

## **TAKING CARE, BEING PREPARED, GETTING ANTIFRAGILE.**

### **REFLECTIONS ON EXPERIENCES OF CO-DESIGN IN A TIME OF UNCERTAINTY**

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#### **ABSTRACT**

Experiencing a multitude of local and global crises, which are overlapping, interconnected, and triggering a growing state of instability, today we live in a world of deep uncertainty, as this conference suggests.

This proposal seeks to reflect on this subject, starting from three increasingly timely issues that are considered possible forms of action –and which are part of the author’s ongoing PhD research.

The first is *taking care* of the assemblage of our territories and cities (Latour, 2017; TAMassociati, 2016; Fitz and Krasny, 2019). The second is *being prepared*. Preparedness is of the leading keywords of this conference and being prepared means building a broad and plural response capacity instead of planning a single solution from the beginning (Balducci, 2020; Armondi et al., 2020). The third one is *getting antifragile*, where antifragility (Taleb, 2012) is the ability to benefit from uncertainty, shocks, errors, and crises.

Starting from the literature review, this contribution discusses the advantages and limits of these three concepts. Indeed, each of them has excellent design potential, especially if combined.

Thus, the three concepts are illustrated and tested through co-design examples in contemporary public and collective spaces, observed through desk analysis and direct observation. The cases take place in three socio-spatial Souths of the World: in a reclaimed neighbourhood public space in Kyiv; in a vulnerable network of villages in Mindoro Island (Philippines); in a neglected pocket of Milan’s outskirts (Italy), where two Roma communities dwell respectively in a marginalised camp and in a Municipal centre of temporary hospitality.

The paper concludes by opening to a reflection on the role of co-design in our time of uncertainty.

What does it mean to be a designer when everyone designs (Manzini, 2015)?

#### **KEY WORDS**

Care; Preparedness; Antifragility; Co-design.

## INTRODUCTION

Since the early 1970s, we have been experiencing increasingly frequent environmental, health, social and economic crises. These are interconnected crises, whose effects can be slow and/or fast, local and/or global. They lead us to experience a permanent state of instability<sup>1</sup>, which gives rise to a world of uncertainty, as the title of this conference suggests. That is to say, a world where quantifiable uncertainty –that of the *unknown knowns*, the events that can be predicted through risk calculations–, leaves room for radical uncertainty –that of the *unknown unknowns*, the events that we cannot predict– (Balducci, Chiffi & Curci 2020).

*Uncertainty* has become one of the last year’s buzzwords, affecting all discussions, from the scientific literature to everyday conversations. If climate change, international terrorism, or the *black swan* of the 2008 global economic crisis had not been enough, the COVID-19 pandemic definitely brought a global-scale recognition of the role of uncertainty in our lives.

Among the many reflections that have been gathering around uncertainty during the last year, I believe three have a design potential particularly interesting for the fields of urban research, planning, design, and architecture. These reflections concern the concepts of care, preparedness and antifragility. Here, I present these three nouns always in pairing with a gerund, as an invitation to consider them in their dimension of proactive and transformative action: *taking care*, *being prepared*, and *getting antifragile*. In this paper, an entire section is devoted to each of these three possible forms of action in our world of uncertainty. In each section, the theme is first illustrated through some reflections on the prominent positions in the international scientific debate and then put to work through an example, a case study. I was able to analyse the three selected case studies through desk analysis (Heavenly Hundred Garden in Kyiv), interviews (Pit-toilets for 13 schools in Mindoro Island) and direct observation (ERSILIAlab in Milan).

The three cases refer to co-design experiences in places belonging to the Souths of the world, not necessarily meant as geographical Souths but as marginal, excluded, and invisible places. Referring to co-design projects in the Souths of the world is necessary to be part of the *Co-Producing and Commoning* Session of the N-AERUS 2021 Conference. However, this is not a pretext. Among the co-design experiences in the Souths of the world, there are numerous preconditions for (*urban alternatives* to flourish (Fisker et al., 2019), to open new windows of possibility into the present and future of architecture and urban design projects.

