The many paths of self-organization. Origins and meanings of self-organization as a concept for planning and urban studies*
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Abstract

Questo contributo propone di esaminare congiuntamente i diversi approcci all'auto-organizzazione emersi nei numeri 3 e 4 di Tracce Urbane e nella conferenza internazionale dedicata allo stesso tema[1]: di fornire un inquadramento semplice e ad un tempo sufficientemente strutturato, che faciliti l'orientamento tra le declinazioni assunte dal concetto di auto-organizzazione negli studi urbani. Tre autori sono stati più spesso citati: Henry Lefebvre, Elinor Ostrom e Juval Portugali. Il loro lavoro ha contribuito alla diffusione dell'interesse per l'auto-organizzazione negli studi urbani, sebbene solo Portugali abbia costruito una teoria urbana su tale concetto. Ciascuno di loro ricorre al concetto di auto-organizzazione in un modo specifico, e i tre autori sono stati scelti con l'intento di far emergere delle differenze fondamentali. L'intento è anche metodologico: avendo come obiettivo la coerenza – da tenersi in seria considerazione – tra concetti, teorie e strumenti euristici adottati per analizzare e spiegare fenomeni e pratiche urbane.

This contribution aims at giving a consilient interpretation of the various approaches to self-organization – as they emerge from the two issues of *Tracce Urbane*, n. 3 and 4, and from the preliminary conference dedicated to the topic – and one sufficiently structured to allow orientation among the variants in which the concept is used in relation with the city. Three authors in particular have been often quoted during the conference: they are Henry Lefebvre, Elinor Ostrom and Juval Portugali. Their work contributed to the spreading of the interest for self-organization in urban studies, although it is just Portugali that grounded an urban theory on that concept. Indeed, each one refers to self-organization in a specific way, thus they have been chosen here to help making fundamental differences emerge. The intent is, therefore, also methodological, and concerns the consistency between theories and concepts, and the heuristics we adopt to analyse and explain urban phenomena and practices – a consistency that should be taken into serious consideration.

Introduction

Sometimes it happens to discuss together for hours and discover that, in essence, we are saying one same thing. But it happens also to speak almost in unison of a certain topic, referring to the same concepts and even using the same words, more or less vaguely aware that, however, we are not saying the same thing: which can be rather destabilizing. In such cases, to perceive that there is something wrong is decisive, to push us towards a deeper understanding of the arguments we are supporting and the differences with respect to the others. Self-organization is that sort of subject often producing the second result, and therefore it deserves some attention.

Without pretensions of completeness or exhaustiveness, given the limited space here, this contribution aims at offering a basic framework for containing and giving sense to the various approaches to self-organization (as they emerge from the two issues of *Tracce Urbane*, n. 3 and 4, dedicated to that topic), yet sufficiently structured to allow orientation among the variants in which the concept is used in relation with the city. A deeper comprehension of the differences and relationship between concepts is required, and particularly of the way we use them for understanding (and acting into) reality. The intent is, therefore, also methodological, and concerns the consistency between theories and concepts, and the heuristics we adopt to analyse and explain urban phenomena and practices (Jabareen, 2009) – a consistency that should be taken in serious consideration.

Perhaps, one among the clearest example of feeble conceptual consistency in the field of planning and urban studies is the still frequent yet inappropriate use of Lefebvre's '*Right to the City*' to support civic participation, which neglects and even negate Lefebvre's own proposal. In fact, self-organization, which is the form of action that Lefebvre sustains, does not coincide with participation: on the contrary, Lefebvre clearly clarified their divergence and incompatibility (Lefebvre 1968). Nonetheless similar examples are countless.

However, this overlap between participation and self-organization is not 'equally' contentious if, instead of Lefebvre's, we are referring to other conceptualizations, with a different origin and meaning. Actually, self-organizing behaviour appears in the literature of many disciplines, both in the natural sciences and in the social

sciences, and is assuming an increasing importance through complexity theories, albeit already a fundamental concept in pre-Socratic philosophy.

