

introduction



Chasing a Ghost? Environmental Change and Migration in History

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Environmental migration is like a ghost; some insist they have seen it, while others deny its very existence. While “maximalists” argue that there is a direct causal connection between changes in the natural environment and the movement of people, “minimalists” point out that environmental factors in people’s decision to migrate are difficult to detect and play a contributing role at best; while in one school of thought, “the link between environmental change and migration is thought to be simple and linear, [...] in the other it is thought to be messy and complicated.”¹ Both camps agree that there is a lack of evidence and that more research needs to be done. This special issue of *Global Environment* attempts to broaden the framework of the debate by adding historical depth to the analysis of environmental change and migration.

At first glance, it might not seem especially productive to turn to a discipline that deals with the past in order to better understand a current debate and an allegedly unprecedented phenomenon: environmental

¹ J. Morrissey, “Rethinking the ‘debate on environmental refugees’: from ‘maximalists and minimalists’ to ‘proponents and critics,’” in *Journal of Political Ecology*, 19, 2012, pp. 36-49 (36). Morrissey’s distinction follows A. Suhrke, “Environmental Degradation and Population Flows,” in *Journal of International Affairs*, 47, 2, 1994, pp. 473-96.

migration. But history can fulfill several important functions: First, it can explain how current patterns of vulnerability and resilience have developed over time and hence lead to a deeper understanding of the relationship between environmental change and migration in the present. Secondly, history provides a rich source of case studies, with potential for much more detailed information than current (never mind future) cases of environmental migration can yield. Historians are used to looking at long time frames (*longue durée*), which are particularly important in analyzing, for example, the connections between environmental and climate change, the emergence of famines, and migration. A historical approach also facilitates comparative approaches, and can explain changes in a society's coping capacity, including strategies of mobility. In addition, history makes clear that the links between migration and the environment are much broader than the current debate about "climate refugees" implies. Environmental factors, as this special issue demonstrates, not only force people out of their livelihoods but they also attract migrants. Furthermore, environmental changes can be the intended and unintended *result* of migration. And finally, the environment plays an important role in the maintenance of diasporic networks, in the memory of migrants, and in migrant societies' identity formations.²

The Current Debate: Origins and Criticism

The origins of the idea that environmental change might trigger migration is often ascribed to a 1985 United Nations publication. Its author, Essam El-Hinnawi, defined environmental refugees as "those people who have been forced to leave their traditional habitat, temporarily or permanently, because of a marked environmental disruption [...] that jeopardized their existence and/or seriously affected the quality of their life."³ The link between environmental change and migration gained further ground in the 1990s when it became entangled

² See, for example, F. Sheng, "Environmental Experiences of Chinese People in the Mid-Nineteenth Century Australian Gold Rush," in *Global Environment: A Journal of History and Natural and Social Sciences*, 7-8, 2012, pp. 99-127.

³ E. El-Hinnawi, *Environmental Refugees*, United Nations Environmental Programme, Nairobi, Kenya, 1985, p. 4. For earlier proponents of this link see R.

into the debate about the consequences of climate change. Its popularity benefited especially from the attempts to estimate the number of current and future “climate refugees,” i.e. people displaced as a result of increasing desertification, rising sea levels, a growth in the number of extreme natural events, and other likely effects of global warming. The numbers arrived at by several scholars were staggering.

In 1988, a study by the Worldwatch Institute proclaimed that, based on an estimate of allegedly ten million people, “environmental refugees have become the single largest class of displaced persons in the world.”⁴ Nine years later, Norman Myers stated that 25 million environmental refugees already existed, with more than the 22 million refugees officially recognized under the 1951 Geneva Convention Relating to the Status of Refugees. Most of them, according to Myers, were located in the Indian sub-continent, Sub-Saharan Africa, China, Mexico, and Central America. He feared that this number “may well double” by 2010 and that in the long run, if climate change intensified, two hundred million people might face displacement.⁵

These “maximalist” and drastic scenarios breathed life into an otherwise abstract concept, attracting attention both within and beyond

Black, “Environmental Refugees: Myth or Reality?,” *New Issues in Refugee Research* No. 34, UNHCR, Geneva 2001, p. 1.

⁴ J. Jacobson, *Environmental Refugees: a Yardstick of Habitability*. World Watch Paper, no. 86, World Watch Institute, Washington, DC 1988, p. 37.