Designing and building together are fundamental characteristics of co-design approach and bring an ethical charge that connects to the first of the three issues addressed in this paper: *taking care* of each other and the assemblage of our territories, between human and non-human.

Moreover, working together gives the possibility to share different backgrounds, knowledge, skills and sensitivities, and thus to build a broad *preparedness*, even among disadvantaged communities – indeed, *unity* (of skills) *is strength* (of response capability).

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<sup>1</sup> Regarding the growing state of global instability, Schön’s pioneering and essential book *Beyond the Stable State* dates back to 1971. Among more recent contributions: the Foundational Economy Collective (2018) identifies the 1970s as a turning point for the privatisation and contraction of services in the foundational economy; and Balducci (2020) presents a critical reading of the crises that have fuelled the state of instability since the 1970s, up to today’s world of uncertainty.

Finally, the Souths of the world are places where the conditions of instability, precariousness, uncertainty, chaos, and difficulty are most systematically widespread. In these places, to survive, it is essential to learn how to *stay with* uncertainty, while to improve one's own conditions, it may be helpful to become *antifragile*, i.e., to benefit from uncertainty.

After having discussed around *taking care*, *being prepared*, and *getting antifragile* in three distinct sections, this text concludes with a fourth section that relates these three possible forms of action, seeking to bring out their specificities and possible complementarities, in the perspective of their increasing presence in the fields of urban design and architecture. The final lines of the text open up from our world of uncertainty to a future reflection on the role of urban designers and architects who work with these types of action in their co-design practice.

## TAKING CARE

In our world of uncertainty, crises are so numerous that Latour (2017) paradoxically invites us to stop thinking that we are in a state of crisis: “we are not in a crisis. We can no longer say «this, too, will pass». We're going to have to get used to it. It's *definitive*” (13). Since it is not a reversible condition, but a state of permanent transformation, Latour advises us not to look for a quick remedy, but rather “a *course of treatment* – but without the illusion that a cure will come quickly” (13). Thus, we live in a situation that cannot be resolved. However, we can *take care* of it.

The logic of care does not belong only to social, ecological and economic disciplines but also concerns the disciplines of space design.

During the 2016 Venice Architecture Biennale, TAMassociati titled their exhibition for the Italian Pavilion *Taking Care. Progettare per il Bene Comune. Designing for the Common Good*, stating that “when architecture takes care of people, places and resources, it makes the difference. It is part of a collective process in which it is essential to think about needs, meet with people and act in spaces” (2016, back cover) as to increase “the human social and environmental capital, while curbing marginalization and exclusion” (23).

Three years after *Taking Care*, another exhibition has worked on the connection between care and spatial disciplines. The exhibition was called *Critical Care: Architecture and Urbanism for a Broken Planet* (Architekturzentrum in Vienna, 2019) and its two curators, Fitz and Krasny did a fine cultural operation. In particular, they worked in parallel on an empirical level –analysing cases–, and on a theoretical one. Indeed, they related the meaning of care in architecture and urbanism to the transdisciplinary scholarship that aggregated over the last 30 years around the issue of caring, considered as a way of interacting that involves both the human and the non-human –composed of the material world and other living beings– (Bifulco & Centemeri, 2020).

For the two curators, the issue of caring in architecture and urbanism is cross-scalar, arguing that “architecture and urbanism are central to caring for the habitat, its inhabitation and continued livability. With habitat we refer to all possible scales of inhabitation, from the living room to the region, from the schoolyard to the city, from the refugee camp to the planet. An ethics of care in architecture and urbanism is based on local-planetary interconnectedness” (13). Indeed, for the curators, *connectedness through care* can counteract the “developer-driven e capital-centric” (12) operations that contribute to the deterioration of our broken planet's state of health at the architectural

and urban scale. For this reason, Fitz and Krasny associate the concept of *caring* with that of *repairing*.

