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# Abandoned landscape project design



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## Abstract

Conversion and transformation of historic buildings and industrial site reclamation projects are becoming topics of renewed interest. Many industrial buildings beckon architecture design theory to revitalize urban areas and make new use of public space. Ruins and historic sites speak to us about the need to rethink settings which belong to long-lost ages and yet are contemporary in the stories they reveal. There are present-day problematic and sensitive areas (abandoned quarries, ex industrial plants, landfills, etc.) which inspire renewed critical thinking; themes of memory and recollection touch us in the here and now. In contrast with the 1970s and 1980s tendency to treat such topics with a mix of lightheartedness and nostalgia, the projects presented in this work regard history as a process of revision and reclamation of profound spatial and social principles. Contact with historic, industrial and modern spaces pushes us to apply new methodological approaches in an effort to re-write the present. In fact, nowadays it is imperative that we engage a relationship with the past which takes into consideration not only ancient legacies but also those entrenched in 20th century crises—uncomfortable memories often embodied in areas of great landscape or historic value. How are we to approach our relationship with these legacies? Critical studies illustrate the value of those projects capable of breathing new life into the fabric of urban space by creating public areas and city parks. Memory, seemingly pushed into a playful, irreverently lighthearted vein for years, is thus allowed once again to speak to us of the human and social desire to reclaim time and provide urban and suburban areas with new opportunities for regeneration and growth.

**Keywords:** Abandonment, Memory, Art, Urban regeneration, Contemporary landscapes

## The identity of abandoned landscapes

Mining sites, manufacturing plants, cement factories, silos, slaughterhouses and other industrial building sites are intrinsically different from those seen in classical architecture not only in nature but also in terms of culture and relationship with the burden of time. When we intervene upon a Greek or Roman structure, our approach is respectful to the monument because we ascribe value to it; it emanates a sense of dignity because it has stood the test of time and survived as testament to ancient cultures. Throughout history, classical ruins (think of the Renaissance or Neoclassical period) have taught us a series of lessons about proportions, materials and spatiality and have been re-interpreted with new designs (Marotta 2015). In contrast, the history of

industrial structures reveals their shortcoming: though functional, they have tended to create crisis in the terrain they draw resources from. Industrial archeology is dialectic and critical in its nature. Nowadays, these industrial plants located at the edges of historic centers or in quality environmental areas can be opened to new uses. They are places in which we sense the meaning of life, as though they were elderly, wise bodies. While classical archeology excludes contemporary projects, industrial structures welcome an inclusion of the present. These places bear within them traces of systems of the past, but here contemporary reality can relate to something poor and “impure” in nature. Industrial archeological sites are like secular cathedrals that have lost the magic of the sacred and speak to us about abandonment and the destiny of humankind. Within metal structures upheld by tensional force, the present highlights the traces left behind by these productive, secular monuments.

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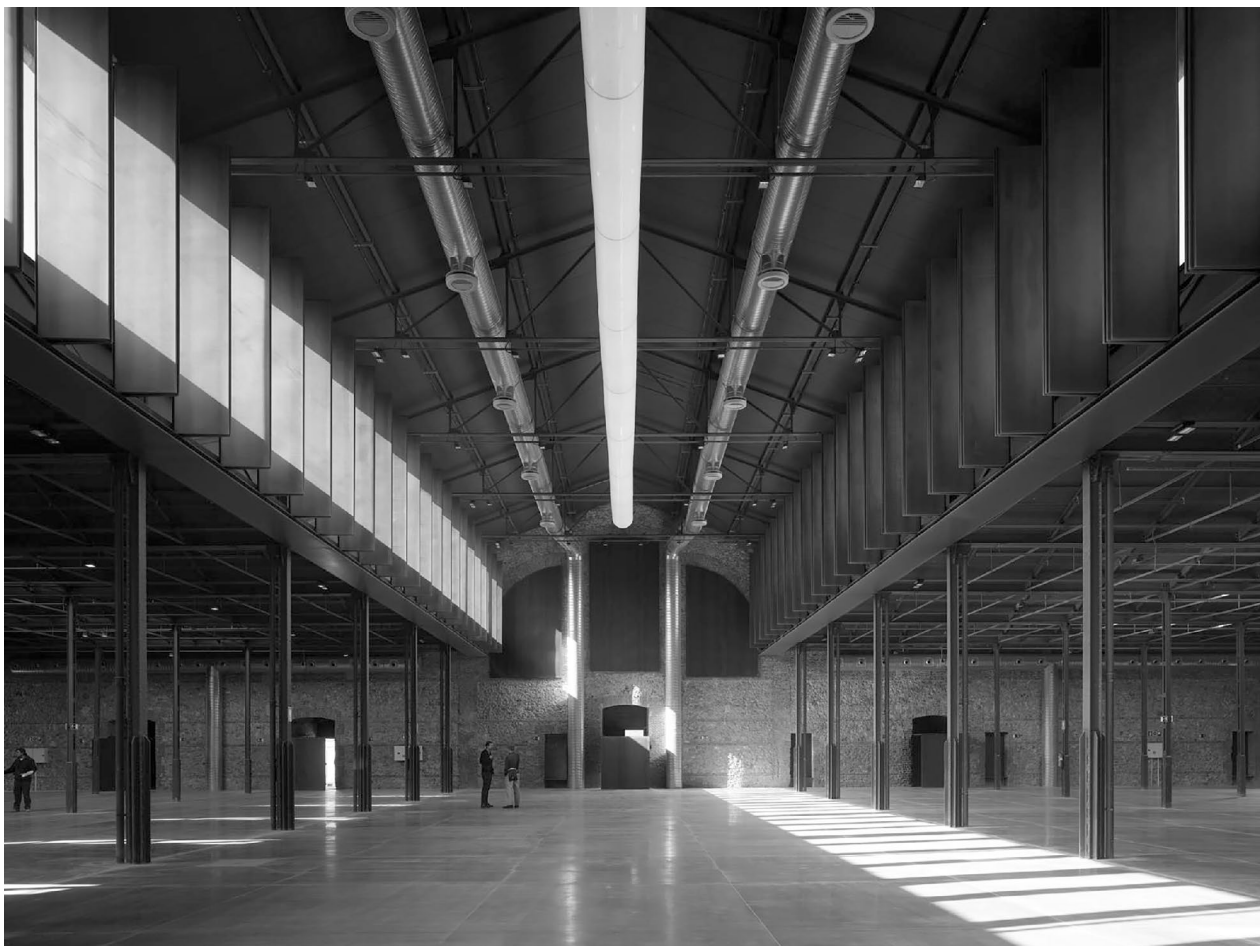
While in classical archeology we refer to ruins, in an industrial context we begin to introduce the theme of abandonment. Classical ruins are built from materials that withstand the test of time; the nature of industrial remains forces us to develop new methods of assessment and practice in city design. The aim is not only to preserve these places as monuments, but also to make use of their spatial and urban value. In Madrid's *Matadero*, Iñiqui Carnicero recently completed the reclamation project of *Nave 16*. This disused slaughterhouse is now reclaimed as a space for public and social connection as well as for art. Having a limited budget leads an architect to a radical choice: basing a project's design on principles of reuse and fostering new uses for existing space.

