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Dorotea, the city, can be different: urban projects in Rome based on the seminal role of infrastructures

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The authors are put alphabetically and have contributed equally to this publication.

Abstract

This paper offers a semiotic perspective of the city as an enunciation of different signs in which contemporary projects (the alleged urbanities) play a fundamental role in resemantizing the urban environment. Such design outcomes allow us to understand the city as a hypotactic complex system, not created then only by the simple juxtaposition of elements, but intended as the results of multiple primary and secondary intertwined narrations. The work adopts a structuralist-based approach to the topic where the examples presented act on two combinatorial levels: a first one, where each of them maintains its autonomy and functions as an independent predicate, and a second one where the importance relies on the structural system in a dyachronic perspective. What we argue for is the possibility for architects to promote a bottom-up incremental design strategy in the urban environment to trigger sustainable urban transformation processes.

Moreover, through the specific experience of the authors in the Tevere Cavo project, the paper aims to demonstrate the importance of multitasking interactive spaces and new generation infrastructures for the revitalization and re-activation of the abandoned urban spaces using the city of Rome as object of such investigation.

Keywords

Urbanities; urban semiotic; multitasking infrastructure; urban voids; bottom-up processes.

0. Prologue

Dorothea, the city, could have been different... if only its infrastructures would have places where the linearity of the industrial world could have been transformed into a space of happiness and joy, where life could stream freely and picture new moments of interaction and exchange among its citizens and dwellers.

Dorothea, the city, could have been different... if only its urban tissue would have been a flexible organic membrane where the different zones would have been linked and divided, close and not distant if the whole entity would have been different from a tree and more similar to a network (Alexander, 1965) where all the different interconnected pieces would be considered as a synergy of heterogeneous elements all able to give sustenance to the organism.

Dorothea, the city, could have been different... if only we, the architects, would have understood that the old paradigm was anything but a result of the *zeitgeist* of different times, where previous conditions led to the necessity of a specific metaphor to cope with the challenges of a world different in time and space from ours.

Dorothea, the city... could have been...

Of course, Dorothea, the fictitious 'city of desire' does not exist. It is just a narrative artifice that we had borrowed from Italo Calvino's seminal book *The Invisible Cities* (1972). In this novel, the fictional character of Marco Polo inserts this city among the several representations of the city he creates to entertain Kublai Khan. It is interesting to note that through his invisible cities, Calvino deconstructs and recomposes not only the travel literature genre but also the archetypal idea of a city that is no longer intended as a static entity guided by immanent ideas, but becomes a fluid mass that can always be re-written, edited and enriched by new meaningful elements to the original plot.

The city we imagine, and that we aim to explore through our research, could be effectively one of those who could find a place in the above-mentioned book and, perhaps, could be precisely the place of 'urbanities': a complex urban system defined by multiple and variegated signs that, taking as an example the Structuralism of Ferdinand de Saussure (1916), works on two combinatory levels. A first one, where each of them maintains its autonomy, and a second one, deeper, where the importance relies on the structural system - apart from the single elements - and more on the asynchronous axis rather than the diachronic one.

In this paper, we would like to underline the importance of the city as a semiotic enunciation of different signs (or alleged urbanities) that, despite their scale or physical dimension, can help us be the agent of change in contemporary urban conditions. At a smaller scale, urbanities own their specific boundaries and peculiarities while, through a progressive blurring of lines of demarcation, at a bigger scale they act as a network of meaningful fragments that creeps into the city and composes infrastructural webs to reactivate our urban fabric. These projects, or constellation of projects, help us to resemantize the urban tissue that we inhabited and push us to understand the city as a hypotactic complex system, not created then only by the simple juxtaposition of elements, but intended as the results of multiple primary and secondary intertwined narrations. We welcome the reader to this journey and while asking for forgiveness for the necessary redundancy of the beginning, we will appreciate together the crises that grip our cities and the ways in which, through the concept

of urbanities, new hypotheses and paths can be unveiled and, why not, undertaken. As a first step, let's define the object of our investigation: the city (as it is).

I. The city that is and The city we can read

The city that we have inherited today is a multi-layered palimpsest of a series of tangible and intangible dynamics that have been implemented at several scales (from the micro to the macro) from architects in the last decades primarily focusing on an economic production model.

