Reconsidering Urban Spontaneity and Flexibility after Jane Jacobs: How do they work under different kinds of planning conditions?

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Abstract: After Jacobs' seminal works, one idea seems to be widely shared by planners: cities must be considered as complex self-organizing systems. In the planning field this idea has opened the door to concepts like spontaneity and flexibility which are now indicated as valuable alternatives to orthodox comprehensive planning practices. The article discusses the different ways in which spontaneity and flexibility work under different kinds of planning conditions (being material, like buildings, open spaces or infrastructures, or immaterial, like building codes or land-use plans). In particular, it recognizes the preeminent role played by the rules over the built-environment in defining the flexible space for the evolution of emergent socio-spatial configurations.

Keywords: Spontaneity, flexibility, emergent configuration, planning conditions, land-use planning, rules, Jane Jacobs.

1. INTRODUCTION

Jane Jacobs (1961) argues that the city is a complex system possessing emergent characters that are the result of place-based processes of self-organization. She sustains that the more the city is planned, controlled and designed from the top, the less flexible space there is for spontaneous adaptations and improvements, connected to the use of the dispersed knowledge of ordinary people (Callahan and Ikeda 2014; Cozzolino 2017; Gordon 2012; Ikeda 2017; Moroni 2016). Despite planners do not agree in the ways in which it is possible to enable spontaneity—and many different approaches are now on the table (Rauws 2017)—today, more than sixty years after Jacobs' seminal work, one idea seems to be largely shared by experts; cities should not be considered simple planable objects but as self-organizing and complex ones in which spontaneous actions and the emergent evolution of socio-spatial configurations play a crucial role (Batty 2007; Bertaud 2004; de Roo et al. 2012; Holcombe 2012; Holland 1995; Lai 2004; Portugali 2011). Such an idea is driving the planning system towards an unequivocal shift from the comprehensive-technocratic approach to more strategic plans, less connected to long-term, top-down predictions (e.g., organic planning, tactical urbanism, and so on; see Alfasi et al. 2013; Buitelaar et al. 2014; Gadanho et al. 2014). Spontaneity (of developments and changes) and flexibility (of plans, rules, policies and so on) are indicated as valuable alternatives to orthodox planning practices.

The concepts of flexibility and spontaneity—which are two key features of Jacobs' ideas—have become widely used by experts; however, clarifications are needed to underscore the different ways in which they work under different kinds of planning conditions (Moroni and Cozzolino, forthcoming)—being such conditions material (like buildings, open spaces or infrastructures), or immaterial (like buildings codes or land-use plans).

This article investigates the relationship between planning control (in Hayek's view, *taxis*) and the flexible space left for spontaneous actions and the evolution of emergent socio-spatial configurations (i.e., *cosmos*). It is a complement to Jacobs' works, which focused mainly on the relationship between the physical and social dimensions in economics and urban development (Jacobs 1961, 1970, 2000), whereas it adds the relationship between the physical and regulatory dimensions (Cozzolino 2017).

The main thesis is that the flexible space for spontaneity and emergent configurations does not depend solely on the physical dimension of the built environment (which is ob-

viously a key aspect), but also—and even mostly—on the way in which planning rules are written and provided (Ben-Joseph et al. 2005; Kim et al. 2016; Talen 2016). In other words, the degree of spontaneity and flexibility depends, in different ways, upon both social and physical conditions.

The article explores why the relationship between spontaneity and planning conditions is multi-layered and hierarchical, recognizing the preeminent role played by the rules over the built-environment. It discusses this question without having the ambition to investigate in detail many relevant side-related issues—already well-discussed by other scholars—such as indicating which planning approaches are more suitable to welcome spontaneity (Alfasi and Portugali 2007; Andersson 2014; Buitelaar et al. 2014; Moroni 2015; Totry-Fakhoury and Alfasi 2017), analysing the effects of planning interventions in economics (Bertaud 2014; Gleaser 2011; Pennington 2002; Webster and Lai 2003), or discussing the main aesthetical issues linked to spontaneous developments (Alexander 1967; Hakim 2014; Nilufer 2004; Romano 2010). Each of these issues would deserve a specific article. This is an attempt to demonstrate, from a Jacobsian perspective, the reasons why rules matter, at least as much as the built environment, in defining the flexible space for spontaneous actions and the development of unpredictable changes from the bottom-up.

