

ARCHITECTURE HERITAGE and DESIGN

Carmine Gambardella

XIX INTERNATIONAL FORUM

Le Vie dei
Mercanti



World Heritage and Design for Health

ARCHITECTURE | CULTURE | HEALTH | LANDSCAPE | DESIGN |
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Carmine Gambardella
WORLD HERITAGE and DESIGN FOR HEALTH
Le Vie dei Mercanti
XIX International Forum

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Peer review

Scholars has been invited to submit researches on theoretical and methodological aspects related to Smart Design, Planning and Technologies, and show real applications and experiences carried out on this themes. Based on blind peer review, abstracts has been accepted, conditionally accepted, or rejected. Authors of accepted and conditionally accepted papers has been invited to submit full papers. These has been again peer-reviewed and selected for the oral session and publication, or only for the publication in the conference proceedings.

Conference report

300 abstracts and 550 authors from 40 countries:

Albania, Arizona, Australia, Belgium, Bosnia and Herzegovina, Brasil, Bulgaria, California, Chile, China, Cipro, Cuba, Egypt, France, Germany, Greece, India, Italy, Japan, Jordan, Lebanon, Malta, Massachusetts, Michigan, Montenegro, Montserrat, New Jersey, New York, New Zealand, Poland, Portugal, Russian Federation, Serbia, Slovakia, Spain, Switzerland, Texas, Tunisia, Turkey, United Kingdom.

WORLD HERITAGE and DESIGN for HEALTH

The innocent eye sees nothing (Ernst Gombrich)

In this particular time characterized by a pandemic due to the expansion of the Covid-19 virus throughout a globalized world, the destinies of everybody have suddenly changed behavior, lifestyles, interpersonal relationships, production methods as well as the governing of the territory; the priority of investing in the healthcare sector has become increasingly urgent and indifferent with reference to a political management of the communities that prevents and does not suffer, as unprepared, the emergencies that increasingly afflict the community. Furthermore, in these months of “quarantine”, the Planet has shown a Resilience that makes us hope for the future. A response to the Culture of Emergency, which finds its generative ground not only in the healthcare sector but also in the governance of the territory, relates to the hydrogeological aspects, pollution of soils, air, water, illegal construction, the exploitation of energy resources faced with the use of the integral of scientific and managerial skills based on meritocracy. The XIX International Forum of Study ‘World Heritage and Design for Health’ addresses the issues related to the global pandemic in a multidisciplinary and systemic logic, as indicated by the UNESCO and the United Nations 2030 Agenda for the definition of projects and concrete actions that include the Welfare and Health of the Community. Therefore, the Forum aims to create a transversal critical dialogue, open to cultural contamination and ‘without limits’, in a logic of integration between skills that extends, and is not limited to, the following disciplines: Architecture, Culture, Environment, Agriculture, Health, Landscape, Design, Territorial Governance, Archeology, Economy, History, Sociology, Security, e-Learning. The Scientific Community of the Forum is composed of about seven thousand Professors and Researchers from one hundred Universities and Research Centers in the world, from institutional representatives, from the business sector and from the representatives of the 830 UNESCO Chairs (UNITWIN Program) thanks to the WebGIS created and managed by the UNESCO Chair at the Benecon University Consortium. The location of the Forum is of excellence. Campania Region with six World Heritage Properties, two Unesco Man and Biospheres, three assets registered on the Intangible Heritage List is one of the richest Regions in the world for cultural and landscape heritage, particularly ‘contaminated’ by Mediterranean cultures. No coincidence that the Forum takes place in Naples and Capri, with site visits and presentations of scientific research and operational projects by the Benecon University

Consortium, consisting of five Italian Universities, head office of my UNESCO Chair on Landscape, Cultural Heritage and Territorial Governance. The papers, selected by the Forum's Scientific Committee, will be published in the Proceedings of international relevance (candidate to be indexed Isi Web of Science). Furthermore, the most innovative research and projects will be published in the 'Quaderni' of the A Class international magazine 'Abitare la Terra / Dwelling on Earth'.

Prof. Carmine Gambardella
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President and CEO of the Benecon University Consortium
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and Territorial Governance

WORLD HERITAGE and DESIGN for HEALTH

The innocent eye sees nothing (Ernst Gombrich)

In questo particolare tempo connotato da una pandemia dovuta dall'espansione del virus Covid-19 in un mondo globalizzato, i destini delle Persone improvvisamente sono stati modificati nei comportamenti, negli stili di vita, nei rapporti interpersonali, nei modi di produzione, nel governo del territorio; le priorità degli investimenti nel comparto Salute, diventa sempre più urgente e indifferibile con riferimento a una gestione politica delle Comunità che prevenga e non subisca, in quanto impreparata, le emergenze che sempre più affliggono la Collettività. Inoltre, in questi mesi di "quarantena", il Pianeta ha dimostrato una capacità di Resilienza che ci fa bene sperare per il futuro. Una risposta alla Cultura dell'Emergenza che trova il suo terreno generativo non solo nel campo della Salute ma nel governo del territorio per quanto riguarda gli aspetti idrogeologici, l'inquinamento dei suoli, dell'aria, dell'acqua, l'abusivismo edilizio, lo sfruttamento delle risorse energetiche affrontato con l'utilizzo dell'integrale delle competenze scientifiche e gestionali fondate sulla meritocrazia.

Il XIX Forum Internazionale di Studi World Heritage and Design for Health affronta le problematiche legate alla pandemia globale in una logica pluridisciplinare e di sistema, così come indicato dall'UNESCO e dall'Agenda 2030 delle Nazioni Unite per la definizione di progetti e azioni concrete che includano il Benessere e la Salute della Collettività. Il Forum si propone quindi di creare un dialogo critico trasversale, aperto alle contaminazioni culturali e 'senza limiti', in una logica di integrazione fra le competenze che si estende, e non si limita, alle seguenti discipline: Architecture, Culture, Environment, Agriculture, Health, Landscape, Design, Territorial Governance, Archeology, Economy, History, Sociology, Security, e-Learning.

La Comunità Scientifica del Forum è costituita da circa settemila Docenti e Ricercatori di cento Università e Centri di Ricerca nel mondo, da rappresentanti istituzionali, del settore dell'impresa e dai referenti delle 830 Cattedre UNESCO (UNITWIN Programme) grazie al WebGIS realizzato e gestito dalla Cattedra UNESCO incardinata al Consorzio Universitario Benecon.

