

Getting prepared to be surprised? Reflecting on urban planning and design in times of uncertainty

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Received: May 2021 / Accepted: August 2021 | © 2021 Author(s).

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DOI: [10.13128/contest-12830](https://doi.org/10.13128/contest-12830) www.fupress.net/index.php/contesti/

This article has been accepted for publication and undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the Version of Record.

Please cite this article as:

Bovo M., Galimberti B. (2021). 'Getting prepared to be surprised? Reflecting on urban planning and design in times of uncertainty'. Just accepted. DOI: [10.13128/contest-12830](https://doi.org/10.13128/contest-12830)

Abstract

On a radio programme at the beginning of May 2021, philosopher and psychoanalyst Romano Madera observed that although there will always be a new crisis that will sneak up on us, we can do something crucial: we can *get prepared to be surprised* by crises. This apparently contradictory statement, and the context it stems from, triggered a reflection on planning and radical uncertainty, and solicited us to map existing and emerging approaches that planning theory has used to address *(un)known unknowns*. Starting from this map and contextualising this discussion in recent responses to the COVID-19 crisis, we argue that radical uncertainty requires planning and design to move into two complementary dimensions; namely, *navigating by sight* through the implementation of plural approaches, and at the same time, *tracing/adjusting the route*, by the choice of horizon of meaning that gives direction to our actions.

Keywords

Preparedness; Urban planning; Radical uncertainty; COVID-19; Italy

Abstract

All'inizio di maggio 2021, in un programma radiofonico, il filosofo e psicoanalista Romano Madera osservava che, sebbene ci sarà sempre una crisi che ci sorprenderà impreparati, noi possiamo *prepararci a venire sorpresi* dalle crisi. Questa affermazione, apparentemente contraddittoria, e il contesto da cui proviene hanno innescato una riflessione sul rapporto tra incertezza radicale e pianificazione e ci hanno sollecitato a mappare gli approcci esistenti ed emergenti che la teoria della pianificazione impiega per affrontare gli *(un)known unknown*. Partendo da questa mappatura e contestualizzando questa discussione nelle recenti risposte alla crisi del COVID-19, sosteniamo che l'incertezza radicale richiede che la pianificazione e il progetto territoriale si muovano attraverso due dimensioni complementari: *navigare a vista*, attraverso l'implementazione di approcci plurali, e *tracciare/aggiustare la rotta*, attraverso la scelta dell'orizzonte di senso che dà direzione alle nostre azioni.

Parole chiave

Preparedness; Pianificazione urbana; Incertezza radicale; COVID-19; Italia

Introduction

At the beginning of May 2021, in the same days when we were working on this contribution, we happened to follow a speech by philosopher and psychoanalyst Romano Madera on the radio. He commented on the COVID-19 pandemic, observing that although there will always be a new crisis that will sneak up on us, we can do something crucial: we can *get prepared to be surprised* by the crisis.¹ At first glance, getting prepared to be surprised seems contradictory. However, it is true that we live in times of uncertainty, and the pandemic is only one among many different crises; some are slow, some others lightning-fast, but all interconnected, glocal, and increasingly frequent. In this context, there are more and more variables beyond our control; and forms of rationality such as risk assessment or traditional decision-making systems fail to predict or interpret them (Balducci, 2020a). So, what to do?² Shall we continue making decisions, planning, designing, and acting? Moreover, how to do that? It seems we need to follow other paths alongside those already known, acknowledging uncertainty as a state of permanent transformation (Latour, 2015).

In a framework that requires more and more to *stay with uncertainty*³ we wondered, What about planning? How can territorial planning, design, and policy get prepared to be surprised?

These are the questions from which our paper begins, aiming at making a review of existing concepts that deal with uncertainty in the urban planning field. To this aim, we assume a theoretical and empirical perspective. Indeed, the same concepts will be discussed as described in the literature and grounded in the field. In the first place, within the narrative compass of the *Knowns and Unknowns* framework, we will focus on those approaches that, more than others, stay with uncertainty. Secondly, we will put them 'at work' in the context of the actions implemented in the fields of territorial planning, design, and policy in Italy starting from March 2020.

These reflections will outline the role of the operative and strategic dimension, traditionally relevant for the urban planning field. However, we will argue, radical uncertainty and the effort of preparing to be surprised trigger new ways of addressing both of them. On the one hand, on a day-to-day level, when navigating by sight, a plural set of approaches and concepts should be put in place. On the other hand, these approaches urge for a much clearer route to trace and follow.

