeed, the myths and folklore documenting the devastation of such events are legend (Rosenberg 1997). Nonetheless, the last quarter of the 20th century and the first decade of the 21st century seem to have offered more than their fair share: Three Mile Island, Chernobyl, Exxon Valdez, Hurricane Andrew, 9-11, Hurricane Katrina, the Indian Ocean Tsunami, the Sichuan earthquake and Hurricane Ike. These exemplars of modern destruction have all become global mass media spectacles dramatically delivered to living rooms throughout the world. Leading disaster researchers have revised their conceptualizations of disasters to include ideas about the "social amplification of disasters and crisis" and the existence of "trans-system social ruptures." (Quarantelli et al. 2006) The former reflects traditional disasters, such as heat waves and blackouts that are amplified by population density, and the latter, low probability/high consequence events such as asteroid strikes and global nuclear war (Quarantelli et al. 2006). Future global catastrophes also threaten the human community as the pandemic spread of diseases and the inevitable daily threat of terrorism pose risks for the future.

More than 30 years ago Kai Erikson (1976, 1994) sounded the alarm that sociologists and human communities would be confronted with a type of collective trauma that signaled a "new species of trouble." Later, Ulrich Beck (1992) introduced sociology to the perils of "risk society" and the increasing inevitability of "worst imaginable disasters." Most recently, Lee Clarke (2006) invited social scientists and emergency response specialists to creatively engage in "possibilistic thinking" to foster our understanding and preparation for "worst-case" catastrophes. It is apparent that a revitalized sociology of disaster will be required to theoretically, practically and publicly respond to these challenges to community survival in the 21st century.

Theoretical tradition in disaster research has emphasized a structural-functional systems approach (Fritz 1961; Kreps 1985; Porfiriev 1998). Furthermore, the social construction processes of vulnerability and social change have been viewed as the proper focus for disaster studies (Perry 2006). A more hazards-based model has recently emerged, which views disasters in terms of society and community vulnerability and the identification of resources that promote or hinder patterns of social resiliency (Hewitt 1995; Cutter et al. 2003; Laska and Morrow 2006). In social structural terms, vulnerability has been defined as "…the characteristics of a person or group and their situation that influence their capacity to anticipate, cope with, resist and recover from the impact of a natural hazard." (Wisner et al. 2004:11) This hazards-vulnerability framework also incorporates concerns of social structural inequality that relate class, race, ethnicity, gender and poverty as organizing concepts for understanding and predicting disaster effects and subsequent differential patterns of collective recovery (Bolin 2006; Oliver-Smith 1996; Fothergill and Peek 2004). This social structural model has served as the predominate paradigm for disaster research in American sociology and fostered our understanding of the impact of disasters, recovery and institutional responses over the past 50 years.

This structural vulnerability paradigm was vividly portrayed to the public by the global media attention accorded to Hurricane Katrina (Beck 2006; Jones-Deweever and Hartmann 2006; Barnshaw and Trainor 2007). Nonetheless, this paradigm has not been without critics, as well as proponents, of alternative areas and topics of inquiry (Tierney 2007). Embedded within the structural vulnerability paradigm is the issue of disaster etiology and subsequent differential patterns of community recovery that characterizes different agents of disaster. As noted over the years by Erikson (1976), Horlick-Jones (1995), Freudenburg (1997), Hewitt (1995) and Kroll-Smith and Gunter (1998), among others, alternative analytical approaches must be creatively utilized to address 21st century disasters. These concerns are not "replacement areas" for the current theoretical emphasis, but rather creative research expansions that address new disaster risks, the viability of institutions of public safety,

"missing voices," interpretive accounts, corrosive communities and applied responses to the lack of timely community recovery for survivors of modern disasters. In short, the aftermath of major catastrophes over the past decade mandates "a reorientation and redirection of important themes throughout the discipline of sociology" for future disaster inquiry (Picou and Marshall 2007:1).

We suggest that the primary reason for the necessity of this post-normative paradigm shift is the anthropogenic recontextualization of disasters in the modern world. Initially identified and addressed in the early "technological" disaster literature from revelations regarding contested discourses – which included public blame directed toward government and corporate organizations and the documentation of chronic corrosive processes of collective trauma – these institutional failures revictimized survivors and became sources for chronic disaster effects (Freudenburg 1997; Marshall et al. 2004). Most notably, protracted litigation has been documented as being one dominant, driving stressor which has perpetuated long-term community disruption and psychological stress for survivors of the worst ecological disaster in North American history, i.e., the Exxon Valdez oil spill (Picou et al. 2004). Indeed, such an anthropogenic scenario characterized the aftermath of the 9-11 terrorist attacks and Hurricane Katrina when perpetrators, responsible agencies and the failure of institutional response systems were all blamed as "causes" for the observed death and destruction by both survivors and the media. Litigation and toxic exposure has characterized both of these modern catastrophes and chronic physical and mental health ailments persist for survivors (Brunsma et al. 2007).