Through analysing urban systems from a Marxist critical lens (Marx, 1867), we can agree upon the fact that this is a materialistic reification of the economic system of capitalism and industrialism. The phenomenon of zoning - the division of the urban environment in a series of monofunctional quarters- the progressive uncontrolled growth and sprawl, and either the fragmentation of the city in a historical core or a progressive development of the productive areas outside the latter, are just the architectural consequences on a specific economic model that had to create the fertile soil for itself to grow and thrive. To achieve this goal centralized planning was used as the primary methodology to control the city and affect its growth. Through this model, decisions are not taken independently at a local level, but holistically and centrally, where every single aspect of urban life is controlled and oriented towards a top-down approach. Moreover, the different sectors are coherently organized following the leading metaphor of the assembly line, every process in the urban areas can be synthesized as a linear system where the previous one forestalls the subsequent (Saggio, De Francesco 2018, 2019). Furthermore, these top-down approaches can be then defined as the operation of breaking down a system to gain new insights into its subsystems in a reverse engineering fashion (Bresser-Pereira et al. 1993) and have shown in the past decades lack of empathy towards people (focusing on policies rather than users). Such condition represents not only severe obstacles in a long-term planning process, especially in complex and layered situations as the European reality, but also foster dynamics such as conflictuality (Dhamo, Bregasi, Perna 2020) and the rise of the progressive abandonment and mass-migrations towards different urban areas. These reiterated phenomena have slowly led to the actual conditions of our metropolises where the appearance of the alleged "urban voids" (Moccia, Ballini, 2010) aroused a new matrix of problems and issues to be addressed and tackled.

But what is the "new" dimension of cities that we want to confront and how can this new dimension be an agent of change? Wherever we try to grasp the crises and complexities of our urban environments, what we realize in the end is that, first of all, we need to declare what the object of our investigation is and, only then, appreciate which kind of understanding we have to project on it. Of course, the matter in question could be debated exquisitely and based on personal solutionist approaches. As far as we are concerned, we are not interested in proposing any new agenda but rather to stimulate a debate regarding the object of our investigation - the city - and offer some new insights into how the figure of "urbanities" can be used to give rise to a revised sense of citizenship and, indeed, bottom-up incremental urbanity.

To do so, and to introduce our personal experience within the topic, we would like to refer to the semiotic conception (Volli 2005, 2008) that suggests that the city has a textual dimension and even though it is not a proper text, it properly acts as one. Hence, if the urban condition can be read it can also be physically altered, and the operation of "writing the city" (Thibault 2020), whether we build, insert, demolish, resemantize something new or existing - unveils the possibility to superim-

pose something to reality and rectify the existing condition in something that already is in front of our eyes. With these premises, in a city similar to a motherboard, 'urbanities' are small strings of codes that, as specific plug-ins, connect to the urban environment and become meaningful textual/architectural narrations. There are two possible directions for the operation of urban writing: the first one refers to the image of the palimpsest and involves the removal of one of the different layers of material to build something new that roots in the pre-existing condition. It is similar to the work of the Italian Nouveau Réalisme artist Mimmo Rotella. His *décollage* departs from the idea that a new artistic object can be made by the juxtaposition of existing ones, where the parts are detached and torn and where the new one not only carries some of the features of the older, but also injects new enzymes on the overall composition. The other technique is the *maquillage*, which is more based on the concept of recuperating and recovering, and acts through the resamantization of existing environments through new writings, whether they are strategic or simply the traces of human activity that takes place in urban space.

The paper illustrates these two directions of urbanities through concrete examples of our approach to reactivating and resemantizing the city.

2. Towards new urbanities. From top-down to bottom-up

Following the shift from the industrial society to the Information Technology one, and the change in the main value of our times from the industrial production to information (Toffler, 1980), in the last decades, we have seen the rise of a new awareness regarding the issues of our urban settlement and the flourishing of several pieces of architecture that insinuate the meshes of the existing city to re-activate it. These micro/macro interventions are real catalysts of urban change, configured as networks with diffused morphologies, sometimes linear and tentacular that innervate the space in multi-layered ways. Multiple coexisting scales, unexpected geometries, and multifunctionality mark these architectures, whose definition is polysemic for their capacity to produce several meanings and, at the same time, as non-alphabetic writings, to be read in various manners. These, which we call Urbanities, promote a new methodology to define the future of urban environments and to respond to multiple crises associated with intertwined issues. Acting in the underused and abandoned urban spaces, they nurture the appearance as a network of psychogeographical fragments in the built city and shape up to have the role of activators of rewriting processes of important urban pieces. The old urban plans, large drawings based on the top-down model, based on the logic of *tabula rasa*, have proved unsustainable for communities over the years. The long time to realize the planning rendered them obsolete once completed; funds proved to be insufficient for public administrations; designs were not sensitive to the contexts. Urban voids, abandoned spaces/drosscapes (Berger, 2007) structures are the main results of those planning oeuvres. Moreover, these leftovers represent a cost from a cultural, socio-economic, and environmental point of view, configuring themselves as an unleashed vacuum energy (Wilczek, 2008) that intensifies the entropy level of the city system.