⁵ N. Myers, “Population and Environment,” 19, 2, 1997, pp. 167-82 (167-68). The author acknowledged that these numbers were “no more, and no less, than a first-cut assessment.” However, he also claimed that the estimates were “cautious and conservative.” See also N. Myers and J. Kent, “Environmental Exodus: An Emergent Crisis in the Global Arena,” Climate Institute, Washington, DC 1995; S. Castles, *Environmental Change and Forced Migration: Making Sense of the Debate*, *New Issues in Refugee Research* No. 70, UNHCR, Geneva 2002, pp. 1-2; C. Tacoli, “Crisis or adaptation? Migration and climate change in a context of high mobility,” *Environment and Urbanization*, 21, 2009, pp. 513-25. Some authors even went so far as to exactly quantify the effects global warming will have on the number of deaths caused by civil wars in Africa. Based on historical correlations between temperature and civil war, Marshall B. Burke “predicts” a 54 percent rise of the average likelihood of conflict and 393,000 additional battle deaths by 2030. M.B. Burke et al., “Warming Increases the Risk of Civil War in Africa,” in *Proceedings of the National Academy of Sciences* 106, 49, 2009, pp. 20670-74 (p. 20672).

academia, and thereby raising awareness of a potentially devastating problem. Since then, “environmental migration” has made it into several major climate change analyses, such as the Stern Review and the IPCC reports, and it has been the subject of large collaborative research enterprises sponsored by such organizations as the International Organization for Migration and the European Union.⁶ Today, hardly any major publication on climate change fails to address the topic.

Yet, at the same time, the very concept of climate displacement has been criticized, qualified, and its scope minimized to such a degree that sometimes it is hardly recognizable any more. From a political standpoint, it has long been held that “environmental refugees” do not fall under the protection of the Geneva Convention on Refugees or any other legal framework. Hence, migration and refugee scholars in particular fear that a widespread application of the term might undermine what little legal protection is available to political refugees.⁷ Cecilia Tacoli, for example warns us that such “alarmist” scenarios might backfire since they can “result in inappropriate policies that will do little to protect the rights of those most vulnerable to climate change.”⁸

Critics have also questioned the accuracy and reliability of the models that pretend to predict the number of future environmental migrants. François Gemenne has pointed out that in many analyses, figures are often based on simply counting the number of people exposed to hazard, while ignoring the potential influence of “adapta-

⁶ N.H. Stern, *The Economics of Climate Change. The Stern Review*, Cambridge University Press, Cambridge 2007, pp. 128-29; *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, Cambridge University Press, Cambridge, UK 2007, pp. 357-90; Environmental Change and Forced Migration Scenarios (EACH-FOR), “Synthesis Report,” submitted on 14 May 2009 (http://www.each-for.eu/documents/EACH-FOR_Synthesis_Report_090515.pdf, accessed 20 November 2012); O. Brown, *Migration and Climate Change*, International Organization for Migration; Migration Research Series No 31, International Organization for Migration, Geneva 2008.

⁷ G. Hugo, “Environmental Concerns and International Migration,” in *International Migration Review* 30, 1, 1996, pp. 105-31; J. McAdam, *Climate Change, Forced Migration, and International Law*, Oxford University Press, Oxford 2012.

⁸ Tacoli, “Crisis or adaptation” cit., p. 514.

tion strategies, different levels of vulnerability to change, or simply – though it might sound harsh – disaster-related casualties.”⁹

Seen against such dramatic scenarios, migration often appears as a measure of last resort, or as a failure to adapt to environmental change. The movement of people thus seems to be the result of a society not being able to physically protect itself against natural hazards (for example, by erecting dikes) or of an inability to increase social resilience to better withstand natural threats. However, several studies have shown that migration requires resources that the poor and vulnerable in particular often do not possess.¹⁰ Where people do have the resources, migration can be, and often has been, a well-established instrument to deal with environmental change rather than a spontaneous and unplanned response by victims without agency. Graeme Hugo has noted that migration “on a permanent or temporary basis has always been one of the most important survival strategies adopted by people in the face of natural or human-caused disasters.”¹¹

This is especially true for nomadic pastoralists like the Ribari in western Rajasthan, India, as Vipul Singh makes clear in his contribution to this volume. For the Ribari, a traditional camel and sheep-herding community in western Rajasthan, altering their movement patterns in response to environmental changes in general and prolonged droughts in particular was a normal adaptation strategy. In recent years, however, these pastoralists have left their traditional herding grounds and increasingly turned their circular movements into a long distance and long-term migration as a result of environmental degradation, increasing population pressure on land, changing patterns of resource use,

⁹ F. Gemenne, “Environmental Changes and Migration Flows: Normative Frameworks and Policy Responses,” Dissertation, University of Liège, Belgium, p. 159. See also id., “Why the Numbers Don’t Add Up: A Review of Estimates and Predictions of People Displaced by Environmental Changes,” in *Global Environmental Change*, 21, Supplement 1, 41-49; and Black, “Environmental Refugees” cit., p. 7.

