
Introduction¹

"Some cities do better in the face of disaster than others. It is tempting to describe apparent success in terms of resilience and apparent failure in terms of a shopping list of explanatory variables. This is too simple" [COM 10].

The beginning of the 21st Century has been marred by a succession of environmental crises, whether geopolitical, economical or social. This is in the context of a world dominated by uncertainty, where societies themselves are increasingly concerned for their own safety. As a result, resilience seems to have become the answer provided by international organizations and public powers, the alpha and the omega of risk and crisis management. Resilience has become imperative at the global level since the Hyogo summit in Japan and the adoption of the United Nations (UN)'s *Hyogo Framework for Action* (2005–2015). The UN organisms are now meant to help communities in becoming more "resilient" in the face of crises that threaten their development.

Thus, resilience is particularly in vogue: it is a buzzword [COM 10, p. 1], which, like the "buzzing" of insects, makes noise,

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¹ This book starts with a research seminar held at l'École Normale Supérieure in Paris, France, between 2009 and 2013. The summaries are accessible in French at: <http://www.geographie.ens.fr/-Resilience-urbaine-.html>. The writing of this book was finished in November 2013.

reflects activity and agitation, but which ultimately tires the ear and results in exasperation and irritation. We try to swat it away, but it comes back all the louder.

In the United States, resilience is everywhere: in the mouths of experts, politicians, journalists, community movements and the general public. In Europe, this Anglo-Saxon influence is increasingly strong, spreading alongside other notions such as sustainable development or governance, in professionals as well as in elected officials. It also receives significant amounts of enthusiasm in the world of science. While it was initially limited to physics, ecology and psychology, resilience has made a spectacular entry into the fields of risk, hazard and disaster management². It is also starting to appear in research on social and spatial processes over varying time periods, linear or non-linear changes in society and territories around issues of transition, durability, dialectics between breaks and continuity, etc.

1.1. Resilience, polysemy, cacophony or quandary?

Resilience refers to the ability to bounce back, recover and rebuild after a shock, a disturbance or a crisis. It is a property which means that, no matter what the events endured, an individual, society or territory does not disappear. It is the process that allows them to deal with disorganization, loss and damage to maintain themselves and endure despite the obstacles emerging from the environment, history or existence. It is also the result of this process that is noticed – sometimes celebrated – and can lead to recovery or even rebirth.

Resilience refers to both the ability to absorb and digest the rolls of the die and the ability to always rise up again from one's ashes. To a certain degree, it makes whatever or whomever that presents it invulnerable, not because it protects from threats or injuries, but because it prevents collapse. It facilitates the overcoming of damage

² We will return later to the neologism of *cindynics* introduced by G.Y. Kervern during the founding conference held in the Sorbonne in 1987 in a very global sense, to regroup, out of convenience, all things related to the sciences of danger under one umbrella term. We therefore stray from the precise definition used by Kervern.

and disaster, through a return to a "normal" situation, or even in some cases to a "better situation". When the lessons of a crisis have been learned, resilience is presented as an opportunity to build (or rebuild) something safer, fairer, bigger, more efficient, etc.

Thus, resilience is a highly desirable horizon. It helps us in dealing with contingencies, fulfilling requirements of resistance to dangers and persistence through variability. It also becomes a catalyst of research credit. It is full of a double promise: not only an ideal response to crisis, but also that of public funding. In this way, it opens up several new perspectives at a time where the recurrence of natural, technological, health-related and environmental disasters seems to be marking the end of traditional management policy. Everyone wants a part of it, often with the fervor and vigor of new converts. However, the extrapolation of this concept beyond its fields of origin can be a serious issue.

1.2. Defining resilience

The increase in the number of references to "resilience" has resulted in a large scope of the use of the term, leading to a dilution of its meaning, to the point where the word has started to have contradictory designations. The breadth of definitions can not only be explained by the progressive broadening of the field of applications of resilience, but also by the involvement of a variety of actors, researchers and administrators from different fields. Each offers their own interpretation and definition, depending on their own questions, contracts and protocols. The recent trend feeds polysemy, while disagreement and afferent saturations transform resilience into a cacophony, risking its transformation into either an empty shell or a simple varnish applied to the same old concepts.

For some people, the increasing plurality of designations is the very symptom of its vacuity, and the multiplication of solid definitions and of fragmented approaches are signs of its sterility. Thus, we could consider that it is the hype effect that discredits resilience as a scientific concept, or even as an operational tool, seeing as this trend

results in cacophony, overinvestment and the quandary of upmanship of over-bidding.

On the contrary, it is possible to seize this polysemy as an asset, without giving up on the validity and the fertility of the concept of resilience. This requires the consideration of the diversity of approaches, and the cross-sector exploration of resilience, without limiting it to one frame, or reducing it to a single definition, which would only be another to add to those that have already been suggested. All the authors who have contributed to this book do not share the same approach of resilience, and do not all agree on the status of this notion. Some of them actually have very critical views of it, their reservations not only being theoretical and methodological, but also political. In any case, they have provided analyses that have captured the wide range of possible approaches. This is what explains the fact that, depending on the chapters, the definition of resilience varies. However, it is always clearly explained, and compared with other approaches, and the stakes surrounding it are discussed, showing that the different views bridge cross-disciplinary insights.

