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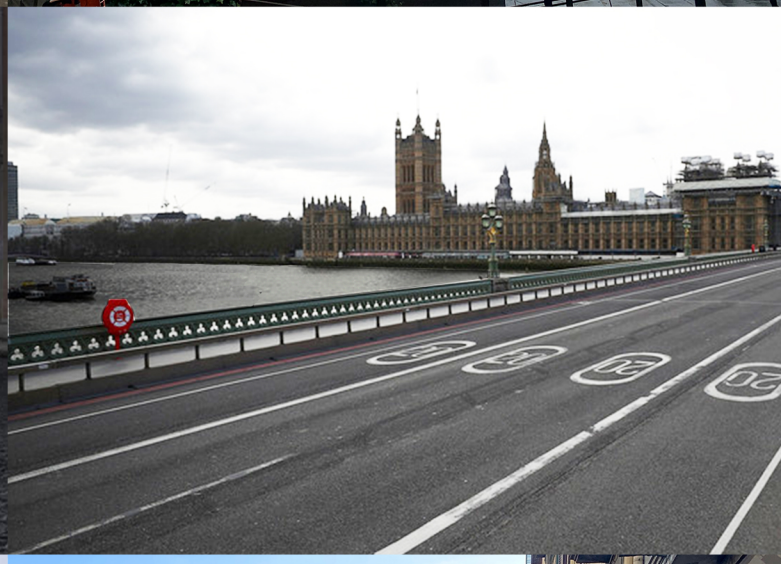
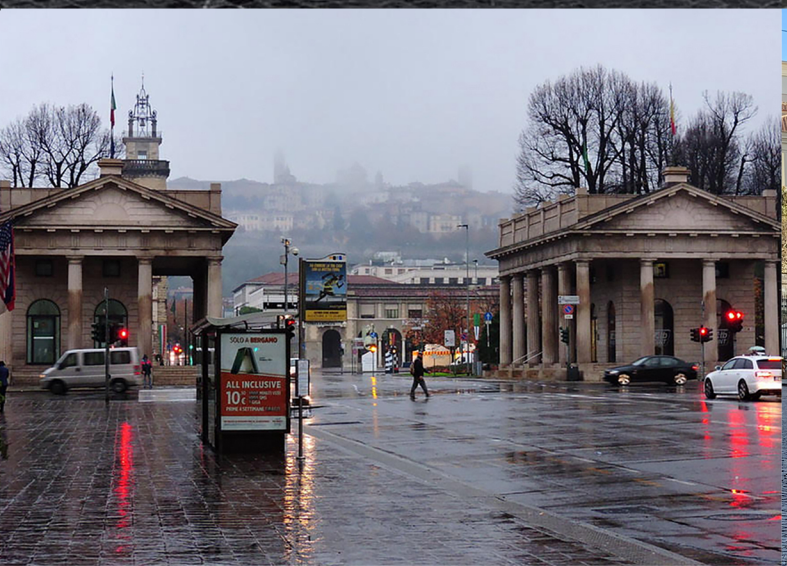
Special Issue

Covid -19 vs City -20

scenarios, insights, reasoning and research





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The cover image is a photo collage of some cities during the Covid-19 pandemic quarantine (March 2020)

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Rethinking rules and social practices. The design of urban spaces in the post-Covid-19 lockdown

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Abstract

In the last months a pandemic has changed the daily life of billions of people. Among the efforts to reduce the impact of the disease, social distancing has had huge consequences and raised may concerns, from the inadequacy of contemporary urban design to the social inequality of national and regional lockdown. This paper focuses on the consequences that this experience is having on the design of urban public and private areas. Everybody admits that our cities are going to change but, beside the first quick adaptation to social distancing, it is unclear how to rethink today's urban areas. We start from our previous work on the classification of architectural rules and on the study of how creativity is expressed via architectural rules, to discuss the principles and social aspects of newly proposed designs. The motivation for this analysis is to investigate and raise awareness of the consequences of changes in social practices: given that we are in need for new structures and service organization, we can still make choices and should balance the positive and negative aspects of these design alternatives. The community should be aware, as much as possible, of the intrinsic forces that novel solutions exert on our social system and urban environment.
This work shows just one way to analyse architectural design, and should be considered as a contribution to a much needed broad and inclusive discussion about how we want urban spaces to be.

