

A reflection on resilience and inertia as properties of an urban system: Taranto in the ReCity project

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Abstract

This short paper concerns the research path activated about the city of Taranto inside the ReCity project. This reflection describes the context of the research project ReCity. The following opens a field of investigation about resilience as a property of a system read according to its physical and relational characteristics in a physical, organizational system (the city in its whole existing in the environment) and the social system (the collectivity in its whole and the singular individuality). In this sense, together with resilience, it is proper to investigate the inertia. The result of a questionnaire recently disseminated will add data consistency to this thesis/intuition.

Keywords

Taranto, Resilience, inertia, requalification, ontological analysis

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Introduction to the ReCity Project as a reference frame for this research

This research project links to the grant of which this report is part of a larger European research project called Resilient City - Everyday Revolution: The Resilient City, the daily revolution (Project Code: ARS01_00592). *ReCity* is the official acronym.

The leader of this project is Engineering Informatica, and Polytechnic of Bari belongs to the team. The European ReCity project intends to activate an urban system that is:

- SMART, is capable of providing customizable, ubiquitous, citizen- and data-centric services, through the use of “resilient technologies”
- SENTIENT, able to remember, correlate and anticipate future scenarios thanks to advanced techniques of data analytics and innovative, accountable sensory networks;
- SOCIAL, capable of promoting wider citizen influence in the performance of management administration and scenario of the city, which thus becomes a trained, informed and active subject within the community, thanks to simple and effective citizen-community interaction models, tools of urban design, sharing and collaboration, serious gaming tools.

According to the development of the description of the ReCity Project, a smart, safe and inclusive community is a resilient community capable of implementing an “extremely cooperative community model to solve the problems related to the growing urbanization” with a view to social innovation and through the use of ICT technologies.

The ReCity solution suggests a social, economic and technological system built together with communities: this to enhance resilience practices already existing by providing tools and methodologies that amplify their effectiveness and reach, to give the necessary support to the individual and the

community as a whole in emergency and imbalance situations.

Implementation of the research project actions

The research path conducted inside the ReCity Projects in recent months links to a previous research that developed the themes of ontological analysis and applied ontology in order to represent and manage the knowledge elicited and/or emerging from a complex system. These reflections fit the territorial and environmental system of Taranto city (previously the subject of investigation and case study) (Stufano et al., 2018).

Our effort here, in our very stating point, is the identification and strengthening of the characteristics and properties of environmental and social resilience in general and of the system Taranto in the specific and vice versa: enriching the specific beyond its specificities and the general with the particular inception, merging and blending granularities too (in an anti-fixation approach, as in C-K theory)(Hactuel and al., 2018).

The ambition of this research is setting up a reflection/methodology that can offer a coordination tool 'in force' of by the various agencies and subjects responsible for the land and urban management.

The quest is to improve and empower the resilience (and consciousness of the possible resilience) of Taranto against the environmental pressures caused by climate change and the huge anthropic footprint that has affected the city itself and its territory.

Knowledge constructed and shared in a 'disambiguated' form thanks to the contribution of ontological analysis can offer more effective communication and understanding of phenomena and dynamics (Stufano et al., 2018). Risk

mitigation about the material and environmental context and 'dissolving' pressures socio-economic system: a strategy that has the task and the answer in understanding logical and practical resilience in the face of environmental and social challenges present and future.

The development of the first phases of the work

The first step has been exploring the literature related to the resilience topic, in its wide range of meanings and implications.

The first months were marked by regular meetings with the larger research group aimed at coordinating and sharing the directions of the work and in-depth studies:

- in relation to the interpretation of the concept of resilience
- in relation to the elicitation of the resilience characteristics of the city of Taranto
- the identification of stakeholders who could be protagonists and activators of decisions and actions that had incremental effects on the resilience categories of the Taranto system
- the construction of methods for eliciting knowledge through the administration of a questionnaire aimed at identifying the awareness of the inhabitants of the city of Taranto on the issues of resilience.

The questionnaire

The questionnaire has been written according to a dual purpose. In a first place it is a tool for a 'collection of knowledge': it helps to collect ideas, needs, ways of thinking, ways of experiencing the city, dreams, proposals for the city

itself that collectively animate those who animate it and specifically the impressions of each one.

Every opinion is important, and the more the opinion informed and aware, the more effective it is. And here comes into play the value of the second purpose for the questionnaire: it is the starting point of a dialogue and an information tool. In the subsequent sections there are not only questions, but also definitions and information on the topic of resilience and its improvement. It can be the trigger of a virtuous circle: while eliciting a knowledge picture about the topic, it is a vehicle of information regarding this research project.

In this way it could have more important implications thanks to an extensive and conscious collaboration. The definitions and concepts about this project are widespread and known and can become an opportunity for reflection and curiosity by people involved (a kind of meta-experimental level).

Reflections on resilience and possible application in relation to the city of Taranto

At the basis of our reflection we intended to focus on an abstract concept of resilience understood as a property of the system.

In this sense, another property stimulated by resilience and which accompanies it is the property of inertia, parallel and complementary to resilience. Inertia is often understood as a physical property of negative resistance, almost of passivity (Plein, 2019). But in relation to the Taranto city system the inertia seems to corroborate the reaction for resilience of the city: for example according to social point of view a continued willing to live the city and see its redemption.

These reflections are in progress, the purpose is of applying these properties in the form of relationships within an

ontological analysis of the parts of the Taranto system, as an explanation of the interaction of three 'layers' (Borgo et al., 2021): (i) the structure built and modified material; (ii) the agency structure (anthropic and non-anthropocentric); (iii) the body of knowledge that 'in-forms' the identity of the city itself (Borgo et al., 2021).

Reflections on not knowing

As anticipated this work is part of a broader path of study and research with eyes focused on Taranto and creating the conditions of approach to the decision that make it possible not to repeat strategic and material errors such as those that have led to a social context with aspects of critical and environmentally seriously compromised reality. The contribution intends to be a step forward respect to a previous position of awareness of non-knowledge (i.e. ignorance) of possible future events both independent of our choices and consequences (Stufano Melone, Camarda, 2021; Stufano Melone, Camarda, 2022; Stufano Melone, Camarda, 2022).

Taranto is a classic topos: short-sighted choices that lead to a short-term advantage and long-term damage that are difficult to 'absorb': a city that wants to redeem itself socially and environmentally and have the opportunity to mitigate effects and decisions with choices which prefigure scenarios that are unknown but potentially to be avoided in a form of negative back-chain mirror (Khakee, 1991).

Conclusions and follow up

This brief contribution has reported the main lines of development of ongoing research, in fact many activities still

remain in progress such as the administration and analysis of the data from the prepared questionnaire and the construction of further products of the research itself. In next months new achievements could be reached after the dissemination online of the questionnaire and the knowledge gathering that will follow the analysis of the answers, linked with the analysis results collected in the meanwhile from scientific and narrative literature.

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