The themes of art, space and culture are embodied in the idea of a portal, an access point, a passage- a metaphor for a new destination (Fig. 1).

The door is thus a fundamental feature of the architecture here, as it allows for connection and, simultaneously, for closing and delimitation. As a result, the project

is designed in line with the pre-existing traces, the inner layout and the pointed metal structure reminiscent of Islamic mosques. The *Matadero* is a large rectangle with two wide aisles which characterize its ample space and define it with a deep section that allows the light to come through. The three common areas are distinguished by a shed section (Fig. 2).

The existing walls and metal structure have been consolidated by adding opening and delimitation features. Many separate spaces are therefore present, making it versatile for various uses. One of the two halls is bordered by a double system of portals- a bottom one which allows total closure for exhibits or concerts, and a top one used to orient or shield the incoming light. The bricks have been exposed in order to give one an impression of raw material and to showcase industrial building logic, as if to capture an aura of sorts. With the *Matadero*, Iñiqui Carnicero shows how it is possible to respect a space of extraordinary quality by transforming it from abandoned place into a vehicle for art and social gatherings.



**Fig. 1** Iñiqui Carnicero, *Matadero*, Madrid, Spain. Photo: R. Halbe



**Fig. 2** Iñaqui Carnicero, Matadero, Madrid, Spain. Photo: R. Halbe

One of the most significant transformations seen in the past few years has to do with the concept of territory itself, and it is a deep shift indeed. In the 1980s, Norberg-Schulz (1979) proposed we interpret place as *genius loci* with a distinctive spirit that informs its identity. In the 90s, thanks to the influence of philosophical works by Foucault and Deleuze, landscape came to be understood as a showcase of archeological stratification (Foucault 1980; Deleuze 2002). It is a shift in direction: place no longer represents a stable condition and its significance instead lays in process. In this stratigraphy, even memory cannot remain frozen or static and must be reinterpreted. The increasingly complex landscape we are confronted with nowadays includes marginalized areas such as abandoned quarries or other sites that bear archeological memory, as evidenced by Brückner & Brückner's work. One of the most interesting architectural examples of this is the *Granitmuseum Bayerischer Wald*, which is built into the excavated terraces of an abandoned quarry (Fig. 3).

Here nature and artifact interpenetrate; the museum follows the quarry's transformation-based identity wherein the land is shaped by excavation machinery in an effort to complete a process. The same materials are used with similar systems, and it becomes part of a whole- the consequence of the landscape's identity. Place and context thus become a single body made of the same substance (Marotta 2010) (Fig. 4).

In this philosophical vein, landscape is no longer viewed as a merely reassuring sight, nor is nature seen as a place for us to simply contemplate. In his book *The Third Landscape*, Gilles Clément examines some decommissioned sites and is able to capture deep environmental and biological richness in their marginalized and abandoned essence. Landscape itself is translated into process, so that it becomes impossible to ignore its changing, transformative nature (Clément 2005).

