

## NATURAL DISASTERS AND CULTURAL STRATEGIES: RESPONSES TO CATASTROPHE IN GLOBAL PERSPECTIVE

Conference at the GHI, February 19–22, 2004. Conveners: Christof Mauch (GHI) and Christian Pfister (University of Bern, Switzerland). Made possible by a grant from the Gerda Henkel Foundation, Düsseldorf.

Participants: Anna Akasoy (University of Frankfurt), Greg Bankoff (University of Auckland, New Zealand, currently Netherland Institute for Advanced Study), Lauri Bauer Coleman (College of William and Mary), Vinita Damodaran (New Delhi, India and University of Sussex), Mathias Deutsch (University of Erfurt), Andreas Dix (University of Bonn), Georgina Endfield (University of Nottingham), Lutfallah Gari (Yanbu al-Sinaiyah, Saudi Arabia), Gustavo Gerardo Garza-Merodio (Universidad de México), Anne Marie Granet-Abisset (Grenoble), Alain Gioda (Maison des Sciences de l'Eau IRD, Montpellier), Richard Grove (Center for World Environmental History, University of Sussex), Andrea Janku (University of Heidelberg), Michael Kempe (Max-Planck-Institut für europäische Rechtsgeschichte, Frankfurt), Itoko Kitahara (Kanagawa University, Japan), Gabriele Lingelbach (University of Trier), Franz Mauelshagen (University of Zurich), Bernard Mergen (George Washington University), James K. Mitchell (Rutgers University), José Mouthaan (European University, Florence), Timo Myllyntaus (University of Turku), Karen Oslund (University of Maryland, College Park), María del Rosario Prieto (Instituto Argentino de Nivología, Glaciología y Ciencias Ambientales, Mendoza), Christian Rohr (University of Salzburg), Hugo Romero (Universidad de Chile), Stephanie Summermatter (University of Bern), Bertrand Taithe (University of Manchester), Otfried Weintritt (University of Cologne), Cornelia Wilhelm (University of Munich).

Humans have been coping with the effects of natural disasters and hazards throughout history and in every part of the globe. Both the impact of natural disasters and the ways in which humans have dealt with them have changed over time. This international conference brought together scholars from different disciplines to discuss the cultural strategies used to cope with floods, earthquakes, windstorms, and famine around the world from the Middle Ages to the present. Conference participants analyzed the different ways in which disasters were perceived and interpreted, the ways in which relief measures were organized, and the types of cultural strategies and coping mechanisms that evolved over time. For the first time, all of these issues were discussed in global and comparative perspective. One overarching question was whether national styles or cultural idiosyncrasies in dealing with disasters could be discerned.

In his paper "Natural Disasters—Catalysts for Fundamental Learning," Christian Pfister outlined some ideas on what he called "collective learning from disasters." He argued that disasters have long-term consequences that are worth studying, and emphasized that there is a correlation between the frequency of disasters and the readiness to implement preventive strategies. Pfister distinguished different types of responses, such as "technical innovations" (e.g. building dams) that occur during the "emergency phase" and the period of reconstruction, and "ecological responses" (e.g. the re-naturalization of rivers) that come later. He pointed out that "the settings and the artifacts for disaster prevention" have shifted over time to "higher scales, involving larger areas, higher levels of administration, and higher levels of technical sophistication." In a case study of the evolution of Swiss forestry law, Pfister analyzed the "career pattern" (Niklas Luhmann) of the "deforestation paradigm" that replaced earlier explanatory models for flooding in the course of the nineteenth century. Specifically, he identified the gravity of the 1868 disaster as a key determinant in changing attitudes and policies in the Swiss parliament.

In her paper "Viewing Nature Through the Lens of Catastrophe," Cornelia Wilhelm argued that an anthropocentric view gradually replaced religious explanations of disaster in the course of the eighteenth century. One of the central sources for her argument was a 1784 publication by mathematician Johann Ernst Baselius Wiedeburg, who was convinced that the dangers of earthquakes could be limited if not eliminated. According to Wiedeburg, all "physical evil" was preventable.

In his paper on "Mapping Natural Hazards: Representations of Floods," cultural geographer Andreas Dix discussed the role of maps in the analysis of disasters in recent centuries. He noted the role of the military and aerial photography in the documentation of disaster, and he emphasized the value of pictorial representations for the analysis of catastrophe. At the same time, Dix warned that visual evidence often incorrectly suggests that humans are in "absolute control" of natural disasters.

