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Introduction

Why Anthropologists Should Study Disasters

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Disasters do not just happen. In the vast majority of cases, they are not "bolts from the blue" but take place through the conjuncture of two factors: a human population and a potentially destructive agent that is part of a total ecological system, including all natural, modified, and constructed features. Both of these elements are embedded in natural and social systems that unfold as processes over time. As such, they render disasters also as processual phenomena rather than events that are isolated and temporally demarcated in exact time frames.

The conjunction of a human population and a potentially destructive agent does not inevitably produce a disaster. A disaster becomes unavoidable in the context of a historically produced pattern of "vulnerability," evidenced in the location, infrastructure, sociopolitical organization, production and distribution systems, and ideology of a society. A society's pattern of vulnerability is a core element of a disaster. It conditions the behavior of individuals and organizations throughout the full unfolding of a disaster far more profoundly than will the physical force of the destructive agent.

It is only through the pattern of events and processes that emerge

in this "conditioned" conjuncture of a community and hazard that what we call a disaster takes place. Although the multidimensionality and multiple subjectivities involved make formally defining disaster highly problematic, for purposes of this introduction, we venture such a step here by stating that a disaster is

> a process/event combining a potentially destructive agent/ force from the natural, modified, or built environment and a population in a socially and economically produced condition of vulnerability, resulting in a perceived disruption of the customary relative satisfactions of individual and social needs for physical survival, social order, and meaning.

Since the definition of disaster cannot be entirely separated from the concomitant matter of hazard, we describe *hazard* as

> the forces, conditions, or technologies that carry a potential for social, infrastructural, or environmental damage. A hazard can be a hurricane, earthquake, or avalanche; it can also be a nuclear facility or a socioeconomic practice, such as using pesticides. The issue of hazard further incorporates the way a society perceives the danger or dangers, either environmental and/or technological, that it faces and the ways it allows the danger to enter its calculation of risk.

Although human beings and groups clearly play major roles in the emergence and evolution of both hazards and disasters, we have excluded those processes that result from human intentionality. Things that humans do deliberately with a knowledge of and expectation of an effect are not disasters. Thus, the nuclear bombing of Hiroshima and Nagasaki and the destruction and impoverishment that result from large development projects such as the Narmada dam complex in India fall outside our purview here. However, the similarity of outcomes in these examples illustrates the definitional complexities that disasters present.

Anthropologists have studied disasters since their postwar emergence as a research field, but only quite recently have disasters actually become a focus for anthropological research. After World War II, research on human behavior during bombardment evolved into the social scientific study of natural and technological disasters, and anthropologists were among the earliest contributors. Generally these early studies occurred because anthropologists were examining other issues in places that had experienced disasters (Belshaw 1951; Schneider 1957; Firth 1959; Schwimmer 1969). Only one anthropologist, Anthony F. C. Wallace (1956a, 1956b, 1956c, 1957), actually carried out research in which the primary focus was the human structuring of the disaster experience. As the field of disaster research began to expand, anthropological participation remained low, as did understanding of what the study of disasters could add to anthropological inquiry. Despite W. Lloyd Warner's (1947) advice that there was much to be learned about society and culture "when all hell breaks loose," a particularist and functionalist emphasis on the construction of cultural profiles based on the ethnography of "normal, daily" life precluded addressing the issues of disruption and change that disasters represented.

With the reemergence of interest in sociocultural change, multilinear evolution, and cultural ecology in the 1960s, and the interest in political ecology and discourse analysis that arose in the 1980s, the issue of disaster has become increasingly salient to the concerns of anthropologists. Anthropologists are learning that they have an important contribution to make to the study of disasters and that disasters in turn have great expository relevance to the inquiries of their field (Hoffman and Oliver-Smith 1999; Oliver-Smith 1996). Disasters, both natural and technological, are becoming more frequent and more serious as communities become more vulnerable. They are impacting ever-larger numbers of people around the world. The increasing vulnerability of communities, and the consequent intensity of disaster repercussions in regions where anthropologists have traditionally studied, challenge the field to come to grips with the practical problems that disasters present. At the same time the alarming increase of disasters and their aftermaths have clearly demonstrated how much light catastrophes can shed on the content of anthropological purview.

