
Abandoned industrial buildings as urban containers of public spaces

Two study cases in Naples

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*ABSTRACT. Huge **abandoned industrial 'masses'**, an old **gasholder** and a **silos granaries** -objects of two Ph.D. researches dealing with a possible mechanism of renovation of vacant areas in Naples- could become dynamic entities capable to provoke continuous variations in the surroundings through a punctual intervention with an urban vocation. Adopting a **relational strategy** the aim of the researches is to open up in the dispersed body of the city a system of orientation, sewing the gaps and bringing out new hierarchies. Expanding the thresholds from inside to outside with a sequence of open **hybrid spaces** at different ranges of definition (indoors/semi-open/open) the two masses, as **new centralities** and real **urban connections**, interact with roads, buildings, green system, and integrate the network of consolidated public spaces changing the relationship between the traditional city and the marginal areas dramatically separated.*

KEYWORDS: abandoned buildings, centralities, urban connection, hybrid, transitional public spaces.

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1. *Where ...? The site*

With a myopic, confused and uncertain gaze, nowadays we proceed through the margins of a consolidated city. We get lost going from one end to the other, through the discontinuity of separate and inefficient networks, among the intersections and the silent open spaces, unusually dilated, that do not communicate and orient the gaze.

The **eastern area of Naples** appears as a real messy landscape characterized by strong contrasts among its different entities. But, at the same time, it appears monotonous, lacking in relationships between each element and the entire city, with no centre or system of spatial orientation. A landscape of fragments, autonomous "citadels" and other heterogeneous urban tracks, embraced in their fences, crossed by rail and road infrastructures, in some sections defined with rigidity and in others interrupted sharply and currently lacking in urban quality.

The area is the result of a series of overlays tending to wipe out the previous configurations (from marshland, dotted with land and mills, to industrial and residential area crossed by a railway and now largely abandoned and degraded). Cut off by roads, highways and intrusive railway tracks (real barriers to development), the area has seen its skyline deeply changed through the design of the business centre. The incomplete business centre (designed by Kenzo Tange) has further deteriorated the conditions of the area, referable not only to the phenomena of urban abandonment and marginalization, but also to the limited accessibility of public transport and the inadequacy of public facilities (especially leisure and sport). The current urban structure is the result of gradual consolidation of macro-urban blocks, *pockets, like the old monastic insulae in the ancient centre, which have gradually expanded to become urban tracks* (MIANO, 1994). With the consequence that today we cross a city with "no places" moving from one end to another.

The **harbor** is set as one of these "pockets". At first it was a natural basin, then landing place and at last with the expansion to the east, (towards the middle of the XV century), it became a "fortified waterfront" of the city, more than two kilometers long. The east area of the harbor is affected by the failed attempt to create a "green lung" for the neighborhood behind, named Villa del Popolo, deleted by the creation of the railway line linking the station to the harbor due to its expansion. Expanded on the water and cut off from the continuity of the city (through the demolition of the Carmine fort and the construction of Via Marina), the harbor's structure undergoes a deep and definitive breaking point that radically changes the landscape and the entire urban context, developing an introversion of specialized enclosures and a distribution of its elements by a purely functional logic. Despite the profound break with the city behind, inside the harbor remains a sequence of open spaces distributed in continuity with the historical spaces of the city, although assuming nature and forms radically different, and they are broken by the frequency of a longitudinal system of natural and artificial barriers, which take place in the 150 meters that separate the "city" from the sea forming, at the same time, an obstacle and a rhythm to the passage. In this space the materials of urban history, architecture and industrial infrastructures, coexist without dialoguing, as a juxtaposition and overlapping of elements, huge introverted masses and waiting spaces, area of interference and transition, a threshold expanded between the city and the harbor.

In this scenario synthetically reported, which is in a state of stasis, due to the inefficiency of the planning tools and the clash of different competences on the territory, we have traced the abandoned preexistences (actual or expected)¹ as materials to transform, as opportunities to "rewrite" the urban tracks.

