No Easy Solutions

Global Cities, Natural Disasters, Development, and the Intellectual History of Resilience Thinking, 1960s to 1990s

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A new promise is haunting the global development community today – the promise of resilience. The United States Agency for International Development carries it along in its portfolio. The United Nations has it on its list of top priorities, and so does the World Bank, which claims that climate change has made resilience "essential to eliminating extreme poverty and achieving shared prosperity by 2030" in developing countries (World Bank, 2013: vi). Fed by the human tragedy of major disasters such as the 2004 Asian tsunami and 2005 Hurricane Katrina, new resilience programs have also emerged in the global NGO sector where the Rockefeller Foundation now leads the way with its 100 Resilient Cities program. Under the scheme, the foundation offers funding for up to $ 1 million per city to allow for the hiring of a Chief Resilience Officer, and provides technical support to help cities develop comprehensive resilience strategies. "City resilience," the Rockefeller Foundation explains, is not alone geared towards strengthening the "capacity of individuals, communities, institutions, businesses, and systems within a city to survive, adapt, and grow, no matter what kinds of chronic stresses and acute shocks they experience." It is also "about making a city better, in both good times and bad, for the benefit of all its citizens, particularly the poor and vulnerable" (Rockefeller Foundation 2019).

As development institutions have begun to redefine their missions, resilience thinking now also increasingly extends into academia. Social scientists, often working closely with development institutions, have put resilience onto their research agendas and explore ways and means to strengthen structures and resources in local communities. Environmental scientists, long at the forefront of resilience thinking, too, advance their models and point to the insights that the study of ecosystem-resilience may offer in building a sustainable world. Think tanks, universities, and research centers now increasingly make resilience the focus of their

work, operating on the premise that building resilience is the key to master the challenges of cities in a world of rapid urbanization.[1]

Offering a new framework for thinking about development, the promise of resilience has led to an important reappraisal of the environmental threats faced by global cities and now increasingly shapes new research on disaster risk reduction and urban emergency response systems. What is often lacking in current research, however, is a decidedly historical perspective on the very concept and idea of resilience itself – where notions and practices of resilience came from, in what contexts they arose, and what meanings they carried over time. Current scholarship takes much interest in theorizing resilience and working out practical solutions, but it has paid little attention to the specific historical circumstances that have made resilience part of the social and political imaginary of societies from past to present. Two exceptions are the edited volume by Laurence Vale and Thomas Campanella (2005) and Peter Rogers *Resilience and the City* (2012).

Against this backdrop, this essay has three goals: to historicize the origins and intellectual underpinnings of urban resilience thinking, to situate them in the context of international urban development policies between the 1960s and 1980s, and to invite critical reflection about the idea of resilience by drawing attention to the dead ends and technopolitical blinders that have been part of its history for some sixty years now. Resilience, I argue, may be a new buzzword in global development policy these days, but it is not a new way of thinking, and should rather be seen as the newest variation of an influential episteme that emerged between the 1960s and 1980s. In those years, as I will show, international development institutions increasingly began to turn their attention to the environmental dangers facing cities around the globe, and, in response, developed models and solutions for urban disaster mitigation whose impacts still linger on in resilience discourses today.

Existing genealogies of resilience thinking often attribute its origins to two landmark works. The first is Crawford Holling's 1973 essay on "Resilience and Stability of Ecological Systems", which for the first time introduced the idea of resilience as an analytical concept, defining it as "the persistence of relationships within a system" and the "ability of these systems to absorb changes of state variables, driving variables, and parameters, and still persist" (Holling 1973: 17). The other landmark work, many genealogies claim, was Aaron Wildavsky's "Searching for Safety," which extended the concept of resilience into the realm of public policymaking and administration (Wildavsky 1988). In contrast, this essay will show

1 Historians, too, have opened up to the concept and now address interconnections between social transformations and resilience, going back as far as the 13th to 16th centuries. See the research group "Resilienz – Gesellschaftliche Umbruchphasen im Dialog zwischen Mediävistik und Soziologie," based at the University of Trier: https://www.uni-trier.de/index.php?id=60045 [accessed July 10, 2018].