After this brief introduction, the second section of this paper will map existing planning approaches that stay with uncertainty. The third section aims at relating the analysed approaches to recent initiatives implemented in the field of territorial planning, design, and policy in Italy during the pandemic. Finally, we will draw some conclusive remarks.⁴

A type of planning which stays with uncertainty and gets prepared to be surprised

That between planning and uncertainty is a relationship studied since the 1960s – we recall Hirschman, Schön, Lindblom, Rittel and Webber, Christensen, Crosta, Donolo, Fareri and Abbot, among other authors. However, if planning has progressively changed during these almost sixty years, the type of uncertainty we face is no longer the same.

¹ The English translation is ours. Here the transcription of the author's original words: "Certo, è naturale che ci sarà sempre qualcosa che ci sorprenderà impreparati, sia collettivamente che individualmente. Però possiamo forse, potremmo forse, prepararci a venir sorpresi dalla crisi" (Madera, 2021).

² The reflections in this contribution arise from the exchanges we had within Planning Post-COVID, a group of researchers from the Department of Architecture and Urban Studies of the Politecnico di Milano, that since the first Italian lockdown has been engaged in sensemaking in the pandemic (Gruppo Planning Post-COVID, 2020). The working group consists of S.Armondi and A.Balducci (coordinators) with M.Bovo, P.Bozzuto, M.Bricocoli, A.Bruzzese, D.Chiffi, A.Coppola, F.Curci, V.Fedeli, B.Galimberti, A.Kërçuku, F.Infussi, E.Morello, A.Moro, C.Pacchi, G.Pasqui, and A. Petrillo.

³ To *stay with uncertainty* wants to echo Donna Haraway's *Staying with the trouble* (2016).

⁴ This contribution stems from close collaboration between the two authors, who shared and discussed together all the reflections that shaped the paper. In detail, Beatrice Galimberti wrote the introduction and the second part "A type of planning which *stays with uncertainty and gets prepared to be surprised*", and Martina Bovo wrote the third part "Concepts at work" and the conclusion.

To understand what kind of uncertainty we are increasingly dealing with today, let us consider the Knowns and Unknowns framework. Under this definition, we relate to a knowledge matrix that classifies problems according to how much we know or do not know about them; this framework builds on the reflections of a range of different authors around the issue of knowledge limits through history. It draws from a set of categories rooted in ancient Greece – with the Socratic “I know that I know nothing” –, developed by Islamic culture – spreading with the work of the fourteenth-century Persian poet Ibn-i Yamin –, and recently brought back to the centre of attention by a famous and controversial speech in 2002 by Donald Rumsfeld, former US Secretary of Defence. When assuming this framework in the planning field, we may argue that, depending on the nature of the problem, it is possible to outline a different kind of planning approach (Balducci, 2020b). The *known knowns* are the things we know that we know; they move within a condition of certainty and are associated with the field of action of regulatory planning. The *known unknowns*, that is to say, the things we know we do not know, dwell instead on a condition of quantifiable uncertainty (Chiffi and Chiodo, 2020; Kay and King, 2020), in which it makes sense to assess and try to manage risks, as they are predictable risks. This one can be considered the field of strategic planning, which since Lindblom, Christensen, Bryson and Roering, and Albrechts has progressively influenced the practices of urban and territorial planning. The *unknown unknowns*, the things we do not know we do not know, unfold in the realm of radical uncertainty (Chiffi and Chiodo, 2020; Kay and King, 2020), where foreseeing is a fruitless exercise because events are unpredictable and unprecedented – like COVID-19 –, thus challenging the categories of urban planning. In this latter case, Balducci (2020b) suggests renouncing to plan a solution according to regulatory or strategic forms of planning, working instead on building response capacities – investing on networks and coordination among different actors, practising simulation exercises, and activating existing, latent, and new capacities to be networked. Therefore, radical uncertainty is a matter of fact, a ground for another type of urban planning. A consideration that can also extend to design and policy approaches, as we will see in the third section of this paper.