Continuing with these subjects, Tronto, one of the leading exponents of the scholarship on caring,<sup>2</sup> contributes to the exhibition –and its catalogue–. Tronto declares that “for our broken planet, we now need an architecture of care. Going beyond the ideas of «what the client wants, » even beyond «green» or «sustainable» architecture, beyond the ideal of building a beautiful object, we now need an architecture that fulfills the basic tasks of sharing responsibilities for caring for our world, an architecture that is sensitive to the values of repair, of preservation, of maintaining all forms of life and the planet itself” (28). Considering a caring that, beyond the logic of *care giving* and *care receiving*, also embodies the dimensions of *caring about*, *caring for*, and *caring with* (30).

Fitz, Krasny, and Tronto’s arguments underly a common starting point: caring is not a neutral concept. In this direction, the STS researcher Puig de la Bellacasa has worked on this aspect (2017), remarking that when talking about caring, one should pay attention to the “tendencies to smooth out its asperities” (11). For Puig de la Bellacasa, smoothing tendencies come as much from the commonplaces of “everyday moralizations, especially in the West, or Global North” (8) which traditionally relegate caring actions to a poorly valued form of women’s labour, as they do from “hegemonic regimes” (9) which look paternalistically at their populations. Yet, paraphrasing Puig de la Bellacasa’s words, care is too important for our broken planet to give it up to smoothing tendencies.

### HEAVENLY HUNDRED GARDEN IN KYIV, UKRAINE. AN EXAMPLE OF TAKING CARE OF A NEIGHBOURHOOD’S PUBLIC SPACE<sup>3</sup>

The exhibitions *Taking Care* (2016) and *Critical Care* (2019) I referred to in the first part of this section offer many interesting examples of urban design and architecture projects that take care of and repair the assemblage of territories and cities in our world of uncertainty. However, in this contribution, I do not want to overlap with the examples proposed during the two exhibitions, which can still be easily found online and through their respective catalogues. Instead, I bring the case of a *repaired* public space –to use Fitz and Krasny’s expression. Indeed, in the Heavenly Hundred Garden in Kyiv, the Ukrainian NGO Misto-Sad set up a co-design operation together with the inhabitants of the neighbourhood, taking care of the physical space as well as of the collective memory embodied by that place.

What is now called Heavenly Hundred Garden, until 2014 was a vacant lot in a residential area in the heart of Kyiv, a few steps away from Maidan Nezalezhnosti, one of the city’s main squares. In 2007, a real estate operation was supposed to transform the area, but the project was abandoned over the years, and the fenced-in plot became an illegal rubbish tip.

In February 2014, during the Ukrainian Revolution of Dignity, civil protesters started to dismantle the rubbish tip fence to build barricades against police repressions. During the clashes with the police, 107

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<sup>2</sup> Tronto and Fisher (1990) are the authors of one of the most widely shared definitions of caring: “On the most general level, we suggest that caring be viewed as a species activity that includes everything we do to maintain, continue, and repair our «world» so that we can live in it as well as possible. That world includes our bodies, our selves, and our environment, all of which we seek to interweave in a complex, life-sustaining web” (40). In this regard, Fitz and Krasny point out that “architecture and urbanism are not only interwoven into this life-sustaining web, they are very much part of weaving this web” (13).

<sup>3</sup> The information presented in this section was gathered through desk analysis. In addition to newspapers and interviews, the main sources consulted have been Bravo (2016) and the NGO Misto-Sad website, <https://misto-sad.com.ua>.

civilians were killed, and many others injured. The revolution ended on 23 February. In the days immediately following, residents of the neighbourhood and activists who had taken part in the revolution began to gather around the former rubbish tip and decided to turn it into a memorial for the victims, the *Heavenly Hundred*.

From the very beginning, the aim was to celebrate the memory of the fallen with a place that the neighbourhood could live and take care of daily. Together with the designers from the local NGO Misto-Sad, the inhabitants of the area and the participants in the revolution began a process of co-design, starting with the cleaning of the area, the fundraising for its transformation, its design, and construction. Without interference from the authorities, in less than two years the area has been transformed into a neighbourhood public space, a memorial –where the trees are dedicated to the fallen of the revolution–, a lively playground, and a neighbourhood vegetable garden.

