

# Fragility and Antifragility in Cities and Regions

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# Fragility and Antifragility in Cities and Regions

Space, Uncertainty and Inequality

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*Edited by*

Francesco Curci

*Assistant Professor of Urban Planning, Department of  
Architecture and Urban Studies, Politecnico di Milano, Italy*

Daniele Chiffi

*Assistant Professor of Philosophy, Department of Architecture  
and Urban Studies, Politecnico di Milano, Italy*

ELGAR STUDIES IN PLANNING THEORY, POLICY AND  
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Cover image: Operational landscapes in Sardinia by Davide Simoni



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# Contributors

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**Alessandro Balducci**, Full Professor of Planning and Urban Policies, Department of Architecture and Urban Studies, Politecnico di Milano, Italy.

**Franco Bianchini**, Associate Director, Centre for Cultural Value, University of Leeds, UK and Senior Researcher, Fitzcarraldo Foundation, Italy.

**Ivan Blečić**, Full Professor of Real Estate Appraisal and Project Evaluation, Department of Environmental Civil Engineering and Architecture, University of Cagliari, Italy.

**Massimo Bricocoli**, Full Professor of Planning and Urban Policies, Department of Architecture and Urban Studies, Politecnico di Milano, Italy.

**Arnaldo Cecchini**, Former Full Professor of Urban Planning, Department of Architecture, Design and Urban Planning, University of Sassari, Italy.

**Daniele Chiffi**, Assistant Professor of Philosophy, Department of Architecture and Urban Studies, Politecnico di Milano, Italy.

**Simona Chiodo**, Full Professor of Philosophy, Department of Architecture and Urban Studies, Politecnico di Milano, Italy.

**Francesco Curci**, Assistant Professor of Urban and Regional Planning, Department of Architecture and Urban Studies, Politecnico di Milano, Italy.

**Stefano D'Armento**, Public Officer, Città Metropolitana di Milano, Italy.

**Antonio De Rossi**, Full Professor of Architecture, Department of Architecture and Design, Politecnico di Torino, Italy.

**Stefano Guidarini**, Associate Professor of Architecture, Department of Architecture and Urban Studies, Politecnico di Milano, Italy.

**Zachary M. Jones**, Post-Doctoral Research Fellow and Adjunct Professor, Department of Architecture and Urban Studies, Politecnico di Milano, Italy.

**Arturo Lanzani**, Full Professor of Urban Planning, Department of Architecture and Urban Studies, Politecnico di Milano, Italy.

**Antonio Longo**, Full Professor of Urban Design and Landscape, Department of Architecture and Urban Studies, Politecnico di Milano, Italy.

**Manos Matsaganis**, Full Professor of Public Finance, Department of Architecture and Urban Studies, Politecnico di Milano, Italy.

**Annalisa Metta**, Associate Professor of Landscape Architecture, Department of Architecture, Università Roma Tre, Italy.

**Stefano Moroni**, Full Professor of Urban Planning, Department of Architecture and Urban Studies, Politecnico di Milano, Italy.

**Annunziata Maria Oteri**, Full Professor of Architectural Conservation, Department of Architecture and Urban Studies, Politecnico di Milano, Italy.

**Gabriele Pasqui**, Full Professor of Urban Planning, Department of Architecture and Urban Studies, Politecnico di Milano, Italy.

**Davide Ponzini**, Full Professor of Urban Planning, Department of Architecture and Urban Studies, Politecnico di Milano, Italy.

**Stefania Sabatinelli**, Associate Professor of Economic Sociology, Department of Architecture and Urban Studies, Politecnico di Milano, Italy.

**Alessandro Scandiffio**, Assistant Professor of Representation of Architecture, Department of Architecture and Urban Studies, Politecnico di Milano, Italy.

**Enrico Tommarchi**, Lecturer in Urban Planning, Duncan of Jordanstone College of Art & Design, University of Dundee.

**Amalia Zepou**, Social innovation expert, co-founder of KOLLEKTIVA, the Athens-based non-profit for social innovation and culture, Greece.



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# Introduction to *Fragility and Antifragility in Cities and Regions*

**Francesco Curci and Daniele Chiffi**

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The past two decades have been characterised by a series of economic downturns, health crises, natural and man-made disasters, wars and terrorist attacks that have had a profound impact on both specific regions and the world as a whole. The human population has doubled in just 50 years, making us more aware of the many hazards and vulnerabilities that put human settlements and societies at risk, regardless of location or time. In the third millennium, the increasing frequency of climate, financial, political and health crises resulting from population growth, globalisation and urbanisation has challenged both economic development and risk management paradigms. The prevalence of severe forms of uncertainty rather than probabilistic forms of risk has emerged as a critical issue in the face of enduring turbulence and disruptive events. Furthermore, it is clear that socio-economic disparities have contributed to many traumatic events and exacerbated different forms of socio-spatial polarisation.