When hazards threaten and disasters occur, they both reveal and become an expression of the complex interactions of physical, biological, and sociocultural systems. Hazards and disasters not only manifest the interconnections of these three factors but also expose their

operations in the material and cultural worlds. Disasters present conjunctural opportunities for documenting linkages among such features as intensification of production, population increase, environmental degradation, and diminished adaptability and also provide opportunities to delve into human social realms and cultures. In the face or threat of disruption, as people attempt to prepare, construct, recover, or reconstruct, how they adjust to the actual or potential calamity either recants or reinvents their cultural system. Disaster exposes the way in which people construct or "frame" their peril (including the denial of it), the way they perceive their environment and their subsistence, and the ways they invent explanation, constitute their morality, and project their continuity and promise into the future. Few contexts provide a social science with more opportunity for theoretical synthesis of its various concerns than does the study of disaster provide anthropology. Within disaster research, anthropology finds an opportunity to amalgamate past and current cultural, ecological, and political-economic investigations, along with archaeological, historical, demographic, and certain biological and medical concerns.

The possibility that the study of disasters could lead to reducing the theoretical and methodological gaps that presently separate the ecological, political-economic, and cultural perspectives in anthropology was one major motivation for the advanced seminar that we organized for the School of American Research in October of 1997. As a whole, our group recognized both how particularly anthropology lends itself to the study of hazard and disaster and how crucially calamity lends itself to the exposition of anthropological topics. As events and processes, hazards and disasters are totalizing phenomena, subsuming culture, society, and environment together. Anthropology as a discipline embraces in its substantive platform the physical, biological, and social aspects of human existence. It includes developmental and comparative perspectives. As part of its approach, it poses specifics against larger wholes and examines issues of social change and evolution (Torry 1979b). With the holistic perspective that is the hallmark of the field, anthropology provides a theoretical framework that can encompass the entire scope of disaster causation and impact, including even analysis of the essentially novel conditions that have emerged in human-environment relations in the latter half of the twentieth cen-

tury. As anthropology entails a comprehensive format shared by no other social science, it can—and well should—take a place at the center of disaster theory, research, and practice.

The critical need for synthesis in our understanding of disasters arises from the fact that human communities and their behaviors are not simply located in environments. The development of a society is also the development of its environment, and the resulting relations emerge from the multiple continual processes of exchange through the porous boundaries between them (Ingold 1992). Yet we are increasingly compromising this linkage. Human interventions have brought about a reduction of functional diversity in human communities along with increased spatial homogeneity, thus compromising our ability to adapt and react (Holling 1994). In the framework of global change, disasters play the role of the canary in the mine for all humankind. A synthesis of disaster knowledge can also contribute significantly to efforts to aid disaster victims and prevent disaster from occurring to at-risk populations. While our purpose in the seminar was explicitly theoretical, it is both appropriate and necessary that this theoretical project be linked to policy and practice.

DISASTER RESEARCH AND ANTHROPOLOGICAL THEORY

So varied are the theoretical issues that can be explored in the context of hazards and disasters, we can only touch on the broad themes here. We frame these issues from the perspective implicit in our definition of disaster, namely that disasters challenge society and represent forces to which the society must adapt along a number of fronts, ecologically, socially, and ideologically. In disasters, every feature of a society and its relations with the total environment may be impacted. Coherence and contradiction, cooperation and conflict, hegemony and resistance, as they are expressed through the operation of physical, biological, and social systems and behavioral practices, become manifest. Due to the numerous issues implicated, the definition of disaster itself remains a complex matter that continually merits further exploration.

At the baseline, adaptation has been one of the central concepts in anthropology since the field's emergence in the nineteenth century

first focused on human biological and cultural evolution. In order to survive and to ensure maintenance, demographic replacement, and social reproduction, human beings interact with nature through a set of material practices that are socially constituted and culturally meaningful (Patterson 1994:223). These material practices include food production, shelter, and, at the most fundamental level, defense. All are accomplished through social arrangements; all modify the natural and social world in ways that enable to some degree the persistence of the society through time. The premises upon which humans make basic productive decisions are multiple. They emerge from direct environmental stimuli, social organizational forms, and ideological mandates. Disasters provide but one, albeit possibly the most dramatic and revealing, moment in which this process of adaptation to an environment is both manifested and tested in immediately observable ways.

