

URBAN RESILIENCE

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Lessons on Urban Environmental Planning from Turkey

BY

STEFANO SALATA

Politecnico di Milano, Italy



United Kingdom – North America – Japan – India
Malaysia – China

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INVESTOR IN PEOPLE

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From an idea of Luca Mercalli

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PREFACE

The idea behind this writing originated from a brief interview with a famous Italian climatologist, Luca Mercalli. He kindly made himself available despite the strange Christmas of 2021. It was a short but passionate interview.

Luca is someone I know very little, in fact, I don't know him at all. But in one way or another, he has always been "close" to me: he wrote the preface to "L'insostenibile consumo di suolo" (The unsustainable land take) a book I wrote with Ciro Gardi and Nicola Dall'Olio in 2013. It was a beautiful connection to what would become the theme of my research. At that time, I was still completing my Ph.D. Then, we met at a few seminars, and now I reached out to him for this further small collaboration/interview.

Although I don't know him personally, I could place him among those who embody a "vertical" dimension, not only as a metaphor for a good relationship with the mountains, but as an approach to life and people. To climate and the environment. By that, I mean distinguishing oneself from the average person who bases their existence on the Cartesian space of the horizon in front of their nose, without raising or lowering their gaze to give deeper meaning to things. Repeating without reflecting: an existential theme that I can hardly escape in this writing.

In short, I admit that I felt a sense of agitation about interviewing him, and I knew I had very little time available. When the video call started, I tried to come up with a banal "how are you?" and his response, "I'm tearing pages out of my agenda," immediately reminded me of the limited time.

I tried to recover from my embarrassment, but it was Luca who intervened: "So, you're in Turkey?"

I responded with yes, in the Aegean region. Since mid-February 2021, I have been working as an Assistant Professor at the Izmir Institute of Technology. "I try to teach what it means to plan in an ecologically compatible way, even though there is no trace of sustainable planning in this place."

Then something unusual happened, which rarely occurs with ordinary people. The roles were reversed. Perhaps to ease the tension. Perhaps out of Luca's curiosity. Maybe both. He asked me, "But how is Turkey?"

God... this question is difficult. Because I thought about how Turkey was, and how still it is every day. Really. And it was the question I hoped someone culturally emancipated would ask me sooner or later... And I had prepared the answer during the long walks that mark the distance between my apartment and my workplace.

And so, the interviewee become the interviewer. For a few minutes, I told Luca about some aspects of living here. He listened. His blue eyes were curious. Interested. I realized that these things sounded distant from our world. They are part of me now.

And then he added, "Come on, but it's interesting. No one here knows that world. Jot down some notes on that!" It's true. Including me. There is no real conception of the daily challenge of working and living in a country in which we only know a few traditions.

"Alright, Luca. I'll try to do it, and if you have the time and desire, we can talk about it again."

So, this short Book stems from the reversal of roles that occurred for a few minutes. The interview went well. And I take this opportunity to thank Luca again for granting me this opportunity.

I dedicate this unusual work primarily to him. However, there are friends that I want to include in this dedication: Jenny, Fehmi, Engin, Adile, Koray, Bertan, Taygun, Sila, Eylül... Turkey means you to me. And then to Maristella: here's to the unexpected encounters that shape our stories.

11.57 a.m., December 25, 2021.

Sitting at my desk in the Department, the idea about a manuscript titled *Urban Resilience: Lessons on Urban Environmental Planning from Turkey* take shape. From up here on the rocky terrain where they decided to build the Gulbahce campus (Urla) in 1992, 30 km or more from Izmir, one of the most unsustainable campuses I have ever known, the brief Fellinian retrospective begins. I look beyond the window at the gulf that opens to the Aegean Sea, but in my mind, the film starts. The sound of the film reel rewinding transforms the cinematic metaphor into a slow retrace of a year with a Middle Eastern flavor. Some flashes become prompts that I want to capture on paper here and now. It can be amusing, but above all, writing is a process that involves the emotional aspect, extracting meaning from it and taking stock of the situation.