¹⁰ See, for example, L. Hunter, “Migration and Environmental Hazards,” *Population and Environment* 26, 4, 2005, pp. 273-302 (pp. 285-286.); Tacoli, “Crisis or adaptation” cit., p. 523. See also the interview with A. Oliver-Smith in this volume.

¹¹ Hugo, “Environmental Concerns and International Migration” cit., p. 105.

and climatic extremes. Singh points out that in order to fully grasp the implications of this new development and to understand why it hasn't triggered outmigration, as has happened in other parts of the world, a broader focus on the development process is needed.¹²

Like the Ribari, the inhabitants of Chuquisaca and Potosí in the Bolivian Andes have found innovative solutions to environmental challenges, as Annelies Zoomers illustrates in her chapter. While the Andean population has traditionally made use of the region's verticality to overcome the natural limitations and difficulties, horizontal strategies have started to appear more recently, too. By taking up a second residence in urban centers or by migrating to Argentina or Spain, these Quechua people have created a web of mobilities (of people, remittances, information, etc.) that has enabled them to reduce their vulnerability at home. Thus, migration has allowed them to engage in multi-local livelihoods while remaining connected to their area of origin. From this perspective, as Zoomers points out, migration can even be viewed as a way to stay.¹³

In a few cases, radical environmental changes were even seen as an opportunity to escape harsh living conditions. This is certainly true for the 1927 Mississippi flood that saw thousands of African-Americans take the chance to flee Jim Crow conditions in the American South, in which little had changed since the abolition of slavery, by migrating permanently to the cities in the North and West of the United States. In a similar vein, several hundred victims of the 1908 Messina earthquake did not intend to go back to Sicily but rather tried their luck in the big cities in the North or even migrated to the United States, as Giacomo Parrinello shows in this volume. His long-term analysis and diachronic

¹² See also J.L. Merryman, "Pastoral Nomad Settlement in Response to Drought: The Case of the Kenya Somali," in *Involuntary Migration and Resettlement: The Problems and Responses of Dislocated Peoples*, A. Hansen, A. Oliver-Smith (eds), Westview Press, Boulder 1982, pp. 105-19.

¹³ See also H. Ware, "Demography, Migration and Conflict in the Pacific," in *Journal of Peace Research*, 42, 4, 2005, pp. 435-54. For a theory that describes the development of microstates as characterized by migration, remittances, aid and bureaucracy (MIRAB), see G. Bertram and R. Watters, "The MIRAB Economy in South Pacific Microstates," in *Pacific Viewpoint*, 26, 3, 1985, pp. 497-519.

comparison of two Sicilian earthquakes (in 1908 and 1968) allows him to show how fundamental societal changes, such as urbanization or demographic trends, have influenced but also obscured the displacement effect of natural disasters. Both earthquakes caused massive initial displacements; their long-term demographic consequences, however, differed greatly. While Messina continued to prosper, the Belice Valley, site of the 1968 earthquake, further declined. Parrinello's analysis underlines that there is no simple connection between a disaster and migration. Instead, it is a complex field in which public policies, historical trends, and social as well as economic factors are involved.

Reference to this complex set of factors influencing the relationship between environmental change and migration has, in fact, been the most frequent and probably the most important criticism by "minimalists." It has often been pointed out that "pure" cases of environmental migration are hard to find. In probably all instances in which people have to leave their homes, their region, or their country after severe changes in the environment, there are other factors at work, too. These might include, as Myers and Kent acknowledge, "population pressures and poverty, landlessness, over-rapid urbanization, unemployment, pandemic diseases, and government shortcomings, together with ethnic strife and conventional conflicts, also exogenous problems such as foreign debt."¹⁴

Yet this criticism is a bit ironic because it implicitly assumes that displacement or migration as a result of political, economic, ethnic, or military factors is a pure form of (forced) mobility. Graeme Hugo, for example, holds that the movement of political refugees is mostly "an uncomplicated response to fear of persecution," while "environmental migration is often the result of a complex set of multiple pressures of which an environmental event is only the proximate cause."¹⁵ This seems plausible at first glance but how many times did disputes about

¹⁴ Myers and Kent, "Environmental Exodus" cit., p. 2.; Castles, *Environmental Change and Forced Migration* cit., p. 5; Climate Change 2007 cit., p. 365. For a summary of the debate see Morrissey, "Rethinking the Debate" cit., p. 38; Black, "Environmental Refugees" cit., p. 1, has pointed out that "there are perhaps as many typologies as there are papers on the subject."

¹⁵ Hugo, "Environmental Concerns and International Migration" cit., p. 109.

the distribution of natural resources turn ordinary citizens into political refugees? Just as every “natural” disaster has deep historical roots and is embedded in the “normal” workings of society,¹⁶ every riot, coup d’état, or economic crisis is multi-dimensional, too, and quite often one of these dimensions is the environment. The challenge, thus, is not so much to find clear cases of environmental migration but rather to filter out the environmental components.