Conferring, in this way, new meanings to the unfinished parts of the city, and recovering a dimension of collective memory in terms absolutely contemporary. *What is now abandoned, but has caused developments in the past and today still mark the morphological arrangement, is recognized as a regenerative potential* (MIANO et al., 2011). The recovery of industrial and harbor heritage² assumes a strategic importance for the whole process of urban development and the opportunity becomes even more significant when these abandoned structures are located near the city centre. Accepting all that has no place elsewhere, introducing an uncommon mixité in these areas of specialization, it is possible to change the identity of places and recognize the single parts to be re-interpreted, redrawing a significant portion of the city.

Naples, unlike other big cities, is still waiting for a change, a transformation that can start from a new reading of these abandoned architectures as centralities from which trigger a regeneration of the entire surrounding urban tissue and capable to generate a new plot of relationships.

2. What ...?

Huge abandoned industrial “masses”, an old gasholder on one side and a silos granaries on the other, are the objects of two Ph.D. researches dealing with a possible mechanism of renovation of vacant areas in Naples that have the potential to reproduce, expand and withstand, despite the mess, finding new balances through design strategies. Working through possible scenarios of non-finished buildings, intentionally incomplete and flexible, an hybrid and unstable vocation could be obtained.

2.1. The gasholder³

In the East End, the gasholder is the sole symbolic element (the huge tank is around 50m wide and 45m high), beyond some tall chimneys, of an industrial past reality visible from various parts of the territory (crossing the highway, but also going by train or walking along Via Marina, or from the hill) and this makes it even more "attractive". Built in mid-1800's on what was once the riverbed of Arenaccia (a drainage of rainwater from the hills to the sea, turned into a street between 1836 and 1843) and placed (ALISIO et al., 2003) just outside the walls of the city, the gasholder has seen growing in its surrounding industrial and residential spaces that throughout the years have welded increasingly and today seem to “compress” it.



Fig. 1

2.2. The Silo⁴

Built in 1913 of reinforced concrete⁵, the imposing profile of silos granaries identifies the terminal to the east of a linear sequence of remarkable pre-existing buildings, located along the coastline of monumental harbor of Naples. It occupies more than half of the quay (150 meters long and approximately 3600 square meters) of Calata Villa di Popolo, configured as a sort of "spindle" stretched to the confluence of the tracks (now largely removed) and in which the buildings, arranged in two rows, are oriented to give the shoulders to each other and the front towards the sea. It follows that *the internal road gains a "urban" sense in governing the different buildings that flank it, although of different scale as in the case of the Silo* (AMIRANTE et al., 1993).



Fig. 2

3. How ...? The strategy

The question is how the attribution of a new role (functional, but also architectural) to the abandoned pre-existences, through a punctual intervention with an urban vocation, is capable to generate a new centrality and a new frame of relationships, even in the less accomplished parts of the contemporary city. Will the lonely disused abandoned masses⁶, still recognizable in the complexity of the contemporary city, become **dynamic entities capable to provoke continuous variations in the surroundings**, propulsive for the regeneration of a larger area? How to trigger these "machines"? *Will one day the shells of abandoned factories (...) capture the imagination of tourists as the Roman ruins?* (LYNCH, 1990).

It may be possible by adopting a relational strategy able to bring a real improvement of the urban condition in a city that stops to expand and has difficulty to activate internal reorganizations. A strategy able to *open up in the dispersed body of the area, a system of orientation* (PURINI, 2008. 49), sewing the gaps, creating new centralities, bringing out new hierarchies. As network's nodes, in fact, the gasholder and the silos become the protagonists of the thesis story through a path that **extends from the architectural scale to an urban one** (scales that are held together simultaneously in the design process), in order to construct new relationships between the two elements themselves and the surrounding. Therefore we approached a dual problem: on one hand how to identify and transform these abandoned masses in strategic centers, giving them a meaning, and on the other how to suggest, through the design of open space and paths, an interrelationship between the various centers within the network.