The charm of a refurbished factory or of a military structure converted for civil use affirms a clear truth: memory survives in history, like a phoenix rising from its own ashes. Over the past few years, the landscape



**Fig. 3** Brückner & Brückner Architekten, Tirschenreuth | Würzburg, Granitmuseum Bayerischer Wald, Hauzenberg, Germany. Photo: P. Manev, Selb



**Fig. 4** Brückner & Brückner Architekten, Tirschenreuth | Würzburg, Granitmuseum Bayerischer Wald, Hauzenberg, Germany. Photo: André Mühling, München

available for project design has changed. Limits are no longer determined by the confines of the city with its urban order and social image. We have gone beyond the *genius loci* idea of spirit of place that defines a landscape. Today it is abandoned or marginalized places that allow for a broader concept of context where multiple viewpoints and interpretations are possible. Nature and context are no longer viewed as disjointed processes; on the contrary, human-made and natural environments converge into a single body which architectural culture intends to protect and redevelop. Over the last decades, disused areas, mining quarries, industrial buildings and military bunkers have become contemporary architectural grounds.

Landscape art has certainly played an important role in increasing awareness of the environmental context—one need only think of Klee's and Kandinsky's abstract, expressive works and the experience drawn from Land Art beginning in the late 1960 s. Today, attention to the fabric of the landscape and its stratifications combined with renewed respect for the environment makes project design somewhat archeological in nature. Land

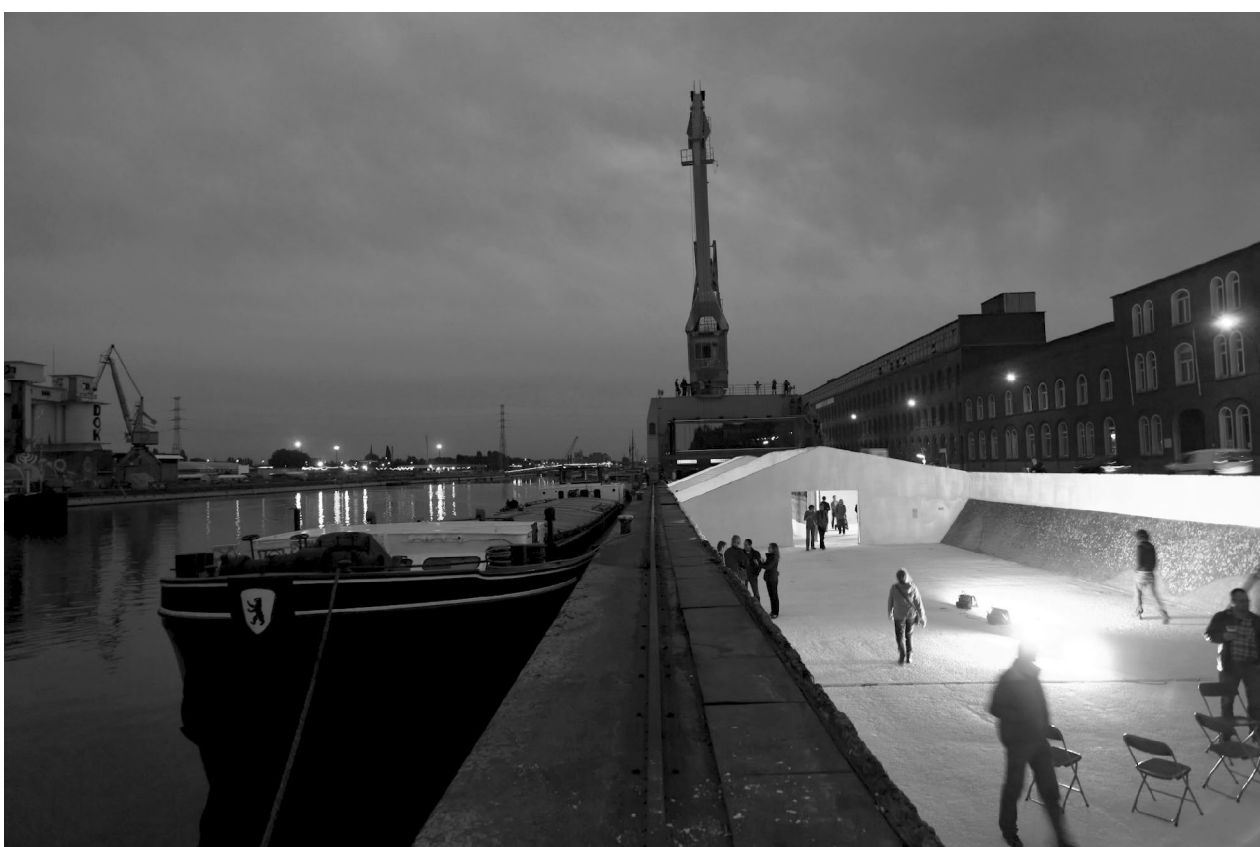
reclamation, along with reuse and conversion of historical meanings and a deepening alliance with the landscape are new themes in design theory. Archeology has broadened its temporal scope by including secular industrial sources as well as places laden with negative symbolism like the bunkers scattered across Europe. Art has certainly played a key role in broadening environmental awareness: suffice it to think of Robert Smithson's experimentation in American desert landscapes, or Joseph Beuys' conceptual art. His *Aktionen* heralded a new approach wherein memory is interpreted as social action in taking place in a given space within a broader concept of process design. Following the damaging 1981 earthquake in Naples, he created the installation titled *Terremoto in Palazzo*. Everyday objects representative of local culture were recovered from the area open-air landfills and displayed in a scenic environment. The performance highlighted how the Campania region was a place subject to constant transformation and interference caused by its seismic and volcanic nature. Timeless artifacts were placed on top of each other and tables upheld vases and other objects in precarious balance. It was a way