that resilience *thinking* has much broader origins that include 1970s ecologists and 1980s sociologists as much as seismologists, geographers, disaster experts, and international development institutions of the 1960s and 1970s. To understand the rise and the logics of urban resilience policies in the 21st century, this essay claims, urban studies scholars and practitioners therefore also have to draw connections to the trajectories of global development policies, a field of inquiry global urban historians have only recently opened up to (see for background on the history of development: Macekura/Manela 2018; Unger 2018; Frey/Kunkel/Unger 2014).

This chapter traces the development origins of resilience thinking through an intellectual history of ideas that focuses mainly on international organizations and experts. My interest, above all, is to understand the shifting paradigms in the thinking of those actors. Accordingly, part one lays out a short outline of the 1960s historical context in which new approaches to urban disaster mitigation were formulated. Section two then explains why researchers and international organizations shifted attention to new approaches in the 1970s. Section three explores the new 1990s talk about 'resilience' and shows how it turned into a powerful label for practices that had already been formulated in the decades before. Section four concludes with a few broader observations on what a historical perspective can contribute to the study of resilience.

Origins: International Organizations and Urban Disaster Prevention in the 1960s

Cities in Africa, Latin America, and Asia that are located along the seismological fault lines of the world have shared a history of urban natural disasters for a long time. From the earthquake of Santiago de Chile in 1906 through the 1960 earthquake of Agadir to the 1985 earthquake in Mexico City, the experience of natural calamities has been a hallmark of urban life in many regions across the 'global South.' Initial efforts to develop mechanisms of urban disaster prevention and mitigation evolved only slowly beginning in the 1920s and 1930s, however, and became a more pronounced concern of states and international institutions only after World War II (see Hannig 2019 for the general history of natural disasters, though with a focus on Europe). Beginning with the 1949 Ambato earthquake in Ecuador, the United Nations began to assist regularly and systematically in the reconstruction of areas that had been struck by natural disasters, including aid to cities in El Salvador (1951), Pakistan (1953), Lebanon (1956), Iran (1957), Chile (1960), Indonesia, and Libya (1963) (see Wolffhardt 2019 on the general evolution of the UN's urban development policies). By the 1960s, as an interim report of the UN Secretariat noted, "emergency assistance of this kind [had] become a continuing activity of the Secretariat (Housing, Building and Planning Branch), and one which, owing to

the increased number of catastrophes, demands more attention and a more systematic approach" (United Nations 1964: 246). U.S. involvement in foreign disaster assistance for cities, too, grew in line with UN efforts. Especially in regions that were of geopolitical concern for the United States, U.S. assistance frequently surpassed the contributions of other countries. Following two major earthquakes in Agadir/Morocco and Chile in early 1960, the Eisenhower administration immediately authorized a $ 20 million grant to assist in the rebuilding of Chilean cities and sent its chairman of the National U.S. Capital Planning Commission, Harlan Bartholomew, to Agadir to assist in rebuilding that city. One year later, the Kennedy administration followed up with another $ 100 million grant for Chile, making the reconstruction of the Chilean port city Valdivia one of the showcase projects of the newly proclaimed *Alliance for Progress*. Under the program, the United States funded a significant degree of Valdivia's reconstruction efforts, which included the building of new residential districts, new regional roads, a levee for the harbor, and a number of modern buildings around Valdivia's main market. American aid underlined in concrete terms the United States' commitment to aid cities affected by disasters (New York Times 1963: 38).