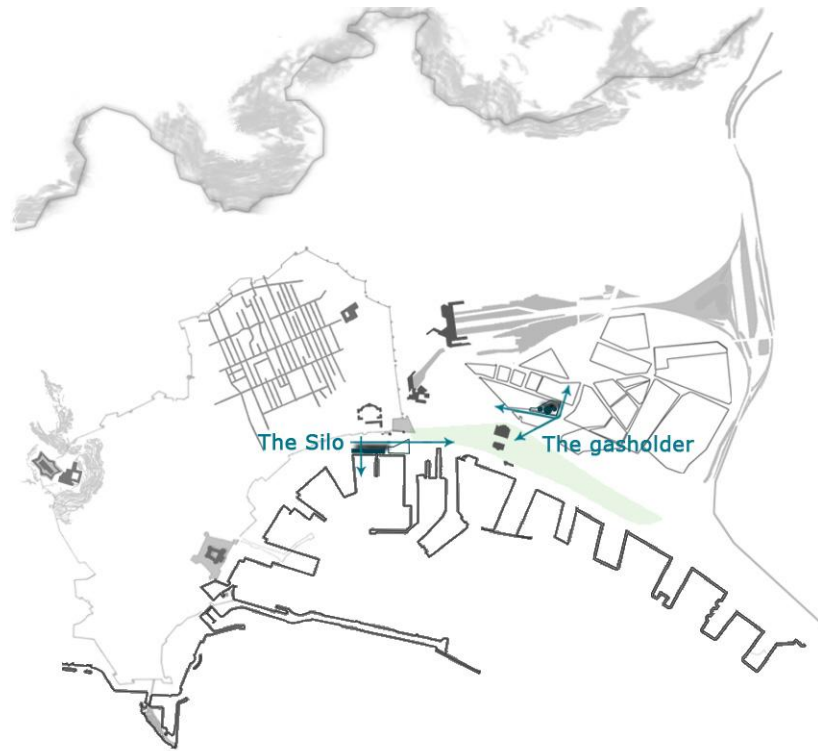


Fig. 3

3.1. The position

The position⁷ of the two abandoned masses, not only the fact of just being there rather than be "in relation to" something, becomes crucial to the future transformation. These areas are already strategic locations because of the closeness to the sea and the consolidated city, to the permanence of access from the east and from the north hill (across the canal track Sbauzone) and to the presence of Via Marina, the main artery that runs parallel to the harbor and that connects the old centre with the Vesuvius area. Another important factor is the presence of the central station (involved in a proposed redesign by D. Perrault) and the new underground stations. The potential of the design lies in the capability to consider the actual barriers and the abandoned masses as strategic elements (strong infrastructural signs) and to construct a scenario of the future city according to the anticipated one.

3.2. Functions

The functional proposal advanced for the **gasholder** is the creation of a cultural center that gives space to a combination of activities (multimedia library, sports gyms, a swimming pool with solarium, cinema, an exhibition space, and shops)

meant not only to the local community (because of the proximity to residential areas) but also to workers and visitors. This perspective is not contemplated in the functional hypotheses formulated for the area until now, being mainly spaces provided for offices, shops and hotels as well a police station. The aim is to provide a "living" place (*defined and qualified by the human presence therefore by a perception experience of space by a user*, according to Norberg Schulz) in which children, adults, seniors, can rest, play, walk, relax. A meeting point, a new centre. The three tanks of the gasholder take part into the plan of a park liaison between the hill and the sea, an equipped park, with spaces for cultural and recreational activities both inside the building and outside. The idea is, in fact, that the functions can be projected also outside: spaces for reading, for cultural events, exhibitions, but also spaces for sports internally and externally. Versatile spaces, by exploiting the large size of the tanks, can be transformed into spaces for events and exhibitions.