Historicizing Environmental Migration

This challenge can only be met on the grounds of a solid empirical foundation. However, the present discourse on environmental migration is characterized by a wide gap between the quantity of theoretical and methodological considerations on the one hand, and the dearth of empirical research on the other.¹⁷ Despite the great potential of a historical approach to environmental migration, historians themselves have also so far been remarkably silent on the topic. Most strikingly, there have been hardly any connections or cross-fertilizations between the two most relevant fields, i.e. environmental history and the history of migration. This does not mean, however, that no one has ever written about the topic. Quite a few scholars who wouldn’t call themselves historians of environmental migration have touched upon the subject in their work, and the following section will highlight several strands of this research, by both historians and non-historians, in order to show how history can contribute to our understanding of environmental migration.

One of the most important strengths of a historical approach is its ability to highlight the development of patterns of vulnerability that have contributed to displacement and migration.¹⁸ Accordingly, a his-

¹⁶ T. Steinberg, *Acts of God: The Unnatural History of Natural Disaster in America*, Oxford University Press, Oxford 2000.

¹⁷ See Hunter, “Migration and Environmental Hazards” cit., p. 275; Hugo, “Environmental Concerns and International Migration” cit., p. 105; Castles, *Environmental Change and Forced Migration* cit., p. 5; Morrissey, “Rethinking the Debate” cit., p. 37.

¹⁸ On the historical rootedness of seemingly spontaneous natural catastrophes,

tory that tries to analyze how and why people have been displaced by extreme natural events and processes has to start with the question of how and why these people have come to inhabit these places. Only if we understand what lured or forced people to settle marginal and hazardous regions can we fully comprehend the dynamics of (forced) environmental mobilities, and the abiding forces of place attachment.

Historically, people have migrated into hazardous areas for a wide variety of reasons. Many believed, for example, that the benefits derived from the location would by far outweigh the costs. As far back as 1966, a report by the United States Department of Housing and Urban Development (HUD) noted that US Americans had been “moving to coastal and river locations to live, for recreation, for business, and for other reasons, at increasing rates.”¹⁹ This trend has accelerated greatly since, especially on a global scale, and has put ever more people at risk of being affected by extreme natural events.²⁰ Another reason for settlement in dangerous locations has been “environmental ignorance.” This is especially true for settler societies, where, for the most part, European immigrants and Euro-Americans had hardly any experience with the land that they claimed, and by and large chose to ignore the traditional ecological knowledge of the indigenous populations. Hence, path dependencies have developed that in many places are still a major contributor to damage and vulnerability patterns.²¹

see the groundbreaking article by A. Oliver-Smith, “Peru’s Five-Hundred-Year Earthquake: Vulnerability in Historical Context,” in *The Angry Earth: Disaster in Anthropological Perspective*, A. Oliver-Smith and S.M. Hoffman (eds), Routledge, London 1999, pp. 74-88, in which the author traces back the origins of the devastating 1970 earthquake in Peru to Spanish colonial practices. Oliver-Smith noted that “the society that confronted the major seismic event on the afternoon of May 31, 1970, was in many ways already a catastrophe.” (p. 84)

¹⁹ HUD, “Insurance and other Programs for Financial Assistance to Flood Victims,” 35, 8 August 1966, National Archives and Records Administration, College Park, MD, Record Group 311, Entry 2, Box 2.

²⁰ See D.S. Mileti, *Disasters by Design: A Reassessment of Natural Hazards in the United States*, Joseph Henry Press, Washington, DC 1999; J. Lewis, *Development in Disaster-prone Places: Studies of Vulnerability*, Intermediate Technology, London 1999.

²¹ For examples from the United States see U. Lübken, “The Industrialization of the Ohio River: A Hazardous Perspective,” in *Industrialized Rivers*, S. Caston-

Moreover, many people who live in environmentally dangerous places had little choice in selecting their residences. Marginalized people have often been pushed and pulled into marginal lands.²² When asked why he did not prohibit settlements on the island Urirchar, where several thousand people had just lost their lives in a cyclone in May 1985, Bangladeshi president and chief military commander Ershad replied that “[i]t is not possible to clear the islands because of the population pressures on the land [...] During the winter season, this is a fine place to live. And where would the people go? The people here depend on God. [...] They just try their luck.”²³

A long-term perspective can also show how and why temporary flight and evacuation can turn into permanent displacement or migration. The displacement effects of Hurricane Katrina, for example, can hardly be understood without acknowledging the importance of historical changes in evacuation planning for the city. After Hurricane Betsy in 1965, public transportation was replaced by private transportation as the main means of evacuation for New Orleans citizens in the event of a disaster. This transition, however, had left thousands of people without access to disaster mobility when Katrina hit the Gulf Coast – a fact that was well known, but largely ignored by disaster managers.²⁴

For understandable reasons, the current debate focuses to a large extent on the expected displacements of a large number of people within rather short time periods. What has hardly been addressed, though, is the intentional relocation of entire cities or villages and the often disruptive effects that extreme natural events have on the population distribution *within* cities. Reconstruction after a disastrous

guay and M. Evenden (eds), Pittsburgh University Press, Pittsburgh, PA 2012, pp. 130-44, and J. Orsi, *Hazardous Metropolis: Flooding and Urban Ecology in Los Angeles*, University of California Press, Berkeley 2004.