One of the fundamental features to which individuals and communities must respond is the natural environment where they dwell. In general, most hazards are systemic elements of certain environments. Droughts have been occurring in the Sahelian region of Africa for millennia; hurricanes occur with reasonable predictability on the Atlantic and Gulf coasts of the United States; earthquakes are endemic to the western coast of the Americas, the entire Mediterranean, and much of Asia. These environmental processes are not novelties where they occur, but periodic regularities. Any account of human adaptation and cultural change and evolution, therefore, must refer to hazards as normal features of specific environments.

When hazards become activated, the degree to which they bring about a disaster in a society is an index of adaptation or maladaptation to the environment. Many societies in their native practices, before colonization, globalization, and other interferences, had knowledge and strategies to deal with the nature of their physical platform, to the extent that a disaster, at least up to certain extremes, might not even constitute a "disaster" to them, but simply part of their lifeways and experience (Schneider 1957). For example, Sahelian nomads for centuries adapted to the periodic droughts of their region through interethnic cooperative linkages with sedentary farmers and by altering migration routes (Lovejoy and Baier 1976). In contemporary conditions, these strategies often have been disrupted by such things as gov-

ernmental policies, economic development, population increase, or nation-state boundaries, such that maladaptation, conditioned by the outer world, now hovers near (see McCabe, this volume).

Hand in hand with adaptation, the role of hazards and disasters in mobilizing forces of cultural change is vastly understudied. Much of the sociological research conducted not terribly long ago considered that disasters rarely played a significant part in the evolution of a society (Sjoberg 1962). The time depth supplied by anthropology's archaeological and historical perspectives, however, has increasingly made evident how causal disasters have been in bringing about cultural transformation. There is much to be learned about cultural and societal modification from the calamities a people endure. Not only do societies undertake immediate adaptations after impact, but these can also set in motion forces with long-term implications for the evolution of each society (Hoffman 1999).

The frequency with which a hazard is activated and produces a disaster brings forth consideration of the temporal factor in culture change. As Holling (1994) has noted, the time frames in which natural processes unfold vary considerably from those in which human decision making takes place, thus permitting considerable trial and error in societal adaptation to the environment. While many hazards display their presence quite constantly, others, despite their systemic environmental quality, may not occur with great frequency, allowing the possibility of maladaptive responses over time. If these maladaptive responses become institutionalized, they may lead to increases in societal vulnerability that in due course may bring about calamity and social collapse. Consequently, hazards and disasters, and how societies fare with them over long periods of time, are potential indices of not only appropriate environmental adaptations, but ideological ones as well. These cultural adaptations include innovation and persistence in memory, cultural history, worldview, symbolism, social structural flexibility, religion, and the cautionary nature of folklore and folk tales.

Disasters unmask the nature of a society's social structure, including the ties and resilience of kinship and other alliances. They instigate unity and the cohesion of social units as well as conflict along the lines of segmentary opposition. The distribution of power within a society reveals itself not only in the differential vulnerability of groups, but in

the allocation of resources in reconstruction as well. Disasters provide a unique view of a society's capacities for resistance or resilience in the face of disruption. The basic social organizational forms and behavioral tenets of a society are exhibited and tested under conditions of stress. By exposing the capacities of social organization and ethos to cope with immediate forms of duress due to impact and emergency and with the sustainability of these efforts over long-term periods of reconstruction, disasters facilitate the study of human sociability. Patterns of consensus, competition and conflict, tensions between genders, classes, castes, age groups, occupations, all come into focus in disaster situations and provide the opportunity for the expansion of ways to scrutinize generally accepted wisdom regarding social and cultural differentiation.

Socially expressed questions regarding human needs, resource access and distribution, property relations, and altruism and self-interest are other prime issues that disasters elicit for substantive and theoretical exploration. Technological disasters such as oil spills and the like have constituted whole new challenges to resilience and sustainability, presenting cultures with conditions and devastation the victims could in no way preconceive or prepare for. In these situations, sometimes the research outcomes suggest cultural crisis or disintegration.

Disasters divulge matters of time and space use. They bring to the fore the power of place attachment. They undrape canons and law, customs and practices, the novel from the entrenched tradition. In this manner disasters often reveal the deeper social grammar of a people that lies behind their day-to-day behavior. Disasters also display and articulate the linkages between the local community and larger structures. The substance and expression of normal relations between community, region, state, and nation are measured as formal and informal agreements and alliances are called upon to mobilize resources and support in stressful conditions. The forms of expression that such linkages take under conditions of impending threat, impact, relief, and recovery expose their substance and viability in ways not evident under normal conditions. Under certain circumstances, the performance of state-level organizations in the disaster process also becomes a catalyst for readjusting the character of relations and interaction between local communities and the structures of the larger society.

