PARTICIPATORY DESIGN MODELS
Resilience-based re-semantization of territory

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ABSTRACT

Starting from the definition of 'territory' as a 'complex system', the following is a reflection on methods, processes and tools that the Design discipline can offer within projects of territory's re-semantization. This research takes place through the analysis of two exemplary case studies of resilient design that reflect the transformation from 'territory' to 'landscape': the case of the Parisian Clichy-Batignolles eco-district (from degraded suburb to 'sustainable landscape') and the Sicilian Farm Cultural Park project (from abandoned province to 'cultural landscape'). Both of them constitute Design Participatory models on the territory that see a bottom-up approach as a basis, with the intervention of the community in the design process.

KEYWORDS

complex system, community, problem setting, design-oriented scenarios, configuration

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Reading a territory is a very complex operation, as it involves studying and interpreting a multifaceted organism which, in addition to being a symbolic archive of a shared memory, is a real and rhetorical place whose resources and goods are the result of the historical combination of environmental, human and cultural properties that have marked its life and development over time. It is, therefore, possible to associate the definition of 'system' to the concept of 'territory', in which these variables coexist and relate. More precisely, we refer to it as a 'complex system': an organism composed of a wide variety of components or elements that have specialized functions (De Rosnay cited in Bettini, 2013). Precisely because of its intrinsic complexity it is, in fact, difficult to investigate the territory in-depth in its entirety without first focusing on its parts. In turn, complex components and phenomena which need to be re-read, not stopping at the simple breakdown in their essential parts, but by identifying their interaction and the overall vision, including the relationship between the whole and the parts themselves (Morin cited in Bocchi and Ceruti, 2007).

Tightening the lens on the territory, in order to identify its parts, means defining 'landscapes' (Cristallo and Mariani, 2019), or rather focus on 'parts of the territory that can be embraced at a glance from a certain point' (Treccani, 2019a), each traceable in a context of stratifications and pre-existences with which it dialogues and relates. The transition of scale from generic to punctual is the first phase, within a design operation on the territory, which corresponds to the delimitation of the intervention area. Considering the 'territorial system' as the set of resources and characteristics of a place within which the settled community recognizes itself, re-semantizing the territory through complex observational, cognitive and design actions (Spirito, 2015) consists in assigning again areas of meaning, recognition and belonging so that the community itself feels responsible for the protection and management of the territory it lives in.

The following is a study that starts from the analysis of possible Design Participatory approaches and methods, with the definition of the design issues, then proceeding with the reading of two pilot case studies, virtuous examples of intervention on the territory in terms of resilience-based 'design'. The objective is to identify, starting from these guide-projects, the actions through which Design is involved in studying (as research), dialoguing (as mediation) and building (as project) those organizational structures and those tools operational that are basic, guide and orientation in a participatory design process. In order to better describe the organizational issue, it is necessary to make use of the skills of interpretation and mediation of Communication Design which, given its design nature, allows to make systematic and transdisciplinary an organizing operation of the data offered by the territory and by individuals, to elaborate possible scenarios of intervention.

Participatory Design models for the territory: from problem-solving to problem setting | Since this is a real 'design problem', that of the Design Participatory processes (intended as actions of intervention on the territory that see the active participation

of the community and in which end-users are also present in the project phases) can be considered a strategic choice as it allows the two main components (the territory and its inhabitants) to interface, through the setting of tools and methods proposed by the project discipline. The contemporary scenery, in the light of the new perceptive, cognitive, experiential and aesthetic forms, is now 'scenario' of applications and configurations that require new tools, new images, new symbols, of which the Communication Design, in its trans-disciplinary nature, becomes translator and codifier, in the elaboration of what Ratti and Claudel (2015) define 'shared patterns' that allow giving an ordering 'structure' within which to build a project, especially in the case of involvement of many stakeholders.