As such, Hurricane Katrina has been viewed as a *natech* disaster, that is, a catastrophe that combines the most debilitating consequences of both "natural" and "technological" disasters (Steinberg and Cruz 2004; Picou and Marshall 2006). *Natech* disasters occur when natural disasters produce *direct*, *indirect* and/or *purposeful* releases of toxic and hazardous materials into the biophysical environment. Natech disaster scenarios are related to "increases in the number of natural disasters, as well as increases in population density in disaster prone areas and technological and industrial expansion." (Young et al. 2004:5) As a contamination event, Katrina spawned the second largest oil spill in North American history (8 million gallons) and contaminated the sediment of the greater New Orleans area with dangerous levels of arsenic, diesel fuel and other toxic chemicals (Picou and Marshall 2006, 2007). Similar to the risks and effects posed by modern terrorism, natech disasters focus blame on anthropogenic sources, produce lawsuits, threaten the physical health of survivors and portend long-term physical and mental health issues linked to the lack of timely community recovery (Picou and Marshall 2007).

Given the proliferation of books, articles and special issues of journals dedicated to an expanded social science scrutiny of Hurricane Katrina, the present special section was conceived to provide perspectives that reach beyond the "normal science" of disaster studies. That is, the editors solicited manuscripts that were innovative, synthetic and controversial writings that extended and went beyond the traditional disaster research paradigm in sociology. As such, analytical accounts of theoretical and conceptual issues were of interest, as well as innovative interpretations of quantitative and qualitative information. The initial submission of 42 manuscripts was surprising. We sent 20 of those manuscripts out for peer review, and as our editorial mandate was to accept less than a third, we had to reject an overwhelming number of excellent papers. This special section includes the six best that we received.

In "Population Composition, Migration and Inequality: The Influence of Demographic Changes on Disaster Risk and Vulnerability," William Donner and Hávidan Rodríguez offer a roadmap of our modern risk society. This article, focusing on vulnerabilities, clearly illustrates that it is a multifaceted subject, stating that "it is only in rare cases that a single dimension of the social structure is responsible for vulnerability." The authors anchor the special section by offering a critical review of the shape of vulnerability and the resiliency of social systems in the face of increasing disasters. Looking closely at the U.S. stratification system, Donner and Rodriguez discuss the impact of population growth, urbanization, coastal development, immigration and internal migrations, cultural capital, poverty, minority status, gender, family composition, age and disability as these all affect every facet of the disaster process – from disaster through recovery. This article suggests that those who study disasters and those who create policy regarding disaster preparedness, mitigation, response and recovery should conceptualize, respect and create models, which recognize that exposure to disaster and vulnerabilities are centrally embedded in the intersection of inequalities and that population growth, composition and spatial distribution drive these processes.

In the tradition of Peck (2006), Kevin Fox Gotham and Miriam Greenberg take an empirical stab at the question: In the 21st century, what does "disaster recovery" mean? "Post-Disaster Recovery and Rebuilding in New York and New Orleans," investigates the impact of the contemporary neoliberal, market-centered political economy on the processes of rebuilding and recovery. First, 9/11, then Hurricane Katrina, represent a significant shift from the post-disaster reconstruction once directed at disadvantaged populations and providing incentives to spur reinvestment to the more modern tax breaks and private sector subsidies – fundamentally shifting what recovery, reconstruction and rebuilding mean, and *for whom.* Bringing together a wide variety of data and a

sharp critical analytical sociological imagination, Gotham and Greenberg identify the disjuncture between the ideology and implementation of neoliberalism and the everyday reality of consequences for people. While scholars have found policy rooted in the neoliberal model (health care, finance, national security, education, housing, etc.), this article shows that disaster response is conceptualized by officials within this framework as well – finding that it removes the process from the people, worsens extant inequalities, makes the rich richer, and perpetuates post-disaster spatial vulnerability to future disasters. It asks sociology of disaster research to take stock of the political structure of disasters.

The third article in the special section, focusing on the 1993 flood of the upper Mississippi River Valley and the Katrina-related destruction of New Orleans, continues to document the disastrous political-economic decisions for hazard creation. In their article, "Organizing Hazards, Engineering Disasters? Improving the Recognition of Political-Economic Factors in the Creation of Disasters," William Freudenburg, Robert Gramling, Shirley Laska and Kai T. Erikson, theoretically and empirically zero in on three primary factors that created these empirical examples of disaster: spreading the costs, concentrating the economic benefits and hiding the real risks. Joining an elite group of researchers, these authors choose to ask whether hazard creation is non-random, patterned and by design. In these cases, it appears that money was taken from the many for the benefit of the few. Instead of solely focusing on how people and communities respond to disasters, this research asks, what creates the disasters in the first place? The answer is embodied within a "triple tragedy," wherein politically powerful networks cause serious environmental harm. This harm makes the effects of natural disasters worse (damaging both humans and the economy), and those who are most vulnerable suffer the most.