Some relevant concepts for planning and uncertainty

To situate this form of planning, which is neither regulatory nor strategic and able to stay with and succeed in radical uncertainty, we briefly review some of the most crucial concepts that have marked the literature on planning and uncertainty – drawing on urban and organisational studies. Planning problems – like the challenges introduced by COVID-19 – are generally wicked (Rittel and Webber, 1973), without a fixed formulation and impossible to classify. They are usually exceptional and complex problems, which become even more so in a framework of radical uncertainty. Tackling this complexity from a problem-solving perspective can be numbing. In this respect, Hirschman’s *possibilism* (1971) approaches the question differently. Hirschman makes a shift from the – predictive – probability to the real possibilities – or perceived as such – present in the context on which the wicked problem insists. Working not on what is probable but on what is possible means planning by starting from what is already present, following an approach that later would have been called appreciative inquiry. It is not about reformulating the present without introducing new variables but about planning by enhancing what is already working well, networking and sustaining virtuous realities, and enhancing a territory’s *latent resources* (Hirschman, 1958).

Resonating with this approach, Lanzara (1993) observed the first days of action following the 1980 Irpinia earthquake, a tragic event in Southern Italy that brought a protracted state of uncertainty and which Lanzara defines as “a social laboratory in which unplanned experiments and actions were conducted and where, even in a situation of [...] despair, new modes of action emerged, often in an improvised way” (p. 9, our translation). For instance, “while aid and relief supplies passing through government channels were subjected to countless formal checks [...] before they could finally be distributed to the population, a group of students from a nearby university managed in a few hours to build and operate a logistical system to collect and distribute first relief supplies [...]. The system bypassed official channels and controls and made it possible to carry out relief and assistance operations limited in capacity, but useful and effective [...]. A crucial asset to their ability to operate effectively was their ‘local’ knowledge of the region” (p. 10, our translation). Lanzara argues that “the creative capacity of these actors does not consist in the invention of a new activity, but in the discovery that the same activity, although banal, could be performed in different contexts [...] enriching itself with new meanings” (p. 12, our translation). An ability that, paraphrasing poet John Keats – and then Bion (1970) and Unger (1987) –, Lanzara calls *negative capability* (1993, 2016), that is the ability to stay with uncertainty, without quickly looking for meaning, but accepting one’s vulnerability and making it a lever for action. It is an action that “arises from emptiness, from the

loss of sense and order, but that is oriented to the activation of contexts and the generation of possible worlds” (1993, pp. 12-13, our translation). Latent resources and negative capability are two concepts that refer to the fourth category of the Knowns and Unknowns framework: the *unknown knowns*. This category refers to what we do not know we know but which, if brought to light, can contribute to the building of capabilities useful to plan under conditions of radical uncertainty. In other words, unknown knowns refer to capabilities we are not aware of owning, as latent resources, or we hide for some reason; we find ourselves implementing the same capabilities when caught by surprise by an unpredictable event, like the earthquake in the case addressed by Lanzara. Hence, towards unknown knowns, the main challenge involves recognising and becoming aware of latent resources to use them.

These observations tell us how planning can be able to stay with uncertainty. However, what about the capacity needed to get prepared to be surprised? To explore this aspect, we need to dwell on preparedness. The concept of preparedness is not foreign to the disciplines dealing with territories. In particular, in planning, we speak of preparedness within the resilient transformation of territories and, above all, within the strand of disaster risk reduction. In these contexts, preparedness is mainly associated with risk assessment and the domain of probability, which are part of the frame of the *known unknowns*, as we discussed at the beginning of this section. However, if we look outside our disciplinary fields, we find other practices that situate preparedness in the broader domain of the unknown unknowns. Studies and research on these applications are mainly concerning anthropology and sociology. These interpretations define *preparedness* as a type of approach to emergencies. It has its origins in USA wartime mobilisation during the 1930s; it has been later implemented in civil drills of Cold War on both fronts, and since the 1970s, progressively deployed in the fields of counterterrorism, ecological disasters, and biosecurity (Lakoff, 2017, 2007). In the last two decades, preparedness has also been applied against epidemics and pandemics, entering the lexicon of the WHO and many states (Pellizzoni, 2020).⁵

Preparedness differs from other approaches to emergencies, such as *prevention*, *precaution*, *deterrence*, and *pre-emption* (Pellizzoni, 2020; Anderson, 2010). In fact, on the one hand, the latter are deployed before the propagation of a potentially damaging event. Therefore, to implement these measures before the emergency arrives, it is necessary to know the emergency or consider it probable. These approaches are, therefore, all linked – to varying extents – to probabilistic risk assessment. On the other hand, preparedness is unrelated to the concept of calculable risk and operates under uncertainty.⁶ Bifulco and Centemeri (2020) speak of preparedness as the ability to deal with surprise, hidden development, and sudden outbreak. Preparedness is about being alert against an enemy that we cannot know in advance. Thus, it implies constructing a broad response capacity (Balducci, 2020a), which can also work against the next – unpredictable – black swan.