For someone with a nautical license, without coastal limits, taking a ship's position is a fundamental exercise. Every one of us should occasionally take our bearings. It serves to position ourselves in life. It helps us redraw our strategy and correct any mistakes. It also helps us critically review our choices and evaluate our habits. It even involves feeling pain and understanding its nuances, its expressions.

I have had the fortune of being able to distance myself from Italy and come here to teach and conduct research. And I realize how genuinely partial the comfortable, polished view of a world we don't know is. I mean the conception of the world based on commonplaces, the absence of a "vertical" conception of the world, of its existence.

Turkey is an extraordinarily biodiverse land. I'm not talking about the "regionalism" that distinguishes the Italian territory and culture. I'm talking about a broader conception of life and spirit that includes aspects of real counterbalance, chaos, and resilience that we haven't developed. I don't know the reasons for it. Maybe... there are parts of this spirit that I believe partly come from Middle Eastern Sufism. First developed in the Persian world, then in the Arab world, and finally rooted in Turkish-Ottoman culture, they characterize elements of extreme openness to life on one hand and extreme or intimate protection on the other. Certainly, exposing oneself to life without protection seems to resemble what I have experienced and still experience living in this part of the world.

There are profound differences, deep asymmetries, great diversity, and sociocultural aspects that I can only grasp at. On other hand, I, too, will inevitably provide a partial view of history. As someone who has moved to Aegean Turkey, a place profoundly different from the more conservative character that even a Western city like Istanbul maintains compared to Izmir.

I don't know anything about the Kurdish issue, nor have I visited cities in the east that profoundly differ from the more liberal area where I am staying. Izmir and the Turkish Aegean coast are essentially similar to our Greco-Latin culture. The coast is dotted with Greek and Roman cities. The "culture" is decidedly Mediterranean, just like the climate and cuisine. If it weren't for religious practices, which are mostly observed by older people, I wouldn't say that I'm far from a world that shares the same roots as mine. I visit Ephesus or Pergamon and find the columns that I used to admire from the car window as my father drove through Aquileia, just 10 km from where I was born, in Grado. The Mediterranean Sea has been a basin of great cultural unification. I could dive into the turquoise water and, if I had enough strength and breath, I could reach the green, sandy waters of the Adriatic shores, explaining that they have been, and still are, united by millennia of shared history. In Izmir, the last Italians left a hundred years ago with the Greek War of Independence. But the bridge to our Western culture is truly a matter of miles. Over there is Chios. Europe. Today, taking a ferry from Turkey to Greece, apart from being a complicated operation, means landing in two separate worlds.

It's incredible how modern history has separated and created divisions and tensions instead of uniting.

And it is precisely from here that I understand better how the term “Europe” has a meaning that we take for granted but is not at all... everything here is complicated. Making a phone call. Thinking about moving to Turkey is reasoning at the limit of possibility... requesting the conversion of a document.

With this book, I will try to organize some topics on which I have been able to reflect this year. I will do so by using banal and personal thoughts that triggered my attention and which I used as the genesis of each chapter. I would like to think that those who read can get the real meaning of my idea of research, which is purely personal, concrete, intimate, and inductive.

Being an exercise I am not accustomed to, I fear that I will not be able to adequately develop many concepts. I lean toward writing, but I have never professionally measured myself in an environment other than international environmental essays, which is the field where I teach and conduct research.

As I write, a certain personal style will emerge that I will hardly be able to control.

I hope it sounds pleasurable and harmonious... happy reading.