In the immediate wake of the 1960 earthquakes of Agadir and Valdivia, the issue was not only rebuilding, however. The high number of earthquake victims in those cities and the sheer scale of urban destruction also raised more imminent questions: why had buildings collapsed so easily in those cities in the first place? Were other cities outside of Chile and Morocco facing similar dangers? What could cities do to protect themselves against earthquakes and how could they mitigate and diminish their impacts? Answers were not easy to find, but as the bulldozers set to work clearing out the rubble in the streets of Agadir and Valdivia, many development institutions began to refocus their attention from short-term questions of post-disaster relief to the more long-term issues of urban approaches to disaster prevention. Giving those concerns a global voice, the UN's Economic and Social Council during its thirtieth meeting in May 1960 drew attention to "the urgent need of further promoting international co-operation in order to provide the population of the world with sufficient safeguards" against natural disasters. It also charged the UN's General Secretary with conducting a "detailed and comprehensive study of the ways and means of reducing to a minimum the damage resulting from earthquakes and seismic sea waves" (United Nations 1960: 24).

In the following years, the UN General Secretariat and UNESCO greatly expanded their program in disaster prevention and began to reach out to countries that were seen to be facing elevated earthquake and tsunami risks. Survey missions sent abroad in 1961 visited dozens of countries in Southeast Asia, the Middle East, and South America, and investigated local conditions pertaining to seismological research and disaster prevention. At the same time, those missions also had the purpose of bringing "home to the governments and to the public in general

that something can be done to protect people and buildings against earthquakes" (UNESCO 1961: 3). Much to their concern, however, the survey missions noted fundamental gaps and obstacles in local disaster prevention. In most countries, experts noted, there was a depressing shortage of seismological stations, and few cities had actual building codes. There was also a perceived political problem in that "civil authorities governing some extremely seismic regions seemed virtually unaware of the existence of earthquake danger in their territory" (U.S. Department of State 1961/United Nations 1962). When, in 1962, UN General Secretary U Thant presented his report on "Seismology and Earthquake Engineering" to the UN's Economic and Social Council, an important segment of the report dealt with the practice of "seismic zoning" and "seismo-tectonic" mapping. Such maps, U Thant stressed, would be a crucial tool to get a complete picture of the earthquake risks faced by regions throughout the world. At the same time, they were "essential in planning the protection of populations against the effects of earthquakes" since they would indicate "in which areas protective measures should be applied." Earthquakes, the report claimed, drew their destructiveness mainly from expanding cities and poor building structures that could all too easy "be shattered or shaken down" by seismic activity. Earthquake protection, in turn, would therefore also have to include "designing and constructing buildings and public works able to withstand the forces imposed on them by impulsive or oscillatory movements of the soil or the rock on which they stand." The report further recommended that: "codes and regulations for the earthquake-resistant design of engineering structures" as well as "strict inspection and supervision" of existing building regulations (United Nations 1962: 2-4, 33).

Calling for a new focus on seismic risk mapping and new efforts in earthquake engineering, the General-Secretary's report pushed disaster mitigation onto the agenda of UN institutions (for an illuminating account of the idea and practice of seismic mapping at the time see Williford 2017). Within a few months, UNESCO cleared the way for a new International Institute of Seismology and Earthquake Engineering, to be set up in Tokyo. It soon began to train engineers and experts from developing countries. Back in Paris, UNESCO also started to organize field studies of earthquakes; to set up a number of working groups covering issues such as seismic mapping and the principles of earthquake-resistant design; and it convened an intergovernmental meeting to coordinate a concerted effort to study earthquakes and identify better ways to protect cities and rural areas against them. Taking place in 1964, the meeting agreed on far-reaching measures. It stressed the "importance of proper detailed town and country planning in seismic areas," recommended closer cooperation between architects and structural engineers, and called for new research into the "use of local building materials and on anti-seismic measures in housing construction." More important, it also spoke out in favor of more forceful measures, above all the investigation of all "existing houses and other buildings in

towns and cities in each seismic country" in order to "evaluate their earthquake resistant capacity." In case of a lack of such capacity, the meeting envisioned that "proper measures be taken to improve the situation" (Fournier d'Albe 1965: 79-83).