For Lakoff, an American anthropologist and biosecurity expert, *preparedness* can be defined as “a style of reasoning and a set of governmental techniques for approaching uncertain threats” (2017, p. 8). What are these techniques? Among them, *simulation* techniques work with imagination and seek to create a sense of urgency even in the absence of predicted risk. There are techniques for *structuring networks of coordination* between different actors so that it is possible to quickly combine actors with different pieces of knowledge at the moment of responding to an unprecedented event. There are also techniques for *protecting critical infrastructures* since preparedness prioritises the continuous functioning of critical infrastructures, from which the security of individuals and groups depend, rather than the direct protection of individuals and groups – as other approaches do. Finally, there are techniques for *observing sentinels* (Keck, 2020b), which are early indicators – like animals, territories, cells, digital systems – that are sensitive before others to initial manifestations of a new disaster.

⁵ The French anthropologist Keck (2020a) observes that the preparedness approach first spread in Anglo-Saxon and then in Asian contexts. Only in the last two decades, it has begun to spread in Europe, mainly in biosecurity. Keck sees the reason for this ‘European delay’ in the fact that a culture of probabilistic assessment is more deeply rooted in Europe than elsewhere – the spread of insurance companies all over the continent since the 19th century is just an example.

⁶ Making a rough summary of Pellizzoni’s (2020) and Anderson’s (2010) observations, we can say that, for the *prevention* approach, once a specific threat is identified, – preventive – actions are taken to avoid it from occurring. When threats are anthropogenic, such as war, prevention can become *deterrence*, whereby the measures are so threatening as to dissuade the enemy. If preventive behaviour is put in place in the face of improbable but potentially devastating threats, such as terrorist actions, we speak of *pre-emption*. For the *precaution* approach, having identified a possible threat, – precautionary – measures are taken to defend before the threat has done irreversible damage, emphasizing the responsibility of those who take precautions. What prevention, deterrence, pre-emption, and precaution have in common is that, to varying degrees, they all seek to anticipate the nature of the threat or emergency to counteract it before it occurs. In contrast, the *preparedness* approach does not seek to predict or calculate the likelihood of an emergency happening; it does not even seek to identify the nature of the catastrophic event.

Furthermore, preparedness does not address unpredictable disasters bypassing or denying them because we cannot escape what we do not know is coming (Balducci, 2020a). Instead, it develops “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, p.47).

Preparedness is not a state that is achieved once and for all but an evolving process. For example, Mike Leavitt, former US Secretary of Health, spoke of a continuum of preparedness, “We are better prepared today than we were yesterday. And we will be better prepared tomorrow than what we are today” (2009, p.4). Lakoff echoes this idea by clarifying that being better prepared requires constantly feeling unprepared to learn and improve from mistakes (2017).

Interestingly, the mentioned perspectives dealing with uncertainty find an echo in the place-based approach as explicitly stated by the EU Territorial Agenda 2030, particularly in strategic spatial planning. Indeed, when planning the transformation of a territory, to be prepared, unfold negative capability, give voice to latent resources, and assess what is possible rather than probable, it is first necessary to know that territory deploys and adapts actions to its specificities. In this regard, the Territorial Agenda 2030 underlines the value of the place-based approach to increase the coherence and effectiveness of policies, valorising the diversity of places, engaging the cooperation with local governments and communities to foster the care and valorisation of territories in their diversity (2020, points 13, 19, 22, 50, 64, and 77). The examples we present in the next part of this paper are all following a place-based logic.

Concepts at work

Keeping in mind the mentioned concepts, in this section, we will address them from a rather empirical perspective, emplacing them in the context of local initiatives undertaken in different Italian cities, starting from March 2020 in the period of the two main lockdowns.