²² See P. Blaikie, T. Cannon, I. Davis, and B. Wisner, *At Risk: Natural Hazards, People's Vulnerability and Disasters*, Routledge, New York 1994.

²³ Quoted in R. Tempest, “Sea Reclaims Isles. Tragedy of Bangladesh,” *Los Angeles Times*, 29 May 1985.

²⁴ See C.E. Colten and A.R. Sumpter, “Social Memory and Resilience in New Orleans,” in *Natural Hazards*, 48, 2009, pp. 355-64 (p. 360).

event “is a development-like process,” as Gregory Button has argued.²⁵ Thus, residents of an area designed for development projects (after a catastrophe) are displaced by both carrot and stick. On the one hand, those who are in the way of modernization projects are promised improved housing conditions, better sanitary facilities, and better access to means of transportation if they move.²⁶ On the other hand, they are pushed out of their environment by neglect or simply by force. There are, indeed, many historical examples that show how disasters have been used as a pretext, an opportunity, and a catalyst for urban transformation and, in turn, for the displacement of people.²⁷ The Great Hamburg Fire of 1842, for example, destroyed many lower-class neighborhoods. Due to the resulting shortage of affordable housing “former inner-city residents had to move to the periphery or ‘move closer together’ in other districts.” For the commercial development of the city, however, these displacements were a blessing.²⁸

Just like class, racism too was an important factor in shaping popu-

²⁵ G.V. Button, “Family Resemblances between Disasters and Development-Forced Displacement,” in *Development & Dispossession: The Crisis of Forced Displacement and Resettlement*, A. Oliver-Smith (ed.), School for Advanced Research Press, Santa Fe, NM 2009, pp. 255-74 (p. 260). See also Lewis, *Development in Disaster-prone Places* cit., pp. 127-36. M.M. Cernea also argues to overcome the dichotomy between development and disaster displacement. He suggests, however, that we distinguish between refugees and “oustees.” The former are, according to his view, victims of unplanned natural and political events (such as disasters or revolutions), while the latter suffer from planned development(s) like the building of a dam. M.M. Cernea, “Disaster-Related Refugee Flows and Development-Caused Population Displacement,” in M.M. Cernea, S. Guggenheim (eds), *Anthropological Approaches to Resettlement: Policy, Practice, and Theory*, Westview Press, Boulder, CO 1993, pp. 375-402 (p. 375).

²⁶ See D. Koenig, “Urban Relocation and Resettlement: Distinctive Problems, Distinctive Opportunities,” in Oliver-Smith, *Development & Dispossession* cit., pp. 119-39 (p. 119).

²⁷ See C. Meisner Rosen, *The Limits of Power: Great Fires and the Process of City Growth in America*, Cambridge University Press, New York 1986, pp. 249-95.

²⁸ D. Schubert, “The Great Fire of Hamburg, 1842. From Catastrophe to Reform,” in G. Bankoff, U. Lübken, and J. Sand (eds), *Flammable Cities: Urban Fires and the Making of the Modern World*, University of Wisconsin Press, Madison, WI 2012, pp. 212-34.

lation redistributions after environmental disasters, as not only Hurricane Katrina but also the fate of Vanport, Oregon, illustrates.²⁹ The city was founded as a huge public housing project in 1943 to accommodate thousands of workers who had flocked to the region to work for the wartime industries, most importantly the Kaiser Shipbuilding Company. Erected between the city limits of Portland, Oregon, and the Columbia River on reclaimed bottom lands, “Kaiserville” was entirely inundated by a flood in 1948 and never rebuilt. At that time some 18,000 people, down from the wartime peak of 40,000, still lived in Vanport, many of them African Americans. Public housing facilities available in other parts of the town were torn down to make space for industrial development rather than house the flood victims. Hence, “[b]lack families had to either crowd into the small Albina neighborhood or be excluded from the area altogether.” Despite various protests and a reminder by the Portland League of Women Voters that the flood victims “are here to stay,” the flood contributed to maintaining segregation in Portland.³⁰