Beyond the introduction, the article is divided into four other sections: three of them answer the following questions; (section 2) "What do you mean by spontaneity and emergent configurations and why are they relevant?"; (section 3) "How does spontaneity work within the urban fabric?"; (section 4) "How does spontaneity work within the rules?". The article ends by providing general conclusions and devices (section 5).

2. WHAT DO WE MEAN BY SPONTANEITY AND EMERGENT CONFIGURATIONS AND WHY ARE THEY RELEVANT?

Before getting to the heart of the matter, some terminological clarifications are needed. First of all, the term *action* (see, for instance, Carter 1999; Cody 1967) is contextualized to the field of urban planning and, therefore, it may represent certain general types of (urban) actions, like the act of building or using a certain amount of space, or other ancillary actions, helpful for pursuing them, (e.g., obtaining loans, signing agreements and covenants, etc.). Secondly, in order to differentiate between two different kinds of phenomena, the article distinguishes between *spontaneous actions* and *emergent configurations*. With the term *spontaneous,* it refers to intentional actions developed by self-determining and intentional agents, (e.g., landowners, developers, householders, etc.), whilst the term *emergent* refers to the unplanned social-spatial aggregation that is the (unintended) result of uncoordinated actions and interactions. In other words, the article differentiates voluntary actions, (which can be undertaken by an individual or a group of individuals acting in cooperation; see Mises 1963/1998), from evolving situations, that are the result of many, unaccountable actions interacting over time (Schelling, 1978).

The term *spontaneous* derives from the Latin word *spontanĕus* which means "of one's free will". In general, the word describes persons and characters with a sense of "acting of one's accord" or "occurring without external pressure". Hence, we can think of the word "spontaneity" as a particular quality of actions (Beito et al. 2002), whereas, the concept of *emergent configuration* means any (socio-spatial) configuration that is the result, over time, of a countless number of actions, but not a direct consequence of a single action or design (Hayek 1960; Polanyi 1951). Configurations of this kind are detectable in any system composed of a multitude of agents who pursue different plans and separate actions. The highest expression is observable in and within the city (Holland 1995, p. 41).

The main arguments for the evolution of emergent configurations lie in the possibility of adapting, over time, the physical and social world in ways that none could predict in advance, leaving to the system the opportunity of efficiently reacting to various contextual needs, and the possibility of making more efficient use of the so-called *dispersed knowledge* (Hayek 1945 and 1960). Emergent configurations, however, are not synonymous with chaos or disorder, but they are a series of stable (but evolving) patterns which are not defined through central coordination. On the one hand, emergent configurations enable social interaction and the self-coordination of systems; on the other, they structure the character and peculiarities of specific places. Their evolution is open-ended (i.e., unpredictable and uncertain), but path-dependent.

However, to recognize the relevance of emergent configurations doesn't necessarily mean to be in favour, of anarchism, or laissez-faire, but to appreciate the intrinsic and instrumental values of spontaneous actions in the functioning city. All this without being against the presence of good planning rules (Moroni 2010). Firstly, spontaneity is good in itself, at the level of the individual, because it allows people to pursue their own ends by means of their knowl-

edge and creativity, also experimenting with new solutions and actions. Second, from continuous processes of trial and error, society can get benefits reaching a level of progress and innovation otherwise unachievable under a state of extensive overall control, developing self-organizing systems in which society can make more efficient use of polycentric forces (Ikeda 2004).

The city is irremediably both the product of planning interventions, which introduce artificially constructed orders, and the evolution of emergent configurations (Bertaud 2004). So, we cannot think of the city as a fully emergent configuration but, it is rather more appropriate to see it as a spatial and social configuration that may reach different degrees of overall spontaneity (Buitelaar et al. 2014). This works as a trade-off between planning conditions and the space for self-determining (unpredictable) spontaneous actions, where the former introduces a certain degree of spatial control over a world of infinite possible becoming (Ikeda 2017).

