

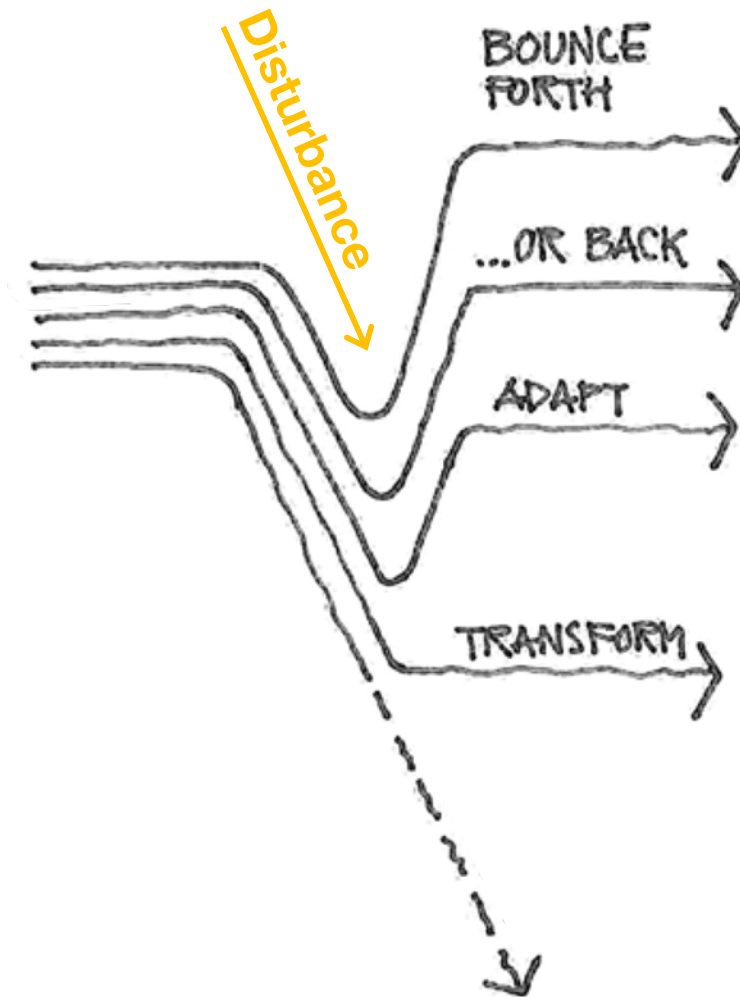
Design Research Teaching & Resilience

Dr. Claudiu Forgaci | DeSIRE Tenure Tracker “Resilience and Urban Transformation”

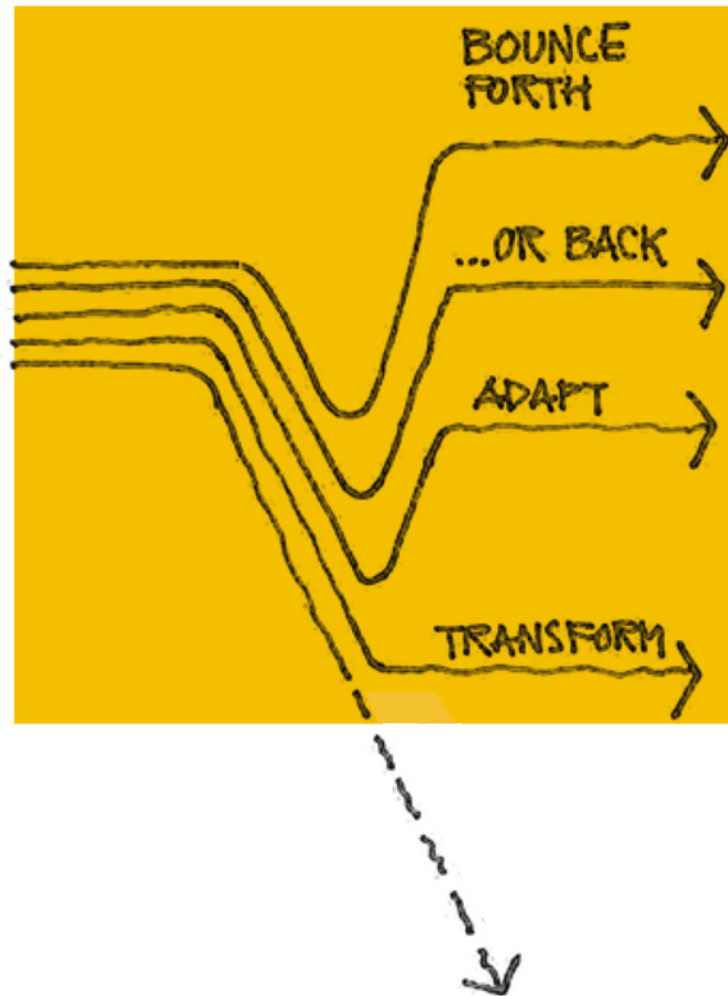
Section of Urban Design, Department of Urbanism, TU Delft