Keywords

City; Architecture; Rule; Ontological analysis; Social practice.

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1. Introduction

The recent Covid-19 infection has disrupted our everyday world at many levels. It has forced people to stay home, to transform home space into office space, to learn to substitute physical contact for virtual protocols, to avoid relatives and friends for mutual safety, to go out for emergencies only, and so on.

Listening to technical and medical experts (Lichfield, 2020) and to comparable historical cases (Knobler, 2005; Spinney, 2017), the end of the Covid-19 emergence will likely not mean to return to normal life, at least not in the sense 'normal' was understood in 2019. First, our social system is today very interconnected and offers diseases an ideal environment (compared to any other period in history) to spread quickly. Of course, hygienic conditions are today much better, at least in most parts of the developed countries, but hygienic conditions are not enough as the last pandemic has shown. Second, the frequency of epidemics has been increasing in the last century (Bedford et al., 2019) and it is time for our social systems to reorganize for future cases. Third, the lockdown has not changed our social practices only temporarily. This might have been true for SARS in 2015 (Rothstein, 2015) since the problem was confined within a few countries, and for Spanish flu of 1918 (Spinney, 2017) because there were no real alternatives to physical interaction. Today, after the massive expansion of internet and the availability of online services, from commercial (e.s. shopping) to social (e.g. group meeting), from civic (e.g. voting) to cognitive (e.g. psychological treatment), the changes that we experienced almost worldwide during the spring have not just put on hold most physical activities, they pushed us to exploit other ways to interact: we now know that we can reorganize our everyday life with little or no physical contact. One may wonder whether people will be willing to go back to the previous life of 2019. Some perhaps will but, as social experts warn, many will not. How much everyday life in 2021 will differ from that in 2019 is hard to predict. Nonetheless, we must be ready to recognize and accept the new attitudes and social practices. This means, among other things, to develop and provide structures and services that comply with the new lifestyles, when possible, and that drive the evolution of our social systems towards sustainable and socially positive urban environments.

During these months of the pandemic, there have been several attempts to predict how our urban systems are going to be in the future. The interest in this exercise of imagination can be explained by the fear of change and the desire to anticipate (in this way making it somehow familiar) our future lifestyle. The focus of these discussions has been, almost exclusively, about urban life. There are two reasons for this. Rural areas have been marginally touched by the pandemic because they are more resilient to the security norms imposed for the Covid-19 disease. In rural areas people can easily spend time outside without coming into close contact with each other and, where social activities are involved, they can easily find places where the required social distancing can be maintained, at least if the number of people is limited as it happens in many cases. Of course, there is the psychological impact of avoiding physical contact, but this problem does not end up disrupting the core of the rural lifestyle. Major disruption has occurred in all those areas where compression and optimization of space have been a driving and welcome force, i.e., in urban areas. The need to exploit space as much as possible has pushed people to squeeze into little spaces and to rely on shared areas, making them at a loss when social distancing was suddenly imposed.

In this contribution, we take a step back and look at how architecture and urban studies can help cities to cope with the new situation and to rethink urban areas. The goal is not to add to the pile our own guesses about future cities and social practices. Instead, we aim to look at architectural rules as a magnifying glass to understand how newly proposed design may transform cities in the post-pandemic period. More precisely, we are interested in how a new design may change the perception and functionality of existing urban organization and social practices, and consequently to redesign interpret the meaning of these urban spaces. We develop this analysis starting from our previous work on architectural rules and on the expression of creativity via architectural rules as presented in (Borgo & Stufano Melone, 2019).

This paper is organized as follows. The next section briefly presents our general framework on architectural rules and meta-rules aimed to discuss design and creativity. Then, we describe new proposals for the design of urban spaces, and discuss them in the light of our framework. These designs satisfy the restrictions related to the Covid-19 pandemic but also push to rethink urban spaces and the associated activities. The next section makes a similar analysis on the (re)design of urban private spaces. The last section adds further considerations and emphasises the need to choose design solutions depending on how they alleviate existing social inequalities.

2. Rules and meta-rules for architectural design of urban spaces

The design process in architecture and urban planning starts with a need, e.g., the (re-)organization of an area, the construction of a new building, or the rethinking of an existing one. The architect is asked to propose a solution which on the one hand must answer the given need and, on the other, must introduce novelty, interest and some form of surprise.