As already argued, two different types of planning conditions constrain spontaneity: *the material dimension* of the built environment (i.e., physical objects, such as condominiums, streets, parks and so on), and *the social dimension* of rules. Therefore, we may speak of two trade-offs: the first has a spatial dimension; the second has a regulative dimension. Both levels, in different ways, influence the flexible space for the evolution of emergent configurations and the ways in which spontaneity can be manifested or less.

3. HOW DOES SPONTANEITY WORK WITHIN THE URBAN FABRIC?

This section examines the issue of spontaneity within the dimension of the built environment (Bergevoet et al. 2016; Manewa et al. 2009; Roggema 2014). In particular, it examines the relationship between the design of the physical space (i.e., the intentionally created spatial order), and its level of flexibility for the evolution of emergent configurations.

Jacobs highlights that any physical element that has been deliberately designed and built always provides a certain degree of flexibility, depending upon both internal and external factors. In fact, a common feature of any *work of architecture* is that, with the passage of time, it (potentially) starts to differentiate itself from its initial design and it is subject to reinterpretation (Brand 2010; Easterly 2015). This process happens for two main reasons: first of all, some (unpredictable) actions occur inside; secondly, it undergoes the effects of all the actions and changes that happen outside. As regards the physical dimension of the built environment, two important factors are worth considering: the first is the *scale of design* and its level of detail; the second regards the *passage of time* (Ikeda 2017).

The scale of design and its level of detail

The first implication is easily understood: the higher the level of the detail provided by a particular project or plan, the less will be the flexible space for spontaneous actions and unexpected emergent future arrangements. Moreover, the greater the scale of design that is subjected to a unitary plan, the greater will be the amount of space, subject to the control of that specific plan. For example: imagine a unitary designed residential area which includes a hundred condominiums. Architects could face this design in different ways, with variable levels of scale and detail. To demonstrate that, we may address the issue moving from a first design, that guarantees a high degree of flexibility, to one in which the flexible space is narrowed down and nearly cancelled.

A first way to design the new residential area may be that of solely to draw the open public spaces, and then leave open, to other architects, builders and inhabitants, the possibility of defining and filling the grain of the area. Such developments could emerge according to a succession of spontaneous actions, constrained by the presence of open public spaces (for instance, roads, green areas and so on) and certain planning rules.

In the second case, it could be that the architect does not design only the open public spaces, but also the size, the footprints of all the buildings and also their physical relationships. The differences between the first two approaches are remarkable.

Let's go further. Suppose that the work of the architect is not only limited to the design of the open public spaces and the footprints of all the buildings, but he or she also decides to determine their interior subdivisions, as well as their functions. At this point, the design will begin to assume a very rigid character. However, its level of detail could still be increased. In fact, we can imagine that, in addition to the design of open public spaces, buildings and their internal divisions and functions, the architect may also decide to design, in a unified and detailed way, the interior furnishings. At this point, only a little flexible space would remain for self-determining spontaneous actions and the use of dispersed knowledge of future inhabitants.

In brief, the implications of the scale and detail of design regards designers' intentions to impose a particular spatial order, which, in its turn, may be more or less extended and accommodate more or less flexibility. To better comprehend it, we can think of highly planned cities like Brasilia, or the Chinese "ghost city", or the typical neighbourhoods of the Soviet era (Hirt 2013; Ikeda 2017; Zarecor et al. 2012) as relevant examples of large scale design with a high level of detail of the built environment. On the contrary, in the case of a high degree of flexibility, for instance, we can refer to forms of organic developments diffused in the last years in the Netherlands (Cozzolino et al. 2017; Oosterma et al. 2015; Rauws & de Roo 2016).[1]

The passage of time

The second implication regards the passage of time. Whatever the scale and detail of the design, its (imposed) order will not remain stable over time; rather, it will be subject to processes of emergent adaptations and adjustments. Once constructions are realized, they start to be exposed to constant stress and actions (both internal and external). So, with the passage of time, all that is designed will be subject to (more or less) certain alterations that designers could not foresee in advance (as none of us can today perfectly foresee the evolution of social needs and changes in the next decades). Every urban element, even the least adaptable, tends to undergo (with different dynamics) unintentional progressive adaptations. This process occurs since it is impossible to think of an urban element (for instance one building) as an isolated element; rather, we should think of a single urban element as part of a complex interrelated whole (Jacobs 1961). Moreover, how people demand space to be used or built is unpredictable in a world of imperfect knowledge.

