Cities on the global path towards sustainability: Building back better as utopia

SURE Status Seminar Keynote Lecture
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Launch pad

Mark Kammerbauer

- studied architecture
- first project after university: flood reconstruction of a public building
- went back to university, Hurricane Katrina as doctoral research project
- worked in education and research (TUM, University of Queensland, Lund University)
- post-doc empirical case studies on post-disaster recovery
- third-party funding for experimental planning and design courses
- publications on urban risk, building culture
- 2020 founding of a research and communication agency near Munich

In Orbit

Introduction

- Cities, urban/suburban/rural regions are subject to risks
- Need to adapt to these risks, transform cities, achieve resilience
- Reduction of risk, reduction of (social) vulnerability are key
- Effective natural hazards governance, sustainable planning are necessary
- Shared goals: Building Back Better after disaster, reduce risk, reduce vulnerability
- Empirical research, case studies show: building back better is difficult to achieve
- Can experiences of Building Back Better guide cities towards sustainable development pathways, or is Building Back Better a utopia?

Key interrelations

- Different intersecting planning domains: everyday life, climate change, disasters, …
- Disaster risk management (DRM) encompasses policies or strategies for reducing or even avoiding risk
- Disaster risk reduction (DRR) states that related measures serve to strengthen resilience, supposed to contribute to "the achievement of sustainable development”
- Connection between DRR and the UN Sustainable Development Agenda, aims to "make cities and human settlements inclusive, safe, resilient and sustainable”
- Important both to sustainable planning and DRR: assessments of vulnerability or “conditions determined by physical, social, economic and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards”

Kelman, I. (2018): Lost for Words Amongst Disaster Risk Science Vocabulary? IJDRS, 9: 281–291.

Role of “Building Back Better”

- “(…) reduce exposure and vulnerability, thus preventing the creation of new disaster risks (…)” (p. 4)
- “(…) continue strengthening good governance in disaster risk reduction (…) and improving preparedness and national coordination for disaster response, rehabilitation and reconstruction, and to use post-disaster recovery and reconstruction to “Build Back Better” (p. 5)
- “(…) dedicated action (…) focused on tackling underlying disaster risk drivers, such as the consequences of poverty and inequality, climate change and variability, unplanned and rapid urbanization, poor land management (…)” (p. 4)
- “the recovery, rehabilitation and reconstruction phase (…) is a critical opportunity to build back better, including through integrating disaster risk reduction into development measures, making nations and communities resilient to disasters” (p. 17f.)

Sendai Framework for Disaster Risk Reduction 2015-2030. A/CONF.224/CRP.1, 18 March 2015.

How?

- “Develop guidance for preparedness for disaster reconstruction, such as on land use planning and structural standards improvement, including by learning from the recovery and reconstruction programmes (…) and exchanging experiences, knowledge and lessons learned” (p. 19)

Sendai Framework for Disaster Risk Reduction 2015-2030. A/CONF.224/CRP.1, 18 March 2015.

- risk reduction (during peaceful times without disasters);
- preparation prior to impending events (assuming that forewarning is possible);
- emergency response to impacts;
- recovery of essential services;
- reconstruction.