of illustrating the fragile identity of a place subject to a sort of fatalism caused by an unstable, magmatic view of reality. With his work, Beuys told a tale about existence, dreams, and a metaphor for discomfort (AA.VV. 1984; Beuys 2015). Today, these themes are relevant to project design for the refurbishment of bunkers and industrial buildings, which can be seen as arenas for an *archeology of modernity*.

Thanks to a collective Rotor effort, a reinforced concrete structure named *Grindbakken* was transformed in the dock area of the port in Ghent, Belgium. Once a deposit for sand and gravel, it is located between land and water for optimal loading–unloading of material by trucks to and from the boats. This extraordinary 160-m site comprised of open-air rooms was given new life as a space for art and exhibits (Fig. 5).

The task here involved interpreting visible traces with the aim of recovering a sort of regressed identity. The walls were painted white in order to foster maximum versatility for future exhibits. The project's designers chose to safeguard certain areas during cleaning and painting. The presence of iron minerals at the warehouse site left traces of its color in the concrete which

the project brought to light whilst also protecting the lichens growing throughout the industrial site. The greatest transformation involved changing a functional industrial building divided into rooms into a place for social art. Opening communicating doors between distinct spaces was tantamount to connecting the site's history with the city of Ghent's cultural and public evolution. The attention to mineral and biological surface traces evidences the design's intent to highlight natural processes over human-made ones. We are reminded of Kurt Schwitters' work, which focused on debris art. In a Dada vein, his *collages* were created as manifestations of random chance, based upon combinations of different materials. His works were in fact governed by a profound sense of balance and their main feature was a polyphonic character conveyed by the juxtaposition of heterogeneous materials- a metaphor for a life based on diversity. They displayed marked attention to thin, fragile traces highlighted by surface chromatic alterations. In Ghent, Rotor brought traces of the site's memory back to life through a process of concentration, revision and revelation of meaning of the site's specific narrative (Fig. 6).



**Fig. 5** Rotor, Grindbakken, Ghent, Belgium. Photo: Eric Mairiaux



**Fig. 6** Rotor, Grindbakken, Ghent, Belgium. Photo: Eric Mairiaux

### Project design in dismissed areas

The reuse of industrial archaeologies and their surrounding spaces offers the potential to reinterpret these places as part of a contemporary context. The condition of abandonment provides the creative foundation necessary for the regeneration of the landscape starting from its constitutive elements.

These undefined and uncertain territories are, therefore, characterized by both the absence of use or function, and by the presence of promise and hope. This duality turns them into “territories of the possible” (Gabbianelli 2012).

In this regard, reinterpreting territorial or city’s abandoned areas facilitates the re-attribution of meaning as well as spatial integration between active and decommissioned areas. The latter are to be understood as complementary urban resources—places founded upon pre-existing conditions but waiting to become vectors of regenerative, evolving processes for a city.

An abandoned condition allows a space to take on new meaning and shape thanks to reclamation and re-use practices. The latter create new resources— a benefit of openness towards welcoming new ways to share space.

“Reusing an architectural space means converting its meaning according to our contemporary interpretation, which will inevitably differ from what informed it in the past” (De Carlo 1981). These meanings are intended as both explicit, as in the case of the existing landscape and materials, and implicit in terms of memory and identity (Fig. 7).

Allowing an abandoned space to harbor regenerative efforts bestows upon it the capacity to activate like an enzyme in the city’s evolutionary process. When we physically and functionally include abandoned places in an urban system we are able to home in on its critical issues and flaws, which is a prerequisite for reclamation of space. “One does not create new architecture without changing what is already in existence...in the future building upon what has already been built will be the norm. What exists has become a legacy: beyond the passive interpretation of the concept of reuse, each architectural project is increasingly a partial transformation; suburban areas seek out their identity through modification” (Gregotti 1984). Transforming abandoned landscapes improves urban quality and takes us beyond a view of conservation as a mere return to the past (Secchi



**Fig. 7** Abandoned factory, Solarussa, Italy. Photo: D. Viridis

1984). In this spirit, it seems useful to adopt viewpoints and design methods aimed at creating connections among the different actors affected by a given project and converging towards shared goals.