La location del Forum è d'eccezione. La Campania con sei siti iscritti nella lista del Patrimonio Mondiale, due Man and Biospheres UNESCO, tre beni iscritti nella Lista del Patrimonio immateriale è una delle regioni più ricche al mondo per beni culturali e paesaggistici, particolarmente 'contaminata' delle culture del Mediterraneo. Non a caso il Forum si svolge a Napoli e Capri, con sopralluoghi e presentazioni di ricerche scientifiche

e progetti operativi a cura della Consorzio Universitario Benecon, costituito da cinque Atenei italiani, sede della Cattedra Unesco su Paesaggio, Beni Culturali e Governo del Territorio. I paper, selezionati dal Comitato Scientifico del Forum, saranno pubblicati negli Atti di rilevanza internazionale (candidati all'indicizzazione Isi Web of Science). Inoltre, le ricerche e i progetti più innovativi saranno pubblicati nei 'Quaderni' della Rivista internazionale di Classe A 'Abitare la Terra/Dwelling on Earth'.

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World Heritage and
Design for Health

XIX INTERNATIONAL FORUM
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WORLD HERITAGE and DESIGN for HEALTH

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A resilient and sustainable urban space: the Siemens factory in Santa Maria Capua Vetere (CE)

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Abstract

The paper proposes a reflection on the urban transformation of a partly disused industrial area located in Santa Maria Capua Vetere territory, a medium-sized municipality of Caserta Conurbation. In the Caserta Province the lack of a clear delimitation of industrial areas allowed, between 1955 and 1961, the construction of large industries such as Saint-Gobain in Caserta, Pierrel in Capua, Autelco in Marcianise, Texas in Aversa, Pozzi in Sparanise and Siemens in Santa Maria Capua Vetere, which was closed down in the nineties. A series of areas occupied by factories that have been partially or totally dismantled and that constitute problematic nodes in the contemporary territory. Siemens (later Italtel) was a factory located in a strategic place, along the Appian Way and bordering on the municipality of Capua. In the 1970s it employed 30.400 people and today it appears as a place (covering around 165.000 mq) of decay and neglect. The first part highlights some of the issues that lead to the abandonment of industrial areas through the analysis of Italian and foreign case studies. The second one analyses the de facto and de jure state of the area, the de facto through a detailed study that highlights its peculiarities and negative aspects and de jure from the comparison of the forecasts of the PTCP, the PRG and the PUC, recently adopted by the municipal council respectively. The third part proposes a meta-design hypothesis of resilient and sustainable regeneration.

Keywords: regeneration, sustainability, resilience, industrial disuse.

1. The abandonment of industrial areas: case studies

The expression industrial decommissioning means "that process of decommissioning, even partial, of urban or suburban areas, agglomerations or simple buildings, varied in size and characteristics, for which the recovery or conservation for a new function presents problems of various kinds" [1]. The causes of the phenomenon can be of various and different nature. The decommissioning of industrial areas began in the second half of the 20th century, coinciding with the decline of certain traditional manufacturing sectors. At present, disused industrial buildings make up a significant part of the building stock both in Italy and in the more industrialized countries. This is a building variegated by formal characteristics, typological, structural, technological, which, in most cases, not subject to maintenance, is in a state of very advanced degradation. In recent decades, due to the processes and changes taking place in the field of production activities, there has been a gradual abandonment of primary industrial activities, such as steel, chemicals, mining, etc. This problem has ancient origins and concerns all those "empty containers" or areas that have lost the function for which they were built. The presence of abandoned spaces and buildings within the urban fabric is not unusual and the need to recover them for new uses is not a new requirement, since "the phenomenon of disuse and the continuous adaptation and transformation of urban space belongs to that physiological process that is inherent in the evolution of uses and the form of the city itself" [2] and, in fact, the problem of reusing abandoned areas and containers has affected cities in past eras. There are two reasons that have led industrial plants to abandon their areas of origin, making them free and unused. The first is the relocation of industrial buildings in areas outside the city, with reduced costs of land occupation

and better accessibility to the area, free, therefore, from constraints related to the historicity of the place of first belonging. The second reason, linked to the globalization of markets and the search for more convenient production costs, consists in moving plants to more distant geographical areas, expanding the trade of production materials on a supranational scale. Sergio Crotti in 1990 emphasized how the term "divestiture" implies not only an interrupted relationship and the denial of a role, but also the occasion and possibility of the reception of a new function; this double meaning is identified by Crotti: "Like all commonplaces, it contains an ambivalence: on the one hand 'divestment' evokes the outcome of an active cycle (whether concluded, dismissed or interrupted) that alludes to a loss; on the other hand, and by symmetry, it postulates a compensation in the reuse of the areas made available for further activity". [3] The causes of divestment have to do with the area to the extent that it is no longer suitable for the imagined role, in relation to the specific productive function rather than to what is happening around it. By imagining solutions to these issues, a variety of possible combinations can be outlined:

whether the productive function of a given area is discontinued:

- the area may still lend itself to containing a productive function similar to the previous one: redevelopment;

- the area can be used for an alternative function: reconversion;

- no future destiny can be imagined for the area: abandonment;

if the area is no longer able to support that particular productive function:

- the productive function is moved elsewhere: re-location.