Disasters offer a lens through which to view the relationship between the ideological and the material. Cultural perceptions of environmental hazards, dramatic events, and mortality tell much about ideologies of human-earthly and human-supernatural relations. How concepts of uncertainty, peril, safety, fortune, and fate are constructed and perceived constitutes basic features of worldview. Such cultural constructions, and the ways they are enacted, are often, then, posed against the realities experienced in disaster preparation, impact, and recovery. Not only are the nature and operation of mental constructions revealed, but at times novel forms and interpretations also emerge. Concepts of social and cosmic justice and the nature of existence as well come to the fore.

People formulate meanings for what has occurred, and in the formulation process another aspect of social process comes to light. Very often various interpretations of events are produced, bringing up control of definition and "story," along with tales of praise and vilification. "Ownership" of a disaster, that is, the right to claim that it occurred, who its victims were, and the "true account" of events, origin, consequences, and responsibilities, often erupts as a very contested form of discourse in all stages of a disaster. Such definitions even extend to risk—whether risk is recognized, and, particularly in our global age, who gets to outline the amounts and limits of risk. In the negotiation of these, disasters lay bare ideological unity or tensions within the community and its constituents, and between the community and outside entities.

Ceremonies and rituals arise, old, wholly new, or with new matter in old form. Myths and legends spring up, and their efficacy becomes manifest. Along with cultural change, researchers can witness cultural conservation and its mechanisms. Within disaster scenarios, nostalgia, cultural rigidity, and even cultural mummification arise. Deeply pervasive custom as opposed to mutable surface detail is made plain. The drift of uprooted populations to new environments or of sectors of populations to marginal and hazardous places and positions goes far in explaining how people ultimately immigrate or divide. In both traditional and novel manners, language and linguistic usages emerge to express events, name the peoples and parties involved, and manage the allegiances and contestations, so that, on top of all else, disaster brings to light sociolinguistic application and invention.

Disasters, in short, intertwine anthropology's platforms of assay so that the research is returned to the fourfold essence of the discipline. Disasters link the physicality of humans in their survival needs and behavioral capacities as these interplay within environments to the sociocultural orders and milieus humans create, the processual depth of sociocultural orders as revealed through archaeology and history, and the many texts of human life, including the spiritual, symbolic, and sociolinguistic.

THE PROBLEMS OF DISASTER RESEARCH AND ANTHROPOLOGICAL METHODOLOGY

While the long-term development and many-leveled aspects of disaster make anthropology particularly relevant to its study, these same aspects bring back to anthropology particular conundrums. Whether rapid or slow in onset, disasters and the vulnerability leading to them unfold over time, often considerable amounts of time. Likewise the socioculturally conditioned responses to them transpire both relationally and historically. Disasters have pasts, presents, and futures, whether they arise from events that people consider to be sudden, such as earthquakes, or those, such as droughts or toxic exposures, that occur unperceived over long periods only to be recognized well after their initial manifestations. Eminently social, disasters are worked out in complex interactions and discourses in which the needs and interests of many involved individuals, groups, and organizations are articulated and negotiated over the often extended duration of the entire phenomenon.

While much important data about disasters can be gathered by synchronic slices based on questionnaires, surveys, and "crash" emergency overviews, the actual processes by which people and communities respond to risk, threat, vulnerability, impact, and recovery are best understood through on-site ethnographic research. The value of ethnographic research is particularly evident during the process of reconstruction, when people must traverse the difficult path between restoration and change. This process of negotiation between what has been lost and what is to be reconstituted generally involves tensions among diverse interest groups and values. Methods that privilege narrative and observation, with researchers present and in dialogue with

participants to gather local knowledge and information, are far more appropriate for exploring the process of adjustment and recovery than are more synchronic forms of research (Oliver-Smith 1979).

Disasters, no matter how large, are experienced first at the local level. Even an enormous disaster affecting great areas and legions of people, while it may result from a single climatological, geological, or technological phenomenon, ultimately comes down to a compendium of local but related disasters experienced throughout the region. Not all communities experience a disaster in the same way or to the same degree; each undergoes a catastrophe in the context of its own profile of vulnerability. The same disaster agent will show great variation in patterns of destruction as well as interpretation of cause, effect, and responsibility. Such variation challenges more global, macro approaches. By the same token, it is necessary to understand the total phenomenon, both physically and socially. Disasters, therefore, compel us to pair multisite ethnography with quantitative methods capable of accessing greater levels of aggregation.