A valuable example is offered by Jane Jacobs (1961, pp. 92-93) when she presents the process of the differentiation of four parks in Philadelphia, namely Rittenhouse Square, Franklin Square, Washington Square and Logan Circle. Located in different areas, these four parks were the replication of the same identical design. Nevertheless, as Jane Jacobs claims, with the passage of time, each park has undergone the influence of the peculiar features of its surroundings, adapting and differentiating its internal appearance, according to their different spatial circumstances and conditions.

4. HOW DOES SPONTANEITY WORK WITHIN THE RULES?

Now we look at the built environment and the flexible space for the evolution of emergent configurations deriving from the presence of planning rules.[2] The general idea is to understand the relationship between the physical environment, (planning) rules and the flexible space for actions that can alter the pre-existing urban structure, bringing it into an adapted state of affairs.

What has been pointed out in the previous section is fundamental to the following discussion. However, further observations must be set as crucial pre-conditions for any agents' actions. In fact, more than the physical space in itself, what primarily influences agents' *actions space* (Ikeda 2007) within the built environment are the rules (Moroni 2015). To show this, we go through three comparative empirical examples which describe imaginary spatial differentiation processes, showing why the rules (more than the design of the space itself) are the prior condition for the adaptation of the physical space. This statement is not an attempt to diminish the importance of the design of the physical space (which is obviously a fundamental condition);[3] rather, it is an attempt to distinguish two different levels of the discourse in which rules become the meta-condition, whilst the built environment is the material concretization of actions that, in their turn, are always conditioned by certain rules.

The first two examples compare two initially identical urban settlements but with different rules. The third example shows that it is not so much the initial design that determines, in absolute terms, the flexible space for the evolution of new emergent configurations, (i.e., it is not important so much to know if the city, or part of it, evolved spontaneously or not); rather, what influences the extension of the flexible space are, first of all, the rules which discipline agents' actions in space. In fact, it could be that cities, or part of them, evolved with a high degree of spontaneity, at some point, they may have little flexible space for the evolution of emergent configurations; whilst, vice versa, highly-designed environments at some point may host a high degree of flexible space for the evolution of emergent configurations.

Example 1: two identical buildings with the same framework-rules, inside two identical neighbourhoods with different framework-rules

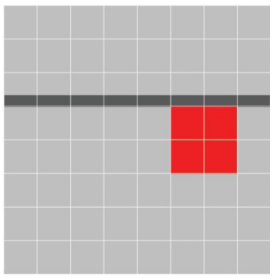
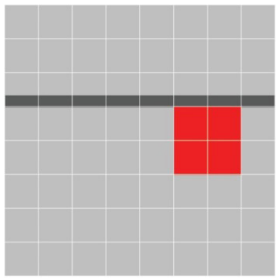
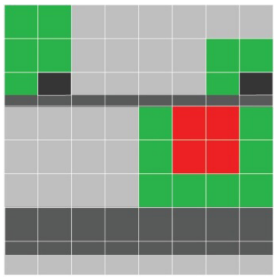
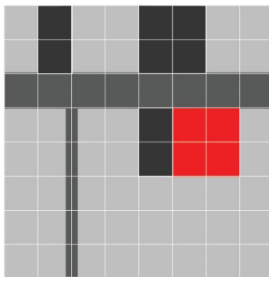
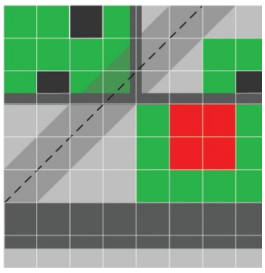
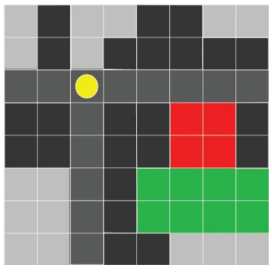
The following example demonstrates that, even in the case

in which an urban element (such as a building) is designed and regulated in a very detailed manner (at the point to scale down, at the minimum level, the flexible space), the way in which its surrounding area (for instance, its neighbourhood) is regulated, inevitably influences the future adaptations of such an element.