As to the **Silo**, the possibility of its reuse is functional to the planned relocation of the goods traffic in bulk. This relocation becomes an occasion to think about a gradual transformation in the use of the silos, obtaining an architecture able to survive to the functional changes through alternative interventions (or temporally differentiated) ranging from simple aesthetic fruition, as the recognition of the symbolic and monumental character of the silo, to its most radical transformation in order to become active part of the continuity of urban places. The valorization of the silos must not be frozen in time but rather placed into a changing environment. It should also recognize the underlying system of relationships, with the sea, the city and the landscape, to facilitate the interaction of different urban uses, by measuring the reasons of the harbor landscape and industrial heritage through a respectful integration of differences rather than simple assimilation between urban space and harbor space. We therefore proposed the idea of using the silo as a filter between the passenger area of the harbor and the shipbuilding area, with the aim to facilitate the permeability of urban life in the harbor, working on the potential of the grain cell as an element of morphological, visual, and hearing peculiarity, to engaging facilities to enhance its formal expressiveness. The first section of the concrete silo (mostly rebuilt after the Second World War) could exploit the special acoustic diffusion cells to accommodate a variety of exhibitions functions, in close relation to the extension of the front space outside. The second section of the silo could host functions related to the creation of seafront (in the basement) while at the higher levels, to the memory of the site and its contemporary interpretation, which reproduces the cycle of grain. The steel silos become innovative spaces of exposition and observation towers of the entire city. They are in relation to the possibility of preserving the function of the shipyards in the surroundings, and adding to this function some workshops for training, allowing to interpret them as elements of a harbor city.

3.3. Architectural and urban solution

Maintaining unaltered the imposing structures of the gasholder metal tanks that reveal framed pieces of the landscape ("gaze passes over"), we hypothesized to act mainly at the basement of the **gasholder** to maintain the skeleton visible: "filling" the fence, in part equipped, creating restoring open spaces at different heights that allow unprecedented views both of the surrounding and gasholder as a whole.

The additional part aims to point out and make permeable the existing industrial enclosure, an element that since the beginning has infrastructure the entire surrounding area by imposing its own rules. The intervention is all inside the fence that opens up into several parts to discover the special nature of the interior spaces

of the tanks. In this particular way of declining the theme of the **addition**, around, and through the pre-existence, binding all the three tanks so to merge the inside with the outside and the nature with the architecture, the gasholder becomes part of a linear park. The idea is to link the three huge spaces, the tanks, through a path that enables to cross the city in different ways, using topography elements like platforms and ramps, in order to integrate all the horizontal and vertical surface of the building and its landscapes into one comprehensive precinct. A **sequence of rooms** (meeting places) that run horizontally and a system of overlapping floors, in part articulated in section with gaps and double heights, allows to live, observe, discover, cross, inside and outside, the now abandoned gasholder.