## BEING PREPARED

The form of action presented in this section concerns the concept of preparedness, which is one of the keywords of this conference.

Preparedness refers to a type of *approach to emergencies* which has gradually risen over the last twenty years concerning the security of States and global organisations such as the WHO (Pellizzoni, 2020). For Lakoff, one of the researchers who has worked most on this topic, preparedness is “a style of reasoning and a set of governmental techniques for approaching uncertain threats” (2017: 8).

Tackling the domain of uncertainty, preparedness clearly distinguishes from other approaches to emergencies, such as *prevention, precaution, deterrence* and *pre-emption* (Pellizzoni, 2020: 39), which instead –to different extents– rely on a probabilistic assessment of risk.

On this subject, Bifulco and Centemeri (2020) argue that “preparedness replaces the search for a fully predictive and preventive control of a situation, and the setting up of a «trench warfare» against well understood and measured threats, with the idea of dealing with surprise, hidden developments and sudden outbreaks” (2, my translation).

Preparedness is an approach that does not address unpredictable disasters by aiming to bypass them – because we cannot avoid what we do not know is coming– (Balducci, 2020b). Rather, it aims at “developing capacities for governing a co-evolving dynamic of action and reaction, attack and counter-attack. It points to the modulation of a crisis [...] more than leading to resolution” (Pellizzoni, 2020: 47). It also aims to build a broad response capacity to deploy in the most diverse disaster situations (Balducci, 2020b).

Lakoff develops the notion of preparedness through that of *vigilance*, which “requires sentinel devices that can provide early warning of an encroaching danger [...] to stimulate action when decision is imperative but knowledge is incomplete” (2015, 6). Furthermore, the anthropologist Keck (2020) has significantly deepened the notion of *sentinel* after having spent a decade studying Far East epidemics. Indeed, during his research, he has developed an ecological interpretation of the sentinel of a catastrophe.

A sentinel does not rely on probability inference techniques but notices the beginning of an unexpected phenomenon earlier than others through a more developed sensitivity to specific external agents. For Keck, an animal, a population, an ecosystem, even the cell of an organism, and a digital system can be sentinels to observe closely. Thus, Keck’s vision promotes collaborations between human and non-human in raising the alarm of a new emergency. Pellizzoni situates these statements in

the current international political context, warning us to be careful that the vigilance of the sentinels may not turn into “an intensification of the securitization of life, which represents the hallmark of the neoliberal attempt to replace politics with police order” (50).

Bearing these cautions in mind, since last year several authors –including Balducci (2020b), Armondi et al. (2020) and Bifulco and Centemeri (2020)– have begun to contextualise preparedness at a smaller scale than that of States and global organisations. In particular, they refer to the scale of territory and city planning. To this end, the focus is mainly on two aspects of preparedness. The first aspect concerns *sentinels*. In the case of planning, these could be *territories and places* particularly vulnerable or exposed to major stress factors that may be the first to show the symptoms of a new crisis (Bovo & Galimberti, forthcoming). The second aspect is about building a broad response capability, thus renouncing to plan from the beginning a specific solution (Balducci, 2020b) and “dealing with the unforeseen through scenario building, the protection of critical communication infrastructures, the stockpiling of essential devices, the implementation of rapid alarm systems, the tracing of coordination systems connecting different actors, and on the regular check of their functioning” (Armondi et al., 2020, my translation).

By thinking of preparedness as a cross-scale approach, even a local, urban, or neighbourhood project can build up a broad response capability to face the unexpected. The case I present below falls into this category of projects at a closer scale.

#### PIT-TOILETS FOR 13 SCHOOLS IN MINDORO ISLAND, PHILIPPINES. FROM THE BUILDING SITE TO A PREPARED RESPONSE TO COVID-19<sup>4</sup>

Mindoro Island is the seventh largest island in the Philippines, and it is home for several small towns and many villages difficult to access, some of which can only be reached on foot. The most remote villages of the island are home to the indigenous Mangyan minority, who live in substantial poverty. In the past years, Mangyan villages have been provided with 13 primary schools, but their infrastructures have gradually deteriorated.