This schematization starts from the recognition that abandoned areas are not all equally disused: some are only potentially disused, some are recoverable according to multiple uses, others may have monofunctional or marginal uses, and still others must be considered unavailable in the short and medium term due to various factors. This distinction is useful in defining the tools and knowledge that can be used in dealing with brownfield sites. For years, disused industrial areas, having lost their productive function, have been identified as places that are extraneous to the urban fabric, veritable settlement ruins, without identity. "The question of urban voids, understood as places devoid of functions and roles that have lost their physiognomy due to the loss of the relationship with the history of the city, the physical appearance, the social character of activities and inhabitants, arises in the problem of their future functional destination. The single factory or any industrial building rarely appears as an artifact significant in itself: it illustrates not a product but a process of an important phase of our city's history, the industrial society of the early twentieth century" [4]. Over the years, attempts have been made to formulate a single definition of the theme, which is indispensable for defining the field of analysis and, therefore, of intervention. In fact, the more widespread expression "disused areas" has been used in many other ways, such as weak areas, underutilized areas, interstitial areas, reutilization areas, recovery areas, spaces for functional conversion, abandoned or underutilized buildings, negative spaces or urban voids. This is why, today, the abandoned city must be the object of a process of urban maintenance, in which the actions of transformation must interact with those of recovery, conservation and requalification. Starting in the 1980s, a real cultural debate began that is still of great interest and relevance today and, given the vast range of topics covered, involves numerous disciplines such as architecture, urban planning, technology, energy, economic and social sciences, with a view to an increasingly integrated approach to analysis and planning aimed at sustainable urban growth. Vittorio Gregotti affirms that "there is no new architecture without modification of the existing", every architectural operation is always an action of partial transformation, the same urban periphery is a place that seeks identity through modification. Starting from these premises, it is possible to construct an innovative approach applied to disused industrial buildings which, together with the various archaeological-industrial finds, such as plants, machinery and archives, represent a fundamental testimony to the vital processes that have animated Western society in the last two centuries. The need is for sustainable regeneration of the environment and the city, and so disused industrial areas can play a strategic role in the process of urban transformation. Creating a new piece of city within the city, it is clear then, sometimes compromises the destruction of the past and, sometimes, the preservation of the memory of what has been. Necessary it turns out to be, therefore, the distinction between the various experiences of redevelopment that have occurred over the years. There are those that recover the territory by disrupting the entire industrial layout and those that maintain the original layout of the industry, modifying its intended use by recovering the buildings of industrial archaeology. In Italy and in the world, the examples that maintain intact the layout of the old buildings are few, unlike those that disrupt the plant and demolish the historical memory that is represented by the former industrial buildings.

1.1 The Bicocca case in Milan

The first case study is the Bicocca district in Milan. This project for the new Bicocca district stems from the need to reuse the disused industrial areas of the Pirelli factories in order to create a pole of

centrality for the northern area of the city, characterized by the polarization of the urbanized and densely productive countryside, settled north of the Turin-Venice freeway.

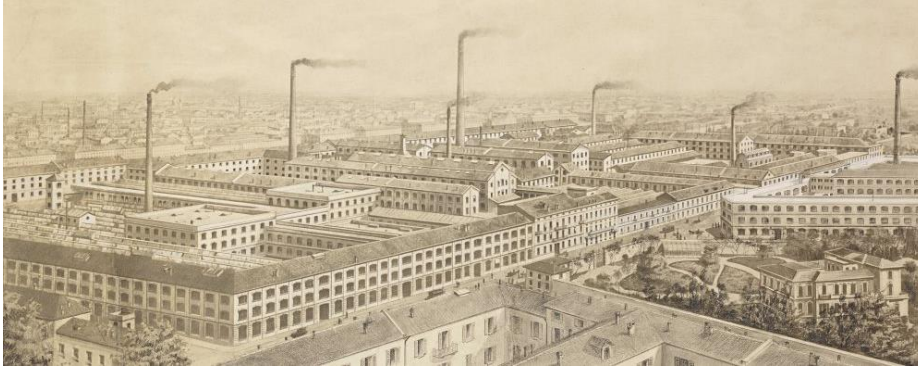


Fig. 1: View of the Pirelli plant in Milan, 1900 [Source: Pirelli Foundation]

In the intervention at the Bicocca the theme the designers had to deal with is that of a reformalization and re-functionalization of a periphery that by now had reached a historical consolidation, which included road layouts, urban clusters and images typical of the industrial periphery. [5] The design response that is given is to enhance this urban character of the industrial settlement by making it the center of the surrounding suburbs, the new design of the suburbs is based on the memory of the old industrial settlement, taking up the historical context, geographical and figurative as regards the structural aspects, without taking up the stylistic aspects. The principle that Gregotti and Associates apply in the project is that of reconstructing starting from the values of the formal and functional differences between the areas, typical of industrial zones. A mixture of functions coexist within it: buildings for the university, for public and private research institutions, for multinational companies and businesses, residences, offices, services, leisure complexes and commercial activities. All of this is integrated and supported by public green areas and infrastructures, organized starting from the original mesh of streets inside the factory and transformed into an urban mesh. The use of this structural pre-existence contributes to structure the urban complexity of the district together with the intertwining of the various functions, the scales of intervention and the spatial sequences of voids and closed spaces. These data delineate the Bicocca project as a true "historical center of the diffuse periphery" [6] or rather as a contribution to a polycentric vision of the Milanese metropolitan area. The Bicocca Project was born on April 26th 1985, thanks to the agreement between the Region, the Province, the Municipality and Pirelli Industries, with the aim of recovering the disused factory by building an integrated and multifunctional technological center. In July of the same year Pirelli launched the great international competition for the redevelopment of Bicocca, inviting twenty of the most important urban architects. On July 7th, 1988 Leopoldo Pirelli declared Gregotti Associati's project as the winner, justifying the choice as follows: "This project proposes for the Bicocca area architectural signs and urban spaces of remarkable expressive force within an external environment designed with great attention. More specifically, it reconnects the area of the Pirelli plant with the surrounding urban fabric, making it a reference element for a vast area of North Milan, a district in which it is reasonable to think that in the near future intense processes of productive, social and territorial restructuring will take place". [7]



Fig. 2: Gregotti's project for the Bicocca district in Milan [Source: PAST, University of Milan-Bicocca]

The administrative process of the Bicocca project has been very long, in fact the first concessions have been released after 8 years from the variant to the town plan of 1987 with which the municipality has defined the functional and quantitative elements of the project. During this period the project has undergone some adjustments but there have not been significant changes in the urban configuration of the blocks. The district is organized on a central longitudinal spine, which follows the planimetric layout of the area. The spine is divided into six quadrangles characterized by different volumetric configurations, the central quadrangle will include the entire Bicocca project, since it is located at the intersection of the two main axes that structure the sequence of public squares, with the large central square and buildings that serve the commercial functions, residences and residences; the square is then closed to the north by a building of university services and student residences, followed by a large urban park concludes the residential sector and for collective services. All central quadrangles are connected by a central pedestrian axis. Another part of the university hub is located in two pre-existing industrial buildings next to the central urban park. To this central spine are aggregated, beyond the side streets: laboratories, residences and the Arcimboldi Theatre to the east; residences with nursery school and church and the most significant urban park of the whole area, the "Cherry Hill", to the west. Further north of the latter is the area that Pirelli has designated for its headquarters; this also includes the historic Bicocca of the Arcimboldi building and the monumental cooling tower. Further west are sports facilities, which are also connected by a pedestrian overpass to the North Park.