Just as the spatial dimensions of some disasters present challenges to anthropological research, temporal dimensions can prove equally problematical. Disasters rarely conform to personal, academic, or funding agency schedules. Most anthropological research is planned out considerably ahead of actual entry in the field. Proposal preparation and review is a lengthy process, typically locked into a schedule of deadlines that is not responsive to such contingencies as a disaster. Some research funding organizations have programs that are designed to support rapid response or perishable data research, but they generally fund very short-term, event-focused kinds of research as opposed to the more important processual aspects of disasters that require longer-term commitments of ethnographic methods.

Researchers rarely enjoy the flexibility necessary to supplant personal and professional commitments that have been in place for some time in order to undertake long-term research on a rapid-onset disaster. Even less available is the prescience to carry out the necessary predisaster vulnerability analysis that allows a fuller understanding of impact and recovery. On the other hand, communities and regions around the world know where certain kinds of disasters occur with some regularity, and many undertake forms of vulnerability analysis in

their preparedness and mitigation strategies. Anthropologists in these situations can complement community strategies with in-depth analyses of local-level vulnerability, particularly where both intersect with chronic or systemic hazards. Moreover, many of us return periodically to the areas where we conduct our anthropological research, yet another advantage for comprehending the long-term unfolding of a disaster and utilizing the extended story of disaster for our expositions and theorems.

FROM THEORY AND METHOD TO PRACTICE—AND AN OBLIGATION

The practice of disaster relief and reconstruction is an exceptionally complex task, made even more so by the urgent needs of those affected. Anthropologists involved in disaster research carry the responsibility of the field's fifth, and often un-embraced arena, applied anthropology. We cannot forget that we are part of the communities we study, as well as part of the global community, and have a responsibility to mitigate the suffering of others to whatever degree we can. We also play a role in protecting the environments upon which we all depend. As a result of the nature of our inquiry, anthropologists can provide valuable sociocultural information and perspectives that can contribute to improving the outcomes of disaster mitigation, management, and reconstruction. Furthermore, since disaster victims often come from the most vulnerable sectors of society, we assume a special charge of being a voice for people and places that cannot always be heard.

As a consequence of the nature of disasters and the problems involved in their examination, considerable disaster research is actually undertaken in the context of assistance. This circumstance, and the very real aspects of death and destruction that vulnerability and calamity encompass, bring to the foreground two further matters in the anthropological study of disaster: (1) what anthropology can do for disaster management as well as research, particularly regarding the moral issue of aid; and (2) the ever-present specter to the more academic side of anthropology, the connection between theory and practice. While not always recognized, both issues are extraordinarily important in the study of disaster and the use of disaster as a study context.

To begin with the latter, theory and practice should ideally be closely connected. When policy and practice are not based on a solid understanding of human behavior in general and cultural behavior specifically, the probabilities of success of both are limited. Conversely, policy and its application can serve as an important proving ground for the relevance and predictive ability of theory. If policies and practices do not coordinate and do not produce successful results, it is the programs and their applications, not the people, that are at fault; but it is always the people who suffer.

One of the common sources of the policy-practice defect is its construction on culturally bound assumptions. In disaster contexts, aid often gets delivered in inappropriate forms and according to unsuited principles. Anthropology can provide the nuanced understanding that may more sensitively discern applicable relief. Through their primary methodology and research, anthropologists can obtain and provide a more holistic perspective of the societies they study and thus are in a significantly better position to inform the structure of aid as well as to project the possible distribution of effects of a disaster throughout a social system. An awareness of the sociocultural configurations of a society can be an important factor in avoiding the major problems that follow disasters. These include not only problems of waste and inapt assistance, but also the severe social conflict, anomie, substance abuse, and other socially derived difficulties that often plague groups in the aftermath of severe calamity. In addition, many of the benefits and potentials that emerge in the oft-witnessed post-impact solidarity and other forms of social capital that occur after a disaster might not be lost if a culturally knowledgeable mediator were available to work with communities and agencies. Unfortunately, in-depth sociocultural data are rarely asked for and more rarely appreciated. This situation remains a challenge for anthropologists concerned with improving outcomes in disaster relief and reconstruction.