Therefore, the Italian Association of Filipino Women, in connection with the local school system and the inhabitants of the island, contacted the Padua-based architects’ association Kito Onlus to build new toilets for the 13 schools. Thus, since 2019, Kito has set up a co-design project with the schools and inhabitants of the Mangyan villages. The project’s first phases were dedicated to listening to Mangyan people and enhancing the capabilities of the local population. These steps have been followed by the co-design and co-building of ventilated improved pit toilets, as well as the rehabilitation of disused toilets with local materials –bamboo, coconut wood, and raffia–, the new construction or upgrading of water system, and also seminars to raise awareness of basic hygiene standards. Both women and men have actively participated to the building activities.

Due to remote location of some villages, not all Mangyan had close relationships among them before the project. Indeed, the co-design process also aimed to strengthen mutual knowledge. Since the COVID-19 pandemic arrived in the Philippines in March 2020, the building sites have been suspended, but somehow its activities have not stopped. They just changed.

In fact, under the coordination of Anna Orlando, the Kito’s architect-engineer on the island, the work quickly transformed. First, the women’s team who had been weaving the panels for the structures

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<sup>4</sup> This paragraph is based on my informal interview with Anna Orlando – the architect-engineer in charge of the project– on 21 April 2020, and on analysing some online sources, such as Kito Onlus website to test the contents of the discussion.

immediately began making masks –about 2,000 items in less than a month. Second, the men’s team began transporting and distributing masks, food, and first necessities instead of continuing with building and transporting the construction materials across the island. Third, improved sanitation facilities ensured access to water for washing hands during the entire period of the first wave of the pandemic.

When the first emergency was at least partly over, the construction site resumed its regular activity. Nevertheless, all the co-designers and co-builders involved in the project are now aware that, thanks to the project they are co-creating, they are building not only a hygienic infrastructure that improves the sanitary conditions of the inhabitants. Indeed, they are also organising a new network of capabilities, skills, knowledge, and contacts among the most remote villages of the island. This network will remain a self-help resource that is easy to re-activate for the next unforeseen shocks that might hit the population.

## GETTING ANTIFRAGILE

By writing of antifragility, I refer Taleb’s neologism (2012). Taleb, a statistician expert of randomness, probability, and uncertainty, introduced the term antifragility to describe the “functional opposite” (17) of fragility. Indeed, if a *fragile* system gets damaged by uncertainty –as well as crises, shocks, disorder, volatility, errors, etc.–, then a *robust* system could not be considered as its opposite, because a robust system remains simply unaltered by uncertainty –as well as by crises, shocks, etc.–. Instead, the opposite of a fragile system is a system that improves and benefits from uncertainty. Since there is no word to describe this condition, Taleb proposes to use the term *antifragile*.

An antifragile system differs from a *resilient* one.<sup>5</sup> In fact, unlike a resilient one, an antifragile system not only *stays in* uncertain conditions but also find a way to benefit from uncertainty.

The propagation of the notion of antifragility during its first years of life might suggest that, in the future, it could be counted among the nomadic concepts (Stengers,1987). Indeed, several scientific domains as physics, biology, computer science, and transportation planning have already fruitfully applied antifragility.

As far as spatial design and planning disciplines are concerned, the reflections that foster the design relevance of antifragility are increasingly spreading.

For what concerns urban planning and design, the first meaningful work is by Shafique (2015) who proposes to consider antifragility as a possibility to re-situate contemporary urbanism. Later, Gasparrini uses the concept of antifragility not only for theoretical reflections on the future of the city (2018) but also as the main objective for the new plans he curated for Messina (2018) and the port of

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<sup>5</sup> Here I refer to the three forms of resilience identified in recent decades. The first is *engineering resilience*, which answers shocks by bouncing back to the previous state of balance and restoring its initial functionality (Holling, 1996). The second is *ecological or ecosystem resilience*, that responds to shocks by adapting to a new state of balance, which is different from the previous one (Holling, 1996). The third and most recent form is *evolutionary resilience*, which is no more connected to any state of balance and is subject to constant transformation in a world of uncertainty. For Davoudi “this perspective sets the resilience of a system in the context of the evolution of the system itself” (2019: 124). This third form is the closest to antifragility because it is the only one that *stays with* uncertainty, although, unlike antifragility, it does not focus on the ability to benefit from uncertainty.