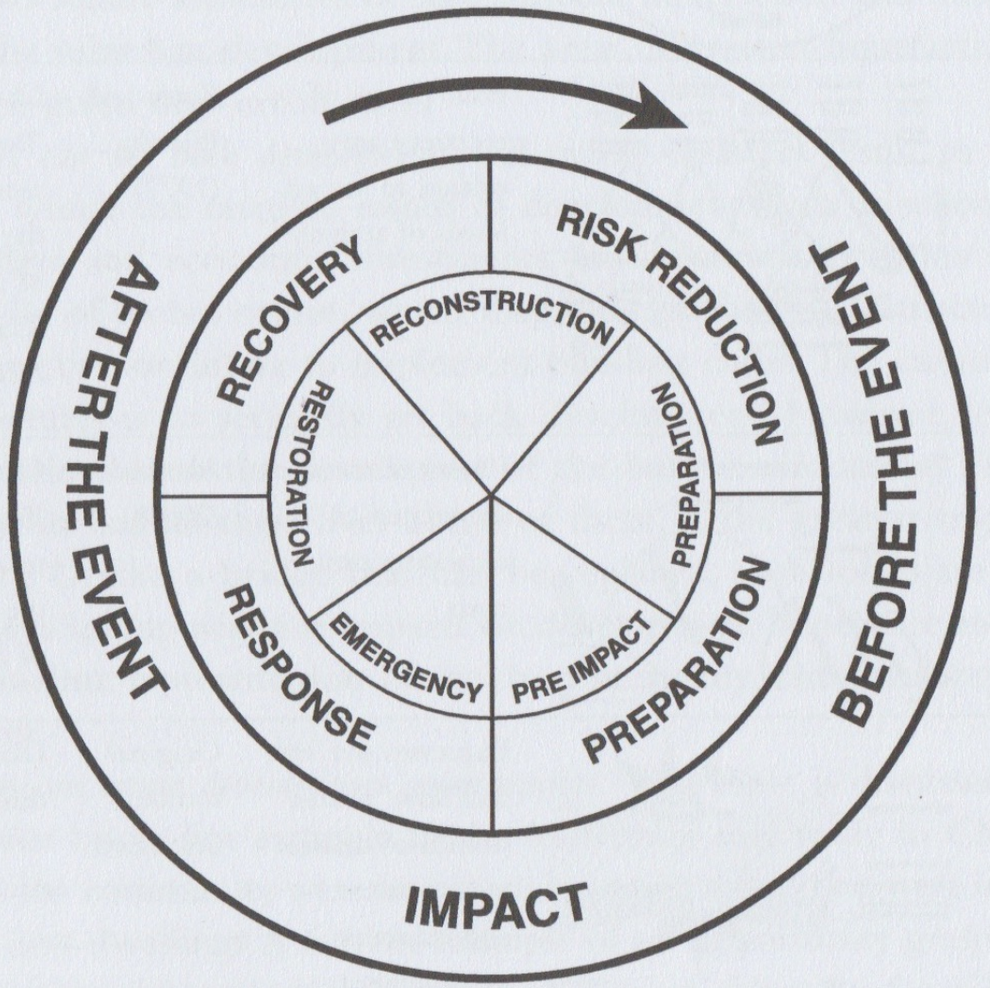