The importance that both the UN General-Secretary and UNESCO ascribed to seismological research and new directions in earthquake engineering had a significant consequence: it meant that the expertise of seismologists and earthquake engineers would play a leading role in urban disaster aid from now on. In other words, these experts became the leading voices of an international "earthquake establishment" (Stallings 1995, 35-37). For seismologists and earthquake engineers, this did not come by accident. Like other "action intellectuals" in the 1960s (White 1967), those scientists had confidence in the practical importance of their research, believing that natural disasters were techno-scientific problems that could be addressed through technical solutions (Rinne 1965). As Charles Francis Richter – the inventor of the Richter scale – put it, "earthquake losses" were "largely unnecessary and preventable" and it was easy to explain why. He argued that: "In the whole of past history, something like 90 percent of the loss of life in earthquakes, and a major fraction of the destruction and economic loss, has been due to the failure of weak structures, such as would never be erected under any modern system of building regulation and inspection" (Richter 1972: 50). Global cities, thinkers like Richter claimed, could not prevent disasters from happening, but it was possible to minimize their negative impacts through adopting the right kind of engineering knowledge.

The risk maps and engineering solutions seismologists generated helped to make disaster prevention a central feature of urban development policies but, for the time being, they also placed technocratic top-down solutions at the center of global disaster policies. The emphasis on such solutions was most evident in Turkey where the government introduced a policy of forced resettlements. Under the program, populations living in earthquake- and landslide-prone areas were resettled in small towns where the government constructed some 10.000 earthquake resistant houses (U.S. AID 1971). Authoritarian approaches like these, however, were an exception not the rule. For most countries living under earthquake risks, the standard way was to step up funding for seismic risk mapping and engineering research. In Chile, American earthquake engineers trained future engineers through collaborative teaching projects and assisted in working out a new building code for the entire nation (Arias/Husid/Monge 1969). In Peru, the government, on the urging of seismologists, joined forces with UNESCO and set up a Regional Center for Seismology in 1966 to study earthquake patterns and match those with urban planning strategies. The same year, UNESCO also set up an "International Fund for the Development of Seismology and Earthquake Engineering" and began to finance a network of seismological stations in Southeast Asia, while the United Nations

Development Program also began to fund a number of seismic mapping studies in the Balkans.

By the late 1960s even NATO entered the fray, conducting a series of pilot projects on urban earthquake security in Turkey and Italy and holding a global conference in 1971. Organized by NATO's Committee on the Challenges of Modern Society, the conference brought together seismologists, engineers, urban planners, and public officials from countries around the world to discuss findings and "formulate practical recommendations for reducing earthquake hazards and for mitigating the effects of major earthquakes" (NATO 1972). As Assistant Secretary General for Scientific Affairs of NATO Gunnar Randers told the conference, earthquakes were as old as mankind, but "the development of modern technology and big city communities affect the problem in two ways: first, the greater congregation of people and property, and the complex network of all amenities needed for life in big cities, make a modern society more vulnerable than before. Second, the possibilities of science and technology for preventive undertakings and for planning mitigation and relief in case of disaster, are infinitely greater today than they were before." There were "modern methods and possibilities," Randers emphasized, that had not "been systematically exploited," and would now have to be made available for those living under the earthquake threat (Randers 1972: 48-49).

Towards 'Systems Thinking': International Aid Strategies in the 1970s and 1980s

Roughly ten years after the 1960 earthquakes in Morocco and Chile, the results of those technoscientific strategies were mixed, however. Surveys done in the 1970s uncovered that a great number of cities and countries throughout Latin America still lacked building codes, while local authorities in other regions showed great restraint in enforcing existing ones. Another problem was land use planning in cities where commercial property interests often trumped environmental concerns. According to the findings of NATO's experts, "uncontrolled construction" was also a burden on cities since it was often "instituted on sites, which, because of their geological hazards, are unduly high risks." Finally, the costs involved in making "already existing structures in densely populated regions" earthquake-resistant were often prohibitive (NATO 1972: 9). Cities usually shied away from these investments, in part because there were so many complicated legal issues.