For example, ancient atomism, and especially thinkers such as Democritus and later Lucretius, believed that there is no need of any superior 'designing intelligence' to create order (*cosmos*) in nature, and argued that given time, space and matter, order may emerge by itself, let's say 'spontaneously'. Not surprisingly, self-organization is also known as 'spontaneous order'.

This understanding of self-organizing behaviour is a key concept for natural sciences such as physics, which focuses on self-organization as the quality of open, big (containing numerous elements/agents) and complex (in terms of the multiple relations between elements/agents) systems; or biology, where it is related to the ability of each organism to arrange itself according to its (environmental) conditions. From this last statement other very debated conceptualizations derived, related one way or another to adaptation, e.g. the notion of resilience, which is increasingly shaping our way of looking at socio-spatial relations (see e.g. Olsson, 2015; Davoudi, 2014; Pizzo, 2014).

In the broad field of urban studies and planning, we may see that the concept of self-organisation often addresses an order, which is interpreted as long-lasting, deeply rooted into local communities and history, previous to the one which came out from modernity (Decandia, 2000, 2013; see also her contribution within this issue, Decandia & Lutzoni, 2016). In terms of forms of regulation, it is opposed to any 'abstract' order deriving from modern planning (such as the rational- comprehensive plan), state planning more particularly (Alfasi, 2018; Alfasi & Portugali, 2007; Portugali, 1999, 2008). A main part of these interpretations seem to be shared by a broad range of scholars, producing rather unexpected convergences.

Thus, the need emerges to point out the different roots of self-organizations, which may have very different political origins and implications. For example, transferred into urban studies, a certain use of the concept as derived from natural sciences might imply that there is a sort of 'natural' order, a sort of DNA of each place that asks 'just' to be discovered (or re-discovered) and preserved. Along this same line, we risk to (unintentionally?) validate naturalizations of the concept of identity, which, on the contrary, is much often defined as a socio-cultural construct. A

number of potential or explicit inconsistencies arise.

Furthermore, the shift from a super-ordinated 'designing intelligence' to self-organization does not resolve the issue of power. There are no guarantees that self-organization will correspond to a more equal distribution of power. On the contrary, a society left to self-organize risks reproducing some sort of Darwinian 'natural law' regarding condition, role and status of the different individuals. Despite that, in most self-organizing practices there is a strong claim that they represent a more just system; while from a different point of view, since self-organization is conceptualized as a descriptive theory, it is not expected to assure justice or welfare.

All this means, at least, that there should be many different conceptualizations of self-organization to be inquired. A key point is, to me, to differentiate whether self-organization is used in analytical or in normative perspective.

Self-organization and its 'knives'

'Self-organization' might sounds as a smart word: it emphasizes the 'self' and the word 'organization', which are so estimated nowadays. Although self-organization is mostly related to systems and not to individuals, we are living in a time when (almost) everybody would agree on the better possibility of, or the need to, or even the urgency to, self-organize: what should we better have instead?

Nonetheless, that concept has been developed through time in very different ways, and so referring to self-organization without specification can bring us into a rough terrain. My impression is that, particularly when we are very much involved into practices, we often end up walking in such rough terrain without acknowledging that. The simple claim to self-organization is not sufficient.

I want to argue here that instead of a more unitary although faceted concept, some main interpretations of self-organization can be individuated, which have very different origins and implications; that the principles on which they are rooted are very different, and that those principles are embedded into their political meaning that is, consequently, divergent.

In doing that, I will pin point some reasons why this concept is so *en-vogue* among social scientists, and some risks related to its

pervasiveness into social, political, urban theories and practices. I chose three well-known scholars, which particularly contributed to the spreading of the idea of self-organization into the field of planning and urban studies, with three different understandings. My 'knives of self-organization' (apologies) are: Henry Lefebvre, Elinor Ostrom, and Juval Portugali.