Even when those displaced by disaster do come back, and a community decides to rebuild in the same spot (which is in many cases impossible because of the destruction wrought by natural forces), these neighborhoods and cities have often been utterly transformed, not just in terms of their physical destruction, but also with regard to the social, ethnic, and cultural composition of the community. In Yungay, Peru, only 300 to 500 out of a pre-disaster population of 4,500 inhabitants survived an earthquake-triggered avalanche of rocks, mud, and debris in 1970. The survivors of the disaster successfully resisted plans to relocate Yungay to a new site and instead rebuilt their city in the immediate vicinity of the old location. However, “[j]ust as the appearance of new Yungay bore little resemblance

²⁹ R.D. Bullard, *Dumping in Dixie: Race, Class, and Environmental Quality*, Westview Press, Boulder 1990. For gender questions see R. Lentin (ed.), *Gender and Catastrophe*, Zed Books, London, New York 1997.

³⁰ R. Pearson, “A Menace to the Neighborhood’: Housing and African Americans in Portland, 1941-1945,” in *Oregon Historical Quarterly*, 102, 2, pp. 158-79 (p. 177). See also D. Skovgaard, “Oregon Voices: Memories of the 1948 Vanport Flood,” in *Oregon Historical Quarterly* 108, 1, pp. 88-106.

to the old city, the people of the new settlement had also changed radically,” Anthony Oliver-Smith has noted. “The disaster had decimated the upper and middle classes of the district of Yungay. The little group of urban elites who survived formed the nucleus around which a new urban population, composed primarily of urbanizing rural people, began to form.³¹

Moreover, it is important to know why people don't leave hazardous places even if they have been affected by catastrophic events. The attachment to a certain place is one of the most important abiding forces for people who are potentially threatened by severe natural events. People cling to a certain location not because of the hazard, of course, but because of their emotional and historical adherence to that place. A sense of place, i.e. the capacity of humans (and, to a certain degree, also of animals) to endow a specific locality with meaning, is produced by a variety of factors. Proximity to friends and kin, memories, especially childhood experiences connected with the local environment (both built and natural), and climate all contribute to the attachment to a specific place.³²

³¹ A. Oliver-Smith, *The Martyred City*, University of New Mexico Press, Albuquerque 1986, p. 116. See especially the chapter “Yungay: A New Town and New People” (pp. 115-33). See also A. Oliver-Smith, “Here There is Life: The Social and Cultural Dynamics of Successful Resistance to Resettlement in Postdisaster Peru,” in *Involuntary Migration and Resettlement: The Problems and Responses of Dislocated Peoples*, A. Hansen and A. Oliver-Smith (eds), Westview Press, Boulder, CO 1982, pp. 85-103; L.J. Vale and T.J. Campanella (eds), *The Resilient City: How Modern Cities Recover From Disaster*, Oxford University Press, Oxford 2005; E.L. Birch and S. Wachter (eds), *Rebuilding Urban Places after Disaster: Lessons from Hurricane Katrina*, University of Pennsylvania Press, Philadelphia, PA 2006. For a largely positive account of post-disaster urban transformation see M. Healey, *The Ruins of the New Argentina: Peronism and the Remaking of San Juan after the 1944 Earthquake*, Duke University Press Books, Durham, NC 2011, pp. 296-98.

³² For cultural constructions of place and their importance for social movements see A. Escobar, “Culture sits in Places: Reflections on Globalism and Subaltern Strategies of Localization,” in *Political Geography*, 20, 2001, pp. 139-74. It is important to note, however, that place is not always endowed with positive emotions and does not determine the identity of a community. It can also be associated with hazards and fear. See Y.-F. Tuan, *Landscapes of Fear*, Pantheon Books, New York 1979.

In addition to the ties that bind people to a specific place, however, there are also important barriers that keep them from fleeing dangerous situations and that can make them “evacuation resistant.”³³ The widely held belief among African-American residents of New Orleans that the US Army Corps of Engineers had intentionally breached levees and flooded black neighborhoods to save white residential quarters during the course of Hurricane Betsy in 1965 had a terrible effect when Katrina made landfall. According to Craig Colten and Amy Sumpter, the “fundamental distrust of authorities undermined public calls for evacuation. Despite knowledge of these attitudes among Corps professionals, they neglected to incorporate this historical resistance into their evacuation preparations.”³⁴

Just as deteriorating living conditions can cause people to move, health improvements can have a huge impact on the distribution and movements of people, too. David Soll, in his contribution to this volume, highlights the relationship between changes in the health environment, demography, and population distribution. By looking at the interactions between health improvements, population growth, and urban expansion in Manila and Lima, Soll establishes a connection between mid-twentieth century health improvements in the rural areas of the Philippines and Peru and the massive migration into metropolitan areas. He argues that this movement should not be viewed as a sign of urban deterioration but rather as the result of significantly improved living conditions in the countryside, even if it overwhelmed municipal governing capacities for decades and created new health problems like respiratory diseases and the threat of automobile accidents.