Many cities and regions have benefited from industry as a source of employment and economic revenue. The development and subsequent abandonment of ex industrial complexes highlight the end result of complex processes and situations deeply entrenched in the surrounding area's social and economic history. The dependent relationship between productive areas and local resources ensures that they come to characterize one another. It is therefore a priority that any process of landscape modification be set in motion by a practice of reinterpretation and attribution of new meanings and uses to be placed at the service of an area's inhabitants.

The presence of physically relevant abandoned places can be an incentive for urban transformation.

Planning landscape transformation entails a process of information gathering capable of sparking new connections via a process of constructing alternatives (Piemontese 2008). Doing away with the 'blank slate' viewpoint, which fails to take relational dynamics and interconnection into account, implies founding any project involving abandoned areas upon a dialectic process between context, environmental limitations and its intended beneficiaries. The industrial complexes found in the Ruhr region are but one relevant example of landscape renewal which does not do away with existing elements and creates a post-industrial space for the benefit of surrounding areas and cities. In this sense, identifying and fostering post-industrial landscapes can encourage us to go beyond viewing single elements as separate entities. Indeed, it pushes design towards a logic of interrelatedness and connection among and



between physical elements and the characteristics of the landscape (Bagliani and Dansero 2011).

Contemporary needs have thus provided an incentive for re-thinking industrial landscapes by changing the intended use of structures and facilitating. This process is not destructive in nature but rather aims to integrate a new balance in both landscape and environment.

These sites, devoid of preexisting function, are the spaces for the project. The uniqueness of these spaces allows the project to answer to the evolving needs of the city. With the absence of human activity, nature gradually reclaims these abandoned places. These places, as a whole, become fundamental for the conservation and preservation of biodiversity (Clément 2005).

The coexistence of ruins and wild vegetation in these sites, a feature which characterizes many archaeological landscapes today, can play a strategic role in the configuration and design of the project. This coexistence is essential to the project.

The possibility of a new perspective for these places, different in size, form and constitution, can be opened up. The regeneration project can incorporate the dynamism of the vegetative process that occupies the abandoned spaces, acquiring it as a constitutive element for the new spatial organization.

The colonization of space by these forms reveals spontaneous processes in which the project can be introduced to create new opportunities based on them. The possibility of a new perspective for these places, different in size, form and constitution, can be opened up. The regeneration project can incorporate the dynamism of the vegetative process that occupies the abandoned spaces, acquiring it as a constitutive element for the new spatial organization.

The buildings, the land excavated, the organic forms of plant recolonization become a whole with the new design insertions: the construction of a new complex and diversified universe of parts and meanings that give rise to new spaces and a rediscovered compromise between nature and artifice.

The colonization of the space by these forms reveals the spontaneous processes in which the project can be introduced in order to create new opportunities based on this coexistence.

The possibility of a new perspective for these places, different in size, form and constitution, can emerge. The regeneration project can incorporate the dynamism of the vegetation that occupies the abandoned spaces, incorporating it as a foundational element for the new spatial organization.

With the new projects, the buildings, the excavated land, and the organic forms of plant recolonization combine to become one landscape. The construction

of a new, complex, and diversified universe of elements and meanings gives rise to new spaces and a rediscovered compromise between the natural and the manmade.

The industrial complexes found in the Ruhr region are but one relevant example of landscape renewal which does not do away with existing elements and creates a post-industrial space for the benefit of surrounding areas and cities. In this sense, identifying and fostering post-industrial landscapes can encourage us to go beyond viewing single elements as separate entities. Indeed, it pushes design towards a logic of interrelatedness and connection among and between physical elements and the characteristics of the landscape (Bagliani and Dansero 2011).

Many projects at the urban and territorial scale reflect the ways in which abandoned buildings and spaces can form connections with an area's new needs. This is the case with the International Building Exhibition Emscher Park (IBA) in the Ruhr district, often cited in the literature concerning environmental and urban regeneration of abandoned industrial sites. It embodies an attempt to re-think living space and improve an area's economic and social condition. Symbols of work and industry become cornerstones of the site's recovery and important environmental spaces of territorial and urban regeneration. In the construction of new post-industrial landscapes, disused mines become parks and artistic venues while power and melting plants take on new significance as public space.

The wild and planted vegetation coexist in a single natural environment, generating connections in the park between the diversified activities and the multiplicity of spaces and volumes (Fig. 8).

These were the principles behind McGregor Coxall's Ballast Point Park project, which used material left behind by the pre-existing industry to reconstruct the current orography. The park was built on the remains of a remediated Caltex lubrication production site located on the Birchgrove peninsula in Sydney's inner harbor. The Caltex industry was active from 1920 to 2002; it had taken the place of a historic quarry once dedicated to manufacturing ship ballasts. The new design is a springboard for contemporary new forms of interaction between city and nature which focus on the transformation of pre-existing industrial elements strategically reused and reassembled in the novel presentation of the large abandoned area. The project design began with a reinterpretation of the site and its available materials in an effort to present a new urban space in line with the needs of contemporary life. The goal was building balance between removed and preserved elements. In order to achieve this, great attention was given to material sourcing and use (Fig. 9).