After briefly introducing their approach to self-organization, and the context in which they develop their concepts, I will highlight some main differences between the different points of view and interpretations.

In his 'Right to the City' Henry Lefebvre (1968) *opposed* self-organization to participation. Contributing definitely to solve the already long-lasting infertile debate around 'effective' or 'fake' participation, he clearly stated that the only 'real participation' is (in French) '*auto-gestion*' (translated into English as *self-management*), meaning when the power is fully taken by the people, instead of by power elites and their institutions. It is interesting to notice, maybe, that there is a semantic shift related to the translation from French into English, which is not as slight as it might seem. For example, contrarily to the intrinsic 'smartness' of the concept as expressed in English, the French version sounds rather old-fashioned since it immediately reminds the vocabulary of workers and students' protests in the late '60ies and '70ies.

It is important to grasp Lefevbre's thought from his own words:

«Another obsessional theme is *participation*, linked to integration. This is not a simple obsession. In practice, the ideology of participation enables us to have the acquiescence of interested and concerned people at a small price. After a more or less elaborate pretence at information and social activity, they return to their tranquil passivity and retirement. Is it not clear that real and active participation already has a name? *It is called self-management. Which poses other problems*» (Lefebvre, 1996 [1968]: 145, The italics is mine).

His conceptualization is purely political.

Elinor Ostrom refers to the concept of self-organization in relation with the management of common goods (see, e.g. 1990). Although self-organization is not essential in Ostrom's scholarly production, her work is central for a number of researches and experiences dedicated to the topic. Nevertheless 'collective action', one among Ostrom's key concept, materializes as self-organization and characterizes SESs (Socio-Ecologic Systems).

Her understanding of self-organization derives from ecology. At the same time, similarly to the 'intermediate position' of the commons as regards ownership - between private and public, 'self-organization' in Ostrom's proposal stands between the logic of state institutions (the public) and that of individuals (the private, the market). This interpretation is related in particular to the management of scarce resources, and contains an economic perspective, which fits with Giddens' 'Third way'. Her conceptualizations have been defined as 'romantic' (see, e.g. Haiven, 2016: 276), and its political meaning rather controversial. Indeed, her work has been used with very different orientations. Juval Portugali introduces the concept of self-organization (Portugali, 1999) for overcoming the limits of the 'artificial' and too abstract idea of rational planning, looking for a different kind of rationality. His main theoretical framework is complex systems theory. Complex systems, in facts, show forms of rationality, which can be hard to understand, but definitely exist. The 'inner order' of self-organizing systems is emphasized against what could appear as disorder. Self-organization is described as the 'natural' rule that regulate complex systems, its 'central property', and its applicability to cities is almost obvious, since cities are complex systems '*par excellence*' (*ibid.*: VII). In this case, there emerge a strong intention to strictly link decision processes (planning) with laws derived (learnt) from nature, thus a tendency (a risk) to 'naturalize' social processes and phenomena. His proposal aims at being a 'purely' scientific contribution. (Significantly, it was Hermann Haken which wrote the forewords to Portugali's book, a physicist with a special interest in synergetic).

A fundamental divide among the various conceptualizations concerns:

- the relationship between self-organization and institutions (self-organization can be alternative or even insurgent against current institutions, or oriented towards forms of co-evolution);
- the expectations regarding self-organization (e.g. higher individual freedom, better management and efficiency, more just societies and cities, a radically different social organization);
- the very meaning of that 'self' (Which collectivity define /

characterizes the self-organizing 'system'? How to apply that concept to 'the city'? What about each individual?);
- what characterizes self-organization (is it a matter of 'natural propensity'? What about power?);
- which 'better results' are expected through self-organization (e.g. What is more just? More just for whom?).
- Which are the pre-conditions that (supposedly) allow for self-organization (e.g. which are the 'inner' laws which characterize self-organization? How power is articulated and distributed within self-organizing systems?).

In the following sections I will briefly treat these points.