INTRODUCTION

PURPOSE OF THIS BOOK

While reading *Bubbles and Spirals: The Memories of C. S. Buzz Holling*, 2017 (freely downloadable at Stockholm Resilience Centre current website: <http://resilience2017.org/>), I understood the concept of resilience. Holling suggests that redundancy is a good synonym for resilience in the context of ecological systems. Redundancy implies having multiple components or solutions that serve similar functions within a system. This redundancy provides a buffer against disturbances because if one component fails or is disrupted, there are alternative options available (Holling, 1973). Resilience happens in nature, constantly. It's a process that goes alongside ecological evolution. Hollings smartly explains that a good synonymous of Resilience is Redundancy (Walker et al., 2004). In nature, a resilient system provides different solutions (is redundant in solutions). A resilient phase, in the beginning, characterizes ecological succession. Ecological succession, the process by which an ecosystem transitions from one state to another, typically begins with a phase of high resilience (Mehmood, 2016; Turner, 2005). During this phase, the ecosystem possesses a diversity of species and resources, enabling it to withstand disturbances. However, as the system evolves and becomes more efficient and specialized, it may lose some of its redundancy and resilience. Over time, as an ecosystem becomes more efficient and specialized, it may lose some of its redundancy and ability to cope with disturbances (Elmqvist et al., 2019). If a shock or disturbance occurs that surpasses the system's resilience threshold, it can lead to the system's destruction. This event resets the system and initiates a new cycle of ecological succession (Pickett et al., 2004).

Therefore, when shock occurs, the system is destroyed and the succession circularly re-starts, creating a new state, which is not the previous one. That's

why its representation is not a circle but a sinusoid... while evolving the system changes its state constantly.

Now, if there is something that is not resilient by nature is an anthropic system. Designed to “stabilize” the human habitat, cities are sharply organized through a cost-efficient economy: minimize production space and maximize proximity benefits (Reckien et al., 2018). Urban areas are highly dependent on complex systems and networks for essential services such as energy, water, food, and transportation. This interconnectivity can make them more vulnerable to cascading failures. A disruption in one critical system can have a domino effect, leading to widespread and prolonged impacts, hampering the ability to recover quickly. Besides, the high population density in urban areas can exacerbate the consequences of disruptions. In the event of a disaster or crisis, the concentration of people can limit existing resources and services, leading to challenges in providing immediate assistance and support (Norris et al., 2008).

Even though re-naturing cities is the way we paved to create more resilient cities, we are far away from understanding exactly how to measure the resilience of urban space, what it means to be redundant in solutions to cope with multiple shocks or crises and, besides, how we can include a resilient approach on urban design (Meerow & Newell, 2016).

Unfortunately, for the last 30 years, we focused on the concepts of sustainability, which in the end, represents the maximization of the efficiency of the single components of the systems. Think about the Strategic Environmental Assessment: the evaluation of linear quality thresholds of air, water, soil, etc has been the way we measured the system’s sustainability (Geneletti, 2013). However, even though every single component is efficiently organized, this does not imply the system’s resilience.

Therefore, resilience is a fundamental characteristic of natural systems. It refers to their ability to absorb disturbances, adapt to changes, and recover from shocks. Natural systems exhibit resilience by having redundant elements and alternative pathways, allowing them to respond and bounce back from disturbances.

The question is: Can we conceive and design complex anthropic systems reflecting the dynamic evolution of nature? Can anthropic systems evolve over time while continuously changing states and adapting to new conditions? Does the sinusoidal pattern that symbolizes the cyclical nature of disturbances and the subsequent reorganization of the system into different states suggest some resilient approaches to planning?

This book will try to deal with these questions. Needless to say, I am sure I don’t have exhaustive explanations. However, this book stems from direct observations. My experience in Turkey led to a significant change in my life. Through observations is systematized some empirical results that I conducted during my daily research activities. This book will talk about these achievements.

IMPORTANCE OF ADDRESSING CLIMATE CHANGE

While the consequences of climate change are often discussed in scientific terms, it is essential to recognize the personal importance of addressing this crisis. In this chapter, I will delve into the profound impact of climate change on individuals and why taking action is not just a collective responsibility but also a deeply personal one. Climate change is one of the most pressing challenges of our time. It poses a severe threat to the Earth's natural resources and biodiversity (Norton et al., 2015). Rising temperatures, deforestation, and ocean acidification endanger ecosystems, which are essential for clean air, water, and food production (Foley et al., 2005). It is a global issue that affects every aspect of our lives, from the air we breathe to the food we eat and the future we leave for generations to come. Nevertheless, we tend to keep this problem out of our personal sphere.