The uneven record of disaster preparedness, relief, and reconstruction consequent to both natural and technological disasters on every continent of the globe over the last three decades can in some measure be attributed to a lack of understanding of the local contexts in which disasters are experienced. It is rarely understood that the form and results of disaster management are preconditioned by the

structure of the local society and its articulation to national and international orders (Maskrey 1996). When a preconceived, uniform model that does not take into account provincial vulnerabilities and capabilities is applied in a calamity's aftermath, it frequently produces inappropriate relief and reconstruction aid that bear real and damaging repercussions for affected populations. As a result, local people and groups must turn their efforts toward affecting the performance of outside institutions and/or, ultimately, attending to officially unrecognized reconstruction projects to assist their recovery themselves. Failure to understand regional realities almost inevitably results in poor articulation among the various national and local governmental and nongovernmental organizations and institutions involved in disaster management. The result is relief and reconstruction that are in the best case ineffective, in the worst, insulting and damaging.

A moral issue thus arises when an anthropologist takes on a disaster study. Anthropologists have the training and perspective necessary to provide the relevant database for more effective delivery of disaster aid and also to contribute importantly to the planning and operationalizing of such aid in the field. One of the most problematic dimensions of disaster assistance is that, like the disaster itself, the task carries with it a multiplicity of perspectives. The disaster victim does not interpret disaster assistance in the same way the aid agency does. Questions of need versus loss, of relative deprivation, of internal competition, of change versus continuity all come into play in disaster assistance and often bring out contention between survivors and those that have come to assist them. Far too much room for misinterpretation and misunderstanding of intentions exists on both sides of a disaster scenario to allow for a simple ad hoc approach in the relationship between aid agency and a disaster-stricken community. Anthropology has a long history of analyzing the values and structure of action of institutions. By understanding the orientations and how such orientations reverberate upon relationships with individuals and groups, anthropologists can work toward a better "fit" between agencies and communities in terms of formulating appropriate goals, methods, and outcomes. Anthropologically trained personnel can contribute to a reorientation of dominant disaster management models, making them more decentralized, more capable of integrating local resources of organization, material, and technology, and better able to address the multiple realities and rationalities involved in catastrophes.

CATASTROPHE AND CULTURE

The goal of this volume is to explore the potentials of disaster for anthropological research, while not ignoring the concomitant responsibility of exploring the potentials of anthropology for the field of disaster. In a previous work we attempted a benchmark work on the topics involved in the anthropological study of disaster (Oliver-Smith and Hoffman 1999). Here the major hope is to find areas of complement and synthesis in the ecological, political-economic, and cultural approaches in anthropology, along with perspectives from archaeology and history. The papers that follow illustrate a number of paths for achieving this aim. They demonstrate the value of disaster in illuminating issues in anthropology while showing the great utility of anthropological perspectives in revealing dimensions of disaster. Each carries import in this age of increasing vulnerability to hazards.

To begin the volume, Anthony Oliver-Smith offers a brief discussion of the complexity and multidimensionality that challenge disaster research as well as a brief overview of the development of the field. He highlights in particular the emergence of the concept of vulnerability as key in opening possibilities for theoretical advancement in both anthropology and disaster studies, as vulnerability draws attention to the intersections of society, culture, and nature that become expressed in the disaster process. In order to explore the potentialities in this intersection, Oliver-Smith probes the implications of the dominant cultural construction of the relationship between society and nature for generating conditions of vulnerability. This discussion is followed by an exploration of the process through which the cultural, economic, and political forms and conditions that generate vulnerability and disasters are inscribed in the environment. Finally, the epistemological difficulties inherent in the relationship between cultural interpretation and the material world of risk, threat, and impact of disasters are examined.

Virginia García-Acosta offers, defines, and clarifies the relevance of the historical perspective in the anthropology of disaster. She shows how historical analysis untangles the many threads of social cultural actions, decisions, and structure that go into creating vulnerabilities.

Economics, social structure, and ideology all come into play. Certain social processual steps, commonly ignored, cause the encounter between hazard and population. García-Acosta also demonstrates that disasters are self-revelatory: they expose the very history, often hidden, that leads to their own making. Disasters palpably show that history is not only the past, but the present as well. Examining long-term records, she finds that disasters, particularly droughts and consequent agricultural and food crises, have long been chronic aspects of the Mexican environment. Through disaster, history gives a critique of social reality. In searching history, part of her effort is the imperative to discover current vulnerable populations and take steps to protect them.