Self-organization and institutions

Self-organization is often presented as alternative to current institutions: it is presented as opposite to top-down rules; against structures and mechanism which are (or became) meaningless; as the mean of more direct forms of democracy opposed to the hierarchies of representative democracy; as the horizontal against the vertical governance structures; as the dynamic against the static, and so forth. From a different perspective, we could say that the idea of self-organisation (broadly taken) is connatural with human beings, and that the whole human history might be interpreted as a story of self-organisation. In this sense, the production of state institutions could be interpreted as a form of self-organisation as well. For example, representative democracy can be interpreted as the form of self-organization that large communities proposed for themselves in order to permit the broader possible participation to civic life. Thus, self-organization can be interpreted as the counterpart, complementary to institutions.

Indeed, an examination of human history would show how self-organisation as insurgent, emancipatory practices, stimulates and pushes towards processes of re-signification and change, and can be interpreted as a de-institutionalization force; but it reminds us of the well-known recursive cycles of institutionalization and deinstitutionalization (Berger & Luckmann, 1966; which refer to Simmel, 1958). From this point of view, it emerges that the relationship between self-organization and institution is (also) a temporal problem, related with the

time frame we are considering.

Referring to our three 'knives of self-organization' (Lefebvre, Olson, Portugali), the one who imagine self-organization somehow as a more 'permanent' condition is the last one (Portugali), because his time frame is extended: self-organization, the central property of complex systems, as a way of continuous readjustment. Lefebvre is concentrated on a more contingent time frame (*this* time of change); he is interested in the upheaval (the revolution) that is going to happen with the people taking control of their own lives. What would happen afterward, how that same people will organize is less explicit (however, I would say that he was too much into an historical perspective to forget the Simmel's lesson, and too much near to constructivism to ignore Berger & Luckmann's). As regards Ostrom, she is the one who more clearly interprets the relationship between self-organization and institutionalization (structuration) as co-evolutive.

(Great) Expectations regarding self-organization

Self-organization is often invoked as the mean to reach some very important societal betterment, which current institutions (or institutions in general) cannot provide or even impede. Nevertheless, what precisely should be bettered helps in articulating and distinguishing the different conceptualizations of self-organization.

Self-organization can be interpreted as a behavioral model, which allows for higher individual freedom against the strong limitations of institutions (as elaborated by Portugali, in particular as regards urban planning and city making); as a more efficient and satisfactory way of managing collective goods, between state logics and market logics (as in Ostrom, referring to the best way of managing the commons); as the ideal to be reached in order to get an actual societal empowerment, shared by all its members, the only way to materialize the 'right to the city' (as in Lefevbre, referring to the shift from participation to '*auto-gestion*', meaning the emancipation of the masses – the working classes in Lefebvre thought - from the power relationships imposed by power elites).

While for Eizenberg (2018) the belief that self-organization would *inevitably* bring to ¨better forms of planning, and as means to

achieve more just planning processes and outcomes" do not regards the stream of thoughts deriving from natural science and complex system theory, in my view in all the three cases there are great expectations, to get more just societies and cities out of the shift towards self-organization.

This relies on the fact that I recognize a political content in all the three interpretations, although politics seems to be a minor issue in some of them.

To say that self-organization is a descriptive theory of how order emerges, and that you just use self-organization as a model to understand how a certain society works[2], to shape a norm that possibly resemble that 'spontaneous order', does not mean that there are no expectations regarding self-organization. Differently, it could mean that you are keen to accept the social relationships as they 'spontaneously' emerge, or to comply with them.

Accordingly, the convergence towards an interpretation of self-organization as a mean to reach important societal betterment is just apparent, given the different principles that shape the idea of self-organization in the three interpretations. This is a case, where it seems that we reach the same destination coming from very distant departure points. We must remember that it could happen only by chance, since each one might have followed a very different path, and have a different story. Thus, here resides the reason of the controversial meaning of self-organization: none knows if we are truly talking about the same thing, until we get to know which interpretation of self-organization we are referring to, and for which main purposes. In particular, which idea of 'just' shapes each understanding (which mobilizes ethics), and the very interpretation of the 'self' of self-organizing practices (which mobilizes social and political theory).