1.2 The Sofer case in Pozzuoli

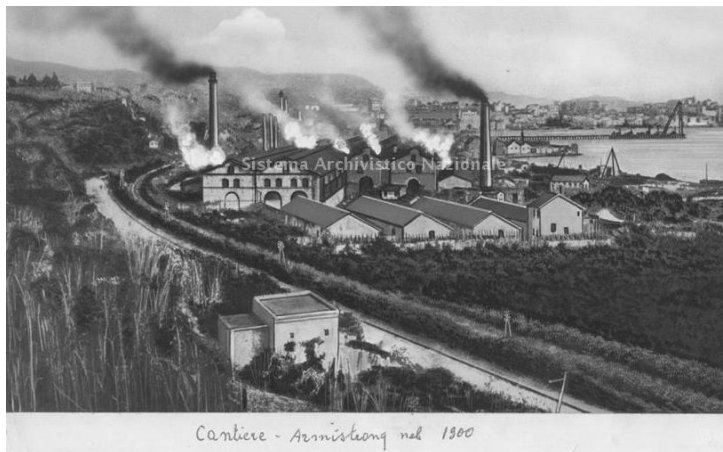


Fig. 3: Postcard reproducing the Armstrong Shipyards in Naples, 1900 [Source: National Archival System - SAN]

The metallurgical establishment of Pozzuoli was founded in 1889 by the Armstrong Company, a manufacturer of war material. The new production settlement, developed over the decades along the coast, occupied "the area where in ancient times, according to tradition, stood the Academy of Cicero". [8] The complex of the Artillery Arsenal, was acquired by Ansaldo Trasports in 1938, was then purchased by Aerfer-Imam and in 1967, following the separation of the company, was sold to Sofer, a company specializing in the production of material for locomotives, coaches, electric trains; the following year the property was acquired by Breda Ferroviaria. The plant of Pozzuoli, at the beginning gave to the city a great economic contribution, then went into crisis in 1993 and finally closed in 2003. The industrial reconversion project of the former Sofer Breda area has been elaborated by Studio Gnosis Architecture on the basis of the guidelines outlined for the relaunching of the city and the Phlegrean area in Peter Eisenman's master plan: it foresees the requalification of a long stretch of coast and "the recovery of some of the pre-existing buildings, representative of the memory of the site" [9], in order to allow also to give back the sea to the city. The regeneration of the former Sofer, promoted by the new owner company, Waterfront Flegreo spa, is a unique opportunity for Pozzuoli. For the first time in the history of the city, in fact, a large strip of waterfront has been affected by an intervention aimed at reconnecting it to the urban fabric, to allow the use of citizens. The objective was the realization of a new public space of high environmental quality and open to the city that can accommodate new functions, capable of stimulating economic and social development, and can relate with the testimonies of the past on the area and with the same old town, to merge the new architecture to the historical pre-existences. The entire area has been divided into functional areas - Service

Center, Hotel Complex, Arts and Crafts Pole - following the guidelines identified by the footprints left by the production structures, and is considered as entirely pedestrian. The project has also foreseen the realization of large parking lots, mostly covered, and the integration of pedestrian mobility, guaranteed along the entire coast by the board-walk, with a system of bicycle paths. At the end of the promenade, in proximity of the new port of Pozzuoli and in correspondence of the main pedestrian entrance, a wide green square will rise, the Square of the sail and it is characterized by the presence of a pre-existing building, operative center of the ex Sofer recovered and converted in public and private offices, and by the buildings that will welcome the Worship Center, the Nautical Club Savoia and the seat of the International Academy of the sail. This important sports facility would have become a well-equipped Olympic training center, available to sports federations, and would have been served by the adjacent nautical technology center that will house, in addition to research laboratories on new materials for boats and sails, residences for students and athletes and commercial activities related to boating. The promenade would end on Belvedere Square, stretching out towards the sea, with areas dedicated to commerce and catering, and spaces for leisure and sports activities; this complex would be developed on the imprint left by the long pre-existing warehouses in an area closed between the railway and the surrounding factories. At the center of the area, instead, it has been planned the realization of the buildings destined to the Arts and Crafts Pole and Hotel. The hotel complex would be an innovative hub with a functional hotel, a wellness center with a spa area. While the articulated bodies of the pole of arts and crafts, conceived according to the principles of sustainable architecture, were intended to accommodate craft workshops, professional studios, showrooms and lofts for fashion and design. This innovative settlement of tertiary activities, with its outdoor spaces open to the urban park, would be embraced by two large old buildings, the Canteen building and the Welding building, recovered and transformed respectively into a service plate, with commercial spaces and various offices, and into a system of workshops with laboratories and exhibition spaces, in a fascinating dialogue between industrial archeology and technological innovation, between ancient and modern, between conservation and renewal. Central to this was the theme of greenery and public spaces, which "represents a dominant motif in the genesis of the project, an integral and unifying element". [10]



Fig. 4: Project for Pozzuoli XXI [Source: Pozzuoli21]

The former Sofer area, in fact, has been transformed into a large park of 55,000 square meters, accessible on foot directly from the city center and designed as a long green ribbon that winds, parallel to the sea. The Pozzuoli XXI project, based on the public-private synergy, offers the possibility to give back to the city more than 130,000 square meters of public spaces and equipped green areas and is further qualified by the study for the use of eco-friendly materials and technologies and the adoption of renewable energy sources.