Such problems pointed to one important weakness of technoscientific approaches: they seldom took into account the social dynamics of rapid urbanization, a process that was most dramatically visible in the emerging Megacities of the global South. In those cities, building codes and zoning practices based on seismic risk maps were useful in theory, but hardly worked in practice. By the 1970s, in-

ternational institutions and researchers therefore increasingly began to look for alternative ways of dealing with disasters. Often, they refocused their attention on a new paradigm – disaster mitigation and preparedness. Cities and communities, those institutions argued, could hardly prevent natural disasters from happening. On the other hand, what they could do was to mitigate the damage and the destruction through better planning, training, and organizing in advance. If properly prepared, communities and international institutions would thus be able to minimize the losses accruing from disasters.

In the early 1970s, a series of international studies revealed a rather problematic state of disaster preparedness in many countries. Disaster preparedness schemes, a global analysis done by the United Nations Disaster Relief Office and the League of Red Cross Societies showed, existed only in a few countries, and hardly matched the scale of hazards many regions were facing. Making matters worse, disasters such as the 1970 Bay of Bengal cyclone or the 1972 Peruvian earthquake also exposed the limits of international relief operations themselves, laying bare the lack of coordination between humanitarian organizations on the ground and providing much publicized examples of aid gone wrong. X-Ray machines dispatched to the far-away countryside without a trained staff and container loads carrying pharmaceutical drugs marked 'discard after 1934' raised not only ethical questions, but also exposed problems how humanitarian organizations and governments appropriated their aid funds (D'Souza 1984: 496-497).

In response, researchers in the UK and the U.S. now began to focus more and more on evaluating relief operations themselves, gathering data, calculating estimates of projected relief needs, and developing models of how to structure relief measures. As Frances D'Souza, founding director of the International Disaster Institute, put it, those disaster studies addressed "how the right kind of relief can be distributed to the right people at the right time" in order to make relief operations more effective (ibid.). Meanwhile, aid donors such as the U.S. Agency for International Development also began to offer training seminars on disaster preparedness for public officials from Asia and Latin America (U.S. AID 1971). Those seminars often focused on the right techniques for planning, organizing, and formulating national emergency plans. They also addressed more practical questions as to how countries and regions could improve their warning systems, what could be done to raise community awareness for disaster threats, and what kinds of stockpiles regions would need, where those could be stored, and how useful pre-fabricated emergency shelters might be (U.S. AID 1979).

The new emphasis on disaster preparedness owed much to the new insights of social scientists, particularly those of U.S. geographer Gilbert F. White (see on White Hinshaw 2006; Lübken 2012; on the broader context of disaster research in the social sciences see Stehrenberger 2014). One of the most influential voices within the academic community in the 1970s, White had launched his career with

a study on settlement patterns in the floodplains of the Mississippi in the 1950s, and had then turned into one of the leading figures in the emerging field of disaster studies. By the late 1960s, his works and his reputation earned him a seat on the International Geographical Union's "Commission on Man and Environment," a position he used to orchestrate a comprehensive research program on the ways communities around the world coped with natural hazards. Involving studies in a dozen countries from Costa Rica to Kenya and Bangladesh, the program paid particular attention to social patterns of prevention and hazard awareness. Accordingly, researchers were equipped with the same basic questionnaire and then set out to map settlement patterns in hazard regions, but also determined "the range of possible adjustments by social groups" to hazards (White 1974: 4). Moreover, studies also inquired into individual hazard perceptions and examined the adjustments people made to reduce potential hazard damages.

Published in two volumes in 1974 and 1977, the results of White's research project reflected a major shift in international thinking on disaster mitigation. Natural hazards, White claimed, were not acts of god, but resulted "from interactions between social, biological and physical systems in which people exercise[d] choice among a large number of options subject to social constraints" (White 1978: 229). Hazards, in other words, were social problems that were shaped by patterns of social behavior and the ways populations coped with nature's challenges. Knowing how people responded to hazards, in White's eyes, therefore also provided the key to "enabling individuals to take intelligent action or governments to design and carry out effective programs of assisting individuals" (White 1974: 3).