Who is the 'self' of self-organization?
Self-organization is an ambiguous word since it could be not so evident to which subject the reflexivity is applied. Currently, given the strong emphasis on the individual, this 'self' sounds like another call to improve one's own capacities, or even to learn to count just on oneself, in the dominant (self)entrepreneurial logic. But since it is not clearly defined, indeed this 'self' could be

2 As regards the idea of a 'spontaneous order' referred to the social realm, see Moroni (2005).

addressed to different subjects, and to clarify this difference is of the utmost importance. Eizenberg (2018) perceived a similar necessity, but she unpacked the 'self' differentiating collective actors of self-organizing practices according to their rights and recognition within society. For the present purpose, it urges to me to make a step back, differentiating, first of all, which are the subjects of self-organizing action, looking for the meaning and implications of referring that 'self' to different kind of collective actors, and to understand how single individuals are taken into consideration. In Portugali work, self-organization is the quality of cities as complex systems; nonetheless, he turns to single individuals, or to small groups of neighbors (a kind of 'minimum unity'), when his conceptualisation comes to the 'inner rules' that shape the built environment. These rules have been than defined as 'codes' – to be understood, and to be used for planning (see e.g. Alfasi & Portugali, 2007; Moroni, 2015). The inner rules that people (each single entity) follows through pathways of self-organizations make the 'self-planned city', which is opposed to the abstraction of general - comprehensive plans, where the space for individualization (as well as individual freedom and the exercise of other individual rights) is said to be reduced or even erased, and where the long-lasting stratifications of many small additions and changes is overcome by big unitary top-down projects (Alfasi, 2018; Decandia in this issue).

For Ostrom, the 'self' is referred to the collectivity which performs the collective action, and to which the common good is related. For Lefebvre, the 'self' is not even a 'self' but an 'auto': as I already mentioned before the two words do not have exactly the same meaning (although the origin is from the Greek autos which is translated into 'self'). Nonetheless, the reflexivity is addressed to the society, and to people (the working classes in particular), which are expected not to simply participate to societal structures that have been created by others (power elites) and tend to manipulate and subjugate them through their mechanisms, but to self-organize (auto-manage) in order to fully take part to the city life (as part of the embodiment and realization of the 'right to the city').

While the conceptualizations of self-organization derived by complexity theories relate the 'self' to the whole complex system (opening problems of definition of boundary, thus inclusion/exclusion, etc.), the shift of self-organizing behaviour from

biology to social sciences happens extending the concept of organism from the individual to the collective dimension. This shift is recognized as a thorny one since long. In fact, the idea that different individuals somehow related to a certain place can be considered as a collectivity, or that they would act similarly to the different parts of a body, is quite contentious. Already at the beginning of the 20th century, R. Park (1921) highlighted that «The problem of the social *organism*, inherited from Comte and Spencer, is the rock upon which the modern schools of sociology have split».

Indeed, much before sociologists, writing about teleology in his Third Critique (*Critique of Judgment*), Immanuel Kant mentioned 'self-organization' and argued that teleology is a meaningful concept only if there exists such an entity whose parts or 'organs' are simultaneously ends and means. Such a system of organs must be able to behave as if it had a mind of its own, that is, as if it were capable of governing itself. The possibility to transfer such a concept to some sort of collectivity (except, maybe, for 'intentional communities' – which would lead to other kinds of questions) is problematic. Much more contentious is the idea that it could be applied to 'the city'.

However, a main difference emerges if we consider the collective self-organizing subject as a given (as already existing and defined) or as the outcome of a choice and a process (in Ostrom, collective actors are defined by their engagement with a certain 'common'): the second case permits to avoid the risk of falling into forms of determinism. In this reside a main divide between conceptualizations that refer to natural science, and those that refer to social sciences.