Their reuse is proving to be a valid strategy for operating in the built city, with the dual aim of redeveloping it and promoting an urban model that does not consume soil through a never-ending expansion phenomenon. Through the reuse of these spaces, it is possible to promote sustainable urban transformation processes, incremental over time, built on the succession of the construction of parts where every single one is not just a simple addition to the previous one but, as in the *décollage* of Rotella, which exchanges with it a range of signs and meanings.

In the last years, as research assistants in our former institution, we experimented with a bottom-up

planning model, based on the notion of incremental design (Hartson, Pyla 2018) - borrowed from UX Design) that splits the problem into subsystems of smaller ones and faces and solves them one by one, according to the guidelines of master-programs that shared choices, principles, and strong-concepts (Höök, Löwgren 2012), while updating them over time to trigger further improvements.

This model promotes an idea of an open project, adaptive over time, and the rise of a new generation of infrastructures that, even though composed of minimum parts, can be read as a coherent entity and appear as lymphatic vessels that activate and inter-connect the punctual and widespread interventions in the city, that configure hybrid landscapes for the rehab of urban suburbs.

3. New figures in urban spaces

What these new urban figures have in common is innate multifunctionality. After all, they are an reification of the time in which they live. Our information technology era is marked by the simultaneity of times and events and architecture, the highest inhabited tangible expression of culture, embodies this time. This overlapping of multiple times manifests itself in public spaces, technical infrastructures, cultural equipment, playgrounds. Also as green spaces, landscaping, informative systems, all symbols of the rebirth of the contemporary urban condition. Their definition is not univocal. Besides all, today a car is not only a car; the same way a computer is not only a computer; or a telephone is not just a telephone. In order to let urbanities emerge in the physical world, we need to attribute to them a name, and the latter seems to us, the most appropriate to contain all peculiarities. Furthermore, this multitasking condition generates experimentation of architectural forms and geometries (Spiridonidis, 2019; Spiridonidis, Voyatzaki, 2020), far from given typologies and archetypal forms. They reinterpret urban complexity by generating a series of unconventional morphologies that liberate architecture from the boundaries imposed by ultimate standardization and the principles of Modernism.

The hybridization process generates figurative alterations and demonstrates the possibility of an integrated project in which different components co-exist: durability and mutability, nature and built advanced technologies, and traditional materials. Through the layering and intertwining of curves and inclined planes, these architectures ensure the functioning of large parts of the city and generate fascinating metropolitan narrations. These architectures aim to build a new urban model: a living city, able to evolve with the nature that surrounds it, with the rapid changes of the contemporary, such as climate change, pandemics, economic crisis, able to promote systemic interactions between the components of the environment. They try to build design ecologies able to change in time.

Nonetheless, the formal richness of these forms belongs to a new phase of architecture and the city in which information technology imposes itself as a key paradigm. The dynamic interconnections that are its heart are transferred from the world of digital models to the reality of a reactive, sensitive, interactive architecture (Saggio, 2020). This paradigm promotes a practice of architectural, urban, and landscape design not as finished work-objects but as processes in continuous evolution. Richard Sennett (2006) defines it as an "open city", while the Greek mathematician Salingeros as the "resilient city" (Mehaffy, Salingeros, 2013).

The search for the Informal, which has been part of postmodern history, represents a background of this field of research. Architects in the 1990s, inspired by the philosophical theories of Derrida and Deleuze, investigated the influence of topological geometries on architecture by denouncing the infinite transformations of a malleable material (Ito, 1999). Today a new generation of architects

moves from an architecture of de-formation to another of information (Kipnis, 1993) and questions the ontological dimension of the discipline itself through new tools which are no longer tools for 'making' but, indeed, for 'thinking' (Carpo, 2017).

4. From theory to practice // 3 Design experiences

Beyond the theoretical elaborations present until now, it is important to test hypotheses and implement in order to confirm speculations. As researchers we have been directly involved in some specific projects that could best communicate the design methodologies taken as references when dealing with the topic of 'urbanities'.

Since the 2000s, as students, and later on, as PhD candidates, we have been involved as research assistants in a series of design studios¹ of the chair of Professor Antonino Saggio, at the School of Architecture of Sapienza University of Rome. Over that period, we had the opportunity to participate in three significant experiences entitled Urban Green Line™ (2010-2013), Tevere Cavo (2012-2016), and UnLost Territories (2016-2019) that were the results of a collective effort from several people involved².