Imagine two identical buildings: B (with the same design detail), as well as their respective neighbourhoods, X and Y, in their turn identical but with different rules. Specifically, to put it simply, these buildings could be two identical old farms now restored as restaurants that are located within an expanding urban realm.

Now imagine an incremental transformation process set in three steps: t1, t2, t3. With the passage from t1 to t2, and from t2 to t3, neighbourhoods X and Y, (not the buildings B), will be subject to different kinds of actions. These actions will alter the initial spatial configuration of both BX and BY; firstly, in BX" and BY", and then in BX"' and BY"'. Despite the two buildings B keeping their design and function unchanged, the hypothesis is that what happens during the process respectively in X and Y will lead to the buildings having substantial differences.

Example 1:

Evolution	BX	BY
T1		
Actions	- New expressway behind the building - Construction of two single family houses with private garden	- Widening of the existing road - Construction of three multi-storey buildings along the main road - New local road
T2		
Actions	- New electric high-voltage line - Construction of a double family house	- Construction of multi-storey buildings - New neighbourhood park - Subway station
T3		

Even though the buildings remain unchanged over time, in their initial function and design, we may assume that to some extent, they have been subjected to a process of differentiation, derived from the actions undergone in their respective neighbourhoods, X and Y, which were in their turn regulated and planned in different ways. For instance, we can imagine that, at the end of the transformation process undergone in both neighbourhoods, the building in neighbourhood Y has become more attractive than the building in neighbourhood X (or vice versa). In other words, the process of differentiation has been flawed from the outset by the existence of different rules that must be considered as the precondition for any changes which occurred in time T1 and T2 in both neighbourhoods. We may imagine, for instance, that at the initial state of the process, T1, X and Y possessed completely different rules as regards the list of possible land uses, the maximum FAR, and so on.[4]

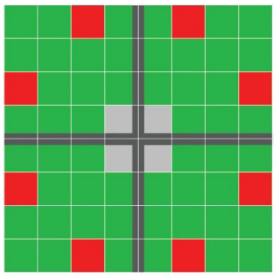
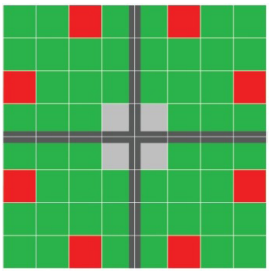
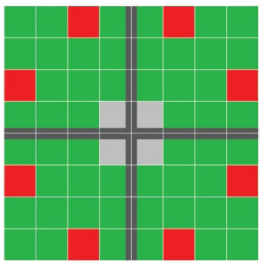
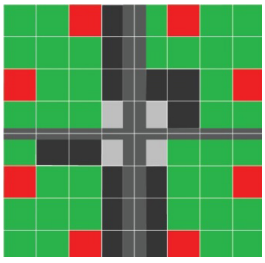
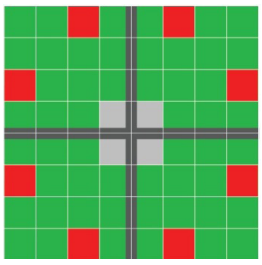
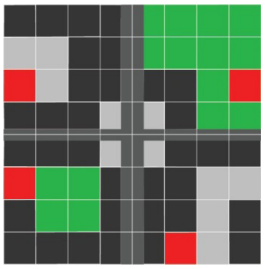
However, with this example, we see the importance of rules but we still cannot fully understand the degree of overall spontaneity. In fact, in both cases BX and BY, despite their final differentiation, the degree of overall spontaneity may still be very low; for instance, their respective rules could be thought to be instrumental toward a predetermined constructed order. If this is the case, in both areas, the flexible space for spontaneous action provided by the rules could be considered almost absent. It might be that—we cannot exclude this chance—the rules correspond to precise planners' will to reach a prefigured end state (for instance, to transform X into a garden city, or to concentrate in Y all the urban transformations). If this is the case, there wouldn't be almost any degree of spontaneity since everything has been planned from scratch.