Methodological notes

The pandemic and the local responses have been triggers to these reflections and are taken as fields of observation rather than the actual objects of the discussion, which remains the relation between planning and uncertainty. In this sense, within the timeframe between March 2020 and March 2021, the contribution reports a set of initiatives mainly undertaken in three Italian cities: Milan, Bologna and Palermo. These contexts are not here reported as good or bad examples but have represented available fields of observations and insightful opportunities for discussion. Against the background of a multilevel system of responses to the crisis that involved a wide range of public and private actors, we will focus on local initiatives undertaken by public administrations, third sector actors and civil society. These experiences mainly belong to the field of urban planning and policy – broadly intended as all those policies involving the urban dimension, including welfare services organization.

The contribution mainly draws from qualitative materials, such as interviews with local governors, civil servants, local operators and experts, fieldwork observations, and available press documents collected over the last year. Part of this material is composed of secondary resources collected since March 2020 from newspaper articles and reports by the authors. To this part belong the interviews and cases referred to Milan and Bologna. Instead, the work on Palermo and the mentioned public space projects are part of our doctoral studies, which deals respectively with the arrival dimension in recent Mediterranean migration processes, and particularly the city of Palermo, and the design of public space, with the collection of an atlas of antifragile design strategies. Particularly, the interviews and the observation in Palermo have been conducted between July and October 2021 by Martina Bovo.

An empirical perspective: preparedness in ordinary times, re-action and negative capability during the shock, and possibilism to adjust the route

In the last year, we have seen how the COVID-19 pandemic has undertaken different roles towards existing dynamics and processes; in some cases, it has caused a dramatic stop of certain activities, in some others, it has been an acceleration and, in others, an opportunity for unforeseen development. Here, we will intend the unforeseen event of the pandemic as an example of *unknown unknown* and radical uncertainty; some initiatives that were carried out in response to the crisis will be opportunities to investigate the mentioned theoretical concepts. Particularly, we will use a chronological order to discuss them. Starting from the measures undertaken

in 'ordinary times' that proved crucial to face the crisis, moving to the very first reactions to the pandemic outbreak and the response capacities put in place, to those initiatives that re-started considering a longer perspective on the future.

As seen, in '*ordinary times*,' the unpredictability of COVID-19 has prevented the possibility of planning any solutions or alternative answers before its actual outbreak. Instead, it has been crucial to rely on existing infrastructures and ordinary resources, steady and already available before the crisis's beginning.

In an interview with the Bocconi University, Cosimo Palazzo, Director of the Area Rights Inclusion and Projects of the Municipality of Milan, states that during the lockdown, the coordination skills and the networks put in place long before the crisis turned out essential, beyond the implementation of specific emergency measures (Berloto and Perobelli, 2020). In the historic centre of Palermo, in Southern Italy, in the first lockdown, the crisis has been more social than sanitary; here, the third sector has played a crucial role in interpreting the new needs and providing immediate answers. This prompt reaction was possible thanks to the presence of existing networks among associations and the steady and rooted relationships with the territory and its inhabitants.

In this sense, the notion of preparedness gains relevance: in the face of the increasing unpredictability of the current socio-political, economic, and environmental instabilities, cities and territories must be more and more prepared by strengthening a response capacity rather than planning specific solutions to unpredictable changes. In ordinary times, "getting prepared to be ready" (Gruppo Planning Post-COVID, 2020) means to work on existing essential infrastructures, on the plan of coordination systems between different actors – starting from the awareness of the different 'social intelligence' on the field, on existing networks and the imagination of different scenarios.

Any unpredictable event starts with *a shock* that often seems paralysing and that questions the role of planning. In an interview,⁷ a Municipal Council Member, taking part in Palermo's Planning Committee, argues that "we plan the future and govern the present." Indeed, at the exact moment of the pandemic outbreak, we witnessed a drastic reduction of the planning room for manoeuvre; this was related to the uncertain character of future developments and the impossibility of planning current events. In many fields – from everyday lives to public initiatives –, action prevailed on planning. In the storm's eye, the traditional process where planning precedes and shapes action has been reversed. Instead, we have witnessed many spontaneous initiatives that have set the premises for planning activities. In this sense, it is worth observing how different actors *acted*, from the most institutional ones to individuals.

The Mobility and Planning Department of some Italian Municipalities, within the first months after March 2020, have implemented alternative soft mobility plans, known as *Bikeplans*. Although they have provided these plans to respond to the emergency introduced by the COVID-19 outbreak, they have not been developed from scratch but have been accelerating existing programmes (Tedeschi, 2021). This example shows that within a public administration, which often cannot provide rapid solutions, it has proved crucial to start from what was already there, making the best use of it.

