

Framework-rules for self-organizing cities

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Confronted with a highly interconnected and continuously evolving world, self-organization processes in cities receive increasing attention from planning scholars. After the pioneering contribution of Jane Jacobs (1961; see also Ikeda and Callahan, 2014; Cozzolino, 2015), and fuelled by Complexity Theories of Cities (CTC) (Portugali et al., 2012), self-organization is considered to be a key mechanism through which cities dynamically adjust their socio-spatial configurations as contexts shift and new circumstances arise (Allen, 1997; Portugali, 2000; Batty, 2005; 2013). Self-organization is the on-going process that concerns the spontaneous emergence of order at a global level from a vast amount of interactions between agents at the local level (Prigogine and Stengers, 1984; Cilliers, 1998; Heylighen, 2008). This is to say that urban patterns that are the consequence of self-organization, emerged 'by it self' as external control of central coordination are absent (Rauws, 2016). Scholars consider self-organization useful in analyzing certain urban phenomena, such as urban sprawl, informal urban development (Barros & Sobreira, 2008; Silva & Farrall, 2016), traffic flows and pedestrian flows (Kerner, 1998; Helbing et al., 2001), urban economics dynamics (Andersson, 2005; Easterly et al., 2016), social segregation (Buitelaar et al., 2017; Schelling, 1978), emergent urbanism (Akbar, 1998; Bertaud, 2004; Hakim, 2014; Totry-Fakhoury and Alfasi, 2017) and other key aspects of contemporary cities. Hence, self-organization is increasingly considered as a helpful concept in understanding the complexity of city functioning.

Nonetheless, urban self-organization challenges spatial planners as they, irremediably, cope with problems of limited knowledge and unavoidable ignorance about future events (Hayek, 1945; 1967; O'Driscoll and Rizzo, 2014). In fact, the spontaneous and unpredictable character of self-organization implies that urban changes and transformations are fundamentally open, evolve at a variable pace, and that their outcome and consequences are very hard, if not impossible to predict. In practice, this means that the possibilities for planners to guide urban developments towards predetermined, specific and desirable outcomes are inevitably limited (Moroni, 2015). In self-organizing urban systems, any planning intervention has certain immediate effects – to some extent intentional and predictable – but also remote side-effects that are not necessarily intended or foreseen. Therefore, on the one hand, self-organization is believed to be a key mechanism for cities in reacting to various stimulus and contextual pressures, while, on the other, planners recognize that self-organizing cities require interventions that are suitable to deal with cities' spontaneous nature.

Urban self-organization is relatively new but intensely studied phenomenon in Urban Planning and City Science literature. Advanced models have been developed to better understand its underlying principles and critical conditions (e.g. Batty, 2013; Beneson, 2014; White et al. 2015) and to provide decision support systems (e.g. Kii, & Doi, 2005;

Yamu & Frankhauser, 2015). Moreover, insights are provided on the implications for urban governance and the position of planning professionals (e.g. Boonstra & Boelens, 2011; Rauws & De Roo, 2016). However, the notion of self-organization has yet hardly penetrated into debates on the suitability and effectiveness of planning interventions in urban systems. This is especially true in the case of planning rules (Rauws et al. 2016; Moroni and Cozzolino, 2018).

Urban self-organization, planning interventions and framework-rules

In general terms, we distinguish two main types of planning interventions through which planners can address the challenges posed by self-organizing cities (Cozzolino, 2017). The first type concerns direct interventions for the development of collectively required and desirable physical infrastructures or services (e.g. streets, sewers, schools, etc.). The other is about indirect interventions that concern the adaptation of institutional frameworks (e.g. planning strategies, visions, policies, planning rules, etc.). With different degree and effectiveness, both types of interventions may constrain (i.e. limiting, suppressing, etc.) or enable (i.e. accommodating, stimulating, etc.) the evolution of emergent urban configurations. Their main difference is, however, that indirect interventions do not directly change existing urban configurations. Rather they introduce certain filtering conditions of actions with the aim to guide and influence the spontaneous evolution and dynamics of self-organizing cities (Moroni, 2015).

Focusing on these indirect interventions, an additional distinction can be made: (1) the level of planning rules (i.e. public legally binding conditions such as land-use plan and building codes), and (2) the level of policies and tactics (which do not create legally binding conditions). Such a distinction matters in dealing with urban self-organization as planning rules give rise to the framework within which urban actors develop their own spontaneous plans. Meanwhile, they also provide the framework within which planners can advance policies and tactics to influence actors' actions. For these reasons, the proposed themed issue explores the potential of planning rules as a framework for guiding and dealing with both opportunities and risks of urban self-organization.