All projects aimed to investigate the issues concerning abandoned spaces in three different sectors of the city of Rome. Those labs had been the opportunity to work and address the several crises that grip our cities and to develop new proposals and research insights for the re-activation of the 'urban voids' within the urban tissue. The design approach that mobilised these experiences completely overturned the conventional point of view of the architects, and defined a process that does not start from predetermined solutions (lead by a top-down approach) but instead proposes an incremental system activated by different architectural additions in a longer time-span.

From this perspective, the architectural project has to configure itself as a forerunner of thematic - and indeed problems - that might still not be visible, but could be a later result of the actual ongoing dynamics. The design inputs do not need only to describe then the existing situation but, on the contrary, have to contribute to adding new enzymes in the urban environment under the lens of a more sustainable future development. Each of the projects described, roots on the fundamental idea that new generation infrastructure represent the key for the revitalization and re-activation of the abandoned spaces through micro/macro interventions that part of the systems of 'urbanities'.

These infrastructures are not just the linear connections between two points (not an assembly then) but are agents of change in the city. They are intimately multitasking and able to do multiple things at the same time. They can be devices to monitor the level of pollution in the air; collectors of big data that can be used to organize and manage the city; new landscapes that can offer to citizens new leisure spaces and

1. The authors have been involved respectively in the Design Lab IV and in the IT-CAAD (Computer Supported Design in Architecture) at the 4th and 5th year of Integrated Master in Architecture and Urban Design.

2. All the work is completely published, with link to the bibliography, in the official site: www.arcl.uniroma1.it/saggio.



high-quality mobility.

Through this specific approach, the hidden objective of the work was to reinstate the polarisation between theory and practice in order to communicate to our students these concepts that we consider fundamental for the rise of a new urban dimension for our cities. All the projects presented follow a specific coherence that leads to three different multitasking infrastructures, and 'urbanities'-oriented propositions, for the city of Rome.

The UrbanGreenLine™³ (Angelini, De Francesco, Finelli, Interdonato 2013; Saggio, 2017) is a thirteen-kilometer long ecological and infrastructural ring that aims to connect the two metropolitan scale areas of the Archaeological Park of Caffarella and the Centocelle Park in Rome. The ring is composed of 21 traits of existing roads, to which a project is assigned to enhance the local and global impact and rehabilitate a series of urban voids. The mobility through a new tram line becomes the driving force of a wide overlapping of interventions, finalities, and of a design proposal.

Tevere Cavo⁴, develops a network of urban voids along the course of the Tiber, from the dam of Castel Giubileo to the door of Piazza del Popolo, enclosed by the hills Monte Mario and Monte Antenne. The project is linked, physically and methodologically, to the previous one Urban Green™. The catalytic role of the new tramline of the previous part becomes the systemic element in this part of Rome Tiber. The Tiber in which the history of the city itself and its future flow.

After UrbanGreenLine™ and Tevere Cavo another sector of Rome, in the East periphery of Rome, along with via Prenestina is completed. Urban voids and brown areas cross a multitasking tramway line: the UnLost Line⁵ (Saggio, De Francesco, 2019). It is a double infrastructure and ecological ring that links the three large urban parks: the Aniene Park, the Mistica Park, and the Centocelle Park. It also connects the suburbs close to via Tiburtina and via Casilina and the Metro lines with the urban railway FL2. Its development consists of 17 sections of roads (many of which exist) for each of which different design proposals have been developed to enhance the contexts in which they operate.

These works have involved hundreds of students, PhD candidates, collaborators and assistants, curators, and experts in the different roles of supervisors, public administrators, and politicians. They are articulated in architectural and urban designs, research projects, publications, graduation theses and PhD dissertations, conference presentations, and exhibitions which work in a coordinated system since 2007.

Finally, delving into the case Tevere Cavo, the main methodology, and operative principles, behind its formation are further elaborated upon.

3. For further info on UrbanGreenLine™: www.arc1.uniroma1.it/saggio/UJGL/.

4. For further info on Tevere Cavo: www.arc1.uniroma1.it/saggio/TevereCavo/.

5. For further info on UN-Lost Territories: www.arc1.uniroma1.it/saggio/unlost/.

5. Tevere Cavo // An Urban Project for the City of Rome.



Figure 1

Tevere Cavo, overall perspective of the 'area flaminia', Authors: Livia Cavallo, Valerio Perna (Saggio, 2018)

Tevere Cavo is an urban project that focuses on the northeast sector of the city of Rome. In this specific case, the infrastructure used as the main 'lymphatic vessel' for urban regeneration was an already existing natural one: the river Tiber. The design proposal roots on five main points that are defined as many distinctive characteristics that the alleged multitasking infrastructures should have and are listed and summarized below:

Multitasking: it refers to the ability to conduct simultaneously multiple interrelated actions, where each of those sustains the other in a virtuous loop (De Francesco, Saggio, 2016). These features aim to inject in architecture the ubiquity of the modern production processes. Indeed, following Toffler's theorization (1980), the Third Wave has erased the logic of the assembly line and made those processes more 'computerized' and diffused. This economic shift has to be projected also in architecture and prompt us to anticipate the topic of infrastructures no longer as monotasking entities, but rather as multitasking, where the city of zoning leaves space to the one of 'anti-zoning'.