In this perspective, we recall organisational studies and the episode written by Weick (1995). He tells how a Pyrenees map had helped a group of soldiers to find their way home in a snowstorm in the Alps during WW1. Quoting Weick, "when you are lost, any old map will do. For example, extended to the issue of strategy, maybe when you are confused, any old strategic plan will do. Strategic plans are a lot like maps. They animate and orient people" (pp. 54-55).

During the first months after the pandemic outbreak, several social actors, third sector, associations, and volunteer networks have effectively reacted to the new challenges, thanks to a degree of agility – often more significant than that of public actors – proved crucial in answer to unpredictable events. Not by chance, the Municipality of Milan asked the NGO Emergency to set up the structures and management models of the social and sanitary service spaces.

Similarly, in Palermo's historic centre, third sector associations have been the first to open helpdesk spaces and offered immediate support to process public aids procedures, otherwise highly inaccessible.

These examples give an insight into certain actors' ability to define new coordinates and meaning to services and spaces that have lost their conventional ones in the crisis. In other words, these experiences show these actors' *negative capability*, intended as a great resource of collective learning, legitimization, and effectiveness. In the exact moment of shock, single individuals have also performed unexpected uses of the territory, out of plans,

⁷ The interview has been conducted by Martina Bovo in July, the 30th 2020.

revealing its weaknesses and strengths. These uses became visible in domestic interiors and job places, in the residential buildings' collective spaces, assuming new layouts for the new needs emerged in the lockdown. Also, public spaces have witnessed 'light uses', as in the *Fiabe d'emergenza* (eng. Emergency tales) performed for children in the Milanese periphery by Brigata Brighella, one of the volunteer groups born spontaneously during the lockdown (Gambetti, 2020). Similarly, public spaces have also witnessed temporary and more transformative actions, as in the case of *#stodistante* (eng. I keep the distance), a removable grid painted by the small architecture firm Caret Studio on the pavement of Giotto square, in the town of Vicchio, near Florence: here a sort of chessboard outlines the physical distancing and becomes a playful experience (Benelli, 2020).

The COVID-19 pandemic has also implied reflecting on how *to deal with the crisis's end and adjust the course*. In this phase, planning gains back some ground and needs to take an exact position on what has happened during the crisis. The COVID-19 pandemic in some cases has caused an interruption of existing dynamics. In others, it has accelerated ongoing phenomena, and in others, it has allowed the emergence of new scenarios.

In Milan, Mayor Beppe Sala has decided to extend beyond the initial deadline of October 2020 the permission to commercial spaces to occupy outdoor public spaces (Sala, 2020). Furthermore, in the same city, between the end of April and October 2020, 35 km of new cycle routes were created, which the administration plans to make permanent, integrating them into the vision of the Milan 2030 city plan (Comune di Milano, 2020).⁸

These experiences show how, in the crisis' exit phase, planning, design, and policy shall exploit the changes, recognise its unexpected results, and integrate them within the chosen course. Here, it serves well the notion of *appreciative inquiry* that describes the Hirschmanian approach to address, *ex-post*, uncertainties, and changes in development projects.

Going through the COVID-19 pandemic's evolution until today allows us to put at work some urban planning theory notions, and starting from here, we can draw a first reflection. As theoretical concepts and empirical experiences show, the condition of radical uncertainty requires an ability to navigate by sight, which is also what we all have been trying to do in adjusting our plans and actions continuously in this past year. This short-term framework emerges as a first crucial space for manoeuvre when discussing planning approaches to radical uncertainty. Within the Knowns and Unknowns framework, we have already mentioned that we can associate a different form of planning with each kind of problem. To this point, we add that even within a single problem – as the *unknown unknown* represented by the COVID-19 pandemic–, we shall assume different planning approaches. In other words, in the face of a variety of challenges related to radical uncertainty, planning, as well as design and policy, should be able to adopt a variety of approaches.

Conclusive remarks and openings

Triggered by recent events and debates, the paper aims at discussing the relation between planning and uncertainty through a theoretical and empirical perspective. Firstly, it reviews some fundamental notions used in the past and present planning theory to address this relationship. Assuming the Knowns and Unknowns framework, we highlighted different approaches: while known knowns are the object of regulatory planning, unknown knowns – representing a quantifiable uncertainty – rather relate to strategic planning. Radical uncertainty and unknown unknowns introduce the need for a still different approach, one that stays with uncertainty and invests in response capacities. Secondly, we linked this analytic framework to the different steps of the pandemic evolution and some related planning, design, and policy local initiatives.