While the contexts considered in the anthropological study of disaster generally are limited to natural and technological disasters, excluding equally devastating but more purposefully contrived events such as war, refugees, and holocaust, Robert Paine's analysis of the cultural management of risk was too pertinent for our seminar to leave out. His article explores how cultures control the "flow" of danger into their recognition of risk. In particular, his chapter examines the "no risk" scenario, that is, the various ways certain groups and cultures repress the acknowledgment of hazard. Paine contrasts a separatist group in which danger is embraced and "invited" with an occupational group where facing unknown perils in a situation of limited resources prevents the probe for dangers, and then turns as his main example of a "no risk" policy to Zionism and the state of Israel. He outlines two differing approaches to "no risk," the religious and the secular, and examines the mechanisms used to transmit the ethos of "no risk" in what he calls a "full risk" situation. Paine's study contains broad implications for the entire field of disaster research. He refers to people who return to hazardous environments after a catastrophe, touching on place attachment and ideology. He brings up the cultural construction of normalcy that often contradicts the assessment of outsiders and aid agencies. Arguing that risk policies are a matter of adaptation, Paine finds that adaptation is not just physical, but also hinges on the perception of adaptation. He raises the question of temporality, of how certain cultural policies can last, and invokes cultural transmission and sociolinguistics.

Sharon Stephens's paper again takes on the subject of risk, an invisible calculation of risk affecting us all. Stephens analyzes a series of lectures and discussions about the science of radiological protection that took place at an international course on radiological protection in Cambridge, England, in 1995. At the core of the article is the determination by a group of "experts" of what constitutes acceptable radioactive risk, not for a single culture but for the entire world. The discussions followed the nuclear incident at Chernobyl and its concomitant fallout. Involved is the negotiation and control of perception, ideology, and denial, along with the hegemony of "scientists" who separate themselves as a community of "the knowledgeable" apart from the "irrational and ignorant" public. Stephens demonstrates that it is not scientific "facts" but assumptions that are packed into expert assessments, and that "facts" themselves are tools created for particular cultural and political purposes. The group of experts is significantly uniform in gender, race, class, culture, and regional origin. The concerns brought up by lay attendees regarding such matters as the nuclear risk to children, women, and indigenous people are both feminized and discounted by the experts. Stephens further demonstrates an extremely pertinent point about hazards and twenty-first-century conditions and globalization: a disaster in one place, particularly a technological one, can have profound and far-reaching effects across all peoples and cultures of the world.

Susanna Hoffman next takes the discussion into the nonmaterial level in an examination of disaster symbolism. People experiencing or expecting calamity everywhere have belief systems filled with symbolic expressions dealing with their situation. While disaster symbolism often overlaps environmental symbols, it moves to representations beyond. Basing her study on the 1991 Oakland firestorm and other material, Hoffman explores disasters that are seen to arise from nature. When natural disasters occur, particularly in societies that divide nature from culture, people often first attempt to "re-culturize" the natural happening. If the symbols they use to represent nature involve embodiment, frequently they separate out disasters from the more benign side of nature and "disembody" the disasters. The disaster becomes a "monster," either in the guise of a formless terror or the frightful second side of an otherwise kind god. The monster has many implications involving cultural and political control. Disaster symbolism also commonly

involves cyclical schemes with grand and implied apocalypses and revivals. Hoffman then turns to the symbolic implications involved in technological disasters as opposed to natural ones. As technological disasters arise from the wrong ideological realm (culture, not nature) and always stand outside of cyclical time schemes, they present particular problems. They defy detachment and leave behind the stigma of lasting scorched earth. They also provoke particular rituals. Symbols give disaster context, content, emotion, and meaning. They implement cultural and personal survival as well as effecting cultural modification or conservation.

Gregory Button pursues a similar but more political-economic line in his exploration of the various forms of cultural framing that are employed by different parties in the representation of technological disasters. Focusing primarily on the Woburn contamination case that resulted in a concentration of childhood leukemia and other ailments in a neighborhood north of Boston, Button reveals that the choice of frames by various parties produces discourses that place or elide responsibility for the contamination. He is particularly concerned with mainstream media's habit of relying on government and other official sources for their interpretation of events while ignoring the voices of victims of the disaster who have alternative constructions of what has transpired. Button contrasts the representation of the Woburn tragedy in Jonathan Harr's best-selling book *A Civil Action* with the accounts of community members. He reveals the hegemonic ideological aspects in Harr's account that underplay the role of local people and organizations in their own defense, displace responsibility, and reinforce a political-economic system that produces man-made disasters.