Ravenna (2020), in Italy. Similarly, Marchigiani uses antifragility to describe the actions that shape the new Trieste city plan (2016).

An intriguing cluster of interests has been organising around the relationship between antifragility and design in critical contexts. In this sense, *Fragile/Antifragile: Shigeru Ban + VAN* is an exhibition by Microma (Turin, 2014) which used antifragility as a metaphor to describe the socially engaged work of Shigeru Ban. Further, Magni referred to antifragility to comment on some contemporary architectures in the Global South for *Casabella* (2015). Three years later, Gambardella organised the conference *Periferie Antifragili* the exhibition *Metropoli Novissima* (both located in Naples in 2018) to reflect on antifragile examples of urban peripheries worldwide.

In my ongoing PhD research, I am investigating the link between antifragility and urban design, analysing recent cases of public spaces design processes in Europe that implement antifragile strategies to benefit from the uncertainty surrounding them. To do so, some of these design processes keep themselves open to possible new and unforeseen conditions by leaving margins of indeterminacy in time, in the spatial configuration of the project, or in the relationship between stakeholders. Other design processes build redundant and fractal systems. Moreover, others learn from past mistakes or respond to unforeseen obstacles with new solutions which turn to be better than those originally conceived. The case study I propose below refers specifically to this last category.

#### ERSILIALAB. AN ANTIFRAGILE STRATEGY IN BUILDING INCLUSION WITH TWO ROMA COMMUNITIES IN MILAN<sup>6</sup>

Since 2015, the association *Architetti Senza Frontiere Italia* (ASF Italia) has started a long-term project that is part of the strand of actions for the socio-spatial inclusion of Roma communities in Milan, who traditionally are the most marginalised, invisible, and outcast communities in the city –and in Italy.

Fondazione Somaschi and Casa della Carità, two non-profit organisations working with Roma communities in Milan for a long time, called ASF Italia to add a spatial competence to their social ones. Thus, in 2015, ERSILIALab by ASF Italia got launched. ERSILIALab is a project that has been progressively transformed in a series of co-design actions with two Roma communities: a compact community of Italian Roma from the via Bonfadini camp and a mixed group of Balkan Roma from the temporary Municipal centre of via Sacile.

The camp and the centre are both located on the edges of Molise Calvairate Ponti, a mainly working-class neighbourhood located on the South-Eastern outskirts of Milan. ERSILIALab's initial operations consisted of listening to the two communities' needs and aspirations and opening a debate with the neighbourhood's main associations, whose relations with Roma were characterised by mutual tensions and stigmatisation.

For about two years, ASF Italia has organised a series of workshops and events dedicated to children and young people from the camp, the centre, and the rest of the neighbourhood. These gathering activities, which were not directly linked to the space's transformation, gradually helped in breaching the indifference and mutual fear between the different groups, both among kids and their parents. This long process has led to establishing a mixed co-design group that, in 2017, drew up together a project for a temporary pavilion in the park located among the neighbourhood, the camp, and the centre. The

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<sup>6</sup> This paragraph draws on my direct observation of ERSILIALab's co-design process, as well as on several informal exchanges with some of the co-designers, and a paper I co-authored with Silvia Nessi, which is the urban designer and architect coordinating ERSILIALab's activities (Nessi, S. & Galimberti, B., 2019).



pavilion would have hosted *The Library of Relations*, as decided by the co-design group. Once the Municipality accorded all the building permits and only a few weeks before the realisation, a major obstacle stood in front of the pavilion.

In fact, the council that governs the city's area where the neighbourhood is located has begun to openly oppose to the pavilion on the local media. Legally, the project could still have been built, but in the climate of hatred fomented in just a few weeks, the pavilion and its visitors would have become easy targets for violence.