Faced with what is defined as a new paradigm based on the principles of systemic thinking, also called 'epistemology of complexity' (Cipro, 2015), and since designing in itself means developing 'models' (Rossi and Toppano, 2009), it is useful to reflect on what Edgar Morin calls Method of Complexity, or Method of Designing Complex Models (Le Moigne, 2007). The key question facing design is not, therefore, 'what' to design, but 'how' to do it, that is to move from a problem-solving approach to a problem setting approach. This statement applies especially in conditions of the complexity of the system in which someone operates, in this case, the territorial-system as an independent entity, capable of evolving, converting, designing and planning itself (Magnaghi cited in Villari, 2012). So, continues Le Moigne, regarding the Method of Designing Complex Models: «A [...] renewed design of complexity leads to consider the instruments of its modelling for the intervention. We must then ask ourselves about the processes of planning themselves - design - of an allegedly complex model» (Le Moigne, 2007, p. 74).

The definition of a 'model' (or several models), as result of design, brings with it the need to identify, upstream of the design activity (or rather, in the meta-design phase), not a single point of view, but multiple points, and then move from one to another and relate the various points through a mapping. According to Fritjof Capra: «Relationships must be mapped» (Luisi and Capra, 2015, p. 43), a statement that makes explicit the need for a new scientific approach to relationships (as well as individual objects), since it is not possible to measure them or weigh them, therefore quantify them, moving to a qualitative and relational approach, based on the processes' analysis. The above-mentioned 'relational logic' (Dematteis and Governa, 2009) allows, therefore, to think of places as 'nodes of relationships', according to an overcoming of the concept of 'scalarity' which goes beyond the limits of concepts such as 'global' and 'local', placing at the centre of the reflection the interaction between the whole and the parts, between the community and the individual, between politics and society. We would, therefore, say that, in terms of mapping, what we are analysing is a no longer hierarchical and vertical configuration (top-down approach, intended as a project action proposed and promoted by administrative and government bodies), but reticular and horizontal (bottom-up approach, or a project action promoted by civil society).

The comparison between the top-down and bottom-up approaches, regarding the territory's design, has for years been at the centre of the debate on the so-called 'resilient design', trying to respond as accurately as possible to the research question on methodologies, strategies and tools for the design of territorial systems capable of «preserving their quality and performance characteristics over time [...], absorbing changes and reacting to them with adaptation and reactive ability» (Conti and Tatano, 2018, p. 41). The theory of complexity «[...] indicates that resilience is a bottom-up approach, closely related to the self-organization of a system» (Tucci and Monticelli, 2018, p. 49), considering resilience as a systemic property, as it can make the system sustainable over time through «[...] behaviours that become structural in the transition of the states of the system [...] ensuring its consistency and durability» (Cantini, Mazzola and Romano, 2018, p. 128).

The relationship and balance between the two top-down and bottom-up approaches, in the management of design processes on the territory, constitutes the strategy for effective and not chaotic participatory design. In particular, halfway between the 'governmental' sphere and the 'collective' sphere, there is the junction (also, in-between), or the role of planners and in particular of Design. More precisely, in the design process coexist a series of actions that, within systemic and interdisciplinary thinking such as research, involve data management.

Within this framework, two main issues that Design must deal with are therefore brought to light: first of all, methods and tools in the problem setting phase; and at the same time the use of data through their representation, to elaborate possible 'scenarios' (built based on a previous data mapping and their interpretation in a strategic key) and to propose 'possible futures', or realistic proposals between 'desired future' and 'probable future' (Pillon, 2018). As shown by some examples of research in the field of design on the territory (including the Future Search Conference[1] experience and the Green City Circle[2] project), the role of Design is of central importance in the definition of scenarios that are Resilient-Based Models, based on a 'culture of resilience'. Two exemplary case studies that have made the participatory and 'visionary' approach the winning strategy in the transformation of the territory are analysed below.

Clichy-Batignolles: from degraded suburb to Sustainable Landscape | Located in the north-west of Paris (17th Arrondissement), the Clichy-Batignolles district stands on an area of about 54 hectares, whose recovery from a state of neglect and degradation began in 2002, through an operation conducted by the City of Paris, subsequently carried out by a local public company, the Paris Batignolles Aménagement[3]. From the beginning, the district project foresaw the transformation of the area into an eco-district, and more precisely into a model for sustainable urban development (responding to the so-called 'turquoise agenda'[4]; Oliver, Gascon and Thomas, 2019), placing at the project's core objectives such as multifunctionality, community, energy efficiency and biodiversity (Paris Batignolles Aménagement, 2015). More in detail, it was conceived

Fig. 1 | Clichy_Batignolles, Paris: View of the district's park area, detail of the rainwater harvesting basin, with attention to maintaining biodiversity (credit: M. Mariani, 2019).

as a multifunctional district within which workplaces, public services, residential buildings, green areas (Fig. 1), shops and cultural spaces coexist, studied and designed in line with the contemporary criteria of Passivhaus, or more precisely of Positive Energy Architectures (Tucci and Monticelli, 2018).