The problem, however, was that governments paid little attention to the workings of those social systems. Even worse, their heavy focus on technological fixes often exacerbated the vulnerabilities of local communities since technologies of protection like dams, levees, and earthquake-resistant building narrowed the range of choices and actually encouraged settlement in hazard-prone areas – in consequence leading to higher death rates if those technologies failed. Paradoxically, White warned that the "present public policy emphasis in many regions upon technical and narrow adjustments" entailed the danger that societies would "become still less resilient and still more susceptible to catastrophes" (White 1978: 230).

Significantly, White's studies for the first time explicitly used the language of resilience. More important, they also introduced an alternative approach to disaster mitigation: systems thinking. If technological solutions alone would not do, and if, on the other hand, social coping mechanisms and the right kind of knowledge about them carried the promise of more effective mitigation strategies, the answer was obviously to connect those with one another. In White's view, a "crucial aspect of any long-term accommodation to the human environment" had to be "the skillful, sensitive use of a wide range of adjustments" (White 1974: 13). Those

would have to include "engineering devices, land management, and social regulation" (ibid), but also 'modern' warning systems, better communication structures, disaster preparedness plans, disaster insurance, and a stop on development projects that furthered the vulnerabilities of communities. In the end, White claimed, it was the interrelatedness and mixture of those tools that would make populations more resilient (see also Burton/Kates/White 1978).

Charging that White's research findings had only limited value, critics at first remained skeptical (see Waddell, 1977). But, over time, development institutions more and more caught on to White's ideas. A 1982 study by U.S. AID on "Natural Disasters and the Development Process" (U.S. AID 1982) quoted widely from White's works, arguing that development institutions had to strengthen the abilities of societies to cope with disasters through "analyses of hazard risk, public awareness campaigns, development of emergency plans and warning systems, and contingency planning for post-disaster rehabilitation and reconstruction" (ibid: 3). Putting such ideas into practice, U.S. AID also joined forces with international institutions, including the Pan American Health Organization and the League of Red Cross Societies, to set up a Caribbean Disaster Preparedness Team. Pooling resources and experts, the team trained officials throughout the Caribbean in preparedness planning, working out new ideas for warning systems, and initiating public awareness campaigns. In Haiti, meanwhile, U.S. AID funded a major disaster simulation exercise in 1983, while in Jamaica U.S. AID experts worked out a comprehensive Natural Hazards Management Plan (US AID 1985).

Enter Resilience: The 1990s and After

The introduction of the United Nations' "International Decade of Natural Disaster Reduction" in 1990 pushed those approaches another step forward (see Schemper 2019 on origins of the UN's Decade). The international "Yokohama Strategy for a Safe World," adopted in 1994 at the World Conference on the Reduction of Natural Disasters, noted that: "a global culture of prevention" had to be based on integrated approaches that combined technological measures such as risk maps or better construction with social strategies to reduce vulnerabilities. The strategy also explicitly called for local community participation, claiming that "involvement and active participation of the people in disaster reduction, prevention and preparedness" would lead to "improved risk management." Strengthening the "resilience and self-confidence of local communities," the United Nations acknowledged, would therefore also require "recognition and propagation of their traditional knowledge, practices and values as part of development activities" (United Nations 1994: 11-12).

Focusing international attention on the global drama of natural disasters, the UN Decade created new commitments towards strategies that took account of the

interdependencies between technical, social, economic, infrastructural, institutional, and political sub-systems. More importantly, it also introduced a more systematic focus on urban systems management. Leading the way with a new initiative in 1995, US AID and the Asian Disaster Preparedness Center launched the "Asian Urban Disaster Mitigation Program" to reduce the vulnerabilities of urban lifeline networks such as roads, critical infrastructures, hospitals, and shelters. Notably, the program put much emphasis on urban cross-sector cooperation and governance. Working with municipalities and local NGOs in eight Asian cities, development experts helped to set up local disaster management committees, organized city-wide disaster days involving schools and local communities, but also constructed model houses and conducted evacuation drills and trainings. The program, U.S. AID and the Asian Disaster Preparedness Center claimed, focused attention on "indigenous practices" and "community empowerment," opening a "new chapter in urban risk management" through a "multi-stakeholder, multi-sector, multi-disciplinary approach" (US AID 2005: 8).