Initial proposals already identify some main characteristics of framework-rules (e.g. Alfasi & Portugali, 2007; Moroni, 2010; 2015; Buitelaar et al., 2010; 2014; Chakraborty et al., 2011; Holcombe, 2012; Hakim, 2014; Rauws & De Roo, 2016; Talen, 2016; Totry-Fakhoury & Alfasi, 2017; Cozzolino et al., 2017). They are overall *open* to contingent and unpredictable urban transformations, *negative* thus to avoid the emergence of undesirable effects, and relatively *stable* to enable everyone to have reliable expectations with regards to possible actions of other agents (Alfasi and Portugali, 2007; Moroni, 2015). In guiding urban change, framework-rules avoid defining particular future socio-spatial configurations *a priori* (Rauws, 2017), opening up flexible spaces for the 'unplanned', spontaneous ways in which cities and neighbourhoods adjust to and evolve with changes at various levels of society. From this perspective, the idea of having stable framework-rules may come into tension with unforeseeable future urban dynamics and unexpected risks and opportunities.

Aim

The proposed themed issue aims to further the idea of framework-rules by exploring how framework-rules can simultaneously exploit the benefits of self-organization (e.g. social innovation or spontaneous urban regenerations) and avoid certain risks connected to it (e.g. negative externalities or particular undesired configurations). In particular, this themed issue serves three goals:

- TO EXPLORE the implications of self-organizing cities to planning rules. [1] [SEP]
- TO ANALYSE the tension between stable framework-rules and socio-spatial dynamics. [1] [SEP]
- TO PROPOSE different approaches for framework-rules in guiding urban self-organization. [1] [SEP]

Keywords

- Urban Planning
- Complexity Sciences
- Cities
- Uncertainty
- Self-organization
- Institutional design
- Planning rules

Abstract submission and Important dates

June 1st, 2018: An abstract (400 words) that outlines the thesis, scope, and substance of the proposed contribution. Explain in particular how the paper will contribute to:

- 1) the exploration of the implications of self-organizing cities to planning rules;
- 2) the analysis of the tension between stable and proscriptive rules and socio-spatial dynamics;
- 3) proposals for innovative ways in which planning rules can guide both the actions of urban actors and for the policies and tactics by which urban planners aim to influence these actions.

June 15, 2018: Authors will receive feedback from the editors.

October 31st, 2018: Deadline of final paper submission (according to EPB manuscript guidelines).

The expected time of publication: 2019

Editors

Please submit your abstract to the editors at the following email addresses:

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References

- Alfasi, N.; Portugali, J. (2007). Planning rules for a self-planned city. *Planning theory*, 6, pp. 164-182.
- Allen, P.M. (1997). *Cities and regions as self-organizing systems: models of complexity*. Amsterdam: Gordon and Breach Science Publishers.
- Akbar, J. (1988). *Crisis in the Built Environment: the Case of the Muslim city*. Concept media.
- Andersson, D. E. (2005). The spatial nature of entrepreneurship. *Quarterly Journal of Austrian Economics*, 8(2), 21-34.
- Barros, J., & Sobreira, F. (2008). City of Slums: self-organisation across scales. *Unifying Themes in Complex Systems IV*, 265-273.
- Batty, M. (2005). *Cities and Complexity: understanding cities with cellular automata, agent-based models and fractals*. Cambridge: The MIT Press.
- Batty, M. (2013). *The New Science of Cities*. Cambridge: MIT Press.
- Benenson, I. (2014). Agent-Based Modelling. In: Abrahart, R. J., & See, L. M. (Eds.) *GeoComputation*. CRC Press.
- Bertaud, A. (2004). The spatial organization of cities: Deliberate outcome or unforeseen consequence?
- Boonstra, B., & Boelens, L. (2011). Self-organization in urban development: towards a new perspective on spatial planning. *Urban Research & Practice*, 4(2), 99-122.
- Buitelaar, E., & Sorel, N. (2010). Between the rule of law and the quest for control: Legal certainty in the Dutch planning system. *Land Use Policy*, 27(3), 983-989.
- Buitelaar, E., Galle, M., & Sorel, N. (2014). The public planning of private planning: an analysis of controlled spontaneity in the Netherlands. *Cities and Private Planning: Property Rights, Entrepreneurship and Transaction Costs*, 248-265.
- Buitelaar, E., Weterings, A., & Ponds, R. (2017). *Cities, Economic Inequality and Justice: Reflections and Alternative Perspectives*. Routledge.
- Cilliers P. (1998) *Complexity and Postmodernism: Understanding Complex Systems*. London: Routledge.