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Resilience thinking and urban design



Resilience thinking and urban design



Urban design

20TH ANNUAL INTERNATIONAL SUSTAINABLE DEVELOPMENT RESEARCH CONFERENCE NORWEGIAN
UNIVERSITY OF SCIENCE AND TECHNOLOGY, TRONDHEIM, NORWAY, JUNE 18-20, 2014

URBAN FORM AND FITNESS: TOWARDS A SPACE- MORPHOLOGICAL APPROACH TO GENERAL URBAN RESILIENCE

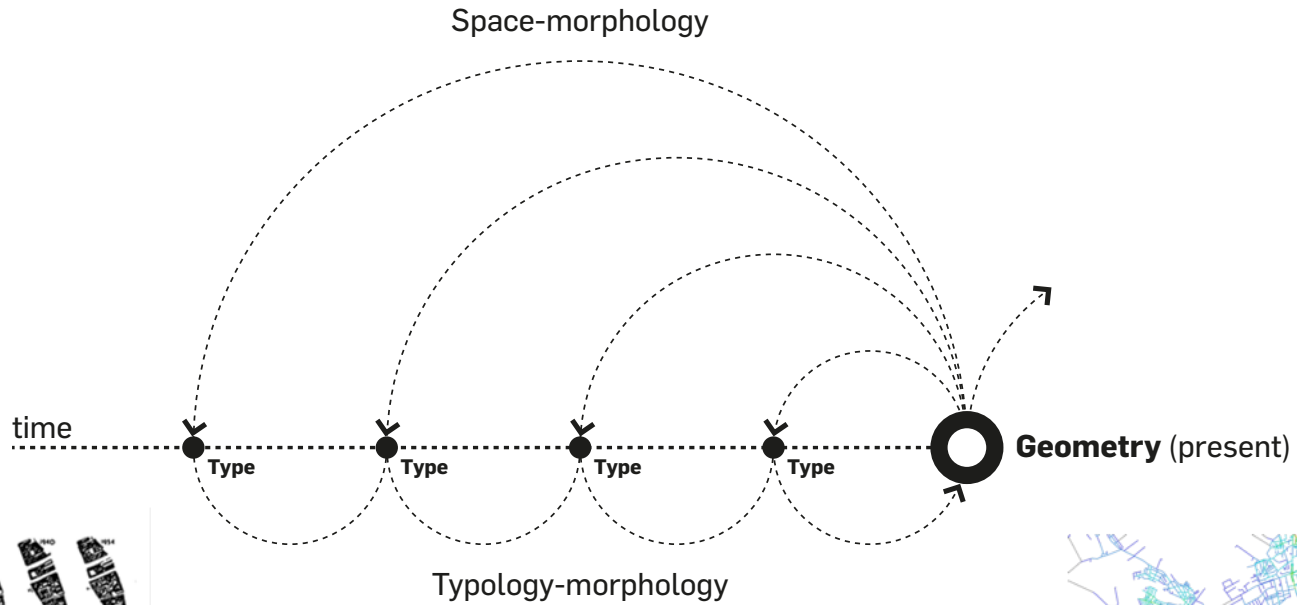
Claudiu FORGACI¹ and Arjan VAN TIMMEREN¹

¹Delft University of Technology, Faculty of Architecture, Department of Urbanism, Chair of
Environmental Technology and Design

ABSTRACT

Assessment is one of the greatest challenges of urban resilience research. The difficulty of this task arises from the increasing complexity of urban environments and from the unpredictability of external changes, two trends that have raised environmental awareness and, consequently, led to a growing debate on the relationship between city and nature. We join this debate by looking at urban resilience through the lens of urban form. We refer to urban form as a product of the continuous tension between recovery and adaptation on several spatial and temporal scales of transformation. Although recent resilience approaches, such as *spatial resilience*, *general resilience*, and *urban resilience*, have dealt with urban form indirectly, and, conversely, some studies in urban morphology have tried to grasp the natural environments, an explicit morphological perspective on urban resilience is divided in three main parts: formal treatments of resilience (fitness, performance, and sustainability), and a possibility of a space-

A space-morphological approach...