Green systems: represent the possibility of humans to deal with a renewed ecological sensibility and to reflect upon large urban green systems - or the so-called 'ecological corridors' - towards connecting, activating, and valorizing different areas at a different scale.

Slowscape: the third point is more related to the topic of mobility. Instead of taking into consideration 'speed' as the only parameter, when designing an infrastructure, the slowscape explores the possibility of a 'slower but more 'quality' movement in the city permeated by symbolic, ecological, and social values.

Information technology foam: it expresses the idea that infrastructural can collect data to be further modelled into interpretative structures to foresee massive changes within the ecological or urban conditions.

Galvanize: this last, is the less tangible of the five principles and it refers more to the need for contemporary architectural projects to raise dynamics of engagement and social awareness within the urban fabric. The idea is to generate a new sense of community at the level of the citizens; if they identify in a set of shared values, their agency in the city will also be active and inspired.

With the help of these five principles, through several sessions and understanding of the actual conditions of the riverside of the Tiber, a series of 'urban voids' were identified by the academic team. Different in regards to dimension, previous functions, or orographic conditions, these areas were collected into a digital map, created through the Google Map platform. Students were pro-actively stimulated within the design process. Conversely, to the common design studio, where the teacher demiurges gives to the class an already complied brief to be addressed at the end of the semester, every student in the class is engaged in proposing the selected areas and a specific design brief that the area can contain.

Moreover, if the areas listed by the teaching team does not satisfy the class, the teachers are completely open to listen to new areas proposed by the students that, after a specific negotiation, will be then included in the Google Maps list, where the already existing one is divided into a growing level of difficulty.

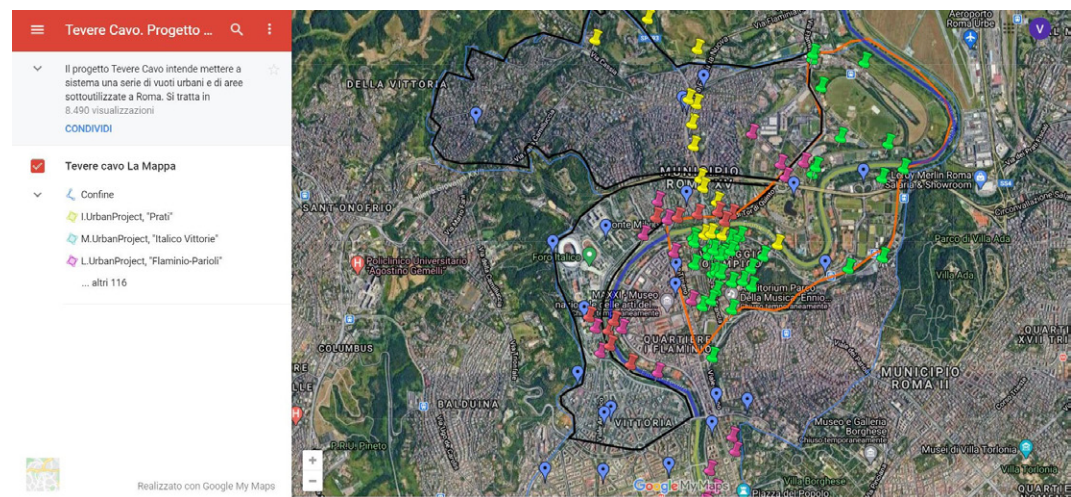


Figure 2

Tevere Cavo, interactive Google Map. The map is accessible at the following link: <https://bit.ly/39yZiET>

In addition to the five principles already explained, there is another set of inner characteristics that specifically lead the class environment and behavior during the semester (Baldissara, 2016; De Francesco, 2017; Perna, 2019). These are not just recommendations but a complex system of notions and concepts helpful to nurture in the students a different way to navigate within the world of architectural design, following a path that instead of operating in a top-down way, rather focus on a bottom-up horizontal approach. These points are:

Deductive what-if method: it conforms to a non-linear working modality, where every single design action and reaction is not necessarily directly linked to the previous one. The new methodological tools at the disposal of architecture, such as computational software and strategies, allow us to manage a greater amount of complexity and problems regarding the urban environment. We are no longer submerged in a fixed theoretical - and ideological - system, but rather in deductive and dynamic one, that does not follow a rigid consequential *if...then* path, but provides *what...if* non-linear interrogations (Saggio, 2020).

