

## Urban Futures by Design

### Latent factors in design and technology-driven scenarios for mutating cities

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#### Abstract and summary of research

The aim of this proposal is to propose the concept of mutating cities as a paradigm of anticipatory processes by design cultures. It builds on the idea of the fragility of contemporary urban structure (Smail, 2008; De Biase & Pievani, 2016; Mancuso, 2016). The general hypothesis is that a process of urban degradation is occurring. This process is latent and unavoidable - caused by the speed of common urban transformations and changes - and it makes the recovery of desired wellbeing and liveability temporally impossible and economically unsustainable. Currently, the scope and cost of this fragility is almost understandable. Likewise, it is difficult to have a sense of its growth or abatement. Nevertheless, this latent element truly constitutes the ground zero in forecasting the intentional change of reality and in demonstrating the will to invest in processes of continuous transformation. JPI Urban Europe uses the word “dilemma” to represent the complexity of decisions related to urban change: “Dilemmas occur where the level of uncertainty is too high to rely on a pre-calculated action plan”, but, at the same time, “Dilemmas provide strong cases for research and innovation to develop new insights and help find the answer to how change can be more effectively realised” (Wrangsten & Bylund, 2018).

In contrast to the condition of urban fragility, this proposal proposes the vision of mutating cities, or of a city which continuously self-analyses through societal representation and sharing of transformative elements, and which projects in real time, possible solutions based on awareness and participation (Goodchild, 2007; de Lange et al., 2014; Kaplan,

2016). This vision is nourished by the interdependent relationship between the built environment and the public's mental state: a "spacefeeling-action" (Fanzini, Bergamini & Rotaru, 2018) that allows anticipatory design to operate as an instrument for increasing the resilience of the socio-ecological system (Fanzini & Rotaru, 2018).

By referring to the connection between design and urbanism on a broad level, this proposal frames it in terms of anticipatory thinking and transformation. International projects demonstrate the ability of designers to envision scenarios of continuous, sustainable and shared urban mutations. "The Light City" (Italy), "Incheon Living Lab" (South Korea), "Senseable City Lab" (USA), "Guadalajara Digital" (Mexico) are examples of how technology can nurture design approaches for environmental development and become part of an evolving system. In these mutating cities, the digital transformation mediated by people (industry 4.0) overtakes the structural and infrastructural approaches to both planning and urban studies inquiry. The dystopic vision of future cities is eclipsed by a new vision of a city as a living lab, that can share its mutations and investments in order to regenerate its inefficiencies day-by-day (Folke et al., 2005; Boyd et al., 2015).

The territory represents the origin and the destination of this process and the Transition Management approach to the technology for governance of the system, is designed to push the transition towards sustainability, based on the principles mentioned above. The rules that guide its operation can be traced back to the following points:

- Promote a multi-authorship approach in the definition of policies and projects;
- Assume a long-term perspective to create visions and scenarios that can direct action in the present and design fictional artefacts intended to represent, in urban settings, negative and positive phenomena, as well as behavioural patterns;
- Educate public and private individuals through experimentation and direct involvement in pilot projects (co-design of data analysis with citizens and other stakeholders, i.e. policy-makers, entrepreneurs, city authorities, public administrations);
- Translate the positive elements of experimentation into strategies and practices able to lead administrative actions towards coherent and functional results.

The application of this and other similar instruments of lived anticipation described in the literature, as well as the analysis of case studies, will allow examples to be isolated, together with the relevant operational and technological aspects of city mutation projects. The innovative contribution proposed in this abstract derives from the first results of a research project that the Hera Group, one of the most important Italian multi-utility

companies, commissioned from the Advanced Design Unit of the Alma Mater Studiorum University of Bologna. The project is called “Heracademy” and involves the construction of an ecosystem of theoretical and practical knowledge, the objective of which is to promote the growth of the company’s human resources, also through the production of new knowledge. As part of this project, the plan is to create a living lab in which company employees will be able to participate in central decision-making. The objective will be achieved by transforming citizens and their homes into places of experimentation (citizens as sensors), according to the principles of the mutant city expressed above. A concept that considers the city as a single Living Lab made of living (or at least active) components, involving interaction of various kinds which, thanks to enabling technologies, is able to monitor its status in real time, sharing the results and guiding the pursuit of future goals.

## **Discussion**

The discourse avails itself of a theoretical background tied to the relationship between design culture and anticipation. The constant, latent, and declining factors constitute an element at the base of a “pre-active” design-directed process of anticipation, with its own knowledge, shapes, and practices (Celaschi & Celi, 2015; Celaschi, 2016; Formia, 2017; Celaschi et al., 2018).

Current design practices are moving towards the temporal dimension of urban transformations. “Designers - as futurists - by participating in the building of the future, create new levels of value with the motivation to fulfil the unmet needs and desires of people” (Celi & Formia, 2017, p. S63). Design, well as other creative fields, has the capability to realize possible visions of the future (Celi & Morrison, 2017). Furthermore, futures produced by design address the social value of this approach: “claiming, educating, activating collective awareness and involving non-designer professions, providing a possible way through which the design project becomes a critical medium for observing the present and formulating concrete instruments for exploring and sharing the possible and preferable” (Celi & Formia, 2017, p. S70).

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