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monofamiliari

plurifamiliari

Typology-morphology



Space-morphology

...to General Urban Resilience

General Urban Resilience is a concept that combines:

- general resilience (Walker & Salt, 2012, Carpenter et al., 2012);
- spatial resilience (Cumming, 2011);
- and urban resilience (e.g. Davoudi et al., 2012, Pickett et al., 2013, Eryadin & Taşan-Kok, 2012).

Resilience to what?

It is concerned with the overall **fitness** of the environment.

It aims for **generalization**.

Claudiu Forgaci, Arjan van Timmeren

Delft University of Technology

A Spatial-Hormetic Approach to Urban Resilience

Most of our current spatial strategies include additions, substitutions, or transformations of the urban environment. Doing something, doing more is always preferred to doing nothing or doing less. The goal is contin-

uous growth, maintenance, robustification, and efficiency. This strategy is questionable, considering the low ability of our social-ecological systems to respond to unforeseen disturbances.

com...
larly occurring suc...
tentially disruptive events better...
the inhabitants of Venice and their lifestyle
adapted to regular seasonal floods; and the

A spatial-hormetic* approach to urban resilience

Strategies of:

Inaction



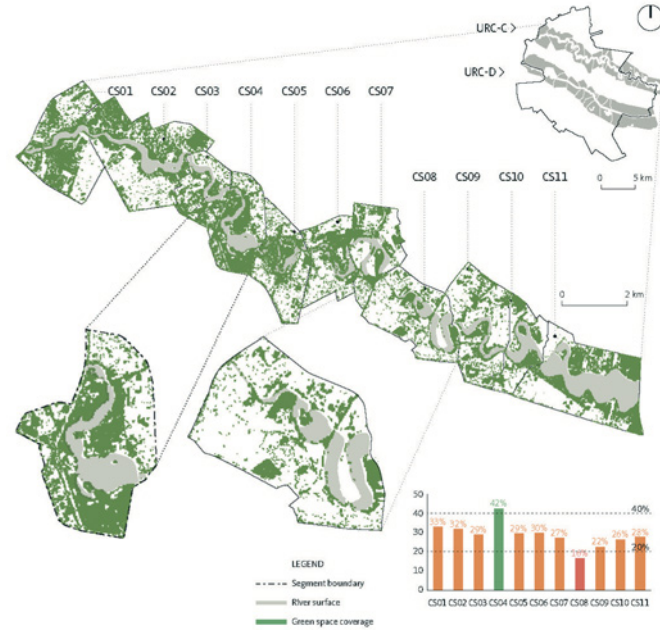
Subtraction



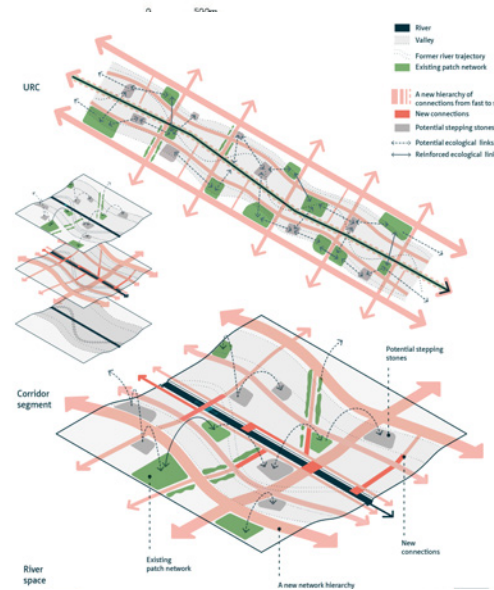
Hormesis



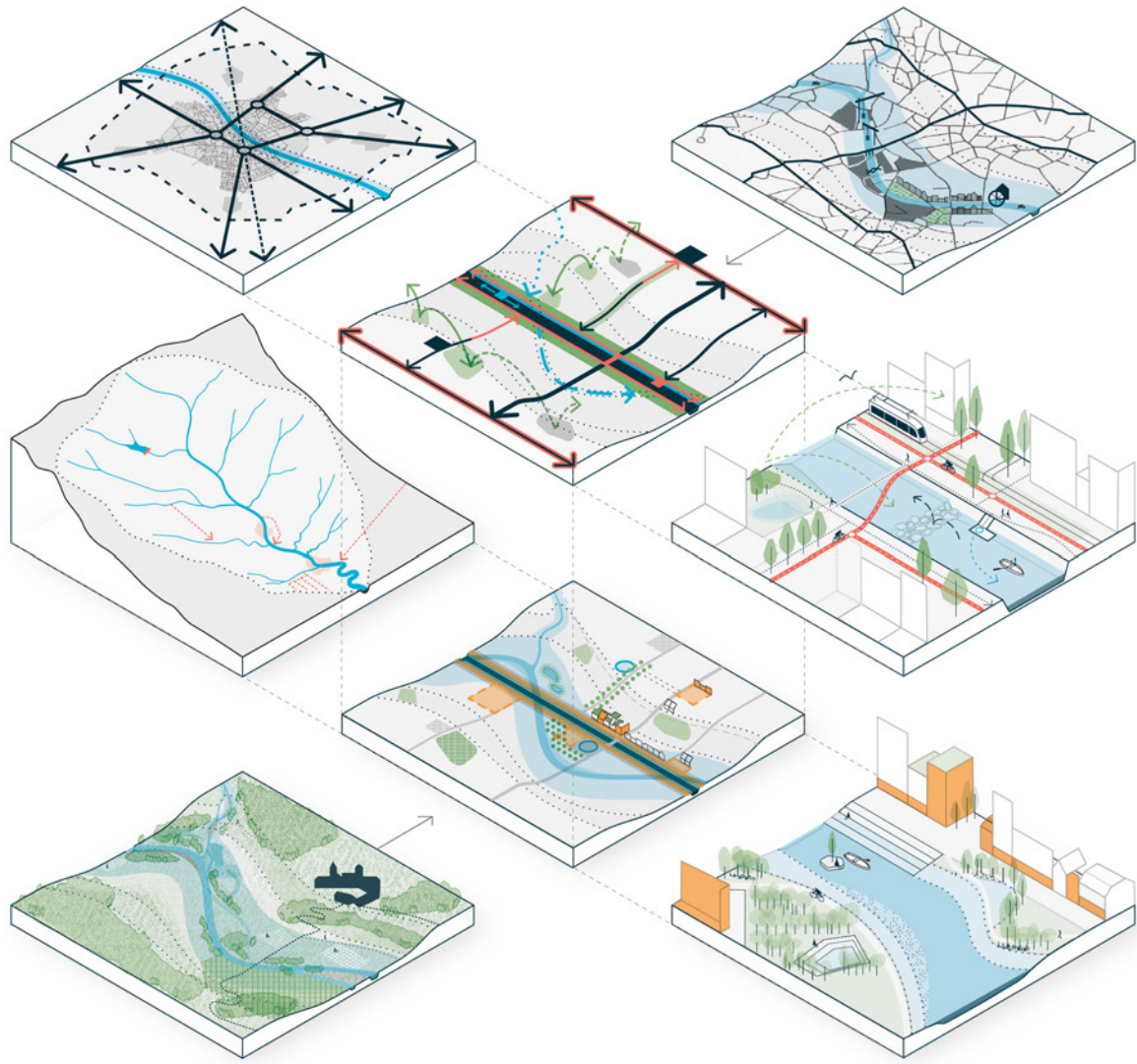
Photo by Antonio Sanna