This high-level view of urban design helps to identify one core element of architecture practice: the combination of rules and creativity. In a previous work (Borgo & Stufano Melone, 2019) we proposed to analyse the rich framework of architectural rules from an ontological perspective, and investigated how creativity find space within such a framework. In this part, we briefly review the framework since it will be used to discuss, from the social and architectural viewpoint, some design solutions proposed for rethinking urban spaces in the post-Covid-19 period.

The steps in the design process, from requirements' collection and analysis to the idea conception and selection, to the complete drawing of the area or building (perhaps including a scale model), have a double nature as they evolve at both the cognitive and the physical level. This interplay between the architect imagination and its physical verification (generally by drawing), generates a sort of feedback loop that is functional to make sure that the ordinary goals are satisfied, and that a sense of beauty and surprise emerges from the proposed solution. The presence of an architectural object, let it be an open area (park, square), a closed area (theatre, station), or something in the between (bridge, a gallery), changes the sense of space and of possible activities in the eyes of who perceives and experiences it. These aspects are foreseen and controlled in architecture via general solution patterns that in (Borgo & Stufano Melone, 2019) are called architectural rules.[1]

Note that architectural rules are not compulsory. In this sense they are distinct from, say, the rules of civil engineering for the stability and safety of the object to build. Architectural rules are choices to create an object in a certain way, which is one among many possibilities. The motivations to follow or not a rule can vary and include cultural, historical and aesthetic factors. These factors, as well as the rules themselves, might not be fully aware to the architect herself. The space of architectural rules is broad and architects are aware of it to some extent due to their professional studies, sensibility and design experience.

Taking an ontological approach, in (Borgo & Stufano Melone, 2019) we moved away from traditional studies in architecture, which are more oriented to historical periods, schools or individuals (e.g., those that today we call archistars), and proposed to look at architectural rules as relathionships organized in a rule space. We also proposed a classification of these rules in families as reported in Fig. 1.

[1] We prefer to use the term 'rule' because of its neutrality. In architectural textbooks, one would more likely find descriptions of architectural rules in terms of style, aesthetics or the likes. It is clear that the perspective we take here is not concerned with aesthetic aspects. On the other hand, the term style suggests clustering of rules as to characterize an architectural period, school or interpretation. Our study is neutral and focuses on the logical nature of the rules disregarding their possible 'meaning', i.e., what an architect aims to express with them.

Class	Topic of the rules	Example
Framing	the tension across the parts, harmony	Golden rule, the Modulor scale
Quality	the physical and aesthetic qualities of buildings	Color, open/close space harmony
System	the relationship and interactions across parts	Usability, integration metrics
Location	the integration of building and environment	Ecological harmony
Perception	the perception of the building and its environment	Wellbeing metrics
Function	the purpose of the building	Airport layout
Society	the social role of the building	Town hall symbolism
Living	the use and personalization of the building	Open form rule, social exploitability

Fig.1 Table of classes of architectural rules. Source: Borgo & Stufano Melone, 2019

Note that most rules that one finds in a design are often forced or uncritically adopted. There are multiple reasons for this: the architect may have some style of reference which she adopts by default, the project requirements may posit architectural constraints, the environment may enforce come choices due, e.g., to the urban context or local regulations, and the cultural-social period itself exerts influence on the work of the architect. The space of architectural rules is introduced primarily as a logical reorganization of these rules. It has to be integrated with historical, social and cultural data in order to be applied in the analysis of the work of architects or of the evolution of architectural types. In (Borgo & Stufano Melone, 2019) a few examples of architectural rules are discussed, like: any cornerstone must have direct support (e.g. a column, a wall). This rule, which has been instantiated for centuries, is contrasted with a rule introduced by the Modern Movement in the 20th century (Pevsner, 1936): if the weight of a cornerstone is spread over other supports (columns, walls), then the cornerstone itself has no direct support.

Since rules give general guidelines, the adoption of a combination of rules may generate conflicting situations. In these cases, the architect investigates possible changes including rule transformations and rule reinterpretations. This is a crucial point to discuss creativity in architecture as there are several strategies to solve such conflicts as discussed in (Borgo & Stufano Melone, 2019) where these strategies are called meta-rules.