In fact, in addition to being 'zero energy', the structures built in the district are 'active' buildings because they are equipped with: technologies that allow the production of what is necessary from the sun's rays; roofs and green surfaces that contribute to the performance of the envelope by improving insulation (Fig. 2); rainwater recovery systems that are treated for their reuse (Fig. 3); a system for exploiting geothermal heat; an underground waste disposal system to facilitate the transfer and recycling of the same, while keeping the image of the environment decent.

Fig. 2 | Clichy_Batignolles, Paris: View of part of the park and energy-efficient residential buildings. In the background, the building of the Palace of Justice by Renzo Piano (credit: M. Mariani, 2019).

The choice of placing the Martin Luther King Public Park with its 10 hectares of extension at the centre of the project, makes Clichy-Batignolles an example of configuration, or rather, 'transfiguration' from a degraded suburb to a sustainable landscape, meaning the 'landscape' as 'shared and communicated territory' (Cristallo and Mariani, 2019), and 'sustainability' not as an objective but as a design tool and, as a 'dynamic and evolving process' (Fiskel cited in Cantini, Mazzola and Romano, 2018), as 'systemic quality' (Meadows cited in Cantini, Mazzola and Romano, 2018). The two guiding themes (communication and sustainability) are clearly and effectively found within the design process. In fact, in terms of shared methodologies and strategies, the district's conversion initiative (Fig. 4) involved the participation of the population (around 2007) through the organization of events, parties and information events. The

Fig. 3 | Clichy_Batignolles, Paris: Top view of one of the rainwater collection basins with particular reference to the realization of pedestrian paths and recreational spaces in the district (credit: M. Mariani, 2019).

process has seen more than 3,000 future inhabitants in an ambitious attempt of active participation through workshops and seminars to analyse the various proposal, first in strategic terms and then evaluate and share the choices of the winning proposals.

To enable such an organisation, the role of information and communication was of fundamental importance. In fact, all information regarding events, projects, initiatives and objectives were made public and disseminated through various media and the establishment of a Project Information Centre (Maison du Projet), a structure that hosts local non-profit associations, which were entrusted with functions of support, updating and education of citizens on topics such as shared environment, energy-saving and biodiversity.

The Clichy-Batignolles eco-district project represents, from the meta-design phase

Fig. 4 | Clichy_Batignolles, Paris: Detail of the pedestrian square inside the district, close to the basin-lake (credit: M. Mariani, 2019).

to its realization, a 'popular, inspiring and reproducible' model (Paris Batignolles Aménagement, 2015), a real pilot project for recovery initiatives in areas of large urban agglomerations, with complex peripheral areas that are necessary for adaptation and resilience to environmental and social problems. In particular, it represents, to date, the final result of a balanced combination of long-term policies, innovative measures (not only on a technological and eco-systemic level but also at social level) guided by a strong vision in terms of future and realizable scenarios.

Farm Cultural Park: from abandoned province to Cultural Landscape | Resuming the initial question, regarding the methodological choices for resilient planning on the territory (especially about the effectiveness of top-down rather than bottom-up ap-

Fig. 5 | Farm Cultural Park, Favara: View of one of the 'seven courtyards', redevelopment of dilapidated buildings (credit: M. Mariani, 2018).

proaches or vice versa), we report here the example of an entirely bottom-up urban regeneration intervention, that is the case of Farm Cultural Park in Favara (AG). Farm is, in fact, a project born in 2010 from a private, or better family initiative by Andrea Bartoli and Florinda Saieva, self-financed, which soon became a real community project[5]. Trying to define Favara's project with the words of its creator, Andrea Bartoli, it emerges that «FCP […] is a new generation cultural centre, where importance is given to the process and not to the product, to the people's value and not to works» (Contato and Bartoli, 2015, p. 97). Two key concepts emerge from this statement: process and people. To clarify the importance attributed to the process and shared dimension of the project on the territory, which was the driving force behind the Farm initiative, Fausta Occhipinti (2017, p. 61) states: «The most important objective of the project is to develop an experimental method to form a community through the (architectural) project. A dynamic community that becomes an active part of the design process, made up of people moved by high expectations and cultural interests».