Spatial assessment...



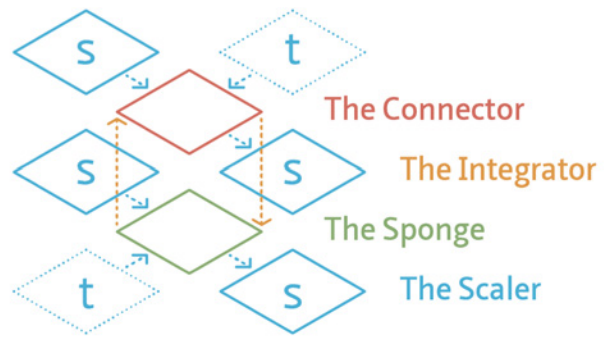
...and spatial design of social-ecologically integrated URCs.



I surf – Instruments for sustainable riverfronts

NWO, 2019-2020, TUD coordinator
 Project leader: Arjan van Timmeren
 Research leader: Claudiu Forgaci

I surf tackles issues of urban environmental and ecological degradation through a set of four design instruments for river space design. The instruments, tested, elaborated and refined through design workshops and participatory sessions in Amsterdam, aid designers, planners, decision-makers and stakeholders in developing spatial interventions for social-ecological integration.



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Integrating:

Design Research Teaching & Resilience

Resilient urban form

Research by design

Agile, cross-scalar and
evidence-based design

Research methodology in design

Resilience of SES /
STES systems

Resilience thinking for urban
designers and planners

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Integrating: Design Research Teaching & Resilience

Engagement with practice
Resilient urban form

Research by design *Work with evidence*

**Agile, cross-scalar and
evidence-based design** *Agility*

Research methodology in design

Field work **Resilience of SES /
STES systems** *Transdisciplinarity*

**Resilience thinking for urban
designers and planners**

Unbounded design workflows
Strategic thinking

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