**Fig. 8** International Building Exhibition Emscher Park (IBA), Ruhr, Germany. Photo: L. Lutzoni

This is why the new terracing was fashioned in sandstone reclaimed from discarded material left behind at the site. Other aggregate material was recycled and utilized to favor water drainage; wood was reused for street furniture; concrete was mixed with recycled material. From an energy standpoint, a vertical axis wind turbine system was set up by making use of the remains of the site's industrial storage tank, symbolizing the shift from fossil fuel use to renewable energy sources. Project design in dismissed areas represents a contemporary city's need to broaden its interest in new environments. It involves carefully analyzing the stratification created by overlapping time periods and working within its framework in terms of renovation, removal and rebuilding with the aim of revitalizing the

area. If one takes the existing features as a point of reference, each transformation calls for critical consideration of pre-existing elements. This process fosters interconnection between present and past and, in this view, changing a landscape can be seen as an attempt to mend the relationship between its different components (Piemontese 2008).

Project design in abandoned areas is certainly not well suited to standard solutions. In such contexts, planning must begin with a thorough assessment of existing elements and the effect they have on the landscape and larger urban context. Designers must also evaluate their adaptability to reinterpretation in order to ensure they can be effectively integrated into the urban context whilst ensuring both the environment and the community's expressed needs are respected.



**Fig. 9** McGregor Coxall, Ballast Point Park, Sydney, Australia. Photo: D. Hill

### Project planning in environmentally sensitive areas

Understanding the changing connection between city and nature provides an interpretative lens with which to analyze design projects that embody a new relationship between abandoned places and emerging landscapes. Theoretical work by authors such as Choay (1973, 1994, 2008) on the emergence of critical issues in habitable space Mumford (1938, 1981) on how social history reflects upon a city (Maciocco 1991a, b, 1999) on environmental planning Secchi (1999, 2000, 2005) on cities' spatial structure and land features Corboz (1998, 2000) on interpretation and de Sola-Morales (1995) on the *Terrain Vague* provide a relevant conceptual framework within which to understand several projects concerned with a city's contemporary environmental needs (Fig. 10).

As we seek to build connections within a marginalized environment with potential for public use, themes of conversion and convergence naturally emerge.

As we move past industrial urban models (characterized by defined borders and controlled distances) and towards “contemporary cities”, it becomes increasingly difficult to define the boundaries of urban sprawl. This makes it more complex to assess the needs of a population, settlement and natural setting. A well-defined settlement lends itself to quantitative and qualitative assessment, but in the new conception the same space appears to expand and can only be understood in qualitative terms. This difference is representative of a city's ability to control its landscape (Saragosa 2005).

Identifying some of the compositional principles of an approach focused on respecting an area's environmental features allows us to better assess the theory behind a given project's design. This involves evaluating how these compositional principles have been applied and made operational, in what form, through which means and with what results (Gregotti 1990). The task at hand is identifying the results of applying compositional theory that places the environmental concerns at the center of



**Fig. 10** Abandoned landscapes and environmentally sensitive areas. Biella, Italy. Photo: G. M. Biddau

urban and landscape planning. In the past few years, we have witnessed growing debate on environmental factors in project design in terms of protection of existing ecosystems. However, the lively theoretical dialectic on the subject is not matched by practical application of these themes in the field. Some projects do highlight attention to these concerns, but those that manage to translate them into plans for landscape transformation are often faced with context-dependent issues which sometimes limit their success in spite of their great potential. Nevertheless, there are also examples that highlight how a spatial design project can gain strength by integrating pre-existing industrial features into landscape architecture in environmentally troubled areas.

The wastewater treatment plant project undertaken in Lisbon's Alcantara valley involved refurbishing an existing structure whilst integrating a specific city service with its territorial context. The cornerstone of this project was based on the idea of replicating the valley's natural features with a roof cover designed to facilitate re-use of treated water for irrigation and cleaning of public roads.

The wastewater treatment plant was built in the late 1980s; the need for renovation provided an opportunity to rethink the role played by wastewater facilities in relation to those parts of the city requiring environmentally sustainable intervention. Along with the

PROAP landscape architecture firm, the architects Aires Mateus and Frederico Valsassina proposed a project concerned with both architecture and landscape (Aires Mateus and Valsassina 2006). This design was part of a broader integrated system focused on the renovation of existing pumping stations and construction of new facilities for collecting waste water. The system contributed to the environmental and landscape redevelopment of the urban front stretching from Algés to Chafariz de Dentro, near the Terreiro do Paço. Considering the project's attention to environmental aspects, constructing suitable coverage over the Alcantara wastewater treatment plant became a priority. Principles drawn from ecology are inspiring a new understanding of the urban context and informing novel approaches to landscape architecture projects. The Alcantara valley has great ecological importance and is part of the city's history; a 12 km river used to flow there, giving rise to a system of water collection and pumping from the Águas Livres, an imposing structure located not far from ETAR. The Rio Alcantara has since been channelized and currently flows underground, beneath an important roadway (Fig. 11).

The ETAR's designed coverage recalls the valley's natural drainage system and serves a dual function. First, it calls back to the role played by gardens in the valley as



**Fig. 11** Aires Mateus, Frederico Valsassina, PROAP, ETAR Alcantara, Lisbon, Portugal. Photo: SimTejo

the project designers viewed it as an extension of the surrounding Alcantara environment.