In brief: two identical buildings which are the product of the same design and regulation may be subjected to processes of differentiation if their neighbourhoods (which are in their turn identical) are regulated in different ways.

Example 2: two identical and unitarily designed neighbourhoods with different rules

The following example demonstrates that, if two identical urban settlements that are the result of a unitary design are regulated in different ways, they may undergo completely different developmental processes. Moreover, the example emphasizes that the initial architectural design does not necessarily coincide with the rules that discipline future actions and adaptations. The two levels

Example 2:

Evolution	W	Z
T1		
Actions	Ordinary maintenance	- Widening of the existing road - Construction of multi-storey buildings along the main road - Opening of new neighbourhood shops
T2		
Actions	Ordinary maintenance	- Construction of multi-storey buildings with different uses and substitution of three old houses - Creation of two squares
T3		

do not necessarily coincide; or, better still, the design of the physical space and the rules must be clearly distinguished. If we completely evade the question of rules, we cannot understand that the work of architecture is simply a starting point for the evolution of new emergent configurations. In fact, material artefacts are modifiable conditions, open to future adjustments.

Imagine that W and Z are two residential suburban neighbourhoods that are the product of an identical design, composed mostly of one or two-family houses with private gardens. Imagine also that the level of design detail of both W and Z is very high but they have different degrees of rules' prescription. In W, for instance, the rules set that the initial state of affairs cannot be altered (only residential uses are permitted, and there is no possibility to have additional FAR). In contrast, in Z there are no specific prescriptions about possible uses, and owners are always allowed to expand their proprieties by purchasing and building additional FAR.

As we see with this example, although W and Z were initially identical (both are the product of unitary design and both were built all at once), with the passage of time, due to extremely different rules, they have undergone a significant process of differentiation. If W at time T3 is still the same residential neighbourhood as defined by the original master-plan, Z, on the other hand, has reached a considerably new overall urban character. Therefore, although this is an extreme case, we clearly understand that architectural design is not the only determining factor for the evolution of emergent configurations. In the first instance, planning rules may expand or restrict the *range of possible actions* that can bring the physical space toward unexpected adaptations. Naturally, there are architectural constructions that are more adaptable than others. However, rules remain the primary condition for unpredictable future spontaneous actions.

Example 3: an urban settlement that evolved with a high degree of overall spontaneity now subject to stringent rules, and a highly designed urban area now open to spontaneous actions

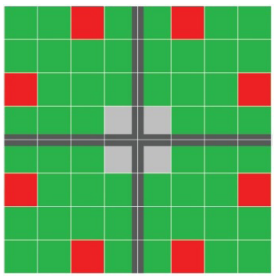
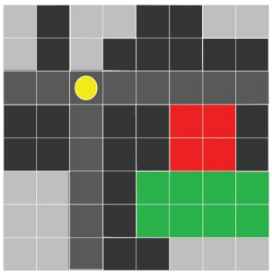
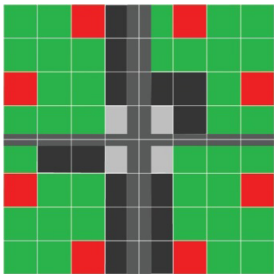
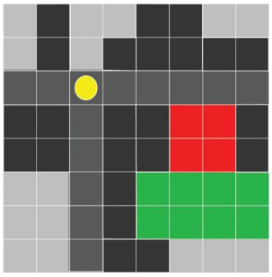
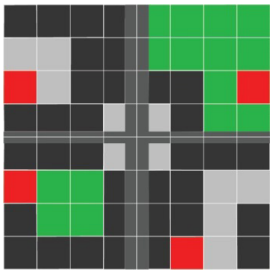
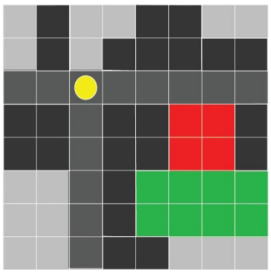
To comprehend how flexible the space is to the evolution of emergent configurations, it is not so important to study whether certain settlements evolved spontaneously or not; rather, we should firstly look at the existing rules.