1.3 The Ruhr case in Germany



Fig. 5: Landschaftspark, contemporary air view [Source: Recycled landscapes]

The third case study is international and concerns the former large industrial area of the Ruhr, a historical German region of North Rhine-Westphalia, in the western part of Germany. This region, also known for its richness in coal and iron, has had, since the early nineteenth century, a significant development in the mining and metallurgical sectors. In the period between 1960 and 1980 the Ruhr underwent a period of decline, affecting all major mining and steel industries and producing a trail of destruction. Another legacy acquired from this period of decline, perhaps the most problematic of all, was the advanced and widespread state of pollution of the land, water and air, making the environment dangerous. The Emscher River, the backbone of the natural structure of the entire region, and its numerous tributaries became known worldwide for their level of pollution and their transformation into open dumps. The problem of pollution and neglect of the Ruhr area was addressed between 1989 and 1999 by the regional government of Nordrhein-Westfalen, the "Land", which, for the occasion, set up an exceptional intervention body called the Internationale Bauausstellung Emscher Park (IBA Emscher Park). The launching of the work program was initiated by the "Land" government, inviting the different social partners to submit projects, ideas and opinions concerning the area. The program was divided into seven lines of action [11], encompassing a wide range of issues, such as ecological rehabilitation of the Emscher river basin, work in the park, industrial archaeology as well as social and cultural aspects of leisure time.

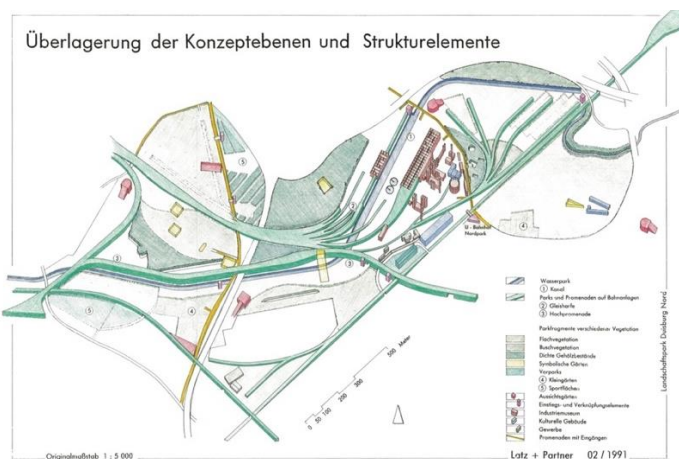


Fig. 6: Landschaftspark Project [Source: Recycled landscapes]

The first guiding project has as its theme the Emscher landscape park, which is the main objective and theme of the whole project. The aim is the realization of a park along the Emscher river axis through an interconnected system of green areas and strips, nature trails, bicycle and pedestrian paths. The main objectives of the project are: rehabilitation of the landscape by decontamination of polluted waters and soils, creation of attractions for leisure, sports and culture. The second guiding project is based on the theme of ecological rehabilitation of the Emscher hydrological system. This project has provided for the creation of new wetlands, articulated in a system of ponds, marshes and small streams, connected to each other. Particular attention has been paid to the ecological and naturalistic arrangement of the banks. The new renaturalized banks operate as effective biological filters, activated by the work of organic transformation through particular essences, suitable to trigger processes of phyto-purification. The Emscher River, which over the last 150 years has become an open sewer, is, within the project, the subject of a long-term recovery program, which can be summarized in three main objectives: to achieve, through more efficient treatment plants, a better level

of water decontamination; to separate wastewater from rainwater; to direct a portion of clean rainwater, collected separately, into waterways. The rehabilitation of the Rhein-Hern canal is the subject of the third lead project of the IBA Emscher Park. The primary function of this canal is to supply high-quality water to several large reservoirs located in the northernmost parts of the Ruhr area, which is particularly poor in water supplies. The canal, which today is an integral part of the Emscher Landscape Park, was built between 1906 and 1914. The canal, which was once used for river transportation of goods and various materials, has been re-functionalized in the last decade by IBA projects into a place for recreation, leisure and sports. The fourth guiding project refers to industrial monuments as historical testimonies. In recent years, the IBA has carried out a qualitative census of industrial buildings in order to include them in an innovative program of conservative restoration. Buildings, such as blast furnaces, machine rooms, pay rooms, warehouses and deposits for the storage of raw minerals, and infrastructures for the transport of materials, have been surveyed, examined and started to be partially or totally restored. The recovered industrial monuments have been re-functionalized, transforming them into modern post-industrial cathedrals, suitable to host cultural and artistic events as well as new economic and productive activities. The fifth guiding project has as its theme the action of working in the park. The objective of the IBA is therefore that of an aesthetic, ecological and functional renewal of living and working environments, to generate a spontaneous reactivation of productive, artisan, commercial and industrial activities. The sixth guiding project has as its program housing, neighborhood development and innovative forms of living. The housing project involves two types of intervention. The first type concerns the restoration and requalification of the old workers' quarters, populated by the families of miners at the beginning of the 20th century. The second type of intervention concerns the realization of new settlements that also include exemplary cases of garden-cities. Knowledge of bio-architecture has made it possible to design the new residential quarters. The priority objective of the IBA on living was to achieve a more concrete perceptual and functional integration between buildings, green areas and the surrounding landscape. The seventh and last guiding project concerns new proposals for social and cultural activities. The "operating philosophy" of the IBA has entrusted a role of the highest value to the many social and cultural aspects, present and potential, that constitute the characteristic of this territory. The entire project and the recovery of the former industrial buildings, has produced a series of premises suitable to host all kinds of activities, such as theaters, exhibition spaces, sports centers, concert halls, equipment for cultural and social activities. The change in quality is also noticeable in the interventions on the environment and landscape through the creation of an organic and widespread network of trails, bicycle paths, roads and walks, which connect the many parks created, joining them to the natural areas, the new woods and recreational stations, along the banks of the river Emscher and its channels.