The bottom-up case of Favara, as previously stated to be entirely the result of private initiative and financing, is a pilot example in the field of urban regeneration, also in this case limited (at least in the initial phase, and subsequently extended) to the size of the district. The substantial difference from the previous Parisian example of Clichy-Batignolles, in addition to the much smaller size of intervention, is the lack of institutional support during the planning and implementation phases, which has made Farm an entirely community product, a virtuous example of 'bottom-up' self-managed change, which has replaced the lack of public administration intervention.

The transfiguration process of the place is evident: where before there were crumbling houses and abandoned courtyards, now new spaces of culture are sprouting (Fig. 5), where art and innovation have been the instruments of the rebirth of the historical centre of Favara: from a dilapidated province to a Cultural Landscape. Art and design (in its broadest sense of 'design culture') as driving forces for resilience, adaptation and development, have led to the definition of the Farm's phenomenon as Art of the Possible (Maselli, 2012). In fact, Farm is not only a widespread museum, an open-air

Fig. 6 | Farm Cultural Park, Favara:
Interiors of the structures that host the
SOU School of Architecture for Chil-
dren (credit: M. Mariani, 2018).

exhibition project, but a real 'workplace' (as its name suggests), a material and
metaphorical space where sharing, experimentation and participation guide the activi-
ties, making use of site-specific design tools such as laboratory, learning by doing
workshops, in situ teaching, cultural initiatives and events, including the settled SOU
(School of Architecture for Children, Fig. 6), and the more recent Countless City – Bi-
ennial of the Cities of the World 2019 edition, on the occasion of which a new exhibi-
tion space has been inaugurated, exhibitions and artistic installations have been set up
in different pavilions, animated by meetings and conferences aimed at raising aware-
ness and deepening of important issues for the territories where we live, from the
point of view of the citizen as civic leader, investor and designer of its own urban fu-
ture (Pierro and Scarpinato, 2019).

The core of activities is, also in this case, a project aimed at a vision of the possible
future, which can be improved through strong values of community and culture, built
day after day, project after project (Fig. 7). Sharing, through contemporary communi-
cation media, also leads Farm to be considered an evolved global model, no longer on-
ly local, thanks to a not only artistic and cultural relaunch but also tourism and eco-
nomic revival (Fig. 8), through a 'global media exposure': web, social networks, na-
tional and international TVs, Italian and foreign newspapers «[…] stimulating other
realities to experiment with innovative ways of development, based on the search for
new functions» (Occhipinti, 2017, p. 63).

Conclusions | Regarding the initial question posed on design methodologies and re-
silience-based processes for the territory, an attempt was therefore made to identify
models that would suggest lines of intervention based on a systemic and participatory
approach, led by a strong design-oriented desire. In particular, the district as a field of
application is positioned at an intermediate project scale, halfway between the build-
ing and the city, which simultaneously includes the social, design and administrative
dimensions (Murielle Boulanger and Marcatili, 2018). From a methodological point of
view, to operate on the district as a limited area and taking into account the above, it

Fig. 7 | Farm Cultural Park, Favara: View of one of the alleys of the Farm, with detail on the renovation of the façades and the opening of new activities and tourist attractions (credit: M. Mariani, 2018).

is, therefore, necessary to evaluate a procedural dimension that is systemic, multiscale and multidisciplinary.

As emerged from the study of Clichy-Batignolles and Farm Cultural Park projects, it is evident the need to develop complex models making them replicable, through a 'configuration' that is the representation and communication of possible future scenarios. In fact, dealing with complex systems, Ross Harrison identifies as one of the key characteristics of these systems, in addition to the 'relationship', their configurative nature, understood as a hierarchy of levels within the system (Cipro, 2015). Considering literally 'configuring' as «[…] representation of something according to a certain disposition and a certain shape similar to another object» (Treccani, 2019b) the communicative question emerges strongly, both of physical and metaphysical elements. In fact, it is necessary to remember both components, the tangible and intangible ones, which constitute the territorial system, in particular, the relationships that constitute its structure.