It is important to note that the relationship between the environment and migration does not just entail the displacement effects of radical environmental changes. Rather, it is a “complex two-way relationship involving environmental change as both a cause and

³³ Colten and Sumpter, “Social Memory and Resilience” cit., p. 360.

³⁴ Ibid. For the impact of the 1927 Mississippi flood on African Americans’ distrust of official catastrophe management see D. Brinkley, *The Great Deluge: Hurricane Katrina, New Orleans, and the Mississippi Gulf Coast*, Morrow, New York 2006, pp. 7-8.

consequence of migration,” as Graeme Hugo has pointed out.³⁵ It is probably fair to say that every mass migration has to some extent also changed its environment. The most well-known and far-reaching example is arguably the disease environment that European conquerors and settlers brought to and created in the New World. Alfred Crosby has shown how much the creation of “neo-Europes” in all parts of the world has been influenced and in many cases made possible by environmental factors. European colonial expansion was violently fostered through the microorganisms and diseases, plants, and animals these settlers (unknowingly, as well as intentionally) exported. Often, these “environmental conquistadores” paved the way for the military, political, and religious invasions that were to follow.³⁶

The beginning of this “Columbian exchange” marked an important watershed, not only for humans on both sides of the Atlantic, but also for fauna and flora. Every ship that left a European harbor carried not only commercial goods but also a huge load of biological cargo. On board were domesticated animals as well as rats and insects, plants to be cultivated in the New World, weeds, and, of course, humans. From the Americas, corn and potatoes were brought to Europe while Africans transferred rice across the Atlantic.³⁷ Thus, the tightly meshed net of transatlantic migration and maritime trade reconnected the long-separated ecological worlds of the Americas and Eurasia.

Environments have also been shaped and transformed by labor migrants and refugees. Large infrastructural projects in particular often created a demand for labor that could only be satisfied by “importing” workers from other countries or regions. Thus, Russian, Croatian, Polish, and Italian migrant workers were indispensable in building the Teltow Canal in Germany in the early twentieth century.³⁸ Refugees, too, have left their marks on the environment. Conventionally,

³⁵ Hugo, “Environmental Concerns and International Migration” cit., p. 105.

³⁶ See A.W. Crosby, *Ecological Imperialism: The Biological Expansion of Europe, 900-1900*, Cambridge University Press, Cambridge 2004, p. 285.

³⁷ J.A. Carney, “African Rice in the Columbian Exchange,” in *Journal of African History*, 42, 2001, pp. 377-96.

³⁸ H. Köhler, *Der Teltowkanal: Eine Lebensader im Süden Berlins*, Stapp Verlag, Berlin 2000, p. 20.

their impact is portrayed as being basically negative and deleterious: “by creating a sudden, sharp increase in population density, refugees and their herd animals impose a population shock on asylum communities which cannot withstand the strain on resources.”³⁹ Newer studies question this view, however, pointing to the fact that refugees have been blamed for problems that they hadn’t created and to the insufficiency of assuming a direct and uncomplicated link between refugee movements and environmental degradation. In some cases, the environmental impact of migration was greater in the region the refugees left behind than it was at their destination.⁴⁰

In addition to being a source of displacement and the subject of transformations by migrants, the environment can also act as a magnet, attracting people rather than forcing them to leave. Arguably, this function has been even more important in setting people in motion than natural hazards have been. One only has to read emigrants’ letters home to capture the importance of environmental differentials in an individual or a group decision to migrate. The millions of Europeans who migrated to the United States in the nineteenth century not only strove to leave poor economic conditions at home; they also headed towards what to them appeared to be a bounteous nature. Reality, however, did not always live up to the expectations of the migrants as Karen Kuperman has pointed out: “People came to America inadequately prepared, physically and psychologically, to cope with the environment they actually encountered.”⁴¹

Also, the importance of imagined and marketed environments for triggering migration can hardly be overestimated, as Lawrence Culver and Kevin Brown demonstrate in their respective contributions to this volume. Culver looks at the historic role of climate (real, perceived, and

³⁹ K. Jacobsen, “Refugees’ Environmental Impact: The Effect of Patterns of Settlement,” in *Journal of Refugee Studies*, 10, 1, 1997, pp. 19-36 (p. 19).

⁴⁰ M. Muscolino, “Violence Against People and the Land: Refugees and the Environment in China’s Henan Province, 1938-1945,” in *Environment and History*, May 2011, pp. 291-311 (p. 294).