2. The Siemens factory in Santa Maria Capua Vetere: de jure and de facto state of the area analysis

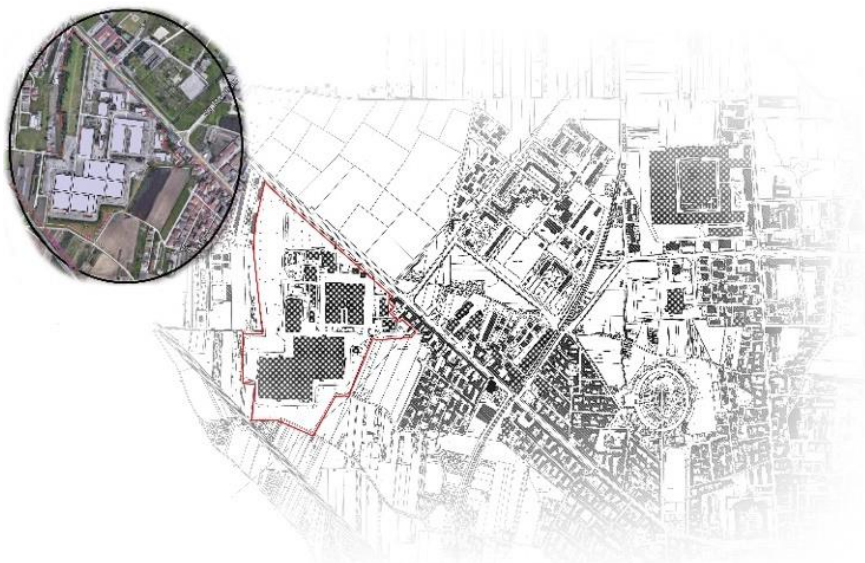


Fig. 7: The area under study, former Siemens [Source: elaboration by Dott. Raffaella Santillo]

The city of Santa Maria Capua Vetere is located where once stood the ancient Capua. It was here that the ancient Capua stood, as attested and confirmed by the numerous monuments of the Roman era

as well as by the etymology of today's toponym ("Capua Vetere", from "Vetus, veteris", a Latin adjective meaning "Ancient", therefore "Capua Antica"). The area under study, the former Siemens of Santa Maria Capua Vetere, is located along the ancient road axis initially called Via Appia, today called Via del Lavoro, with an area of 165.000 square meters. Main road connecting Santa Maria Capua Vetere and Capua. Before entering into the details of Siemens, it is important to remember that Caserta's industry grew a lot from 1951 to 1963 and, after a period of stall, had its maximum increase between 1970 and 1977. From the mid-sixties to the eighties, there was a growth in the industrial sector throughout the South and, therefore, also in the province of Caserta, which flanked and, in some cases, replaced the agricultural sector. The national politics of aid to the industrial development, with the institution of the Cassa del Mezzogiorno, make that at the end of the seventies (1978) the occupation in industry grows in Campania of the 18%. [12] The municipality of Santa Maria is part of the Marcanise-Caserta Conurbation which includes the territories of Capua and Maddaloni. In Santa Maria, the activity of SIEMENS - born with the name SIT- Siemens Spa in 1960- began in 1964 with the realization of a first plant, to which another was added in 1972, since at the beginning of the seventies the company had exceeded the number of thirty thousand employees. In the 1980s, the plant became autonomous with a plan that included research, design, production and marketing all at the local site. As Pignataro writes, "the company carries out autonomous research activities (together with design and production activities), and is therefore a true innovative unit". [12] Despite these premises, in addition to the industrial crisis of the late eighties, much has weighed on the specific situation also "the absence and / or inadequacy of infrastructure ... such as to favor the industrial settlements that thrive only in the presence of such assumptions". [13] The layoffs began, the reduction of workers, and little by little, the area was sold off. We went from more than 5000 employees in the seventies, to just under 2000 employees in the nineties. [14] Nowadays we have an area partially used as an ecological island and the rest is abandoned.

2.1 Analysis of the PTCP

The Territorial Plan of Provincial Coordination, approved by resolution of C.R. n. 26 of 27/04/2012 is the main instrument of government available to the provincial community and is the planning tool that outlines the objectives and the fundamental elements of the structure of the provincial territory, consistent with the guidelines for socio-economic development. The PTCP defines the purposes through the guidelines and directives that establish the objectives, contents and methods for the formation of municipal urban plans, sector plans and other acts of provincial planning or programming; they identify the constituent elements of the provincial territorial heritage, with reference to the characteristics and values of nature, landscape, rural, historical-cultural, settlement and infrastructure, and define the methods of use and maintenance to ensure the protection, redevelopment and sustainable development; identify the areas in which it is opportune to establish the protection of new natural areas of provincial and/or local interest; indicate the territories to be preserved from settlement and infrastructural transformations; determine the criteria and guidelines for the identification of admissible settlement loads; define the initiatives to be adopted for the prevention of risks deriving from natural disasters; the infrastructural interventions and the mobility network to be implemented. From an analysis of the thematic tables of the PTCP referred to the territory of Santa Maria Capua Vetere it emerged that the city belongs to the Sts D4 - Urban System Caserta and Ancient Capua, to the Settlement Environment n.1 - Plain Campania and has a dominant urban territorial. While, with regard specifically to the former Siemens area, it belongs to the urban fabric predominantly non-residential with a productive dominant. In the territory there are 93 denied sites. Following an analysis of the data on the surface area of the areas denied open space and quarries and a comparison with the surface area of open space in each municipality, it emerged that the municipality of Santa Maria Capua Vetere is most affected by the weight of these areas, with a percentage of 11,2% compared to the surface area of open space. The PTCP provides precise indications in this regard, calling for the priority transformation of the neglected areas, i.e. those uncultivated, degraded and abandoned areas spread throughout the territory. These areas have been classified as areas of "integrated transformability", meaning areas in which the residential, commercial and tertiary functions, connected by a pervasive public space conferring urban quality, guarantee the vitality of the neighborhood and the functional and social mix. The areas of integrated transformability are located in free areas, containing "denied areas", in need of urban reconnection. These interventions aim at defining an appropriate mix between public green areas (preponderant on the others), the slow bicycle and pedestrian road system, the presence of services and a reduced part intended for housing and commercial buildings.