Christopher Dyer's look at the *Exxon Valdez* oil spill continues the expansion of anthropology's need to look at the articulation of small village to nation-state and international community. Practically no situation so dramatically exposes this articulation as does disaster. Dyer examines the effect of the oil spill on several communities, all dependent on the local ecology for subsistence. With these examples he develops the concept of "punctuated entropy." Dealing with the "punctuation" of ecological blows, Dyer demonstrates how cultures can drift into adaptive entropy and collapse. Without the framework of anthropology, Dyer feels the multileveled examination required is impossible.

His five-year study points to the involvement of physical, environmental, and sociocultural realms that interweave for all human groups. Adaptation in interplay with political economy comes to the front. Dyer follows how disasters both expose and impact social structure, reproduction and child rearing, economics and subsistence, political functioning, and such nonmaterial qualities as the traditions of communities. Again, the definition of peril and who controls the definition are implicated.

Michael Moseley similarly develops an adaptational perspective in exploring, through archaeology, the economic and demographic ramifications of long-term drought and concurrent natural disasters in the Andes. In particular, he aims to expose the implications for major cultural change in the linkages between protracted disaster, such as drought, concomitant increased vulnerability, and the concurrence of sudden-onset disasters such as earthquakes. Moseley maintains that protracted drought bears similarity to autoimmune deficiency disease in that both depress human response capabilities. While a society may be able to rebound from the onset of a single severe sudden-onset disaster, if such an event occurs during a protracted drought, recovery from such convergent disaster processes may be virtually impossible, thus opening the door for widespread cultural change.

The response capabilities of people facing drought also draw the attention of Terry McCabe, whose eighteen years of fieldwork among the Turkana pastoralists of northwestern Kenya provide the basis for examining the social organizational strategies for adapting to disaster. The Turkana are well acquainted with droughts. They know that they will occur, although not predictably, and that their survival depends on the effectiveness of their coping strategies. Indeed, one of the salient features of McCabe's discussion is the Turkana's understanding of drought as an integral part of the ecological system in which they participate. Consequently, their response to the onset of drought is deeply ingrained in their system and evokes a number of carefully considered and time-tested strategies in both economics and social organization. Like Moseley and Dyer, McCabe cogently addresses the negative impacts of poorly designed policies; in this case, famine relief, development, and conservation programs on traditional systems of resource use.

Finally, Ravi Rajan addresses the forms and processes by which the changing character of socially produced threat and risk in a globalized

world challenge the competency of institutions and societies to protect the public from disaster. Rajan's contribution explores the responses of civil society to the Bhopal gas disaster of 1984. His analysis focuses on the mobilizing rationales and concrete actions undertaken by the disaster relief, medical, and political-legal sectors in their efforts to aid the victims of this terrible industrial disaster. The degree of incompleteness and ineffectiveness that characterized these responses demonstrates for Rajan serious lacks of both expertise for confronting these novel forms of disasters and political structures necessary for producing adequate responses. In conclusion, Rajan points to the important catalytic role that anthropology, with its contextual and culture-specific ethnographic approach, can play in the analysis of the problem of missing expertise for revealing why "even the best conceived policies and programs tend to unravel on the ground."

2

Theorizing Disasters
Nature, Power, and Culture

Anthony Oliver-Smith

Disasters have become a metaphor for many processes and events currently unfolding in the contemporary world. In scholarly and popular literature, the word "disaster" is frequently associated with a wide array of contemporary problems. Its use lends both relevance and urgency to the title of an article or book, particularly those dealing with social or environmental problems. Although the concept of disaster is often appropriately linked to undeniably important issues in these works, however, apart from a few notable exceptions, the disaster emanating from the problem discussed is rarely dealt with in any detail or depth. Part of the problem is that disaster is often considered an event rather than a process. But in focusing on an environmental or social problem, many of these books and articles are actually dealing with one dimension of the processual aspect of disaster—the social and techno- ⋉ logical construction of conditions of vulnerability.

Another reason why the discussion of disasters is often so cursory is that, despite the fact that "disasters are good to think," as Stephen Kroll-Smith (1998) notes, they are also difficult to think, because of their multidimensionality. Disasters are all-encompassing occurrences,

Catastrophe & Culture

The Anthropology of Disaster

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