The theme of information, common to both case studies presented, opens a reflection in methodological terms, within the discipline of Communication Design, regarding the use of information (small and big data, open data and real-time data) within the design phases (from the meta-design to the executive phase, up to the final communication of the project). The theme of Data Collect comes into Information Design research, in particular for which concerns the role of Data Visualization within the Communication Design project. Communicating phenomena and information is one of the main objectives of Information Design discipline which, as a process of reading phenomena and returning them through visual syntheses, allows simplifying very complex information to make it accessible through a communication project.

At the same time, this visualization activity is necessary to give life to valorising processes on a territorial scale considering that, in this case, visual communication is based on the codification of narrative languages to make users able of fully understanding the described reality. The mapping operation of phenomena constitutes a tool for the survey and knowledge of the same, to extrapolate foundations, chronologies, causes and consequences, as well as forecasts, opportunities and development of im-

Fig. 8 | Farm Cultural Park, Favara: Artistic installation inside one of the Farm's courtyards, during a temporary exhibition (credit: M. Mariani, 2018).
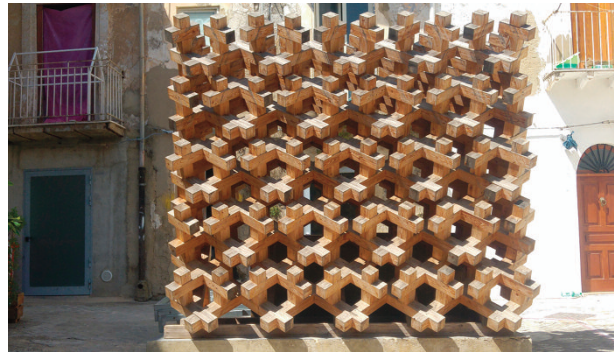
provement strategies. The goal is the creation of 'areas of meaning' (Cristallo and Mariani, 2019) so that the territory is, with properties and qualities, depicted for those who must operate on it through community and participatory design activities.

Notes

1) Future Search is a participatory design method, developed by Marvin Weisbord and Sandra Janoff, based on cooperation between numerous groups of people, in three-day events (Future Search Conferences), structured as workshops (Weisbors and Janoff, 2010). The main objective of Future Search is the participatory investigation of the 'whole system', the reading of 'complex' through the experiences of the participants, to identify common areas and develop desired and shared 'future' projects.

2) Green City Circle is a «[…]design aid tool aimed at supporting circular assessment and design processes for existing urban districts by assessing their conditions of resilience and efficiency» (Murielle Boulanger and Marcatili, 2018, p. 203). It was developed as part of a research on the city of Bologna involving the Environment Sector of Bologna Municipality and Nomisma Society of Economic Studies, for a project on Bolognina district.

3) Paris Batignolles Aménagement (PBA) is the planning authority of the Clichy-Batignolles project. A local public company with 6 million euros of capital, owned by the city and the county of Paris. It is directed by Annick Lepetit and managed by Jean-Francois Danon. PBA holds the concessions of the Cardinet Chambre and Clichy-Batignolles urban development areas. Clichy-Batignolles was designed from the outset as an eco-district that fully meets the requirements of the Paris Adaptation Strategy (2015), having been designed to comply with it.

4) Oliver, Gascon and Thomas (2019, p. 10) define 'turquoise agenda' as a model of development objectives that derives from the mixt of previous models of the 'green' (sustainable development) and the 'blue' (resilient development) agenda to develop a plan to deal with the consequences of climate change. According to the authors, the Clichy-Batignolles eco-district meets the development criteria of the 'turquoise' agenda as a 'holistic development project'.

5) «Art and culture here in Favara are not an end in themselves, but a noble tool to give identity and future to the city and regenerate the historical centre. Architecture, art, public design, urban agriculture and many other disciplines and themes interest us more and more every day. We are particularly interested in all those issues that have to do with social innovation and generate solutions to im-

prove and make the lives of our territory's people more sustainable and ethical» (Bartoli cited in Contato, 2019, p. 99).

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