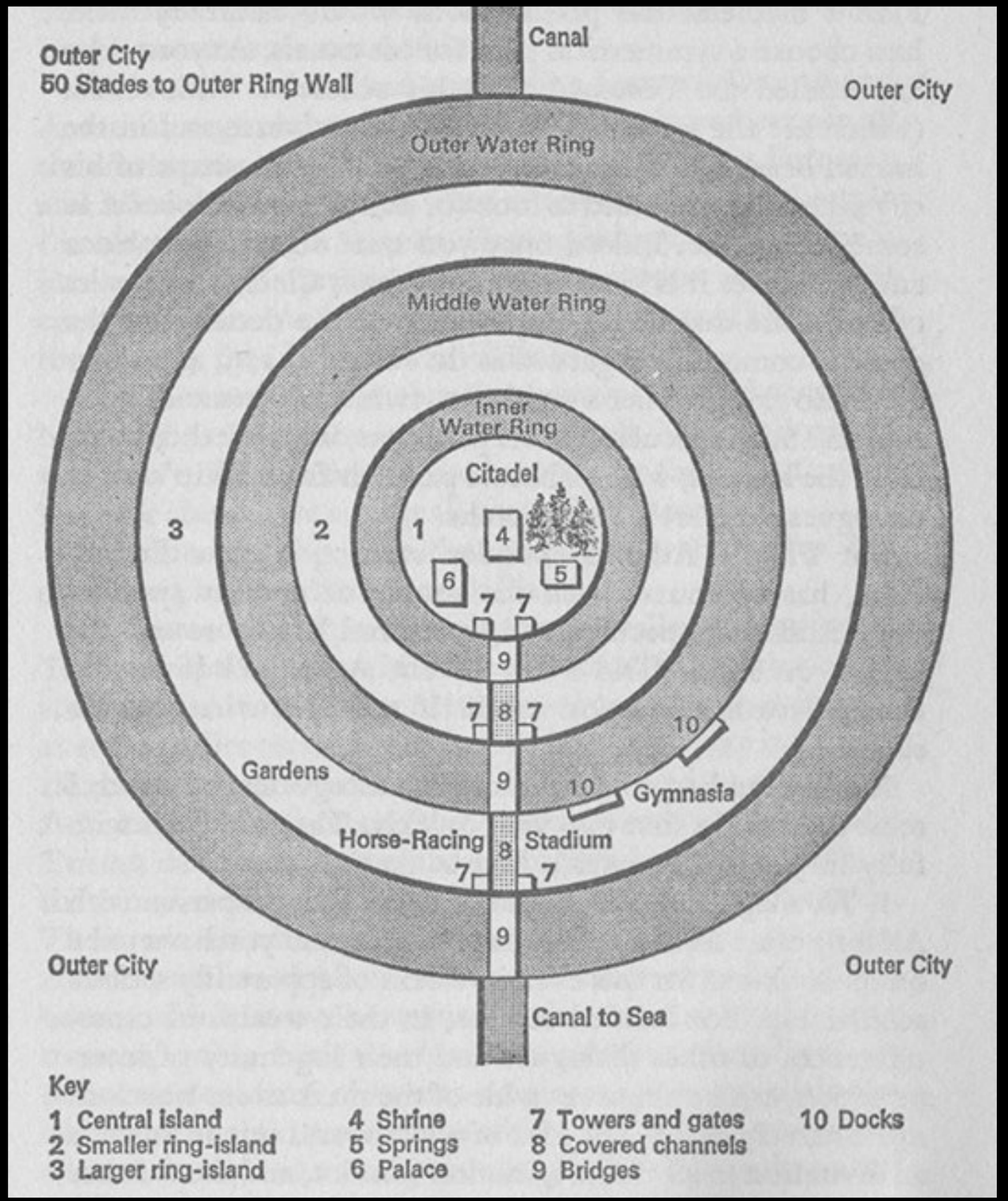