Complex system theories are introduced to explain the relationships between single individuals, which seem to follow some 'hidden' rule rooted deeply into the laws of nature. In complexity theory, self-organization emerges as spontaneous order and as a natural propensity (as it results in Portugali), and not as a political means and a project, as in Lefebvre.

Moreover, while complexity theory focuses on the hidden order of self-organization, in social sciences self-organization emerges often as initially disordered and even messy societal responses to power asymmetries and structural inequality, which than leads to the formation of new subjects (Olsson et al., 2015). It is from this 'mess' that the self-organizing collective actor can

emerge. Complex system theory does not ignore that 'mess', but assumes that it 'just' hides its internal order – things are, as they have to be?

It is quite interesting to read how Portugali built bridges between different theories and encapsulate 'revolution' within complex systems and self-organization theory:

«The term revolution in social theory is, in fact, phase transition in the language of self-organization. Or more specifically, as we have seen in previous chapters, self-organization theory suggests that the evolution of open and complex systems can generally be described by the following sequence:

steady state ~ chaos ~ *bifurcation* ~ *phase transition* ~ steady state

Social theory perceives the dynamics of change in culture and society in a similar way, and in fact the bold-lettered components in this sequence describe in some details what in social theory is often termed a revolution. In both social theory and self-organization theory, the process of change starts when an old regime disintegrates and enters into strong fluctuations and chaos, both theories claim that this chaotic stage is necessary to enable new forces and orders to emerge, assume power and bring the system into a new steady state or a mode of production» (Portugali, 1999: 318).

The 'bifurcation' as a key-phase for understanding change in complex systems was recognized in much previous works, as it emerges from Allen (1981), which referred to Nicolis and Prigogine 1977, to Prigogine et al. 1977, and to his own previous works (such as Allen and Sanglier, 1978). Nonetheless, all the 'non-deterministic' factors that are mentioned ("the 'chance' or 'indeterminacy' that accompanies moments of instability when structural change may occur" – ivi, 167) are harnessed within the 'equation of the model': "it is near to these bifurcations that the role played by the fluctuations present in the system is vital in choosing the 'branch' or 'type' of solution that will be adopted, and thus breaking the ambiguity which the equations of the model permit" (*ibid.*).

A chaotic stage is recognized as 'necessary' but, again, there is something more to clarify. In fact, rather similarly to what has been said regarding resilience theory (Olsson et al. 2015, Pizzo 2014), with its teleological legacy from biology (evolutionary biology in particular), functional claims and explanations are deeply embedded into complex system theory, something that resembles the highly debated consensus theory in sociology.

Functional approaches are inherently conservative, the focus is on balance: when it is lost, it will be replaced by a new one, but within the same logic (given the stability of fundamental natural laws).

Differently, social sciences are more focused on the imbalance that derives from diversities, inequalities, and conflicting interests. Conflict theories, which dominated over consensus theories since the '60ies of XX Century, highlight how social order (similar to balance for natural sciences) is indeed assured through control and also manipulation by dominant groups, and that change happens out of tensions and conflicts. From this viewpoint, self-organization is the way in which different groups may reacts and re-arrange, and also re-constitute themselves, for a different distribution of power.

The issue of power in self-organizing systems

As said before, particularly in approaches related to complex system theory, self-organization is described as a 'spontaneous order' and as a 'natural propensity'. What does it mean actually? Is this 'propensity' a quality appreciated by the many or by the few? Is it rooted on equally distributed awareness, knowledge and capacity? These questions mean also, and lead to ask: How power is articulated and distributed within self-organizing systems? In natural science perspective this problem does not exist.

In biology and in ecology particularly that 'propensity' is related to the ability of each organism to arrange itself according to its environmental conditions. As a fundamental ordering principle of nature, self-organization lies at the core of Darwinian theories: this is where part of its 'dark-side' resides, particularly when it comes to be too directly translated into social sciences. Actually, in evolutionary perspective different propensities to arrange themselves of different individuals is just a fact, it does not open ethical questions. Differently, in social science that different attitude would be interpreted, for example, as different agency, related to knowledge, capacity, and power.