Proactivity (proactive behavior): it refers to an attitude that, despite plainly respond to a current situation, provides the strength the focus on the problem with a future-oriented futuristic or forward-looking stance. The architect, and as described above the 'proactive student', make things happen and act as an agent of change ready to catalyze the hidden potentiality of the existent. The term, appeared from the first time in the 1930s, refers to the field of organizational psychology, but it is meant to describe a person that takes responsibilities for his own life, instead of searching causes and reasons outside of itself, attributed to the work of the Austrian psychologist Viktor Frankl (1946).

Incremental design: represents a series of actions at a smaller scale (the 'urbanities' scale) that, linked by a system of general principles, propagates in every corner of the built environment. In the field of urban planning, it denies the idea of a rigid prescriptive masterplan, and fosters a bottom-up approach where every single intervention enforces the energy of the surrounding ones and allows space for future implementations and changes. The general idea is to give birth to a 'system space' (Saggio, 2020), where the different components maintain a high level of independence, but are intimately interconnected within each other. The terminology comes from software engineering, used to describe a model based on the sequence of some primary points, where every single one is renegotiable and leads to lateral processes (De Bono, 1970) different from the original ones: (i) *planning*, (ii) *requirements analysis*, (iii) *design*, (iv) *implementation*, (v) *attempts*, (vi) *evaluation*.

Information technology-driven approach: it is the implementation of IT technologies - interactive and responses - that consents to change the meaning of the contemporary urban architectural interventions. Data sets and information are seen as the key to imagine a new era for the discipline and to design 'active' urbanities that could activate a series of virtuous and regenerating processes in the complexity of the existing city.

Tevere Cavo is just one of the links in a chain of continuous non-linear interventions, where, as in an incremental design process, each step forward questions and modifies the previous one. The project has involved hundreds of students, PhD candidates, collaborators and assistants, curators, and experts in the different roles of supervisors, public administrators, and politicians and has been publications, conferences, and exhibitions. More than 200 projects have been produced over four years of collective works, and every single design proposal is unique, but deeply related to the main principles and strong concepts presented.



Il Villaggio e l'Ansa Olimpica

- | | | |
|---|--|--|
| 01 E-MOTION SYSTEM
Luca Bregni, Antonio De Rosa | 20 GREEN CIVIS
Tiziano Tamburri | 48 FLH (FLAMINIO LAZIO HOME)
Nicola Pennacchiotti |
| 02 CINEMATIC-ARTS
Noemi Niro | 20 CUPOLE SOSTENIBILI
András Csiki, Martin Hoock | 54 SMART PLAT
Giuliana D'Amore |
| 03 JUMP-IT
Alessandro Perosillo | 21 RISTORO NERVI
Valentina Spedicato | 56 L.A.S.T.R.A.
Francesco Vantaggiato |
| 04 TM LAB
Francesco Risita | 21 INKADEMY
Valerio Vincioni | 57 WATER PLAYGROUND
Michela Falcone |
| 04 SCOUT CENTER
Savina Leggieri | 23 BLOG VILLAGE
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| 07 SOCIAL CENTER
Simona Raimondi | 41 CRISALIDE
Gabriele Stancato | 77 COMMUNICATION BRIDGE
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| 13 CONTRO LO SPRECO
Francesca Orunesu | 44 L.A.B. LOCAL ACTIVITY OF BUSINESS
Alessio Petecchia | |
| 19 ON AIR, ON LINE, ON SITE
Simona Ricchio | 46 DREAM'S FACTORY
Marco Lucci | |

Figure 3

Tevere Cavo, portion of the map showing the projects concerning the 'Villaggio and l'Ansa Olimpica area), Authors: Livia Cavallo, Valerio Perna (Saggio, 2018)

Through this methodology, we claim that architecture is a processual path where new digital-oriented design tools contribute to reinforce the relationship between positivism and architecture as a cultural production, much more than just technical possibilities. The aim is to isolate some enzymes through which we can keep contributing, in continuity or discontinuity, to the lineage of architectural production.