The following example demonstrates two main issues: firstly, it is not only the initial design of the space that matters for the evolution of emergent configurations; secondly, rules play a major role regardless of the fact that an area evolved with a high degree of spontaneity or it has been designed and built all at once. In particular, it helps to distinguish urban areas developed with a high degree of overall spontaneity (or not) from their factual existing capacity to welcome future emergent adaptations. In fact, due to the introduction of very prescriptive rules, it may be that a formerly highly emergent urban environment no longer has room for the evolution of emergent configurations. Whilst, on the contrary, highly detailed and designed settlements may turn in areas that have flexible space for spontaneous actions and the evolution of emergent configurations. This eventuality is demonstrable by considering two cases of the previous examples.

To do this, we compare the case "BY" (example 1) with the case "W" (example 2), both at time t3. The case BY may hypothetically represent a case of high overall level of spontaneity, whilst the case W represents a neighbourhood built all at once with a very low degree of spontaneity. Thus, differently from the two previous examples, we do not compare two areas with identical features, but completely the other way around.

Now imagine that, at a certain point, W and BY are subject to very different regulative measures. On the one hand, planners decide that BY has reached an intrinsic historical value, and consequently, they choose to put it into a state of absolute protection and preservation. On the other hand, at the same time, planners consider that it is necessary to densify W (for instance, to contrast the phenomenon of soil consumption) giving the opportunity to the various landowners to densify the area. If this is the case, a sudden inversion would make W more flexible than BY and consequently more open to future emergent adaptations. This eventuality is evident in the following table.

Example 3:

Evolution	W	BY
T3		
Actions	Widening of the existing road Construction of multi-storey buildings along the main road Opening of new neighbourhood shops	Ordinary maintenance
T4		
Actions	Construction of mixed-used multi-storey buildings and substitution of three old houses Creation of two squares	Ordinary maintenance
T5		

According to what has just been shown, it is empirically irrelevant to distinguish areas which have evolved with a high degree of spontaneity from others that are the results of unitary design. In both cases, the flexible space for the evolution of emergent configurations first of all depends upon the existing rules which discipline agents' action in space. For example, it may be that, as often happens, typically emergent configurations, such as the medieval settlements of European cities, become almost immutable objects, with no space for future adaptations or spontaneous actions, whilst modern unitarily designed neighbourhoods start to be adapted and reused in completely different—sometime also innovative—ways (Bergevoet 2016; Franck et al. 2013; Urhahn Urban Design 2010).

CONCLUSION

The article maintains that the level of spontaneity in cities is influenced both by the *physical dimension* of the built environment and by the *social dimension* of rules. Although the physical configuration of cities is a relevant condition, in the end, it remains (with different degrees) always modifiable and open to future adjustments and adaptations and this is regardless of their scale of design or detail. Differently, rules can completely stifle the flexible space for spontaneous actions and the progressive evolution of emergent configurations. In other words, rules can easily decrease the possibility of adapting over time to the physical and social world in ways that none could predict in advance, preventing the system from reacting efficiently to various contextual needs. From this perspective, rules influence and filter the way in which the physical dimension of the built environment (independently from its inherent spatial flexibility) is step by step adjusted and modified.

Hence, spontaneity and flexibility ought to be analysed, both at the primary meta-level of rules and also at the level of the built environment. Moreover, even though the two levels are connected (i.e., they refer to the same spatial configuration), they work following deeply different logics.

In brief, from a planning perspective, flexibility and spontaneity can be welcomed in two ways: (i) building spaces that are adaptable and easily reinterpretable, and (ii) providing rules that enable spontaneity, unpredictable changes and innovation.