- Cozzolino, S. (2015). "Insights and reflections on Jane Jacobs' legacy. Toward a Jacobsian theory of the city". *Territorio* (72) pp.151-178
- Cozzolino, S. (2017). *The city as action. The dialectic between rules and spontaneity*. PhD thesis, Politecnico di Milano.
- Cozzolino, S., Buitelaar, E., Moroni, S., Sorel, N. (2017). Experimenting in Urban Self-organization. Framework-rules and Emerging Orders in Oosterwold (Almere, The Netherlands). *COSMOS + TAXIS*, 4(2+3), pp. 49-59.
- Easterly, W, Freschi, L. & Pennings, S. (2015). "A Long History of a Short Block: Four Centuries of Development Surprises on a Single Stretch of a New York City Street". NYU Development Research Institute conference, "Cities and Development: Urban Determinants of Success" on November 18, 2014.
- Hayek, F. A. (1945). The use of knowledge in society. *The American Economic Review*, 35(4), 519-530.
- Hayek, F. A. (1967) The results of human action but not of human design. *Studies in philosophy, politics and economics*, 96-105.
- Hakim, B. (2014). *Mediterranean Urbanism: Historic Urban/building Rules and Processes*. Berlin: Springer.
- Helbing, D., Molnár, P., Farkas, I. J., & Bolay, K. (2001). Self-organizing pedestrian movement. *Environment and planning B: planning and design*, 28(3), 361-383.
- Heylighen, F. (2008): Complexity and Self-organization. In by Bates, M. J. & Maack, M. N. (ed.) *Encyclopaedia of Library and Information Sciences*, 3rd edition. New York: CRC, Taylor & Francis Group.
- Holcombe, R.G. (2012). Planning and the invisible hand: Allies or adversaries? *Planning Theory*, 12, pp.
- Ikeda, S. & Callahan, G. (2014). *Jane Jacobs' Critique of Rationalism in Urban Planning*. *Cosmos and Taxis*, (1.3).
- Jacobs, J. (1961) *Death and Life of Great American Cities*. New York: Random House.
- Kerner, B. S. (1998). Experimental features of self-organization in traffic flow. *Physical review letters*, 81(17), 3797.
- Kii, M., & Doi, K. (2005). Multiagent land-use and transport model for the policy evaluation of a compact city. *Environment and Planning B: Planning and Design*, 32(4), 485-504.
- Moroni, S. (2010). Rethinking the theory and practice of land-use regulation: Towards nomocracy. *Planning Theory*, 9(2): 137-155.
- Moroni, S. (2015): Complexity and the inherent limits of explanation and prediction: Urban codes for self-organising cities. *Planning Theory*, 14, pp. 248-267.
- Moroni S. & Cozzolino S. (2018, Forthcoming). "Actions and Conditions of Actions. Limits and Opportunities of planning in complex social-spatial systems". In de Roo (ed.) *Handbook on Planning and Complexity*. Edward Elgar.
- O'Driscoll Jr, G. P., & Rizzo, M. (2014). *Austrian economics re-examined: the economics of time and ignorance*. New York: Routledge.
- Portugali, J. (2000). *Self-organization and the city*. Heidelberg: Springer.
- Portugali, J., Meyer, H., Stolk, E., & Tan, E. (Eds.). (2012). *Complexity theories of cities have come of age: an overview with implications to urban planning and design*. Springer Science & Business Media.
- Prigogine, I., & Stengers, I. (1984). *Order out of chaos: Man's new dialogue with nature* (Vol. 13). New York: Bantam books.

- Rauws, W. (2017). Embracing Uncertainty Without Abandoning Planning: Exploring an Adaptive Planning Approach for Guiding Urban Transformations. *disP-The Planning Review*, 53(1), 32-45.
- Rauws, W. (2016). Civic initiatives in urban development: self-governance versus self-organisation in planning practice. *Town Planning Review*, 87(3), 339-361.
- Rauws, W.S.; De Roo, G. Zhang, S. (2017). Self-organisation and spatial planning: an editorial introduction, 87, pp. 241-251.
- Rauws, W.S. & De Roo, G. (2016). Adaptive Planning: generating conditions for urban adaptability. Lessons from Dutch organic development strategies. *Environment and Planning B*, 43, pp. 1052-1074.
- Schelling, T. C. (1978). *Micromotives and Macrobehavior*. New York: Norton & Company.
- Silva, P., & Farrall, H. (2016). Lessons from informal settlements: a 'peripheral' problem with self-organising solutions. *Town Planning Review*, 87(3), 297-319.
- Talen, E. (2016) Planning the Emergent and Dealing with Uncertainty: Regulations and Urban Form. In Hass, T., Olsson, K. (Eds) *Emergent Urbanism: Urban Planning & Design in Times of Structural and Systemic Change*. Routledge.
- Totry-Fakhoury, M., & Alfasi, N. (2017). From abstract principles to specific urban order: Applying complexity theory for analyzing Arab-Palestinian towns in Israel. *Cities*, 62, 28-40.
- White, R., Engelen, G., & Uljee, I. (2015). *Modeling cities and regions as complex systems: From theory to planning applications*. MIT Press.
- Yamu, C. & Frankhauser, P. 2015 In : *Environment and planning b-Planning & design*. 42, 6, p. 1054 1078 p., doi:10.1068/b130171p