⁴¹ K.O. Kupperman, “The Puzzle of the American Climate in the Early Colonial Period,” in *American Historical Review*, 87, 1982, p. 1277.

imagined) in the settlement and migration history of North America. He focuses in particular on the so-called Great American Desert and California, both of which attracted large numbers of migrants in the late nineteenth century. Culver connects the current concern over climate change to a longer history of climatic debates and shows how the climates of those regions were “sold” in order to lure (white) settlers, while natural hazards such as heat, fire, and drought were portrayed as having been overcome by technological inventions such as irrigation or, later, in the Sunbelt, air-conditioning.

In a similar fashion, the barren cutover lands of Northern Minnesota have been praised as offering “encouraging opportunities for the man of small means.”⁴² Kevin Brown demonstrates how the lumber industry has promoted migration into the region and thus has radically transformed both the ecosystems and the social relations of these areas. The two main problems of the fallow land (firestorms and exhaustion of profit) were disguised by advertising the landscape as an ideal place to settle and farm. Brown underlines the gap between the self-interests of property agents and the harsh reality of working on the cutover lands. He concludes that it is crucial to link the environmental conditions of this unique landscape with representations of climate, development, and environmental change in order to understand the history of the cutover lands.

Conclusion

The contributions to this volume clearly show two things. Firstly, they highlight that the environment and environmental changes have played an important role in influencing displacement and migration. In this sense all of the authors are “maximalists.” Secondly, they also show that the relationship between the environment and migration is extremely complex (a “minimalist” position). If we really want to understand what influence climate change might have on migration trends in the twenty-first century, we have to tackle this complexity

⁴² “Praise of the Woodlands,” letter to the editor, *Minneapolis Journal*, August 26, 1902. Quoted in Kevin Brown’s chapter in this volume.

rather than relying on simple models that allegedly can predict future numbers of “climate refugees.” The notion that, as a result of climate change, millions will be fleeing the Global South for the (literally) safer shores of the developed countries probably tells us more about Western climatic paranoia than about the real problems involved.⁴³

Environmental migration is not a ghost; rather, it is a chameleon. It can come in many different guises. It can be both a short-term and a long-term strategy to cope with environmental change. The distance covered by migrants can span thousands of miles, but it might also be just a few hundred feet to higher and drier land. Migration might not be available at all as a coping strategy if victims of environmental change lack the resources necessary to leave. People might be forced to leave a hazardous area, or they might migrate more or less voluntarily. The evacuation of a certain region can be organized by the state in one case and can be spontaneous and unplanned in another. As far as causation is concerned, “environmental migration” is entangled into a web of many other factors (economic, political, ethnic, etc.). Finally, migration is not only the result of environmental changes but can also be its cause.

Simply because there are no “pure” forms of environmental migration, it does not mean that the environment, and radical environmental changes in particular, play no part in forced and voluntary migrations. Looking at the past can certainly help us towards a more profound understanding of the relationships between natural forces, landscapes, and environmental change on the one hand, and individual or collective mobility on the other. While being far from comprehensive, this special issue of *Global Environment* highlights important strands in the multiple histories of environmental change

⁴³ For the ongoing debate on climate change, migration, and security, see T. F. Homer-Dixon, “On the Threshold: Environmental Changes as Causes of Acute Conflict,” in *International Security*, 16, 2, 1991, pp. 76-116; J. Barnett and N. Adger, “Climate Change, Human Security and Violent Conflict,” *Political Geography*, 26, 6, 2007, 639-55; A. Oels, “From ‘Securitization’ of Climate Change to ‘Climatization’ of the Security Field: Comparing Three Theoretical Perspectives,” in *Climate Change, Human Security and Violent Conflict*, J. Scheffran, M. Broszka, H.-G. Brauch, P.M. Link, and J. Schilling (eds), Springer, New York 2011.

and migration. In doing so, it covers a great deal of ground. It deals with disaster migration and displacement (Parrinello), with migrants lured by advertised landscapes (Culver and Brown), with the effects of health improvements on population distribution (Soll), with mobile strategies such as nomadic pastoralism (Singh) and double residency (Zoomers). In line with the mission of *Global Environment*, this special issue literally circles the world. It takes us from Sicily to Western Rajasthan, from Manila and Lima to the Bolivian Andes, and from the Great American Desert to the cutover lands of Minnesota.

This special issue concludes with an interview with a leading expert in the field of environmental change and displacement, Anthony Oliver-Smith. Recorded at the Center for Advanced Studies in Essen (KWI) in September 2012 and conducted by Uwe Lübken and Franz Mauelshagen, the interview sheds light on key issues of environmental displacement and migration such as place attachment, vulnerability, and adaptation. Professor Oliver-Smith has been mining the field of disaster research, displacement, and migration for decades and has published widely on the anthropology of disaster and displacement. We can think of no better way to conclude this special issue.

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