In a paper titled "Towards a Cultural and Social History of Disaster in Germany," Franz Mauelshagen argued that the nation-state was an inadequate category for the comparative analysis of disaster in history. He suggested that historians ought to identify "regions of disaster" rather than national cultures, and he demonstrated that the German North Sea coast, the subject of his own research, developed its own unique "hydrological culture" in coping with natural hazards over many centuries. Specifically, Mauelshagen demonstrated that the frequent recurrence of storm tides promoted technical developments, the establishment of pro-

fessional or expert groups, and early entrepreneurship in dike construction. In the second part of his paper, Mauelshagen discussed the role of religion in the conceptualization and management of disasters. He argued in particular that striking similarities exist between the Christian conception of "moral causation" (sins leading to divine punishment) and more modern concepts of "hybrid causation" (technical hubris leading to disaster).

Like Mauelshagen, Michael Kempe emphasized that a specific "culture of disaster" existed in the North Sea region of northern Germany. In his paper, he analyzed how memories of individual disasters were recorded and how disastrous events were communicated. He claimed that Germans on the North Sea coast constituted an "amphibian society" with its own culture of memory, manifested in commemorative plaques, literature, art, and local myths, but also in the very structure of engineered landscapes and dikes.

In her paper on "Perceptions and Reactions to Catastrophes in the Federal Republic of Germany," social historian Gabriele Lingelbach investigated the role of charities, the media, and the public in their reactions to the disastrous 1962 Hamburg flood. Lingelbach found that Germans across the nation donated unprecedented amounts to a wide variety of welfare associations. The campaign's success was not due to the prosperity of the donors alone, but also to the role of the media, which spread the news far beyond the Hamburg region, often in an emotionally stirring way.

Medievalist Christian Rohr's paper dealt with flood management along the Danube River, with particular emphasis on floods that hit the city of Wels in the fifteenth and early sixteenth centuries. Rohr was able to reconstruct not only how often the city was hit by floods during this period but also what reconstruction work was done to the bridge in Wels whenever floods damaged it. Rohr pointed out that the bridgeworker's records of the pre-Reformation period contained no references to religious interpretations of the floods; he suggested that scientific explanations became particularly prominent from the eighteenth century on, while religious convictions about the origins of floods persisted simultaneously well into the twentieth century.

Historian Mathias Deutsch presented a paper, co-authored by geographer Rüdiger Glaser, about flood control on the river Elbe from 1500 to 1900. Deutsch pointed out the need to distinguish between short-, medium-, and long-term effects of floods. During the first two weeks after a flood, local response generally emphasized charity drives and maintaining order. In the following six months, the focus shifted to the reconstruction of buildings and to calculating damages, whereas during a

third period, efforts centered on drafting emergency plans for future floods.

In a panel on “Nordic Disasters,” Timo Myllyntaus and Karen Oslund presented their research on Finland and Iceland respectively. Myllyntaus discussed the phenomenon of “kesähalla” (“summer frost” or “killing frost”), a silent and almost invisible natural phenomenon that has caused severe crises throughout Finnish history into the nineteenth century, when the Great Finnish Famine (1867) occurred. Myllyntaus stressed that many factors—including malnutrition, infectious diseases, and socio-economic disarray—were responsible for the disastrous damage caused by summer frosts. The famine years of the 1860s are often considered a turning point in Finnish history. They were followed by deep structural changes, including modernization and profound alterations in traditionally agrarian Finnish society.

In her paper on the disastrous Icelandic volcanic eruption of 1783, Karen Oslund demonstrated that disasters could bring more than just socio-economic changes. She argued that cultural constructions of Icelandic nature changed fundamentally as a result of the 1783 catastrophe. The volcanic eruptions were of immediate interest to European geologists; Iceland became a site of scientific discovery, and the “wildness” and “uncontrolled nature” of Iceland became a hallmark of the country’s unique qualities and character in artistic representations, in travel guides, and in the minds of Icelandic nationalists.

José Mouthaan’s paper on disaster relief in the Kingdom of Naples addressed the public responses of political and religious leaders in a seventeenth-century cultural setting. Mouthaan stressed the important role of Naples’s viceroy, who personally oversaw the relief work performed by the residents of Naples and by the large number of Spanish soldiers who assisted the population in the aftermath of earthquakes. She also explained that the Catholic leaders of Naples offered special services and rituals, including processions and acts of penitence, to help restore what they saw as a “disturbed relationship” between man and God. In her paper on natural disasters in France, Anne Marie Granet-Abisset gave an overview of French historiography on natural disasters and the work of a Grenoble research institute specializing on the history of catastrophes. Bertrand Taithe used his case study of droughts in Algeria to explore the origins of humanitarianism. He argued that humanitarianism is “hegemonic” in the Gramscian sense. For example, the decision to publicize the starvation of the Algerian population should not be seen as a gratuitous act, but rather as a way of demonstrating the shortcomings of Arab politics, culture, and religion. He noted the religious underpinnings of the humanitarian discourse and the affinity between humanitarianism and colonial interests.