The issue of power, which is ignored by natural science, is central in social science. Thus, the power related to self-organization is central in Lefebvre, recognized in Ostrom, neglected in Portugali. In Lefebvre, self-organization derives from the recognition of

the power of people that, although highly differentiated between the different groups and individuals, through self-organization is expected to increase. Asymmetries and inequality might lead to self-organization, which increases the power of the self-organized group, for change.

In Ostrom, power is 'just' recognized:

«The key to my argument is that some individuals have broken out of the trap inherent in the commons dilemma, whereas others continue remorsefully trapped into destroying their own resources. This leads me to ask what differences exist between those who have broken the shackles of a commons dilemma and those who have not. The differences may have to do with factors internal to a given group. The participants may simply have no capacity to communicate with one another, no way to develop trust, and no sense that they must share a common future. Alternatively, powerful individuals who stand to gain from the current situation, while others lose, may block efforts by the less powerful to change the rules of the game. Such groups may need some form of external assistance to break out of the perverse logic of their situation. The differences between those who have and those who have not extricated themselves from commons dilemma may also have to do with factors outside the domain of those affected. Some participants do not have the autonomy to change their own institutional structures and are prevented from making constructive changes by external authorities who are indifferent to the perversities of the commons dilemma, or may even stand to gain from it. Also, there is the possibility that external changes may sweep rapidly over a group, giving them insufficient time to adjust their internal structures and to avoid the suboptimal outcomes. Some groups suffer from perverse incentive systems that are themselves the results of policies pursued by central authorities. Many potential answers spring to mind regarding the question why some individuals do not achieve collective benefits for themselves, whereas others do. However, as long 35 analysts presume that individuals cannot change such situations themselves, they do not ask what internal or external variables can enhance or impede the effort of communities or individuals to deal creatively and constructively with perverse problems such as the tragedy of the commons» (Ostrom 1990: 21).

Power permeates her whole reflection but in some sentences it seems to remain unsolved, in other simply accepted as a matter of fact. In Portugali, power is not an issue: it is mentioned mostly when he introduces 'the Marxist City' (1999: 39-41) among the city models (or prototypes) he wants to overcome with his 'self-planned city' that, in abstract, everybody seems to have the (same?) power of contributing to.

Which better results through self-organization?

Given these fundamentally different understandings of power

within self-organization, what better results are expected? As mentioned earlier, self-organization is often presented as a model, or a mean, to get more just societies and cities, if compared with current forms of government or management. Thus we need to understand what is considered as (more) 'just' in the three approaches, and for whom self-organization is a more just system.

Self-organization is often invoked as a more open, horizontal, democratic system.

Yet, in natural science perspective, self-organization does not mean non-hierarchical: on the contrary, each self-organizing system with its internal laws implies clear hierarchies.

Eizenberg articulation of the three different forms of self-organization is explicitly based on different rights and power. When she comes to the 'intermediate category', that of the 'ordinary resident', she needs to clarify that

«First, ordinary residents are distinguished from the other two group categories – the 'disenfranchised' and the 'powerful'– by means of rights: the 'disenfranchised' have no or very few entitlements pertaining to planning; the "powerful" (which are discussed in the next category) have multiple rights and entitlements (mainly economic) that grant them opportunities to produce urban space; and the ordinary residents are varied in their socioeconomic background, education, cultural capital, and so on, but not being disenfranchised, they have better access to the planning institution and planning tools» (Eizenberg, 2018: 10).

This means that self-organization can be something completely different, e.g. in terms of motivations, modalities, tools, and (rather obviously) results, depending on which 'category' of people is concerned.

As regards outcomes and results, questions might arise regarding the 'non-linear' correspondence between power and results of self-organization reported by Eizenberg (*ibid.*), particularly concerning the possibility that self-organization of the 'disenfranchised' would lead to even higher results than those forms practiced by the other social 'categories' (in this case, I fear that a consideration of the 'gradient' or 'slope' of this result is lacking, and should be considered).