The project builds new relationships with the layered nature of the landscape. Indeed, the designers try to discard all signs of contemporary infrastructure, while at the same time recovering the physical memory of previous agricultural activities (Aires Mateus 2012).

Second, it lightens pollution load from the estuary of the Tejo. The spatial design conceptualizes new forms of public space and the slanted cover becomes accessible whilst creating spatial hierarchies.

The roof creates a void in space. The empty space in this sense becomes the protagonist of the architecture because it gives a sort of “inverted archaeology” to the building and its functions; a state of oblivion in the process of the landscape, the rebirth of a forgotten place.

An interconnection is formed between informal settlements, road infrastructure and residential areas without forsaking aesthetic and functional priorities.

A noteworthy subject of discussion is the loss and overcoming of the city-nature dichotomy. The once fundamental discriminating difference between high-density settlements typical of the inner city and rural

settings seems to be fading away (Ingersoll 2004) as typically urban form sprawls into the surrounding landscape. The physical structure of contemporary cities no longer conforms to pre-modern models. In fact, the expansion of settlements in areas still dominated by natural landscapes has given rise to hybrid spaces. These have lost their urban character and yet can no longer be considered part of the rural context (Choay 1994). An example of this can be observed at the St. Margarethen Roman quarry in eastern Austria, a prime archeological site which houses a yearly opera festival. The growing number of visitors (up to 6000 per night) underscores the public’s interest in the peculiar context originally created by human activity but subsequently reclaimed by the natural landscape. The entire infrastructure, in fact, had to be redesigned in order to integrate the landscape formed by the ancient quarry with its new function as a public space where visitors come into physical contact with a structure that is gradually being reclaimed by nature. The “ROM, open air festival arena” by AllesWirdGut Architektur (2011) near the city of St. Margarethen is an example of a thoughtful design capable of bettering urban quality (Fig. 12).



**Fig. 12** AllesWirdGut Architektur, ROM, open air festival arena, St. Margarethen, Austrian. Photo: H. Hurnaus

The quarry had already served a new function in 1950 when it housed a symposium on sculpture and later several theatre shows. The St. Margarethen quarry once played an important economic role for the surrounding population and later became a tangible example of the thoughtless deterioration of an environmental resource. The entire infrastructure had to be redesigned with the aim of integrating the features of the ancient quarry site with its contemporary public space functions (Incerti and De Poli 2014). After passing through a short linking tunnel, visitors climb a ramp anchored to the rocks and the roof of the service structure which leads them to the arena and public space located roughly 20 meters below the access point. Visitors can come into close contact with the sculptural quality of the project especially at the turning points along this route. The pre-corroded surface provides protection against the weather as well as against vandalism in the winter months. Allowing visitors to interact with physical rock features which recall the

former function of the site achieves the goal of reclaiming its original significance whilst adapting it into a publically accessible space.

Any project ought to consider which processes of landscape revival fall in line with the idea that a city's natural and artificial features can be considered a single ecosystem (Corajoud 2003). The underlying idea of the design concept was to integrate the rocky landscape into all phases of a visit to the theater, treating every area as part of the *mise en scène*.

The abandoned site roots its new identity in multiple elements: the reclamation of quarry walls, the connection with the remains of manufacturing materials, the surrounding natural features, and the integration of previously installed works by artists as a continuation of the site's sculptural tradition. The de-industrialization process heralded by the energy crisis of the 1960s continues to have significant effects in light of the Western economy's recessive tendency seen over the past few

years (Dansero 1996). The redistribution of productive systems into a geographically expanded, globalized scope follows a de-centralization trend at the expense of local activities that until recent times were the backbone of local economies (Spaziante 1998a). This can be viewed as the result of the shutdown of the local industrial system but also interpreted as a process of transformation in the contemporary city's physical and spatial features (Spaziante 1998b). In this view, consolidated settlements and productive systems no longer occupy the same space and this has led to both transformation of the urban landscape and reinterpretation of suburban, marginalized and dismissed areas, which take on a new strategic role (Russo 1998). Recognizing the potential these sites have and intervening upon these public and semi-public spaces fosters connections with all components of the wider city space as well as a more effective response to contemporary needs of its inhabitants. It is with this perspective that landscape recovery efforts in the Vall de'n Joan area were concentrated around the revitalization of the di Baix Llobregat region's "Vall de'n Joan" controlled landfill (Battle Roig 2017). Used as a landfill serving Barcelona and its surrounding settlements since 1974, over

the course of 30 years it had compromised groundwater quality in the area. The renewal project involved topographic reconfiguration through the use of stabilizing terraces, retaining embankments, drainage systems, piping for the collection of biogas, channels, plantations and rising itineraries. The end goal of this project was to foster public use of the area. Its proximity to various centers of population and well-connected access made for an excellent gateway to Garraf Natural Park.