In a panel on "Catastrophes in Islamic Culture," three experts on the Arab world, Anna Akasoy, Lutfallah Gari, and Otfried Weintritt, explained the role of natural disasters in Near Eastern history, Arab science, and Islamic theology. Akasoy addressed earthquakes, Gari focused on windstorms and relief activities, and Weintritt discussed major floods in Mesopotamia. In exploring various Islamic intellectual traditions, Akasoy found that texts about earthquakes offered both theological and scientific explanations for these natural disasters. Even in strictly theological texts, earthquakes were not necessarily interpreted as a form of divine punishment; they also offered authors an opportunity to express political and social criticism.

Akasoy's findings, largely based on theological texts, were complemented by Lutfallah Gari's presentation on "Preparedness and Response to Natural Disasters in Arabic Sources." Gari pointed out that many precautionary (technical and legal) measures were taken to protect ships from damage in windstorms. He also emphasized that government agencies, pious endowments, and medical services were engaged in relief work in early modern times. Their reach was, however, limited to local action.

In his paper "The Floods of Baghdad," Otfried Weintritt showed convincingly that the government and people of Mesopotamia were used to dealing with flooding. They experienced disaster on a regular basis, and had minimal recourse to religion and ritual. In dealing with the damage, their conduct was above all "technical-rational."

In a panel on natural disasters in Indian history, Vinita Damodaran and Richard Grove discussed droughts, floods, and famines on the Indian subcontinent. Damodaran's study focused on coping strategies of the indigenous people in the forest economy of nineteenth-century Chotanagpur. She demonstrated that a reliance on a diversity of forest products during the precolonial period had ensured that droughts would not cause famine. Once deforestation began and the forest department denied local communities access to traditional jungle produce, however, Chotanagpur for the first time found itself vulnerable to the threat of famine that had long affected many other parts of lowland India.

In the second paper on India, Richard Grove looked at the significant droughts that El Nino events have caused in India and other parts of South Asia, and as far west as southern Europe. In his assessment of the impact of El Nino in the "long seventeenth century," Grove concluded that El Nino events often gave rise to famines with a very high rate of mortality. They caused social disruption, including migration and military conflict, and they "contributed to the emergence of new kinds of property rights and revenue remission incentives, and to periods of inflation."

In her paper on disasters in nineteenth-century China, Andrea Janku explained that imperial kindness and concern, particularly relief aid and measures of reconstruction, were recorded in great detail in the historical documents. She pointed out that the Chinese were highly skeptical of foreign relief, which mainly came from London. At any rate, she argued, the symbolic impact of foreign relief aid outweighed its material effects. Once a natural disaster “was no longer restricted to distinct localities” but incorporated “into an international context, it had become a national experience.” In contrast to India, however, where it was suggested that the very presence of the British had caused some of the most severe famines, the Chinese acknowledged the existence of world markets as “an unavoidable fact one had to reckon with.”

In her paper on natural hazards in Japanese history, Itoko Kitahara presented her work as general director of the exhibition “Documenting Disasters: Natural Disasters in Japanese History, 1703–2003.” This exhibition aimed to bring historians and scientists together and to inform the public about the different types of preventive measures that have been adopted throughout Japanese history.

Greg Bankoff turned the discussion to hazard as a “frequent life experience” when he addressed “cultures of coping” in the Philippines. “For Filipinos,” Bankoff explained, “hazard and disaster are simply just accepted aspects of daily life.” Cultural adaptations—from distinct types of architecture to crop diversification—are among the preventive coping strategies that Filipinos have adopted over many centuries. Furthermore, anthropologists have identified cognitive and behavioral responses—including *bahala na* (“leave-it-to-fate sentiment”) and specific forms of humor—that reduce or eliminate psychological distress in tense situations. Bankoff also discussed the history of formal and informal associations among the people of the archipelago, from the local groups that formed several centuries ago to today’s Non-Governmental Organizations (NGOs), which began to emerge from the Catholic Church, the labor movement, and urban middle-class intellectuals.