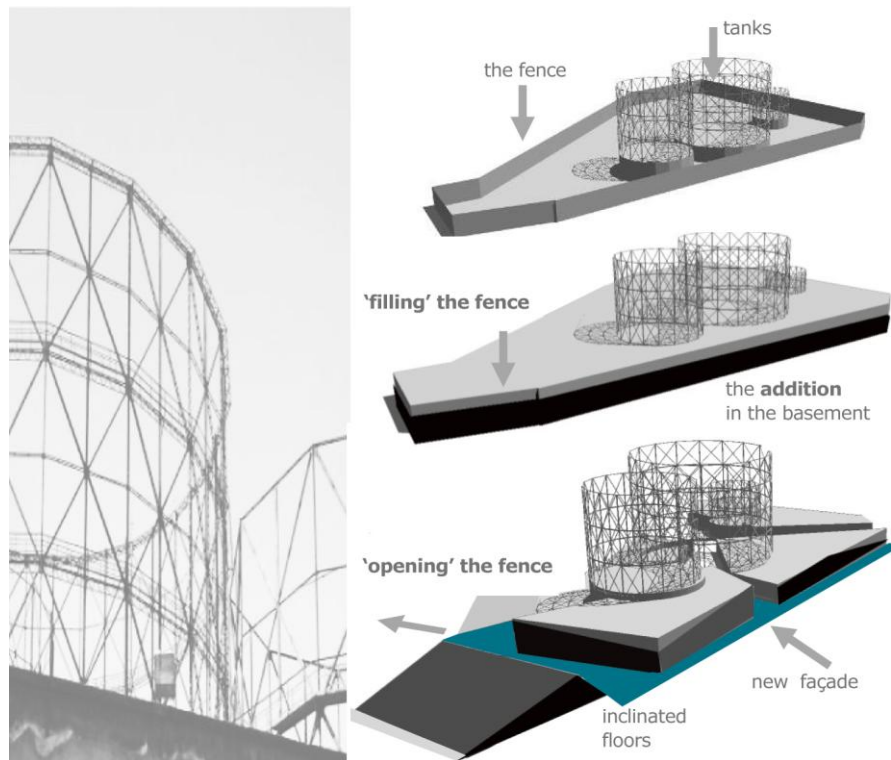


Fig. 4

The configuration space of the harbor follows the functional logic of the harbor machine and its system of land concessions. This results in a significant dilatation of spaces, often underutilized, whose margins are dissolved in the network of roads, without a clear demarcation. The great void, which opens onto the side elevation of the **silos**, becomes the element of interaction/integration with it, creating an *extrovert architecture which aspires to a direct and more involved relation with the public* (AYMONINO et al., 2006). Its extension becomes a building expansion and an interior crossing: it **clears the ground attack** (allowing the view of the sea), going into the ground, and re-emerges on the cover, through an **interpenetration of spaces and the empty cells**, to define a physical/visual relationship with the outside. The seafront is the terminal path to the sea that allows to enjoy the spaces where the coexistence of the harbor machine and the city is evident, like in the walking path that slopes toward the water and continues along the pier where the large towers of landing stand out. Through architectural

interventions of partial release, subtraction, articulation, the aim is to build a new system of spaces "other", determining a strict continuity between **transitional hybrid spaces**, overcoming the preconception of the separation between inside/outside, emptying other buildings/areas which have lost their meanings and consolidated functions and revise the traditional approach focused on a clear separation between public and private spaces.