Based on research into the concepts of fragility and antifragility (Taleb 2012; Aven 2015), this book explores how to effectively manage severe uncertainty and socio-spatial inequalities, with a focus on architecture, urban planning and policy. The contributors to this book, coming from various disciplines, examine how fragility and antifragility impact upon contemporary cities and regions, providing insights into how these concepts can help to reimagine traditional rationality in public action and potentially reshape the methods and techniques used by urban planners, architects and policymakers.

The concepts of fragility and antifragility have already been explored to some extent in the field of urban and territorial studies, as evidenced by research conducted by Blečić and Cecchini (2020), Chiffi and Curci (2020), Chiffi and Moroni (2021) and Shearer et al. (2021). Additionally, a handful of papers have attempted to apply the idea of antifragility in some specific geographical contexts, such as those authored by Hesperhol (2017), Roggema (2019), Sartorio et al. (2021) and Pasqui (2022). To fully understand the potential of these concepts in the context of contemporary cities and territories, we believe that a more integrative approach is required, one that combines theo-

retical foundations with a transdisciplinary perspective on urban regeneration and transformation.

The book is structured into three parts, each containing several chapters.

## PART I

The first part of this book is primarily focused on exploring the theoretical aspects of fragility and antifragility. In Chapter 1, we introduce these concepts and highlight the differences between fragility and risk, as well as the distinction between antifragility and resilience. The main objective of the chapter is to establish that antifragility should not be considered as merely an ‘extended’ form of resilience.

Moving on to Chapter 2, Simona Chiodo delves into the classical notion of wisdom, and its potential role in dealing with uncertain decisions. She argues that wisdom may play a crucial role in antifragility, as it can effectively navigate the realm of uncertainty beyond the scope of logos.

In Chapter 3, Gabriele Pasqui critically examines the political dimension of ‘territorial fragilities’, which are closely linked to the increasing socio-spatial inequalities and disparities both between and within regions and urban areas. In the concluding section of the chapter, Pasqui makes a case for repoliticising the concepts of fragility and antifragility.

## PART II

The second part of the book provides an overview of the various interpretations of fragility and antifragility from different disciplinary perspectives and paradigms. Chapter 4, authored by Alessandro Balducci, offers an overview of invisible, unseen, or barely visible phenomena to highlight their fragility-exacerbating effects. The chapter aims to demonstrate the relationship between fragility and redistributive policies and identify potential ways to repoliticise the issue of fragility.

In Chapter 5, Ivan Blečić and Arnaldo Cecchini provide a set of operational principles and recommendations for the design and management of urban policies and projects, bridging the gap between theory and practice. They discuss the example of the so-called ‘15-minutes city’ to illustrate how the principles of antifragile design provide insights and tools for its critical examination.

Chapter 6, written by Stefano Moroni, defines ‘institutional fragility’ and ‘institutional malleability’ and investigates how institutions react to hard shocks. The chapter shows that while institutional fragility is always undesirable, institutional malleability is not always beneficial.

Chapter 7, by Antonio Longo and Annalisa Metta, based on the theoretical and practical tradition of landscape design, postulates that fragility is

a condition of any territory and an opportunity to give quality, meaning and energy to the places we inhabit. In Chapter 8, Stefano Guidarini examines how architecture can bring to the fore some lesser-known properties associated with the concept of antifragility through durability, flexibility, form, construction, utility and beauty.

## PART III

The third part of the book is dedicated to exploring more specific cases and applications of the concepts of fragility and antifragility. Chapter 9, written by Annunziata Maria Oteri, examines some potential antifragile approaches in order to preserve architectural heritage in remote areas suffering from depopulation and abandonment. The chapter argues that architectural preservation cannot be separated from cultural processes, and aims to determine whether certain sociological and anthropological approaches can be utilised to protect abandoned architectural heritage.

Chapter 10, by Antonio De Rossi and Arturo Lanzani, delves into the topic of how the fragility of cities and regions can often be attributed to the development of transport, water and energy infrastructure. The authors explore how the construction of large-scale infrastructure is causing the dissolution of spatially fixed social capital, and thus contributing to the fragilisation of the Italian territories. In the concluding section, they propose potential strategies and actions that could be undertaken in order to counteract the recent trend of expansionary infrastructure initiatives.

Chapter 11, by Massimo Bricocoli and Stefania Sabatinelli, considers social and institutional fragilisation in relation to welfare policies. The authors suggest that ‘continuity’ is a crucial aspect of welfare support, allowing for the development of practices and actions that promote antifragility in individuals, organisations, territories and policies.

Chapter 12, authored by Davide Ponzini et al., focuses on the case of Matera as the European Capital of Culture in 2019. The authors analyse the interplay between urban heritage and mega-event policies through the lens of a fragility/antifragility framework. Despite enhancing accessibility, public spaces and the local cultural economy, this initiative did not have a significant and direct impact on reducing the city’s heritage fragility.

Finally, Chapter 13, by Amalia Zepou and Manos Matsaganis, examines a little-known example of a locally developed system of equitable and sustainable access to scarce water resources on Sifnos Island, Greece. The authors describe the system’s function and evaluate its performance using Ostrom’s design principles of long-surviving and self-organised resource regimes.

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