In a panel on a variety of natural hazards in South America, María del Rosario Prieto, Hugo Romero, and Alain Gioda presented their research on floods, earthquakes, and droughts. According to del Rosario Prieto, the Parana, Paraguay, and Uruguay rivers have seen devastating floods for many centuries, but it took a disastrous flood in 1982–83 (and the evacuation of 250,000 people) for scholars to begin doing serious research on the history of flooding in South America. Interestingly, indigenous peoples and Spaniards each developed distinctive responses to flooding. Unknowingly, the Jesuits destroyed part of the indigenous culture of coping. Consequently, many natives suffered malnutrition, disease and death.

Like María Prieto, Hugo Romero, in his paper about earthquakes in Chile, pointed out the differences between Spanish and indigenous coping practices. As recently as 1960, the *mapuches* sacrificed a boy in the wake of an earthquake “to please the gods” and prevent future disasters. Romero also pointed out that the Catholic Church developed a “syncretistic ideology” in Chile in order to exert social control and to consolidate its power. In contrast to earthquakes and floods, South American droughts were “not catastrophic,” according to Alain Gioda. He explained that peasants had established coping mechanisms (including the introduction of crops with low water requirements and the diversion of 70% of the water to their fields) that reduced some of the most devastating effects of droughts in the Andes.

In a panel on “Natural Disasters in Mexico,” Georgina Endfield and Gustavo Garza-Merodio both emphasized the fact that natural disasters are commonplace in Mexico. Droughts, floods, and hurricanes as well as earthquakes and volcanic activity have continually tested the resilience and resourcefulness of the country’s population. As Endfield argued, however, the impact of an extreme event on society and society’s ability to recover from it depended very much on the context and the sequence of events. “Thus, a drought in one year might have negligible impacts if, in the following year, a good harvest [could] be secured.” Endfield pointed out that experimentation, innovation, and agrarian adaptation were common features in Mexico. Furthermore, the environmental awareness of Mexicans increased steadily since the late eighteenth century, and “cumulative disaster knowledge” has played an increasing role in social memory and in developing new coping practices. While Endfield’s paper focused on social aspects of disaster management, Gustavo Garza-Merodio discussed cultural practices from the sixteenth to the nineteenth century. He focused on annual religious ceremonies and rogations for the rainy season. He also pointed out that the Indian mountain cities were much better designed and equipped to face water shortages than their Spanish colonial counterparts.

In her paper on “Calamity in Early America,” Lauri Bauer Coleman emphasized that natural disasters were closely tied to the radical changes in American society between 1750 and 1820. Conflicting explanations of natural hazards appeared in contemporary newspapers, as enlightened writers used them as a public forum to debate the merits of explanations offered by European scientists. While these scholars clearly wished to keep the discussion on a scientific level, popular and religious “impressions of disaster” were still very strong and often dominant during the same time period.

In a paper titled “Tornado Disasters in American Culture: From John Park Finley to Theodore Fujita,” Bernard Mergen analyzed the cultural

meaning of tornadoes. He argued that the frequency of tornadoes in America (no other country experiences as many tornadoes) and their place in America's public imagination make them an all-American phenomenon. Mergen examined the origins of tornado research and forecasting in the 1880s with John Park Finley, and then analyzed the evolution and institutionalization of disaster management from the nineteenth century to the present. In his tentative conclusions, Mergen suggested that communities generally ignore the danger posed by severe weather until a tornado occurs, after which they are motivated to make improvements. He also noted that Southerners have been more likely to believe "in God's will and luck"; they were generally less prepared to turn to weather instruments and media in their perception of natural disasters than Northerners.

In his paper on "Changing Twentieth-Century Patterns of Response to New Jersey's Natural Hazards and Disasters," geographer James K. Mitchell discussed a wide variety of natural disasters—forest fires, droughts, coastal storms, blizzards, etc.—that were not "extreme in New Jersey compared with many other places." Mitchell argued that these events have been important primarily in their own right, as they allow us to study broader environmental management actions in "places of modest extremes." Mitchell demonstrated in his paper that many of the hazard-related problems existed both in 1900 and in 2000, but the political and scientific contexts and the social and institutional patterns of response have changed radically over time. "Though we still speak a language of concern when big snows arrive, urban blizzards are more comfortably managed than ever before to the point where their importance as metaphors and performance spaces for acts of social solidarity has come to dominate their potential for damage and death." Mitchell pointed out that conservation interest groups and hazard protection groups were working together in the beginning of the twenty-first century, something that nobody would have imagined a century ago. Thus he reminded us that history has seen frequent and recurring disasters, but also paradigmatic shifts in the cultural and social construction of natural hazards.

Throughout the conference and during the final discussion, it became clear that the study of disasters has helped us understand important aspects of the role of humans in nature.

*Christof Mauch*