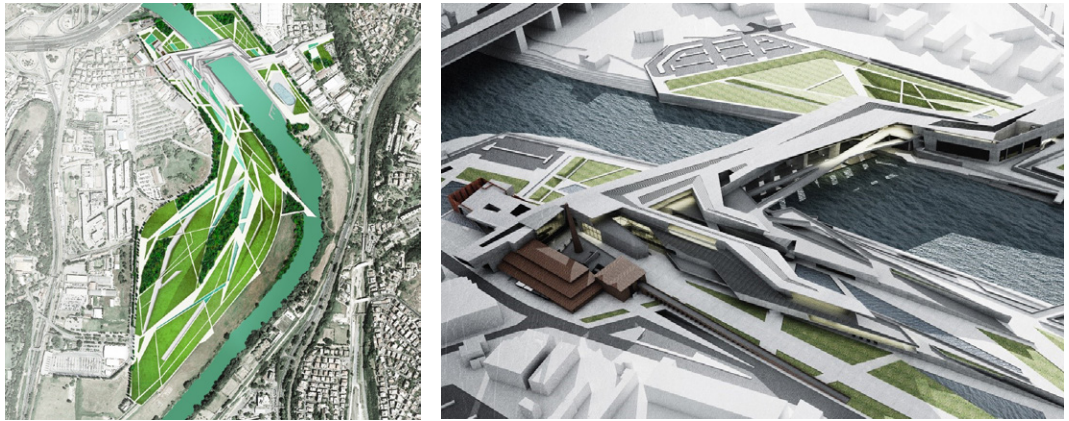


Figure 4-5

Liborio Sforza. [EX-PO] New bridges at the furnaces of Castel Giubileo. Technological center for the development of constructive experiments, Tevere Cavo (Saggio, 2018)



Figure 6-7

Alessandro Perosillo. Eco District Park: Urban Park, Urban District, and Educational Center on recycling between Collina Fleming and Tor di Quinto, Tevere Cavo (Saggio, 2018)

Michel Falcone. Water playground. System of urban happiness for fitodepuration and the reconquer of the Tiber, Tevere Cavo (Saggio, 2018)

**Figure 8-9**

Valerio Galeone. PARK [ing] Junction for the Development of Sustainable Public Intermodal Transports and Bio-monitoring able to produce oxygen and electric energy (Saggio, 2018)

Livia Cavallo, Silvia Di Marco, Giuseppina Rubino. Side by Side, Activation of micro-design projects on the Tiber's riverside between Ponte della Musica and Scalo de Pinedo (Saggio, 2018)

6. Reprise and conclusions

Dorothea, the city, could have existed... if only the lens of architecture could move from historical pre-conceptions to open up to a new undeniable complexity that affects, for better or worse, the urban environments that we inhabit.

Such complexity, emerging from the problem of dealing simultaneously with a sizable number of factors that are interrelated into an organic whole (Weaver, 1948), requires a brand-new system of tools not as simple extensions of the senses, but as catalysts capable of being an embodiment of the spirit and materialization of thought (Koyré, [1957] 1968).

As a reflection of the IT era, 'urbanities' don't convey only a functional quality of the city, but they also carry within themselves a whole set of social, political, human values, as well as the nonhuman presence in the formation of Gaia, nature and data sets that reinforce the sense of citizenship of the dwellers of these places.

This paper, and the issue in which it is contained, was the opportunity to offer an overview of almost ten years of practice and experimentation within a personal and more mature reflection concerning the concepts we have borrowed from our previous experiences. It contains theoretical questions but, most precious for us, it is for us a way of addressing each of those through a concrete design strategy to find equilibrium in a contemporary city, which is always fluctuating between what is expected and desired, and what is eventually realized.

7. Acknowledgments

Taking the opportunity of this article, the authors would like to thank their advisors, professor Antonino Saggio, for the precious years of education and didactic experience. The concepts presented in this article, are borrowed from their experience at Sapienza - University of Rome and represent the beginning of a continuous architectural exploration.