These concepts and experiences move within an operative and strategic dimension that come into play at different levels in response to an unforeseen crisis. We argue that recent events may add something to this framework. Firstly, radical uncertainty – particularly the moment of the crisis outbreak or shock – requires a short-term ability to *navigate by sight*; the short-term framework proves a crucial space for manoeuvre when discussing planning approaches to radical uncertainty. Differently from more predictable situations, the operative dimension in radical uncertainty does not imply execution of planned actions but rather claims for response capacities to unplanned circumstances. In this sense, the attention shifts from specific risk reduction measures to a wide range

⁸ This kind of measure has been applied in many cities worldwide during the pandemic. Perhaps the most paradigmatic international case is Paris where, during the first lockdown, the existing program *Paris Respire* has been integrated with a further 50 km of temporary bike paths, the so-called *coronapistes*. Major Anne Hidalgo confirmed that the paths would become permanent and constitute the main structure of the new program *La Ville du quart d'heure* (Whittle, 2020).

of re-action skills. This navigation does not only imply assuming different approaches towards different kinds of unknowns – as we mentioned at the beginning in relation to the Knowns and Unknowns framework – but it requires applying *diverse capabilities even within the same crisis*. In ordinary times, before an unpredictable event, it is crucial to ‘be prepared to be ready,’ working on our preparedness and strengthening our response capacity. In the moment of the shock, the room for manoeuvre of planning, design, and policy gets smaller, whereas the agency and unplanned actions gain relevance and open unexpected routes; at this moment, we need to recognise the negative capability of any actor and unexpected results. Finally, in the way out of the crisis, planning, design, and policy undertakes back a central role and needs to adjust its course; in so doing, planners shall assume a possibilist approach, making the best out of the crisis.

Hence, none of the mentioned theoretical concepts shall prevail over the others. Instead, all of them display necessary capacities in different moments and ways. In this perspective, we argue that the complexity underpinning radical uncertainty calls for a complex answer, made of a plurality of capacities and approaches, that as a whole may support a plural social intelligence, increasingly relevant in territorial planning today.

Secondly, a broader perspective is also needed, and this introduces a rather strategic dimension. If strategic and long-term thinking has always been a structural part of urban planning, the growing reality of radical uncertainty claims for a reconsideration of it. In the face of the increasing amount of unforeseen and unprecedented crises, *tracing the route* and choosing which future we want becomes more urgent. The debate triggered by the recent crisis, indeed, has not only underlined the planning, design, and policy techniques to address unpredictable events but has also highlighted the need to question the development model that has led us to the point we are. In this sense, our efforts can be in vain if we do not use our skills to look up our time and question the horizon of meaning in which we act. A horizon that – as *Terrestrial*, the title of this issue, suggests – can be interpreted as a new *geological* and *geo-political* horizon (Latour, 2017), where, once we recognise the interconnection between human and non-human, we can trace/adjust route with a new pact of care towards our planet. As Perulli recalls, dealing and getting together with the Earth in a new way is a matter of practices⁹ (2021).

In times of radical uncertainty, planning should move within two complementary dimensions: on the one hand, improving its techniques of preparedness and adjustment to reach temporary equilibria, and on the other hand, constantly questioning the framework we are moving in and the aim we are setting. For the latter dimension, planning, design, and policy techniques and approaches need to be contextualised within intensely ethical and political claims.

In conclusion, the pandemic crisis has shed light on the role of radical uncertainty as an ordinary condition of our times, triggering the interest in its nexus with urban planning. In this sense, the contribution provides a review of some relevant concepts and keys of interpretation of recent initiatives. This work aimed at being a starting point for reflection. Thus, the chosen frame of the theoretical and empirical perspectives can be further enriched by broader and more focused observations.

Acknowledgements

This contribution draws on the works the two authors presented at the conference *Post Pandemic Cities* – organised by the Sicilian chapter of the Italian National Institute of Urbanism (INU) in October 2020 – and *Governing the Unknown. Adaptive Spatial Planning in the Age of Uncertainty* – the 15th AESOP Young Academics Conference between March and April 2021.

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⁹ Our translation. The original quote is “incontrare in modo nuovo la terra è fatto di cose pratiche” (Perulli, 2021, p.153).

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