The centrality of systems thinking drew much inspiration from the emerging strand of vulnerability studies that argued widely for the need of reducing social vulnerabilities and "changing the processes that put people at risk" (Blaikie/Cannon/Davies/Wisner 1994: 219; see also Oliver-Smith 1994; Pelling 1999). By the mid-1990s, however, researchers and policymakers also increasingly began to link the notion of systems management to another idea: the idea of resilience. In 1998, U.S. AID passed a new strategy titled "Making Cities Work," claiming that integrating disaster mitigation into urban governance processes would help to "enhance the resiliency, recovery, and self-reliance of cities" (U.S. AID 1998: 14). Similar ideas were also voiced at the United Nations where key documents now frequently claimed that disaster assistance was about enabling "societies to be resilient to natural hazards" (United Nations 2001). In 2004, UN General-Secretary Kofi Annan, too, argued that disaster assistance was about building "resilient communities and nations" on a "hazard-filled planet" (Annan 2004).

By the late 1990s, talk of resilience also increasingly permeated international policy papers on sustainable development, not least since ecologist C.S. Holling and a "Resilience Alliance" openly campaigned for it (World Commission on Environment and Development 1987; Folke 2002). The new rhetoric of resilience was thus not exclusive to the field of international disaster aid. But, contrary to common wisdom, it was not the exclusive brainchild of Holling either. Writing in 1996, researchers John Handmers and Stephen Dovers identified resilience as an "important concept in both ecology and risk research" that shared "the attention paid to systems approaches to the problems." Much like ecologists, Handmers and Dovers claimed, disaster researchers had developed their own tradition of thinking resilience since the 1970s, and there was much to learn from them about the patterns of interactions between social and natural systems or about the "creation of

decision-making and management approaches that possess an ability to operate in the face of …uncertainty" (Handmers/Dovers 1996: 482-483, 485, 487, 490-491). Within the disaster study community, resilience was now widely recognized as a critical concept that informed debates about disasters and how to promote coping strategies that would strengthening a society's ability to recover from disaster losses through new forms of adaptability and institutional arrangements (ibid.)

In the following years, resilience became a powerful theme in international development policies. Building on the established intellectual trajectories of systems thinking, researchers began to work out systematic principles of how to create resilient cities, arguing that such principles would have to connect technical measures of hazard mitigation with "vulnerability reduction," assistance to poor and threatened neighborhoods or the building of "networked communications" (Godschalk 2003: 140). Meanwhile, the United Nations, too, made the strengthening of urban resilience a top priority with its "Hyogo Framework for Action," passed on the heels of the 2005 Kobe World Conference on Disaster Reduction (United Nations 2005). This framework titled "Building the Resilience of Nations and Communities to Disasters" had a notable impact. In 2007, the UN Human Settlements Programme passed its new "Strategic Policy on Human Settlements in Crisis" program, putting new emphasis on urban disaster mitigation and local capacity-building in flood- and earthquake-prone areas (UN-HABITAT 2007). Three years later, under the wings of the UN Office for Disaster Risk Reduction, the United Nations also launched a "Making Cities Resilient" Campaign to promote local awareness for urban environmental hazards and organizing local network-building and trainings.