References

- Alexander, C. (1965) The city is not a tree. *Architectural Forum*, vol. 122, [1], pp 58-62 (Part I), vol. 122, [2], pp 58-62 (Part II).
- Angelini, R., De Francesco, G., Finelli, D., Interdonato, C. (eds) (2013) *Urban Green Line. Progetti sistemici per una infrastruttura ecologica a Roma*, Raleigh US: Lulu.com.
- Bresser Pereira, L.C. (1993) Economic reforms and cycles of state intervention. *World Development* 21 (8), pp. 1337-1553.
- Baldissara, M. (2018) Il Metodo Tevere Cavo. In A. Saggio, G. De Francesco (eds.) *Tevere cavo una infrastruttura di nuova generazione per Roma tra passato e futuro*, 3rd ed., Raleigh US: Lulu.com, pp. 214-217.
- Berger, A. (2007) *Drosscapes: Wasting Land in Urban America*, Hudson (NY): Princeton Architectural Press.
- Calvino, I. (1972) *Le città invisibili*. Torino: Einaudi.
- Carpo, M. (2017) *The Second Digital Turn: Design Beyond Intelligence*, Cambridge MA: The MIT Press.
- De Bono, E. (1970) *Lateral Thinking: Creativity Step by Step*, New York: Harper and Row.
- De Francesco, G. (2017) *Infrastrutture dell'acqua. Strategie adattive all'emergenza idrica dei mutamenti climatici. Progettare infrastrutture idriche di nuova generazione*, PhD thesis, Sapienza - University of Rome, Rome.
- de Saussure, F. (1916) *Corso di linguistica generale*. Translated by T. de Mauro, 1967. Bari: Laterza.
- Dhamo S., Bregasi L., Perna V. (2020) Computational Design for Complexity-Related Issues. Strategies to Foresee Emergent Behavior and Social Conflict in the 'Organic' Tirana. In: Kurosu M. (eds) *Human-Computer Interaction. Human Values and Quality of Life. HCI 2020. Lecture Notes in Computer Science*, vol 12183. Springer, Cham. https://doi.org/10.1007/978-3-030-49065-2_40.
- Frankl, V. (1946) *Man's Search for Meaning*, Wien: Verlag für Jugend und Volk.
- Hartson, Rex, Pardha, S.P. (2018) *The UX Book: Agile UX Design for a Quality User Experience*, Burlington: Morgan Kaufmann.
- Höök, K., Löwgren, J. (2012) Strong Concepts: Intermediate-Level Knowledge in Interaction Design Research. In *ACM Transactions on Computer-Human Interaction* 19(3):23:1-23:18.

- Ito, T. (1999) Blurring Architecture. In Ito, T. (2000). *Blurring Architecture*. Milano: Charta, Milano, p. 99.
- Kipnis, J. (1993) Towards a New Architecture. *AD Profile 102: Folding in Architecture*, Greg Lynn, ed., London: Academy Group Ltd.
- Koyré, A.V. (1968) From the Closed World to the Infinite Universe, Baltimore: The John Hopkins Press (Original work published in 1957).
- Marx, K. (1867) *Il Capitale*. Translated by E. Sbardella, 2015. Roma: Newton Compton Editori.
- Mehaffy, M., Salingaros, N.A. (2013) Towards Resilient Architectures. I: Biology Lessons. *Metropolismag.com*.
- Moccia, M., Ballini, V. (2010) UrbanVoids™ Strategie nuove partnership per progetti sostenibili nella città di Roma, Raleigh US: Lulu.com.
- Perna, V. (2019) L'attività ludica come strategia progettuale. Regole e libertà per una grammatica del gioco in architettura, PhD thesis, Sapienza - University of Rome, Rome.
- Saggio, A. (2020) Thoughts on a Paradigm Shift/The IT Revolution in Architecture, *Pensieri su un cambio di paradigma/La Rivoluzione Informatica in architettura*, Raleigh US: Lulu.com.
- Saggio, A., De Francesco, G. (eds) (2018) *Tevere cavo una infrastruttura di nuova generazione per Roma tra passato e future*. Raleigh US: Lulu.com.
- Saggio, A., De Francesco, G. (eds.) (2019) *UnLost Territories ricostruire la periferia a Roma architettura e società nei territori abbandonati*, Raleigh US: Lulu.com.
- Saggio A. (eds) *Urban Green Line. Un'infrastruttura ecologica tra passato e futuro. L'Arca International*, n. 105 March/April 2012 (en/fr) (ISSN: 03942147), and *L'Arca*, n. 278, March 2012 (it/en), pp. 24-25, ISSN: 1027460X.
- Sennett, R. (2006) *The Open City* [pdf]. <https://www.richardsennett.com/site/senn/UploadedResources/The%20Open%20City.pdf>.
- Spiridonidis, K.V. (2019) Geometries. *Archi-DOCT* Vol. 6 (2) / February 2019, pp. 15-31.
- Spiridonidis, K.V., Voyatzaki, M. (2020) Architectural Interregnums. *Archi-DOCT* Vol. 7 (2) / February 2020, pp. 13-25.
- Thibault, M. (2020) Understanding urban gamification - playful meaning-making in real and digital city spaces. *Int. J. Arts and Technology*, Vol. 12, No. 1, 2020.
- Toffler, A. (1980) *The Third Wave*, New York: William Morrow and Company.



Volli, U. (2005) Laboratorio di semiotica, Bari-Roma: Laterza.

Volli, U. (2008) Il testo della città - problemi metodologici e teorici. In M. Leone (eds.) *Lexia*, Vols. 1-2, pp. 9-12, , Aracne, Rome.

Weaver, W. (1948) Science and Complexity. *American Scientist*. 36 (4): 536–44.

Wilczek, F. (2008) *The Lightness of Being: Mass, Ether, and the Unification of Forces*, New York: Basic Books.