Concerning the relationship between self-organization and democracy, Peled (2016) demonstrated that democracy is neither the source, nor the embodiment, nor the outcome of

self-organization. With arguments which complement those used in this paper, he argues that self-organization can be "a fertile ground for democratic values such as liberty, participation and involved citizenry", but does not necessarily correspond or assure such principles.

Concluding remarks

Throughout the paper, I analyzed three main understandings of self-organization as they emerge in the field of planning and urban studies, articulating them into a number of features through which it is possible to distinguish their different origins and meanings. I inquired these different features of self-organization as they emerge from the works of three well-known scholars (Lefevbre, Ostrom and Portugali), which used that concept (as Lefebvre and Ostrom), or even ground on that their own theory (as Portugali).

First of all, I highlighted the need to clarify who is the 'self' to whom the reflexivity is applied, which is the 'population' or the 'community' of a certain system, which has a number of important implications.

Indeed, most of the features of self-organization are rather ambivalent, and a number of goals often attributed to self-organizing behaviour are quite contentious, on the basis of the very principles they claim. For example, the issue of power, which is central for social sciences, risks to be 'naturalized' and to be simply recognized or underestimated, even neglected (as in Portugali). In fact, in complexity theory there are not expectations regarding self-organization. As there are not expectations from evolution theory.

Problems arise if these theories are used normatively. On this respect, I want to raise the following point. I think that self-organization can hardly being assumed 'just' in analytical perspective or as a 'pure' descriptive theory, particularly since planning combines the analytical with a normative orientation. Differently, self-organization can be interpreted as a political choice, insurgent (as in Lefebvre) when addressed to radically change existing institutions; co-evolutive (as in Ostrom), when conceived as agency within institutionalization (de-institutionalization) processes.

Thus, referring to self-organization in general terms can be the

cause of main misunderstandings.

A last remark regards what is maybe the most diffuse claim, and precisely that self-organization would represent a 'better' system if compared with current democratic institutions – also that self-organization can overcome current democracy. Concerning the relationship between democracy and self-organization, I referred to Peled (2000), who clarified that democracy is neither the source, nor the embodiment, nor the outcome of self-organization. On the contrary, in new sciences' perspective totalitarism can be seen as the result of a 'bifurcation' with unexpected results of a self-organizing system. Similarly, «the miserable condition of human society throughout history – war, famine, and genocide – can be explained very well in terms of the new sciences. Yet there is nothing democratic about the 'solitary, poor, nasty, brutish, and short'» (from Thomas Hobbes's Leviathan, 1651) human condition throughout most of history" and, again, «Throughout most of history, ethnic cleansing, genocide, and starvation were much more common than democracy and people participated in these activities and adapted their behaviour to them» (ivi.: 29). Furthermore: «There is nothing spontaneous about the emergence of the modern democratic principles that include the adherence to the legal code, the restriction on arbitrary use of political force, the balancing act between equality and liberty through the institution of the welfare state, and the separation of church and state» (ivi.: 30). Thus, as Peled (2000) argued, an unconditional claim towards self-organization or spontaneous order is risky, and perilously tends to exonerate us «from the need to carefully design and nurture institutions that guarantee the long-term wellbeing of democratic societies» and «to zealously protect the non-natural, vulnerable, and formal institutions of democracy». There are no reasons to cast a shadow over self-organization, which can be enabling, capacitating, empowering, emancipating, creative and many other positive things, and of course my intention is not to do that. My intention is primarily to put some order in a rich debate, problematizing a concept that, as other very important ones, risks to be stretched or blurred, or to produce (although unintentionally) fundamental misunderstandings about the meaning of socio-spatial transformations and urban practices. A broad and general reference to self-organization leads to unexpected convergences that should be seriously

scrutinized and discussed.

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