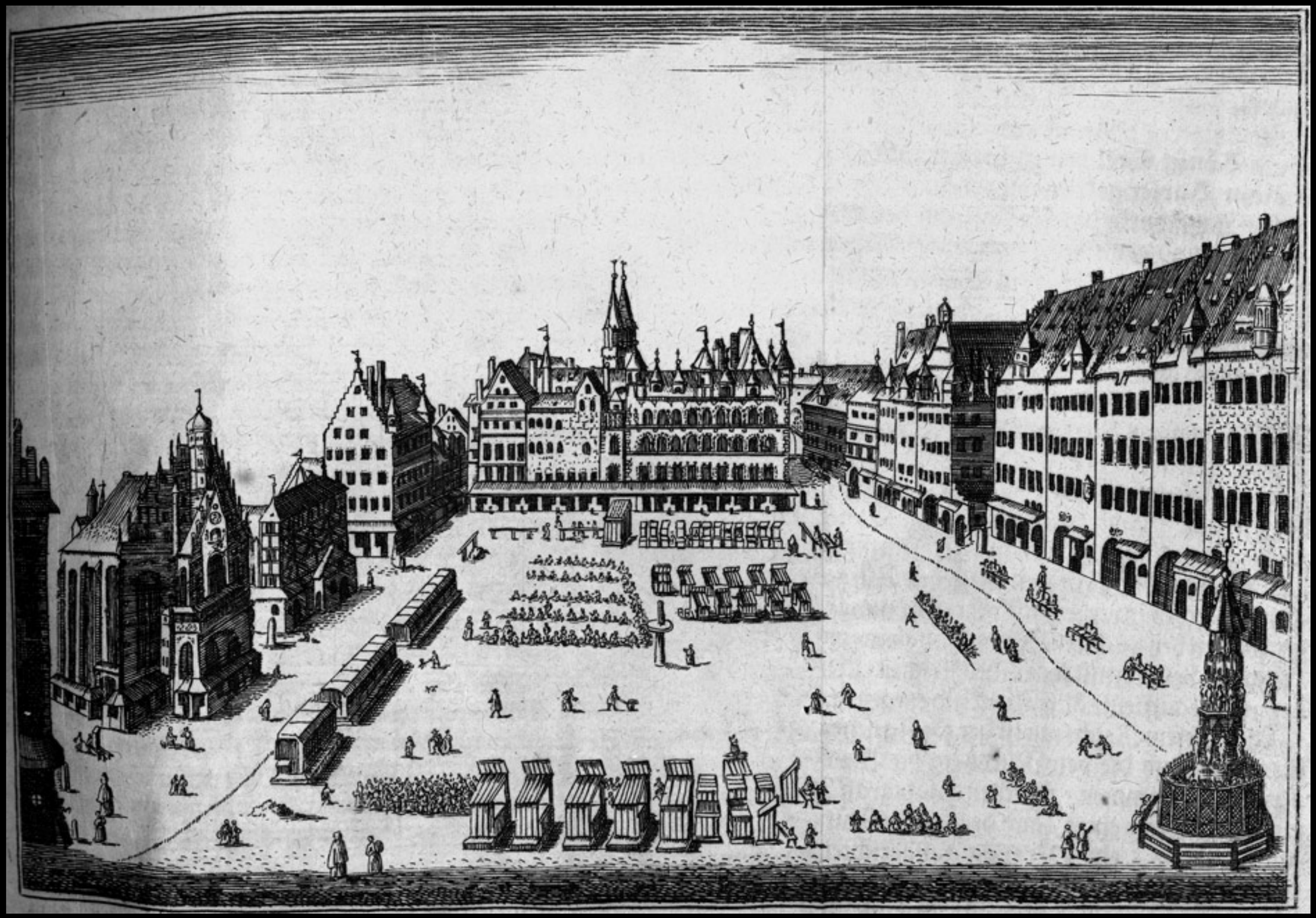