I.3. Resilience put to the test: the theoretical issues

The advance of resilience on the international stage, and its mobilization by very different stakeholders, results in overinvestment. Clear contradictions between statements, theories and practical solutions lead us to question resilience and to put it to the test. The trending effect is real, but should resilience be rejected as an empty concept with no future as a result?

Resilience generates a number of theoretical problems. Beyond the initial difficulty in defining it, resilience is thought of in reference to a number of connected concepts, which it tends to complete, inflect, or even replace. This is the case for vulnerability, a key concept in the risk and disaster management, with which it shares complex ties. Thus, resilience encompasses questions of social, spatial and temporal scales. Who is resilient to what? Psychology has given emphasis to individual resilience, while other fields look at it more in terms of the resilience of a social group or community resilience. Moreover,

resilience regroups the notion of duration and temporality in the question of change. What duration must be considered? Which spatial scale should be used to record resilience aftershock? Resilience requires us to consider the increasing complexity of a world that is more and more interconnected, where each action leads to retroactions on different scales, over vast areas and in uncertain timeframes. This explains both the difficulties of definition and formalization.

This leads us to the question of systems. Resilience is indeed defined in ecology to formalize the question of the timelapse systems need to return to the after a disturbance. For a long time, the term "system" has been strongly linked to the term "resilience", without a precise definition. It can be used metaphorically, inasmuch as it can express the notion of the complexity of reciprocal interactions, which are found in the majority of objects to which resilience can be applied (social groups, areas, critical infrastructures, etc.), as well as much more rigorously (complex systems theory and modeling and models). Sometimes, the system no longer refers to that which is resilient, but rather to the method used to think of resilience (in this case, we talk of systemic approaches). However, referring to systems implies a certain number of precautions, not to mention that the outlines of the system – or even subsystems – must be charted.

1.4. From practical application to critical examination

The second test is that of application. The elasticity of resilience gives it a practical advantage, as it facilitates its use in very different fields of application. However, even if resilience is presented as a promising answer to crises and uncertainty, the passage from theory to practice remains challenging.

Everyone henceforth wants new solutions to create, confront and improve the resilience of social and/or spatial systems. Resilience refers more here to a capacity, developed upstream of the disturbance, than to a recovery process. It relies on the convergence of different organizational, technical, social and cultural factors. The efforts mainly focus on the anticipation of disturbances, mitigation and

learning of emergency management devices, and also on the available resources for the post-crisis period.

In this context, is resilience a turning point, a new framework for action, a new paradigm in disaster management, or must it rather be considered as a mere change of focal length?

In practice, the strategies that aim at producing resilient systems are quite varied. A first approach focuses on the material dimension of resilience. Following material and functional vulnerability reduction, it involves adapting the components of systems or rethinking their localization, so as to make them less vulnerable, or so that they absorb shocks more easily. A second field of action has more to do with the modalities of the functioning of the system, and defines resilience as the ability to maintain activity and return to an equilibrium. A final lever concerns the organizational dimensions of crisis management and considers resilience as the ability to deal with the disruption. It refers to the confidence that agents have in their ability to master a crisis. It relies on learning-based approaches. It aims to reinforce individual or collective ability in prevention, planning, informing and adapting to cope with crises.

Therefore, we can see that resilience can be found either in anticipation, or in reaction to disturbance and crisis. Proactive and/or reactive, resilience is split into multiple actions and projects, with varying amounts of success, which we will attempt to illustrate in this book through different case studies (adaptation to climate change, reconstruction of New Orleans, redevelopment of East London, etc.). There still exists a debate over the possibility of transforming a retrospective observation (such and such individual, society or region has been resilient) into a prospective tool that would make resilience a framework for action.

However, the application of resilience pushes it into the field of discourse. There is often a gap between discourses held and actual practices. More globally, something may be resilient only because it was decreed at some point by someone. The quality of one stating resilience, the choice of the moment, the place, the manner in which the sentence is pronounced, or even set up, are not neutral factors.

Moreover, the type of resilience depends on the agents, their positions, their intentions and their decisions. In a way, resilience can even end up saying more about those who talk about it than about the facts. Resilience further allows to investigate the question of memories and the link with the past. Resilience must also be considered as a discursive construct: the application of resilience, whether as the injunction of large international programs or more local development projects, questions the limits and the contradictions of some political and operational uses. In fact, it is mandatory to first remove any underlying ideological or moral assumptions so as to put resilience narratives and discourses into perspective.

I.5. Bibliography

[COM 10] COMFORT L.K., BOIN A., DEMCHAK C.C., *Designing Resilience. Preparing for Extreme Events*, p. 272, 2010.