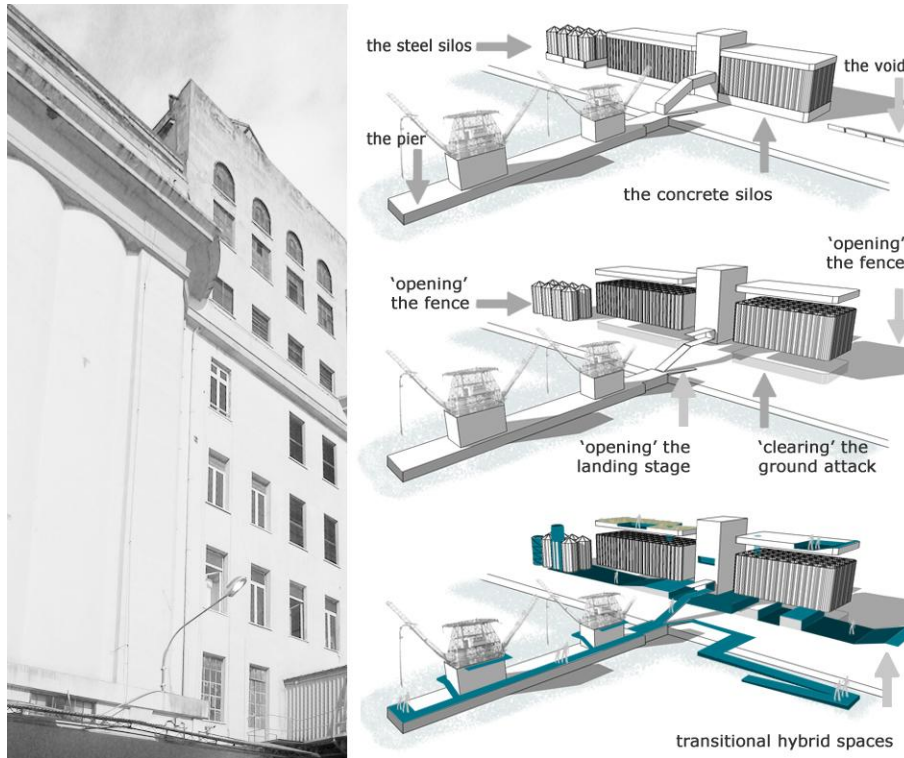


Fig. 5

The architectural strategy is to transform the gasholder and the silo, into a **landscape** with different topographies **accessible and open to the public from various directions**. From large voids, real public spaces, the interior extends to the outside by penetrating into the park and into the open spaces beyond Via Marina (hypothesizing the interment of a part of the street in relation to the area of the gasholders, recovering the remains of the ancient walls as a public space in relation to the area of the silo) to restore continuity between the city and the sea. So going out from the large tanks of the gasholder, crossing the green area in front of it (an outdoor room), designing the system of ground levels that redesigns the big empty space in front of the silo (framing like a telescope St. Elmo and the Vesuvius) it is possible to recover the physical and perceptual relationship with the sea till now denied. The work of these two masses generates a **chain reaction** that involves entire urban tracks through a sequence of open spaces linked to cultural spaces, or other hypothetical 'key areas', in which the role of the gasholder and the silo is to be the centrality of the system.

4. Therefore...? Conclusions

The aim of the two study cases is to understand how a pre-existing abandoned masses can be transformed into new architectural reference points, becoming crucial elements of potential urban connections, expanded thresholds, accessible landscape and new network nodes. The original voids can be dilated and articulated in order to overcome the preconception of the separation between inside/outside and private/public to empty other buildings/areas which have lost their meaning and consolidated function. *It may also be a unique **combination of time** (the past to which the masses have belonged to and the present in which they are 'living') and **space** (urban design that enhances all its potentials), finding a new balance of spatial and temporal relationships* (DI IORIO, 2010). The idea is to create, in both cases, architectonic **relationships between spaces**, rather than finite spaces, related to the ground, the site and the urban context. Considering that the key point of the urban project consists not only of *the constructive elements of the city but also of the relationships between them* (GREGOTTI, 2006), *linking together pieces and parts of the city can transform the context balancing urban tensions, the vacant areas become the occasion to rethink the contemporary city as a network, an integrated system⁸ of public spaces, encouraging the redistribution, linkage and weaving* (DI IORIO, 2010). From the central room, platforms and ramps extend to the outside to redesign part of the outdoor spaces (gardens, terraces with the movement of soil, seats, green, parking lots, lighting). The addition of inclined floors, which start from the ground and fold back are part of the building providing an immediate link between inside and outside. The result is a sequence of open **spaces at differently "graduated"** (enclosed/half-open/open), hybrid spaces of transition that interact with roads, buildings, green system, integrating with the network of consolidated public spaces changing the relationship between the traditional city and the marginal areas (the east industrial area and the harbor) dramatically separated.

¹ *The dismissal of Silos granaries according to the P.O.T. (Triennial Operational Plan) 2011-2013, of the Port Authority of Naples, provides the possibility of relocation of goods traffic in bulk in the Torre Annunziata's harbor.*

² *The notion of **industrial heritage** has replaced industrial archaeology, to emphasize the purpose of a compatible architectural reuse.*

³ *Subject of Marina Di Iorio's doctoral thesis «Measuring the context from a centre. Multiplication of the thresholds between inside and outside», published on line <http://www.fedoa.unina.it/8183/>, Novembre 2010.*

⁴ *Subject of Francesca Avitabile's doctoral thesis «Hybrid spaces/transitions. Forms of expansion of public spaces».*

⁵ *The silos were partially destroyed during the Second World War in 1943, rebuilt in 1948 and finally expanded in 1986 through the construction of steel silos.*

⁶ **Abandonment** is sometimes simply decomposition or ruin. Sometimes it happens that the abandonment is meant to express the expectation of a new event, the stones wait for a different life that you can install. (VITALE, 1996. 39).