FIGURE 3.9 Model 5: disaster cycle.

Davis, I., & Alexander, D. (2016). Recovery from disaster. Oxon, U.K.: Routledge, p. 66

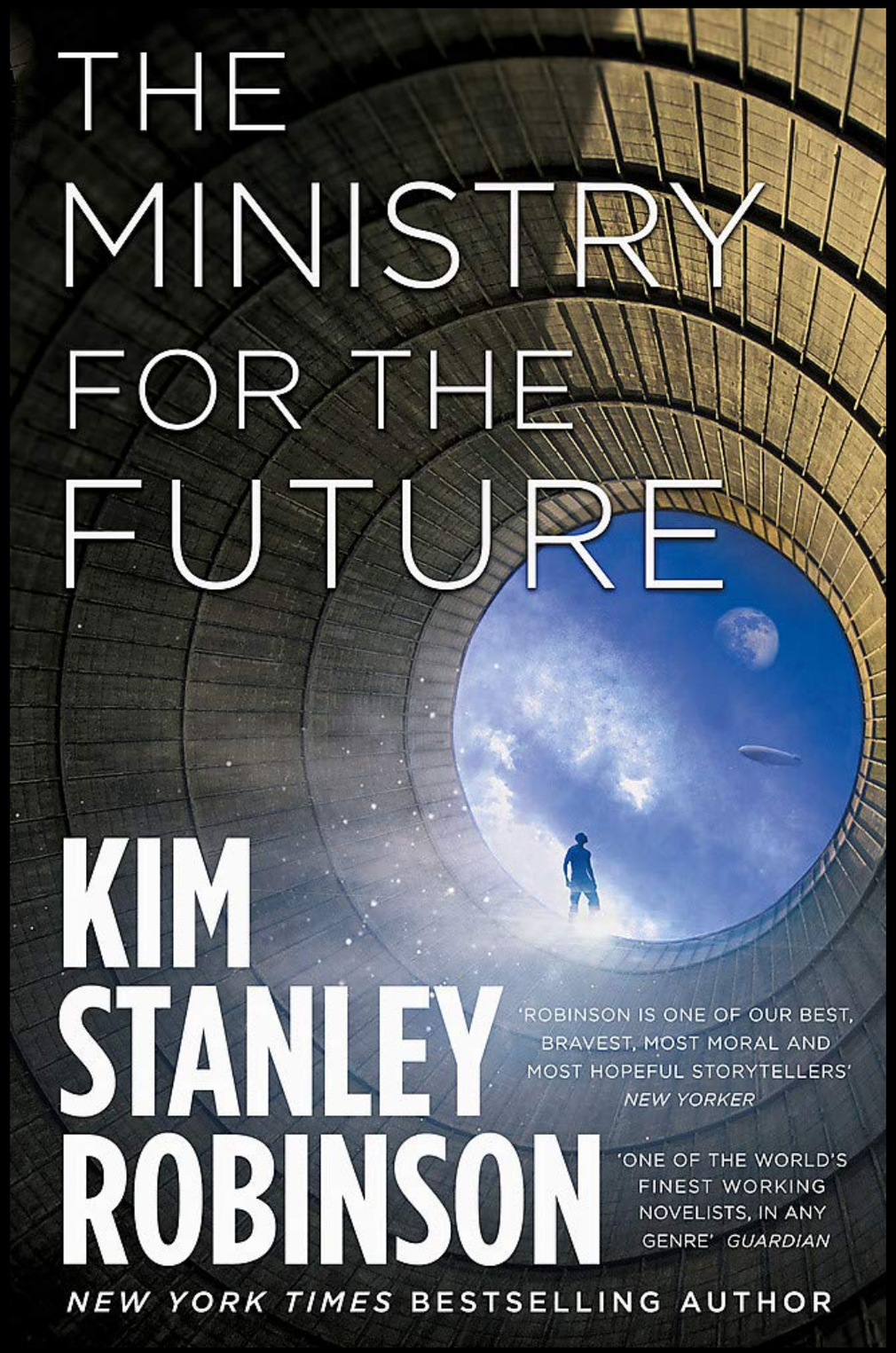


Platon - Timaeus und Kritias (engl. Ausgabe)



Nürnberg, 1707 (de.wikipedia.org/wiki/Nürnberg)

Buckminster Fuller: geodätische Kuppel über NYC, in: Kruft H.W. (1995): Geschichte der Architekturtheorie. C.H. Beck.



cf. Kammerbauer, M. (2022): Was die Architektur von Climate Fiction lernen kann. In: Bauwelt 4/2022

Landing the Eagle

Empirical research: need to reach across disciplinary borders

- Role of architecture/urban design/engineering = design of (good, functional, beautiful, adequate) technology, deployment in existing (social, cultural, spatial, environmental) context of regional/urban/rural development
- Role of (regional, urban, rural, etc.) planning = consideration of political, social, cultural aspects of development, legal basis for planning activity, embedded within sustainability frameworks
- Role of sociological research/environmental humanities: understanding of inequalities of everyday life, uneven development, as root causes of (social, cultural, spatial, environmental) vulnerability, impact on the capacity to cope with disaster
- Role of (transdisciplinary) risk research = understanding of planning and preparedness, response, short-term and long-term recovery as key concepts for disaster risk management in the context of international frameworks (Sendai)
- Integration offers a comprehensive understanding of the social and spatial aspects of urban/rural/regional development in the context of environmental risk and sustainability

Snapshots

- New Orleans, Hurricane Katrina 2005, USA – empirical case study, mixed qualitative/ quantitative research methods (2009 DAAD Doctoral Scholarship, Center for Bioenvironmental Research, Tulane University, New Orleans/USA)
- Deggendorf, Danube Floods 2013, Germany – empirical case study, mixed qualitative/quantitative research methods (2016 DAAD Postdoctoral Scholarship, Lund University Centre for Sustainability Studies, Lund/Sweden)
- Tacloban, Typhoon Hainan 2011, Philippines – empirical case study, qualitative research methods (2014 Visiting Fellowship in Planning, School of Geography, Planning & Environmental Management, University of Queensland, Brisbane/ Australia)
- Grantham/Brisbane, Queensland Floods 2011, Australia – empirical case study, mixed qualitative/quantitative research methods (2014 Visiting Fellowship in Planning, School of Geography, Planning & Environmental Management, University of Queensland, Brisbane/Australia)