2.2 Analysis of the PRG

The PRG is the main instrument of urban planning at the municipal level the plan must contain: the network of main roads and their facilities, the division into areas of the municipal territory, indicating the areas intended for urban expansion and the determination of the constraints to be respected in

each area, the areas to be reserved for public buildings or public use and the works and facilities of collective or social interest, the constraints to be respected in areas of historical, environmental and landscape, the implementation rules of the plan. The PRG of the municipality of Santa Maria Capua Vetere was approved by Resolution G.R. 22/10/1983 and divides the municipal territory into 7 areas of gravitation: Area 1 - Northeast of the town up to the border with the town of San Prisco; Area 2 - All the central area east of Corso G. Garibaldi up to the border with the town of Curti; Area 3 - The northern area of the inhabited area, developed substantially along the artery of via Galatina on the slope bordering with the territory of the municipality of Capua in the fraction of S. Angelo in Formis; Area 4 - Including all the central area west of Corso G. Garibaldi; Area 5 - The south-west area, i.e., part of the district "S. Erasmo" and the areas that go under the toponyms of "14 bridges" and "Colonna bridge" along the direction that leads to the municipality of San Tammaro; Area 6 - The north-west area including the districts "Sant'Agostino", "Fornaci" and the remaining part of the district "S. Erasmo", along the direction with the municipality of Capua; Area 7 - The southern area of the town beyond the railway line, including the whole "Sant'Andrea dé Lagni" district. The study area is located in the area 6: The north-west area including the districts "Sant'Agostino", "Fornaci" and the remaining part of the district "S. Erasmo", along the direction with the municipality of Capua. At the time of the drafting of the PRG, outside this perimeter, there were two industrial nuclei. The first one was constituted by the complex of the ATI (Italian Tobacco Company) more commonly called "Tabacchificio", placed north along Galatina street and the second one was constituted by the complex "Italtel" or "ex Siemens" placed west along Appia street in direction of Capua. From the PRG it is clear that the study area falls in zone D, that is, in a productive zone with an industrial-craft vocation for direct intervention where urban standards are foreseen such as areas destined for yards and parking lots for employees of not less than 7,5 square meters, areas of public use for greenery and public equipment of common interest. The current PRG of the City of Santa Maria Capua Vetere identifies "commercial areas" and "production areas" distinguishing between them in terms of uses and urban discipline. The SIAD Plan regulates all the directional interventions, tertiary and in zone D of the PRG in force of the Municipal Territory. From the rereading of the SIAD, it is clear that the commercial vocation of the Municipal territory is particularly diffused and mostly concentrated in the area towards the North, Sant'Angelo in Formis in the Municipality of Capua. During the period in which the P.R.G. has been in force, not all the plan's forecasts have been implemented. In fact, some industrial areas, in particular the former Siemens complex itself, have now become a disused industry, not yet possessing a new dimension of transformation and urban requalification.

2.3 Analysis of the PUC

The Municipal Urban Plan is the central instrument of planning in the Campania region, it replaces the PRG by virtue of LR n. 16/2004. For the territory of Santa Maria Capua Vetere, the PUC Proposal was adopted in September 2020. The urban planning tool replaces the previous PRG dating back to 1983, as the new environmental demands, territorial resilience, the fight against climate change, urban regeneration, the redevelopment of historical fabrics, the enhancement of archaeological and cultural heritage, new forms of sustainable mobility and, finally, the need to activate processes of social participation in the construction of collective goods have imposed the revision of an inadequate tool, not only from the regulatory point of view but especially to be able to give answers to contemporary socio-economic needs. The project for the urban plan of Santa Maria Capua Vetere is based on the definition of Elementary Homogeneous Territorial Units (U.T.O.E.). In the U.T.O.E. 4- Sant'Agostino: residential and productive vocation, falls the disused productive area of Italtel. The main objectives for this territorial unit are to define a new role for the area by increasing its functional complexity, reinforcing the city effect, redeveloping the existing building stock and hierarchizing the system of mobility and public spaces. The potentialities linked to the relaunching of the use of these disused areas (ex Italtel, ex Fintek) represent a great opportunity of urban transformation that would characterize the city also in consideration of the public conveniences to be translated into spaces given for free by the owners when formulating a project proposal for the reuse of the sites. The Plan sets out 5 strategies for the city and they are: 1 - The historical center and archaeological resources, 2 - The transport infrastructure networks, 3 - The territorial endowments and centralities, 4 - The areas of transformability and 5 - Environment and green infrastructure. The study area is included in the strategic project n.4: The areas of transformability - recovery and urban regeneration. The reduction of land consumption and the opportunity to regenerate brownfields as well as the urgency to redevelop neighborhoods and degraded areas guide this strategy. The potential linked to the reuse of this area is of great importance. The former Siemens is included in the plan in the A.T.P. 1 (Areas of Productive Transformation) and for it are planned interventions of urban regeneration with demolition of industrial volumes and relocation with tertiary-commercial function. Specifically, it is expected to create a commercial and tertiary area overlooking Via del Lavoro and in the innermost part of the area with attached integrated services, through the construction of new factories and the redevelopment of existing structures. The new buildings will be inspired by the principles of bio-architecture to meet high

performance standards with low consumption. The intervention also includes a public green parking for maximum permeability of the soil, as well as areas of public green equipped and a public building with cultural function. The re-functionalization of existing buildings in the center of the area will result in the definition of an area with a commercial vocation; in addition, there will be an area destined to the craft-productive function.



Fig. 8: Project sheet for ATP 1 [Source: Programmatic Framework, PUC Santa Maria Capua Vetere]

The western and southern parts of the lot will be destined to a green area to be opened to the public and equipped with outdoor sports fields, skating rinks, bike paths, equestrian center and light and removable structures and ponds, providing measures to support urban drainage and the principle of hydraulic invariance. Finally, it is expected, in the eastern part of the area, the construction of a road link that cuts across the area.