To give an example, during the twentieth century, many large-scale rigid transformations were planned and developed all at once, following the idea that detailed masterplans and comprehensive plans could have reached, in the short-run, efficient socio-spatial configuration (Akbar 1998; Bertaud 2014; Callahan et al. 2014; Romano 2010). This approach, with the passage of time, has shown clear limits; already in the '60s, Jane Jacobs well anticipated certain adverse effects. In particular, she maintains that most of the top-down settlements developed all at once and without too much space for spontaneity and further reinterpretations, have clear limits in promoting vibrant environments and are more inclined to stagnation and undergoing a slumming process exactly because they are not open to further reinterpretation and adjustment by their inhabitants (Jacobs 1961). On the contrary, according to the author, the rise of lively environments (lively in the long run) are more likely to emerge when the configurations of neighbourhoods facilitate intense spontaneous interactions and when the built environment can be slowly adapted and innovated by keeping alive its existing and constitutive patterns. Configurations of this kind emerge organically over time, are continuously adjusted, and cannot be planned and built all at once from scratch. In brief, the design of physical conformations must not, in other words, be such as to permit only a scant number of actions, but must instead be capable of accommodating change, both in terms of function and structure, and permit continuous improvements (see for instance, Aravena 2012; Bergevoet et al. 2016; Franck et al. 2013; Roggema 2014; Urhahn 2010).

On the other hand, if we recognize the essential role of spontaneity and flexibility in the city functioning (i.e., its creative role for innovation, the importance of localized knowledge, the need for perpetual adjustment and improvements of the built environment, and so on), we cannot regulate the city in order to obtain or preserve the specific and predetermined social-spatial configurations as we would like or desire (Alfasi et al. 2007; Buitelaar et al. 2010; Cozzolino 2017; Moroni 2011; Rauws 2017). We must provide rules that welcome flexibility and can guarantee that existing socio-spatial configurations can be adapted over time. In other words, rules cannot be concerned with the overall physical outcomes, nor even indicate precise functions or locations. Rules should not predefine specific states of affairs but they might leave the future open to a wide array of solutions, within a process of long-term transformation (Moroni and Cozzolino forthcoming). This, in general, means that we should discard the traditional, strictly instrumental idea of law embracing a nomocratic approach (Moroni 2010). Flexibility and spontaneity however, have often been interpreted as a never-ending opportunity to adapt the institutional framework any time that novelties—in terms of needs, opportunities and problems—emerge in society, leading the planning system toward the disputable idea of making rules always more unstable. This interpretation is distant from a serious approach to the law (Buchanan et al. 2008; Epstein 2009; Kaza et al. 2011). Rules require stability. If rules are determined afresh each morning by the toss of a coin, there are no rules at all. In other words, to be flexible should not be the rules but the space that they leave for the development of innovative actions, which are, by definition, unpredictable.

To conclude, flexibility has not to be sought in continuous adjustment of the institutional framework, but it has to be assumed as a principle, to write good rules that are as general and simple as possible and, at the same time, rules that are able to avoid the emergence of undesirable emergent configurations (Moroni et al., 2018).

NOTES

1 Oosterwold is a large-scale transformation of 43 km² that has not a master plan or zoning map, but only a limited number of public rules regarding the construction of plots that allows for the development of a self-organized urban realm (Cozzolino et al. 2017).

2 With the term "rule", we refer to all the intentional social conditions, such as the land-use plan, building codes, taxation, etc., that discipline action space and are imposed by a public authority (Moroni 2015).

3 The idea of architectonic adaptability proposed by Alejandro Aravena (2012) is an interesting example. However, Aravena's ideas would be nothing without a legal framework that leaves enough room for flexibility and spontaneous actions.

4 For instance, the allowed FAR in X was very low compared to that of Y (we put, for example, that in the case of X it was possible to build only isolated buildings in the middle of the plot, while in the case of Y was possible to build up to 15 floors with a maximum land coverage of 80%). Moreover, X and Y differ also for the list of permitted land uses: for instance, in the case of neighborhood X, the land-use plan wants to preserve an agricultural landscape, while in the case of the neighborhood Y, the land-use plan promotes high-density development.

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