The co-design group decided to put aside the construction of the library to protect the people involved. Nevertheless, the obstacle allowed the group to imagine a different solution. Starting from the given restricted conditions, they imagined another kind of opportunity. The solution came directly from the Romani culture: the pavilion would transform into a carriage which, being mobile, would be more difficult to attack by violent people.

So, in the early summer of 2018, during ten days of work inside the temporary centre of via Sacile, the mixed co-design group built a mobile pop-up carriage. During the following months, the carriage and its mixed group have crossed the neighbourhood and the city's main public spaces to promote Romani culture and dialogues on diversity. The carriage served as the backdrop for a multimedia exhibition and public workshops run by the co-design mixed group, which were composed by Roma and other neighbourhood inhabitants.

Thus, the co-design group has turned a seemingly deal-breaker such as the local council's opposition to the pavilion's construction into a bigger opportunity. Indeed, building a mobile structure allowed the spread of the group's activities around the entire city with more ease than what would have been possible with a structure anchored to the ground of a park in the city outskirts.

## **TAKING CARE, BEING PREPARED, GETTING ANTIFRAGILE. WHICH RELATIONSHIPS AMONG THESE THREE ACTIONS?**

In the previous sections of this paper, I argued that the three mentioned forms of action are all related to uncertainty, even to its more radical and unknowable facets. Indeed, they can act while staying with uncertainty.

In particular, I tried to explain that urban design and architecture:

- can take care of the assemblage of our territories, even without the certainty of an outcome, which perhaps, as Latour (2017) suggests, may not even be reachable;
- in regular times, they can equip co-designers and places to be prepared, building a broad response capability to counteract crises' unfolding and effects;
- during uncertainty, which brings chaos and disorder, they can try to get antifragile, implementing strategies to benefit from the uncertainty around them.

*Taking care, being prepared, and getting antifragile* are not mutually exclusive options, but neither do they inevitably involve each other.

In fact, a co-design process:

- may demonstrate antifragility or preparedness, but it would not necessarily care for others, human or non-human;
- may take care of the assemblage of the territory and be prepared for unforeseen events without having the cunning of antifragility –that is to say, seizing possibilities for improvement from uncertainty;

-may take care and succeed in becoming antifragile even if it has not built a broad response capability. In this case, the design process's good performance may be an occasional outcome, but there is no guarantee that it will also resist the next unforeseen event.

This comparison reveals the specificity of each of these three forms of action: *taking care* is an ethical action, *being prepared* means being mindful of the long term, and *getting antifragile* is a drive for improvement.

Each of them has excellent design potential. However, the relationship among them may help make a further qualitative leap in drawing the co-design paths in our world of increasingly radical uncertainty.

In conclusion, after investigating the characteristics and potential collaborations between these three forms of action, I propose an opening that may be worth addressing in future writings.

It concerns the designer's role in co-design processes in our world of uncertainty. Manzini (2015) asks: what does it mean to be a designer when everybody designs? Furthermore, I add: if all participants are co-designers as well as *agents of care*, *sentinels of preparedness*, and *antifragile strategists*, what does the designer become?

In recent years, an increasing number of positions considers designers as curators (Ratti and Clodel, 2015; Ecosistema Urbano, 2018) and facilitators (Boano, 2019) which feed and support (Manzini, 2015) the (co-)design process. Thus, a third question to open the end of this text is: in our time of uncertainty, is the ethics of the co-design process all in the designer's hands, or is it distributed?

## ACKNOWLEDGEMENTS

This paper draws on my ongoing doctoral research –titled *Design With(in) Uncertainty. Exploring Antifragile Strategies from Design Processes of Public Space in Contemporary Europe*. Some of these reflections are published here for the first time, others –concerning uncertainty, care, preparedness and antifragility – are partly presented in other texts of mine, which I wrote alone or together with other authors (Bovo and Galimberti, forthcoming; Galimberti, forthcoming; Armondi et al. 2020; Galimberti, 2020; Galimberti, 2019).

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