3. A Meta-design hypothesis of resilient and sustainable regeneration

The Project for the former Siemens comes from the idea of wanting to redevelop the area by identifying new functions based on sustainability and resilience. The problems for this area concern, on the one hand, the search for solutions for the abandoned and disused industrial buildings, decreasing the overall state of degradation, and on the other hand, the need for resilient choices. The theme of resilience is of considerable interest, as being resilient for cities means not only designing homes and buildings that are able to withstand natural events but also, and above all, the ability to quickly recover from a crisis situation. Resilience, therefore, is not only related to natural phenomena but, in general, a system can be defined as resilient if it is flexible and has a high capacity to adapt to crises while maintaining the same basic structure and functions. Urban planning, to date, does not yet allow for this speed. Urban resilience has three implications. The first is the ability of cities not only to adapt but to self-organize, so as to be centers of knowledge and innovation with an adaptive system of government. Second, it is about the big picture; resilience is not tied to a single aspect but rather to the entire urban context. The third implication is that resilience does not end within the boundaries of the individual city but closely involves the network of cities. It is an integrated system. [15] The intervention for the former Siemens aims to become, a green junction for the city that connects Santa Maria Capua Vetere to Capua. A hinge between the two urban areas. The main objective is the recovery of the building heritage and the enhancement of the existing. For this reason new functions have been foreseen for the existing buildings, such as research center, laboratories and exhibition centers also serving the University, as well as bars and restaurants. This area will play a hinge function with the creation of large green areas also designed as barriers to smog that, in fact, will surround the entire area, with a choice of vegetative species capable of playing this role of barrier. There will be several access points to the area and it will be possible to access it through sustainable urban paths. The mobility within the area, in fact, will be totally sustainable, with green and red paths. These paths are a real system dedicated to a non-motorized circulation able to connect people with the resources of the territory (natural, agricultural, landscape, historical and cultural) and with the centers of life. They will be pedestrian and cycle paths, totally green, with areas of bike sharing but also car sharing, as it will be possible to travel the area with electric cars. Both social housing and free

building interventions will be foreseen, in order to guarantee an adequate social, functional and building mix. Building and functional mixitè is a useful tool for the elimination of social and economic distinctions.[16]

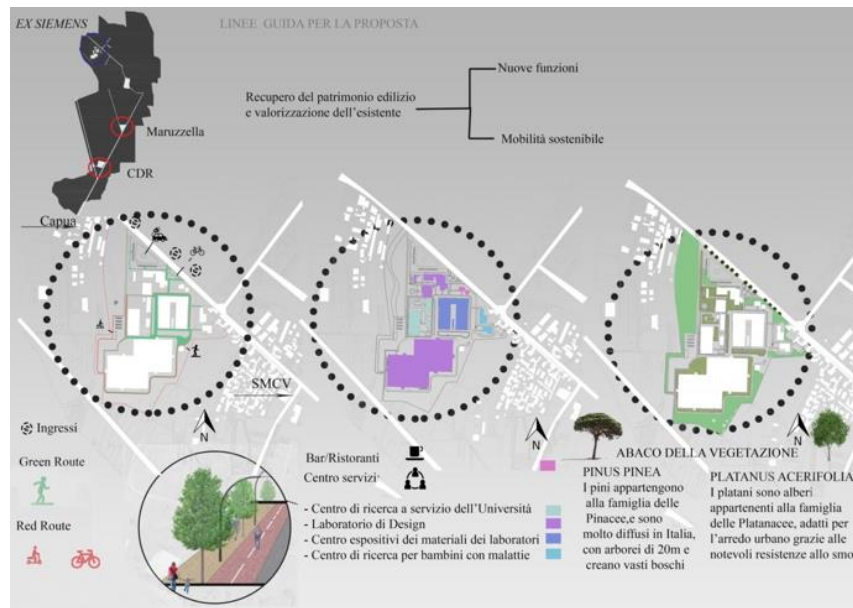


Fig. 9: The Regeneration Project for the former Siemens [Source: elaboration by Dott. Raffaella Santillo]

The objectives of the project are, also in adherence with those prepared by the proposed PUC, therefore, related to environmental sustainability linked to the search for flexibility and resilience; the experimentation of a new idea of urban regeneration through the use of innovative tools; the maintenance, reuse and re-functionalization of abandoned industrial buildings; the enhancement of services on an urban scale that aim at social inclusion (for example with the provision of forms of co-housing and social mixitè).

Attributions: The paper resulting from joint work, sees the attributions as follows: Paragraph 1 and 1.1 Salvatore Losco, Paragraph 1.2 and 1.3 Irene D'Agostino and Paragraph 2 (2.1, 2.2, 2.3) Claudia de Biase. Paragraph 3 is the result of the joint processing of the three authors.

References

- [1] SPOSITO C. *Sul recupero delle aree industriali dismesse: tecnologie, materiali, impianti ecosostenibili e innovativi*, 2012. Maggioli Editori.
- [2] GIOVANELLI G. *Aree dismesse e riqualificazione urbana: strategie progettuali e modelli operativi per il recupero*, 1997. Alinea, Firenze.
- [3] CROTTI S. Luoghi urbani ritrovati, in "Rassegna", n. 42, giugno 1990, pp. 69.
- [4] RAJA R. *Archeologia industriale. Storia, significato e progetto*, 1983. Dedalo, Bari.
- [5] Triennale di Milano, Progetto Bicocca 1986-95: *Progetto per una Milano policentrica*, Electa, 1995.
- [6] GREGOTTI V. *Riconversione dell'area degli stabilimenti Pirelli alla Bicocca, Milano*, in Domus, n. 815, 1999.
- [7] CAGNARDI A. *Progetto Bicocca*, in Casabella, n. 626, pp. 22-28.
- [8] ARMSTRONG, *un secolo di storia*, in il Denaro, pp. 41.
- [9] Waterfront Firgreo, Pozzuoli: *progetto di riqualificazione dell'area industriale Sofer*, 2009. www.waterfrontfregreo.it.
- [10] DI MARZO C. *Il progetto Gnosis Architettura per Pozzuoli*, 2009. www.edilportale.it.
- [11] www.iuav.it/pubblicazi1/Catalogo-G/pdf-giorna/Giornale-luav-134.pdf.
- [12] PIGNATARO M. *L'economia di Terra di Lavoro dal dopoguerra ad oggi 1945-1985*, Caserta, IT, 1985, pp. 100-135.
- [13] BROCCOLI P. *Una provincia meridionale tra miracolo e crisi. Il caso di Caserta dal dopoguerra agli anni '60*, Caramanica editore, Marina di Minturno, IT, 1996, pp.50.
- [14] INTERROGAZIONE A RISPOSTA SCRITTA 4/06138 presentata da GAZZILLI MARIO in data 17/12/1996 in http://dati.camera.it/ocd/aic.rdf/aic4_06138_13.
- [15] ARNOLD C.A., *Resilient Cities and Adaptive Law*, 50, 2014. Idaho L. Rev.

[16] BAUDIN G. *La mixité sociale: une utopie urbaine et urbanistique*, in *Les utopies de la ville*, 2001. Besançon: Stampa universitaria Franche-Comté, pp. 13-24.



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