3. Rethiking and redesigning urban public spaces

After the first period of lockdown in Italy and other countries in spring 2020, the architectural design of public spaces and, more generally, the organization of existing public spaces in urban contexts, started looking awkward. The social practices these designs promote, the conventional sharing and living of public space they portrait, were suddenly perceived as coming from another epoch. In the turn of a few weeks, social expectations have changed, and new practices were emerging in inhabitants of urban areas. Amid the discussion of these changes among sociologists, anthropologists and psychologists, designers have picked up the new challenge, and started to investigate novel design solutions. We propose to look at some of these proposals in terms of architectural rules with the goal of highlighting intrinsic changes that these solutions enforce on pre-pandemic social practices. Our method is to highlight which types of architectural rules these solutions affects, and to investigate which tensions these changes introduce in the existing urban organization. The expectation is that such tensions will force a transformation of the social practices and, even though we do not try to foresee the changes, we are able to identify some aspects that are put at risk.

One reason for the lockdown has been to enforce the so-called 'social distancing', perhaps better described as 'physical distancing'. The goal is to create a gap between any two bodies, that is, to set a metric relationship. Sometimes it suffices to change words to change the problem, as words drive our understanding of the situation and our thinking in searching for solutions. Wearing masks and gloves is an extreme solution that focuses on physical distancing. The use of communication tools, e.g., for video calls (at least for those that

have access to suitable devices and connections) is a way to overcome the identification of physical distancing with social distancing. The separation between physical and social distancing made possible to maintain during the lockdown core functionalities like public and private administration, schools, commerce and so on.

Social distancing puts under scrutiny all our social practices and public space organization. This, in turns, changes our house organization. For instance, the interface between the customer and the retailer provided by the traditional shop is now split into two parts: the trading interface is being moved online in a process that started a decade ago, the physical interface is moving into the house transforming the entrance into a reception-style room. But rethinking spaces is not only about where some activities can be performed. It goes deeper affecting the time, the occurrences, the distances, the organizations of social practices from working to visiting museums, from going to school to playing in public parks.

The first technical solutions for the social distancing focused on widespread services like restaurants. These include the introduction of plexiglass panels around and in the middle of the table. Such proposals are attempts to maintain the status quo while satisfying the new restrictions. A solution that requires more than minimal adaptation is to 'break' the consuetudinary expectation about tables, e.g., designing tables using new shapes (e.g. star or flower-shaped) and size so that the new distance regulations are automatically satisfied when they are arranged in a room. One can even imagine alternative solutions focusing on controlling the air-flows at the table. Technical and technological development, including the use of material with special properties, may lead to improved solutions.

Recall that we are not interested in the table or the restaurant per se. We focus on the 'eating at the restaurant' as a social practice crystallized via a set of architectural rules (in terms of the structure of the building, service and room organization, table formats and distribution, seat accessibility, etc. The question is whether and how this practice is going to change using as insight the architectural rules that are overwritten. For instance, it is a social rule that people at the same table should be able to see each other. This has led to an (often implicit) architectural rule that space above the table should be empty at least up to head level (roughly, about 70-80 cm). The rule belongs to the class 'Living' of Figure 1 and is broken by a design that would project a floating plexiglass separator in the form of a large hairdryer hood as proposed by the French designer Christophe Gernigon (Block, 2020). At first sight, this solution might be considered as a simple adaptation via the introduction of a new device. Yet, the way it changes the social practice of eating at a restaurant is subtle. Gernigon's solution maintains several aspects: as in the past, people can see each other, share dishes, pass salt and drinks, even hold hands while eating. The protective hood shields only faces and breath, metaphorically it protects the realm of thoughts and consciousness, not the body, not the center of emotions. It is then open to the restaurant customers to decide how close to get physically with the body, mentally with the thoughts. Leaving aside the actual practicality of the proposal, Gernigon's design has the merit to reinterpret and even enrich the social practice of eating at the restaurant.

During the lockdown, it was prohibited to go to the park. This restriction has raised many concerns since it exacerbated social inequalities, and even more towards children perhaps constrained for long periods in small apartments. The traditional design of the playground showed all its limitations. Play areas are in need of a new organization if we want them to survive in the post-pandemic period. A recent proposal by Martin Binder and Claudio Rimmele, called Rimbin (Figure 2) (from rim and bin), shapes play areas like a cluster of water-lily pads on a pond (Hitti, 2020). Rimbin enables children to interact with each other avoiding direct contact. This is made possible because every 'flower' forms an island but is interconnected with one or two others via hollow tubes (for voice communication) and seesaws. The impact of this design changes two types of architectural rules: perception and living. The second one is expected since we know that social practices have to change to comply with the new restrictions. Regarding perception, we observe that traditional playground where primarily a flat field with some structures (e.g. playhouse, slides, climbers) distributed at some distance.