While panic, as collective response, is extremely rare in disasters, the idea and fear of panic endures. It endures because of political, institutional and elite interests attribute panic to the powerless. But what of the powerful? To begin theorizing how power and the power elite function within moments of disaster, Lee Clarke and Caron Chess have crafted a provocative article, "Elites and Panic: More to Fear than Fear Itself," wherein they consider several relationships between elites and panic – that elites can and do fear public panic, that elites can cause panic, and that elites themselves can panic – with implications for the sociology of disasters. Using a diverse array of data, the authors push us to consider not only panic, but other central orienting concepts within the sociology of disasters. Their work has empirical and theoretical ramifications for understanding the political dimensions of disaster creation, response, recovery, reconstruction as, when the powerful panic, their dis-ease moves resources and energizes organizational and institutional activity. Having

theorized panic and power, Clarke and Chess call for more systematic cross-cultural as well as organizational research on panic.

In "Rethinking the Nature of Disaster: From Failed Instruments of Learning to a Post-Social Understanding," Stewart Williams provides an epistemological critique of disaster and risk management research as traditionally embedded within an "instrumental scientific reason" and encourages a more reflexive, "post-social" approach to understanding disaster and risk. Citing the need to incorporate the physical and human environments as already interwoven in our work, the need to acknowledge the agency and power of nonhuman nature, and humans' constitutive relationship with space, place and landscape, Williams pushes extant conceptualizations and encourages new research. Looking at the risk management practices utilized during Hurricane Katrina and the Indian Ocean Tsunami reveals a theoretically problematic separation between society and the environment, and, consequently, he argues, a paradigm shift towards a relational approach. Ultimately, this article encourages radical thinking about a persistent issue in the sociology of disaster – the relationship between society and the "natural" world.

The special section is rounded out by a unique and fresh new approach to understanding disasters and their aftermath. Lynn Letukas and John Barnshaw look at the "upper limits of theory for disaster" by moving away from middle range theoretical approaches to an exploration of the possibilities of utilizing World-Systems theory in the sociology of disasters. In "A World-Systems Approach to Post-Catastrophe International Relief," an impressive data set is brought together to explore how perceptions of aid vary by economic zones and nation-states in the contemporary world system after the 2004 Indian Ocean tsunami. Disaster research, the authors argue, can benefit from a heightened attention to the ways that centuries of economic, military, political and cultural development can affect both *how* disaster research is done within each zone or state, but also how these affect preparedness, response and recovery. We hope this special section encourages new ways to think and spawns new research.

We would like to dedicate this special section to our dear colleague, Brent K. Marshall, who passed away on April 27, 2008. His spirit of inquiry and of the desire to live the examined life infuses both the enterprise of *Social Forces* in general and, more specifically, the scholarship across these six articles.

Putting together a special section like this in a highly respected international journal of sociological research, involves *many* actors. We would first like to acknowledge our deepest thanks to the managing editor, Jane Shealy, who worked utterly tirelessly on this special section – a special section which had disastrous elements of its own (including delayed reviews due to Hurricane Gustav). The cadre of reviewers for

this section was immense. We would like to thank the following people for their assistance in reviewing the manuscripts and hope that we have remembered everyone who worked on this process. Without their help, this section simply would not have been possible: Charles Perrow, Joel Devine, Steve Kroll-Smith, Kirsten Dellinger, Tom Hood, John Greene, Kai Erikson, Alan Rudy, David Pellow, Scott Kinnell, Rebecca Scott, Lisa Eargle, JoAnn Darlington, David Overfelt, Bob Gramling, Hávidan Rodríguez, Laura Senier, John Barnshaw, James Kendra, Tom Shriver, Ortwin Renn, Jan-Martijn Meij, Anna Wesselink, Kishi Animashaun, Barbara Allen, Gene Rosa, Kathleen Tierney, William Freudenburg, Nicole Dash, Augustine Kposowa, Sabrina McCormick, Elizabeth Fussell, Penelope Canan and Phillipa Clarke. Two reviewers get the gold star award for reviewing multiple manuscripts when asked: Christine Bevc and Lee Clarke. Thank you so much! Sociology and sociological inquiry have been at the center of disaster research for years. However, as these articles show, contemporary disasters have taken on significantly different forms, and future catastrophes may have predictable, yet different contours. Clearly sociology can help provide an understanding of society's reactions to these catastrophes and these articles make a significant set of contributions towards that understanding of modern destruction and its future instruction.

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