Around the same time, the World Bank, too, refocused its attention towards urban resilience, linking its urban development policies more and more to issues like climate change and urban risk governance. Drawing from the work of the African Urban Risk Analysis Network (Satterthwaite 2006), the World Bank in 2009 funded a "Mayor's Task Force on Climate Change, Disaster Risk, and the Urban Poor" that brought together the mayors of Dar es Salaam, Jakarta, Mexico City, and São Paulo. Assisted by a research team at the World Bank, the mayors headed case studies on specific cities, reviewed best practice models of coping with disaster risks, and eventually came up with recommendations for urban resilience strategies over the next couple of years. Climate change and global urbanization, the mayors claimed, increasingly put the "urban poor […] on the front line," making it imperative for cities to "build resilience by mainstreaming risk reduction into urban management" (World Bank 2012: 2). Twenty years after the launch of the international decade of natural disaster reduction, the promise of more resilient cities thus had come full circle, putting the world's cities at the center of global development policies.

Conclusion

The historical perspective offered in this essay raises a number of important questions and implications for the ways we think of and conceptualize resilience today. First, it reminds us that not all that is being sold as a new promise in development policy these days is in fact new. Current understandings of resilience, this essay has shown, build on patterns of thinking that emerged decades ago, and widely carry along the assumptions, norms, and premises that shaped historical understandings of resilience. These assumptions have changed and broadened into more systemic views of resilience, to be sure, but they have also created historical path dependencies that favor a limited set of interventions into urban systems. Today, major policy documents and initiatives – from the UN through the World Bank to the Rockefeller Foundation – still largely dwell on solutions worked out between the 1960s and 1990s, including the call for better disaster preparedness, better risk assessments, better building regulation and land-use planning, more investments in critical infrastructures, and strategies of local social empowerment that strengthen the development of local disaster response systems. Meanwhile, the fact that development institutions still largely dwell on the same basic solutions in their resilience strategies underscored not only a certain lack of ideas within the global development community, it also points to the limits and failures of those approaches. This, in turn, raises important questions: if measures like land-use planning and building regulation have not worked in the past, why should they work in the present or the future? Could more of the same really make the difference? Are there no new or alternative ways of thinking about resilience that move beyond conventional notions and historical path dependencies? Many essays in this volume point to such alternative ways of building resilient cities, providing a line of inquiry that generates new ideas for development practitioners.

A historical perspective also opens a critical perspective on resilience: as the historical record shows, promoting urban resilience worked out well in some cases. Chile, for example, began to implement new building codes after the 1960 earthquake, a move that largely paid off when Chile was hit again by earthquakes in the following decades. On the other hand, however, there is also a more shadowy history of resilience: one that includes forced resettlements and removals of populations in 1960s Turkey. Or that also saw the fostering of new urban inequalities in post-earthquake Agadir where zoning was based on seismic risk maps, meaning that middle- and upper-class residential areas were relocated to safer areas than low-income housing quarters. Seen this way, one can also think of resilience as a strategy to mask global and national inequalities: historically, international approaches to resilience have always favored instrumental solutions – be they top-down or bottom-up – but they have hardly addressed the structural socio-economic framework conditions that put the global poor in hazardous areas in the first

place. Thinking about resilience in historical terms, in other words, also forces us to rethink the relationships between resilience thinking and global inequalities: do practices and strategies of resilience address North-South inequalities? Are they effective in reducing them? Or are they merely a type of tranquilizer given every time a major disaster exposes those inequalities? As much as historical perspectives provide us with insights about the ways in which institutions seek to strengthen urban systems, then, they also prompt us not to lose sight of the very conditions that have constituted the cleavages and disparities within those systems.

Above all, however, a historical perspective on resilience warns against the belief that resilience strategies can offer easy solutions. Creating resilient cities, the historical record shows, was a challenging affair, involving reluctant city administrations, builders and estate agents who are keener about profit than protection (Solnit 2010). Often there are also social complexities on the ground that are difficult to master. One of the most important insights history may provide is therefore that practices of resilience only work if they link up with local communities and encourage their engagement through bottom-up processes. How to organize such processes, this essay has shown, has long been in dispute, and will likely remain so. But, in the end, the building of resilient cities will only succeed if city administrations and local communities realize that it is a shared responsibility in which both have their role to play.

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