One clear and primary affordance of traditional playgrounds is running (clearly delimited to allow direct control by the adults). The new design breaks this view, the Rimbin playground is a very noticeable set of constructions that has little of the open field. The perception changes from a natural field with a few scattered structures, to a large structure with a few scattered empty spaces.

Fig.2 Rimbin concept by Binder and Rimmele. Image via Dezeen

Fig.3 Parc de la Distance concept by Chris Precht. Images via Dezeen

Since parks are important urban areas, let us look at another proposal in the same domain. Chris Precht designed a maze-like park named 'Parc de la distance' (Fig. 3). This conception takes the rules of social distancing as a design guideline (Ravenscroft, 2020). The 'Park de la distance' has numerous routes divided by 90-centimetre-wide hedges to maintain a safe physical distance between its visitors. The paths form a finger print-shaped swirl with many routes, separated by gates, that can be used simultaneously combining the French baroque gardens and the Japanese zen garden. In this case, the change is again on the living rules but more strikingly is it the change at the level of functionality. The park proposed by Precht decouples the vision of a quiet place where one is surrounded by nature from the idea of a recess area where to lay down

listening to the wind moving through grass and leaves: it is a place to enjoy a stroll, not to sit and read a book or have a picnic.

4. Rethiking and redesigning urban private spaces

In the present days, the desire to resume the activities suspended for the pandemic is strong. Many activities previously lead in public spaces have been adapted for closed and private spaces. People have now exploited possibilities that were present even before but perhaps were not attractive enough. Other changes happened only because during the lockdown there was no other option.

Woods Bagot, an architectural firm, has studied the AD-APT system (Fig. 4): a series of adjustable walls and screens that would be used to segment an open-plan apartment into various dedicated spaces (Bahadursingh, 2020). Thanks to a split-shift mode the house changes its configuration, adapting to the principal function needed during the day, the night, or for special events like parties.

Fig.4 AD-APT system designed by Woods Bagot. Images via Architizer

Fig.5 Changeable house designed by PKMN architectures. Pictures by the author

Even in this case, the proposed design breaks traditional composition rules, e.g., walls may now not be structural elements. In Bagot's design walls maintain their role of space delimiters but are now seen as mobile furniture, the difference between walls and furniture being primarily in size. Similarly, PKMN architectures presented at the Biennale di Architettura di Venezia in 2016 a changeable house (Figure 5). Overall, we see that the house stops being a static partition of space pushing us to rethink consolidated protocols. This is a major change in the house architectural type since it touches rules in different classes of (Figure 1): living, perception, function and system. Their analysis increases the flexibility and usability of the space leading to improvements in the life quality in the house. However, this conception needs to be accompanied by pubic regulations as new flexibility in the use of house space may push for the construction of even smaller apartments, making today's critical situation even worse.

Finally, we observe that the traditional view of 'secondary' areas like balconies, gardens, terraces, and accessible roofs has changed during the lockdown. They are now like buffer zones between the private house and the unsafe outside, they have become the threshold, the skin of the house since open to the outside but still shielded and safe. It will be interesting to follow the evolution and redesign of these spaces, spaces that

will likely become more central to the new social practices. At this time, we have not identified new design solutions for these buffer zones.

5. Conclusions

Frank Lloyd Wright designed the Solomon R. Guggenheim Museum of New York as a space to be walked in a linear unique path that follows the spiral shape he conceived. During the visit of the museum, people have a double experience: they watch at the same time the painting artworks and the museum architecture. Today we can imagine the pressure for stronger ruptures in public spaces. Individual distancing may push to keep the visitors in a fixed position and move the artworks towards them in a museum organized as an open-space. Similarly, in a bookstore (assuming they will survive this period) we might have bookshelves moving toward the customers which are asked to remain in some assigned position.