As individuals, we rely on natural resources for our survival and well-being. By addressing climate change, we can work toward preserving the invaluable natural heritage we have inherited and pass it on to future generations. However, we think this problem is far away from our personal experience. And when it comes to touching our habits, we think we have no alternatives: consuming less and living with fewer commodities.

Climate change poses significant risks to human health and well-being (Salmond et al., 2016). Rising global temperatures contribute to the spread of diseases, increase the frequency and intensity of extreme weather events, and exacerbate air pollution. These factors directly impact our physical and mental health, making it crucial to address climate change for the sake of our own well-being and that of our loved ones (Lelieveld et al., 2019).

Besides, communities around the world are vulnerable to the impacts of climate change. Flooding, droughts, and heatwaves can displace populations, destroy infrastructure, and disrupt essential services. By addressing climate change, we can reduce the exposure of our communities from these destructive events, ensuring a safer and more secure future for ourselves and our neighbors.

Unfortunately, the impacts of climate change extend beyond environmental concerns and affect the global economy. Extreme weather events, such as hurricanes and droughts, disrupt agricultural production, drive up food prices, and damage infrastructure, leading to economic instability (Schwarz et al., 2011). By addressing climate change, we can foster economic resilience, create new green jobs, and drive innovation in sustainable industries, ensuring a stable and prosperous future for ourselves and future generations.

As individuals, we have a responsibility to the generations that will inherit the world we leave behind. By taking action on climate change, we can empower future generations to live in a world that is safe, sustainable,

and abundant in opportunities. Our choices today will shape their future, and it is our moral duty to ensure that we leave a legacy that they can be proud of. Therefore, addressing climate change is not solely the responsibility of governments and policymakers. Every individual has the power to make a difference through their choices and actions. By adopting sustainable practices in our daily lives, reducing our carbon footprint, supporting clean energy initiatives, and advocating for climate action, we contribute to the collective effort needed to mitigate the impacts of climate change.

The intimate, personal importance of addressing climate change cannot be overstated. It affects our health, well-being, communities, natural resources, economy, and future generations. By recognizing the significance of this issue and taking action, we can shape a better, more sustainable world for ourselves and for those who will inherit it. Let us embrace the personal responsibility we have to address climate change and become the catalysts for positive change that our planet desperately needs.

(Nemesis)

I look in the mirror and see a life. In my face, the reproduction of other faces I have seen and known.

Then, elsewhere, other faces that represent other lives. Passions, betrayals, and emotions.

As I raise my gaze and greet: the old man who drinks cay in the bar beneath the mosque. Six thirty in the morning. Twenty knots of wind cutting through the skin. He knows who I am, and I don't know who he is. But in his wrinkles, I read the engraving of a life spent fighting against the wind.

The theme is life, undoubtedly. Can you explain what it is?

Can you tell me what it means?

Wait, let me catch my breath and think. And that's fine because I thought about it before.

It's a gliding along all the lived days. At a certain point, you confuse lively voices in childhood, now reduced to mysterious dreams. And in recalling them, you understand your identical end. Your mysterious presence.

Your incredible skin. Your soul, first birthed and then lived, now consumed. Reduced to memory.

All emerges from your self, and that's what I call life, clear?

I immensely respect every experience.

I am also grateful for the most miserable presence for having looked me in the eyes.

When, while cleaning the restaurant counter at nine in the morning, I served the first gin and tonic to the last living being. Reduced to shit. Even he sold me his experience.

Thank you because I understood what I wouldn't have wanted to be. Even if you made fun of me, shouted at me.

Because I could imprint that gaze, and it was enough to learn.

I remember all those glances. All of them.

And if I look in turn, I want to extend that meaning forever infinite.

Present. Yes, present. It's written in the engraving on the white marble at the First World War monument. For every soldier. Present. First name, last name. Present. At the call of duty. Present. At the roll call with God. Present.

Over a hundred thousand graves down there. Always, when I return to my homeland. I pass by.

Because I feel the silence of the Karst's stony ground. The scent of the massacre, clear? And then I understand better what life is made of. For those who, like me, have been able to live it. Don't forget, Ste. Don't forget.