Thanks to Battle i Roig's vision, 885 hectares of the valley were reclaimed and converted into a public park space. The project included the construction of a series of walls made of gabion boxes filled with recycled material or soil as a reminder of the site's previous purpose. The liquid and gas byproducts created by waste are now treated separately from the rainwater so as to avoid contact between them. In turn, this enables the water resources to be utilized for the regeneration and reforestation of the park. The area was only opened to the public in 2010 after it was given time to naturally adapt to the enacted changes (Fig. 13).

The Vall de'n Joan project aimed to recreate an environmental context compatible with local needs also



**Fig. 13** Battle i Roig, Vall de'n Joan, Garraf Natural Park, Begues, Barcelona, Spain. Photo: X. Cebrian, J. Castillo

capable of sustaining the creation of primary ecosystems. In addition, the choice of local species adapted to the environment (such as burdock, aromatic plants or Mediterranean vegetation requiring minimal irrigation) has allowed the park to grow spontaneously.

Its development was meant to transform a place originally created for the fulfillment of an urban necessity into a quality environment for its inhabitants. The traditional landfill site dedicated to waste disposal was adapted to fulfill the emerging need for urban quality by adopting a disposal system that is more environmentally friendly and respectful of the local landscape. Issues concerning public space and environmental factors require that architectural design take into consideration an area's cultural and environmental characteristics. It can be argued that a city is a sedimented series of interpretations and the countryside a somewhat artificial context.

The project, in this sense, was developed on different territorial scales. The technical problems linked to the closure of the site were solved, the landscape was recovered, and the ecological values were restored. The intervention also considered a third scale to make this a public space of interest, connected by paths to the Garraf Natural Park (Battle Roig 2017).

Project design can be viewed as a vehicle for building interconnectedness between various elements across the natural and human-made landscape. On several levels, a project contributes to the regeneration of an urban system whilst taking into account the contemporary city's environmental structure (Serreli 2009). Open space can therefore become a connecting bridge between settlement structures and landscape project sites. This is why abandoned spaces hold significant potential for galvanizing a relationship between city and nature.

## Conclusions

Approaching the transformation of industrial areas or abandoned territories leads to questions about time and the societies that have preceded us. The past is often revered; its monuments and relics deeply respected.

We are fascinated by the places where those who have come before us have left their mark: whether it be footprints, ruins, or only ephemeral traces. To transform an industrial building or abandoned area, the designer must think in terms of both past and present. Thus was born the idea of working between these reality, with dowels anchored to the lived-in fabric of history. It is a way in which architecture meets the concept of empty spaces, and therefore a broader understanding of restoration. The necessity of integrating these urban bodies is a priority of our time, along with the need to restore new life and meaning to these structures which had been created with different goals and purposes. This change of course

is central to examining the interventions of recent decades, analyzed in academic texts which discuss the need to design on residual, marginal, replacement, and integration areas. When regeneration projects move from the ancient urban centers to the peripheral areas, the guiding principles and criteria seeking a dialogue with history no longer correspond to the uneven nature of these external territories. The place itself naturally affects the options for intervention.

The current trend in regeneration interventions is the recovery of industrial areas, abandoned sites, and brownfields in order to preserve them and give them new dignity and identity.

These places have provided, through their redevelopment, the greatest research opportunities to the project.

The factories, erstwhile hubs of production, are characterized by the beauty in their worn-down materials; the melancholy transmitted by their lived-in essence.

The redevelopment of such places recalls Foucault's heterotopia; a multi-layered place home to many interconnected memories. Industrial archaeology is more adaptable than ancient archaeology, and its transformations can be more impactful. Today, these naturally evolving environments are the best adapted to house contemporary spaces. This evolution and adaptability hinges on the site-specific nature of each context.

These redevelopment projects are deeply connected to the environment. Design, space, and material are not disconnected, but rather depend on and interact with each other, providing the exchange and creation of new value and meanings. As a result, the work no longer exists in a vacuum, but within the new relationship between memory and site. Today, industrial areas, old factories, slaughterhouses, prisons, and quarries are transformed into incredible "memory machines". But these aren't constructed, they already exist. Within the loss of memory, that fundamental oblivion from which new potentials can emerge, such places reclaim a profound authenticity. These places are genuine inasmuch as they have been lived-in; they have undergone the continuous cycle of victory and defeat imposed upon them by history. Ancient memories fill these revitalized industrial environments; the aura of experience within these used and dislocated spaces harkens back to their various and changeable nature. The preexisting industrial production machinery has a permanent, determined function. It has already lived. Today, these structures no longer represent the political and civil institutions, but rather have taken on a new, multifaceted identity.

The modernist myth of transparency; the ideal of a democratic exchange between outside and inside, has been left behind. Indeed, the current interventions enhance the nature of opacity; the interruption between



the outside and inside, between building and city, between space and environment, between individual and society.

If the modernist architects used their materials with minimalism as the ultimate goal, in today's postindustrial society (with its constant reminders of the crises of our time) a building's facade is no longer represented by the frame or window through which you can see the outside. Rather, it is the place where the manifold messages of our reality emerge is where the forces of the contemporary meet the echoes of the past.

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#### Authors' contributions

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