No matter what new design solutions will develop and what new infrastructures our cities will be able to implement, the form and structure of our urban socio-technical systems are going to evolve with the changes in our social practices. The existing inequalities, made strikingly evident by the impact of the pandemic on inhabitants, push us to follow more closely the activities of designers and decision-makers, and to give people a real chance to control and co-design the system they are in. We need to give them newly organized urban spaces that comply with the evolving social practices, and the ability to understand how these changes are improving, or else, their lives (Guarino, 2015). Especially in a crisis situation, people's input must be heard to help the decision-makers to push for fair solutions.

Architects and urban designers have a central role in this scenario. They have the creativity to propose new solutions and should show the right sensibility to guide the evolution of urban spaces towards more inclusive and socially acceptable solutions. In this paper, we showed a framework developed for architectural rule analysis and creative meta-rule changes, and used it to highlight how new designs may change the meaning of social practices. We hope this approach can become a tool for deepening awareness in how new design solutions change urban objects, their social use and the consequences that these have on people's life.

References

Bahadursingh, N. (2020). 8 Ways COVID-19 Will Change Architecture. *Architizer*, https://architizer.com/blog/inspiration/industry/covid19-city-design/.

Bedford, J., Farrar, J., Ihekweazu, C., Kang, G., Koopmans, M. & Nkengasong, J. (2019). A new twenty-first century science for effective epidemic response. *Nature*, 575, 130-136. https://doi.org/10.1038/s41586-019-1717-y

Borgo, S., Stufano Melone M.R. (2019). How architectural rules make room for cre- ativity: An ontology-driven analysis. In TriCoLore 2018 Creativity - Cognition - Computation. Bozen-Bolzano, Italy, December 13-15, 2018. *http://ceur-ws.org/Vol-2347/*. 2347, 1-11.

Block, I. (2020). Christophe Gernigon proposes suspended Plex'eat hoods for post-virus dining in restaurants. *Dezeen*, https://www.dezeen.com/2020/05/22/christophe-gernigon-plex-eat-coronavirus-face-shield-dining-design/.

Guarino, N. (2015). Ontology-driven Participatory Governance for Resilient Sociotechnical. *19th European Colloquium on Theoretical and Quantitative Geography*. Bari (Italy), 3-7 September 2015. Invited key note lecture.

Hitti, N. (2020). Rimbin is an "infection-free" playground concept designed to look like water lilies. *Dezeen*, https://www.dezeen.com/2020/05/19/rimbin-playground-concept-coronavirus-design/.

Knobler, S.L., Mack, A., Mahmoud, A., & Lemon, S.M. (2005). The story of influenza. In Institute of Medicine (US) Forum on Microbial Threats, Knobler, S.L., Mack, A., Mahmoud, A., & Lemon, S.M. (Eds.). *The Threat of Pandemic Influenza: Are We Ready?* Workshop Summary. Washington: National Academies Press. https://doi.org/10.17226/11150.

Lichfield, G. (2020). We're not going back to normal. *MIT Technology Review*, March 17, 2020. https://www.technologyreview.com/2020/03/17/905264/coronavirus-pandemic-social-distancing-18-months/.

Pevsner. N. (1936). *Pioneers of the modern movement from William Morris to Walter Gropius*. London: Faber & Faber.

Ravenscroft, T. (2020). Precht designs Parc de la Distance for outdoor social distancing. *Dezeen*, https://www.dezeen.com/tag/coronavirus/page/3/?s=precht&hPP=40&idx=vetg_livesearchable_posts&p=0&fR%5Bpost_type_label%5D%5B0%5D=&is_v=1.

Rothstein, M.A. (2015). From SARS to Ebola: legal and ethical considerations for modern quarantine. *Indiana Health Law Review*, *12*(1), 227-280.

Spinney, L. (2017). *Pale rider: the Spanish flu of 1918 and how it changed the world*. London: Jonathan Cape.

Image Sources

Fig.1: https://www.dezeen.com/2020/05/19/rimbin-playground-concept-coronavirus-design/; http://www.bindermartin.com/.

Fig.2: https://www.dezeen.com/tag/coronavirus/page/3/?s=precht&hPP=40&idx=vetg_livesearchable_posts&p=0&fR%5Bpost_type_label%5D%5B0%5D=&is_v=1; https://www.precht.at/.

Fig.3: https://architizer.com/blog/inspiration/industry/covid19-city-design/; https://www.woodsbagot.com/.

Fig.4: Images via Architizer.

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