⁷ **Position.** The term expresses the relationship between a fact (in architecture a building or a city) and the place where it is located or the ratio of the places between them (encyclopedic Dictionary of Architecture and Urbanism).

⁸ To **measure** the surrounding, means revealing ancient and vital correspondences, re-building broken harmonies, re-finding the order and re-composing the structure of things.

Legends

(Fig.1) The gasholder embraced in the fences of the fragmented landscape of the East industrial area (on the background, on the left the Business Center, on the right the Vesuvius, close up Via Marina).

(Fig.2) The imposing profile of the Silo surrounded by shipyards and buildings recently formed. The harbour is separated from the city by via Marina (foreground, on the background the sea).

(Fig.3) The relationship between the key areas.

(Fig.4) The de-composition of the gasholder in the architectural main actions.

(Fig.5) The de-composition of the silos in the sequence of spaces differently graduated.

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Biography

Marina Di Iorio - born in Isernia, 1982 - graduated in Architecture (Diploma- 5 years) University of Naples Federico II 2007, thesis "From the station to a new central space: the case of Bruscianno-Naples" (110/110 cum laude), and in Ph.D in Urban Design 2010, thesis "Measuring the context from a centre. Multiplication of the thresholds between inside and outside" (tutor prof. P. Miano) investigating how to create a physical continuum and social improvement through the regeneration of abandoned buildings or areas in new public spaces. Spent a period under the supervising of D. Ringelstein (AIA, Dir. of Urban Design & Planning) at UCL Bartlett School of Architecture London. Participated in international symposiums, seminars and workshops (EURAU '10, Urban Hybridization, PoliMi 2010, I.Ph.D. Summer School, Bergamo 2008-09). Since 2008 is a teaching assistant in the course "Steel and Architecture", II level Master in "Design of Steel Structures" at the Faculty of Engineering, Naples, 4th year "Design Course" at the Faculty of Architecture Naples, and in 2011 tutor in the "OC" I. Summer School PoliMi, Piacenza. Involved in professional projects and academic assignments (Feasibility study for the redevelopment of Castel Capuano in Naples Dept. History of Architecture and Restoration), in several design competitions and publications (Planning of urban areas of Paestum, II Prize; Redevelopment of the historical centre of Castelfranco Emilia, III prize). Currently working on a Feasibility study for the design of an experimental park near the ruins area of Pompeii.

Francesca Avitabile - born in Naples, 1985 - architect, Ph.D. Candidate in Urban Design at the Faculty of Architecture of the Federico II University of Naples (XXV cycle). She graduated (M. Arch.) in 2009 with a thesis entitled "Architectural and urban redevelopment of Piazza degli Artisti in Naples" (110/110 cum laude and right to be published). In 2010 she earned the II level university master's degree (M.Sc.) with a thesis "Collective spaces for the ancient centre of Naples" (110/110).

She's working in the Faculty of Architecture for learning activities and additional recovery since 2011, is a Teaching Assistant in the fourth year design course since 2009 and in the course Steel and Architecture, II level Master in Design of Steel Structures at the Faculty of Engineering (2011). She is currently working on the hybrid/transitional urban spaces defined by the intersection of different kinds of spatial and functional forms, and their interference with different contexts, from the archaeology and landscape to the contemporary settlements.

She is involved in various research projects funded by the Ministry of Education, University and Research (P.R.I.N. 2009, F.A.R.O 2010) working on the relationship between archeology, contemporary landscapes and cities. She 's involved in several design competitions, professional projects (Feasibility study for the design of an experimental park near the ruins area of Pompeii) and publications on architectural and urban design, and has also participated in international conferences (1st congress RETE VITRUVIO) and workshop (IPhD Summer School Bergamo 2010, Atelier/Terrain The Park and the City Rome 2011).