Snapshot 1

Snapshot 1/4: New Orleans, Hurricane Katrina 2005, USA

- Context: historic architecture reflected adaptation to flood risk, modern architecture disregarded adaptation, existing flood risk due to hurricanes, riverine floods, existing persistent racial inequality
- Disaster: failure of flood protection system, flooding of the city, housing stock destroyed, lives lost, highly traumatic post-landfall evacuation
- Recovery: focus on home ownership, disregard for funding inequality, limited access to resources impacting African-American population
- Vulnerability: rooted in history and ethnicity
- Governance: multi-tiered, dysfunctional, led to revision of national frameworks
- Outcome: uneven recovery, recovery programs judged racist, building back better efforts failed, sustainability impacted by path dependency, facilitation of at-risk development

New Orleans, Lower Ninth Ward, N Villere St @ Cherbonnet Street (Kammerbauer 2009)

New Orleans, Irish Channel (Kammerbauer 2009)

Snapshot 2

Snapshot 2/4: Deggendorf-Fischerdorf, Danube flood 2013, Germany

- Context: regional urban center, surrounding rural region, riverine flood risk
- Disaster: failure of flood protection system, region impacted by flood, exacerbated by heating oil contamination, housing stock destroyed, low degree of insurance coverage
- Recovery: quick recovery exacerbated contamination, need to demolish rebuilt structures, disputes over insurance payouts, referral to regular land use planning (Bauleitplanung), oil heating prohibited in 2017
- Vulnerability: based on age, health condition, migration status, housing tenure
- Governance: multi-tiered, problem of low insurance coverage, timeliness of measures
- Outcome: ad-hoc recovery, sustainability impacted by path dependency, facilitation of at-risk development

Deggendorf, Fischerdorf area (Kammerbauer 2014)

Deggendorf, Fischerdorf area (Kammerbauer 2014)

Snapshot 3

Snapshot 3/4: Tacloban, Typhoon Haiyan 2013, Philippines

- Context: coastal metropolis, large increase of daytime population from surrounding region
- Disaster: expected storm winds and unexpected storm surge (flood), housing stock destroyed, lives lost
- Recovery: planning for resettlement on high ground with aid from international consultants, detached from livelihoods of residents (fishing), coastal property ownership disputed, return to informal settlements
- Vulnerability: based on poverty
- Governance: multi-tiered, lack of inclusion of local population, lack of institutional capacities and resources
- Outcome: building back better efforts questionable, focus on "big gestures", lacks inclusion for sustainability

Tacloban, coastal Barangay (Kammerbauer 2014)

NOTICE TO THE PUBLIC

40.0 METER EASEMENT
FROM SHORELINE IS A

"NO BUILD ZONE"

PD 19

Tacloban, coastal Barangay (Kammerbauer 2014)

Snapshot 4

Snapshot 4/4: Grantham, Queensland 2011 floods, Australia

- Context: regional town, farming livelihoods
- Disaster: rapid impact flash flood, houses destroyed, lives lost
- Recovery: special planning zone declared, recovery plan developed for new neighborhood on high ground, included growth option for regional residents
- Vulnerability: based on problems with access to funding, livelihoods
- Governance: multi-tiered, inclusive, past-paced, yet also non-compliance
- Outcome: building back better achieved, yet heterogeneous outcome, sustainability to be tested over time

Grantham, flood plain (Kammerbauer 2014)

Grantham, new settlement (Kammerbauer 2014)

Observations

Observations:

- Risk reduction without vulnerability reduction = exclusive
- Governance without consideration of vulnerability = ineffective
- Resilience requires a sustainability perspective to be inclusive
- Inclusion of (most) vulnerable populations necessary to achieve building back better
- Integration of social and spatial research and practice perspectives to identify key issues
- Facilitate knowledge-based planning for sustainable development outcomes

Discussion

Discussion:

- Cases show: building back better appears to be an unattainable ideal, a utopia – if vulnerability is not reduced through resilient and sustainable planning and design
- Anthropocene as dystopia: wars, pandemics, environmental disasters
- Constrains ability to envision sustainable, inclusive approaches to solutions aimed at reducing risk, reducing vulnerability, increasing resilience, achieving sustainability
- Utopias as fictional scenarios offer room for learning
- Fictional narratives can amplify, focus on certain aspects, illustrate scenarios
- Researchers, planners, designers can learn from these scenarios, communicate insight
- Experiences of building back better can and should, in this sense, offer examples to cities on their path towards sustainable development pathways, utopian or not!

Thank you!