Don't forget that every day you enjoy a miracle with limited minutes. That you didn't have to live in the hope of dying. As soon as possible. That you're fine. Healthy. That you can read that book while feeling the wind caress your skin.

Here I am now. Here I am. I feel now. I feel.

Alive. Alive and therefore absent.

As always. As it has always been.

ON CLIMATE CHANGE

Climate change has now become part of the current debate, not only among specialists but also concerning the environmental emergency we will have to face in the coming years (Mersin et al., 2022). The effects of this phenomenon are already evident and unfortunately will become even more dramatic if promising political commitments are not followed by concrete actions and measures to try to limit the damage.

First and foremost, a radical position must be taken: climate change is an ongoing scientifically proven phenomenon, dependent on the emission of enormous amounts of carbon dioxide into the atmosphere (Bigi & Harrison, 2010). The effect of these concentrations is to significantly reduce the infrared solar refraction, “capturing” the radiant energy of the sun and generating the so-called “greenhouse effect” (Dilling & Failey, 2013). The main cause of the greenhouse effect is the consumption of fossil fuels emitted into the atmosphere. Clearly, urbanization, the process of increasing urbanized areas on a global scale (the Anthropocene), exacerbates this phenomenon, which is closely related to the population growth on our planet and its distribution in ever-expanding and energy-intensive urban areas (Ernstson et al., 2010).

Data show that from the pre-industrial period to the present day, the average temperature has already increased by more than one degree (McCauley & Heffron, 2018). According to the agreements reached in Paris in 2015, to limit the potential damages of global warming, we should contain the overall warming within two degrees in this century (by 2100). This goal is almost implausible, given the rapid increase in temperatures over the last 30 years and the inertia that this warming process continues to have even in the presence of drastic emission reduction policies (which have not yet been fully implemented) (Reckien et al., 2018).

Climate change has an immediate effect on our cities and territories: it exponentially increases the exposure of the population to extreme phenomena such as heatwaves, intense rainfall, and droughts. These, in turn, result in processes such as increasing heat islands, temporary flooding or floods, streams and debris flows, landslides, collapses, fires, desertification, or loss of biodiversity.

The increase in these so-called environmental vulnerabilities of our cities has historically been the subject of attention in emergency planning (Weichselgartner & Kelman, 2015). These issues have been studied by specialists and sectors that, in integration and support of the planning process, have unfortunately played a marginal role in the overall land-use arrangements.

The first theme of the new planner's agenda should instead make the study of vulnerabilities central for identifying the regulations and arrangements that land uses should have in an adaptive and resilient key. Approaches that are emerging, especially from some early multi-risk analysis practices, where environmental vulnerabilities at the municipal scale are identified, mapped, and discussed within strategies for mitigation and adaptation of urban systems (Carpignano et al., 2009; Maragno et al., 2021).

The challenge, in this case, is to transform multi-risk analyses of engineering and structural matrix into real support tools for defining the types of interventions allowed in different areas of the plan, especially identifying the large environmental invariants and free soils capable of generating greater ecosystem benefits to protect and promote through urban afforestation processes (Matthews et al., 2015).

Unfortunately, the centrality that the plan can have in adaptation has not yet been fully understood. While reliance on technological renewal processes has radically accelerated the race to use renewable energy sources, eliminating a large part of direct emissions, little or very little has been done on the front of systematizing a truly scientific approach to land management, which is a primary factor in reducing climate change (Jiang et al., 2017).

Yet, the soil plays a primary role in absorbing emissions, and land use is regulated precisely by the discipline of the municipal urban plan. In this sense, significant and radical changes have not been observed in the ways in which land is governed. Apart from the now shared decisions to limit its consumption, there remains a huge issue related to the management of agricultural land from an adaptive perspective, the need to protect biodiversity in natural areas, and the necessary management of urban porosity and the treatment of soils in a multifunctional key.

The issue is certainly linked to the skills that the new planner must possess to design the ecological transition. Adaptation can indeed have a meaning in a planning perspective if it is interpreted in advance in the key of the project, and not exclusively in the form of "forced" adaptation due to environmental emergencies.