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Post_production. architectural design and the landscape of de-industrialisation

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Abstract

Industrial facilities have been dispersed across the American and European landscapes since the early Nineteenth century. Also, their activity encouraged the growth of a vast global network of logistical, mining, and agricultural infrastructures. Yet, since the late 1960s, a significant number of productive sectors have been gradually dismantled as a result of technical advancement, obsolescence, and changes in industrial regulations. The repurposing of "brownfields", as abandoned industrial sites have been dubbed, became a topic of discussion in the architectural community. In the 1980s, this circumstance presented an amazing opportunity to modernise the layout of Western cities. Yet, contemporary critical views on the nature and effects of industrialism, societal transformations, and awareness of the environmental crisis at the turn of the Twentieth century call for refocusing the architectural discussion regarding brownfields. In this essay, case studies are examined and set against the backdrop of an expanding conversation in architecture regarding sustainability.

Keywords Architectural design, Urban design, Landscape design, Brownfields regeneration, Anthropocene, Sustainable architecture, Land art

Introduction

Cities and landscapes in both Europe and the United States witnessed significant changes beginning in the early 1800s. Their countryside and urban outskirts were scattered with industrial buildings and infrastructures, including mills, factories, mines, and railroads (Menard 2014).

As a result, the landscape of urban centres and regions was defined not only by natural and historic landmarks, but also by the large-scale artefacts that turned nature into a resource and became a crucial component of the "experience of modernity" (Berman 1988).

In contrast to purported national characters, such as the beauty of Italian towns or the original innocence of the American landscape, this progressive artificialisation of the environment has been nostalgically regarded as a loss of beauty and purity (Menard 2014).

The network of industrial infrastructures became progressively obsolescent in the Western world, particularly Europe, in the second half of the Twentieth century.

From the 1970s onwards, this phenomenon demonstrated a noticeable acceleration.

There were three causes for it.

First, the steady advancements in technology urged for the modernisation of services and infrastructures. As a consequence, these moved to the city outskirts and expanded therein, where land was less expensive and access to the mobility network was simpler (Gregotti 1990).

Second, the growing concerns with safety and health pushed industrial activities out of the city core, with a general consensus of the public.

Finally, mine exhaustion and labour costs caused widespread deindustrialisation in the West and a massive relocation to the so-called Third World in the late 1980s. The scale of this massive relocation spanned from

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territorial, as in the case of the Ruhr basin, when seven cities decided to reclaim and return a sizeable land extension to the countryside, to urban, with the closure of hospitals, barracks, slaughterhouses, industries, and even railroad stations.

The former industrial plots, often large and close to the city core, rapidly increased their market value, attracting investors. Another relevant part, primarily extraction and dumping sites, were sited in the countryside, rising relevant environmental and landscaping issues without being attractive to investors, unlike the urban areas.

These parts of land that have previously been built on, are usually called *brownfields*.

Curiously, in spite of the activity of both grass-root environmental movements and independent researchers since the 1960s (Meadows et al. 1972) the theme of the regeneration of brownfields entered into the architectural discourse mainly from the perspective of market-related urban design, than as an opportunity to tackle environmental issues through architectural design.

This could be one of the reasons why the attempt to lay down a foundation for "green" architecture did not meet the question of brownfields at its early stages. Instead, the first efforts to design sustainable neighbourhoods have been made on virgin land (see Rogers and Gumuchdjian 1998, as an example).

Methodology

As usual for design disciplines, this paper will intertwine descriptions of the theoretical background and of related experiences in architectural design. The background mainly delineates the progression from industrialism to financialism and the growing awareness of the environmental crisis, in which industrialism played a major role.

Since the aim of the paper is to outline the role of architectural design in brownfields regeneration, the examples chosen are mainly competition entries with a pronounced experimental nature.

Results and discussion

High maintenance and spatial fixes

In the late 1980s the importance of the reclamation of former urban industrial areas took foothold in the architectural discourse. The opportunity to consolidate the urban structure around the city core and in its outskirts converged with the large availability of financial investments in these areas.

Under the point of view of production, these circumstances might be read as yet another *spatial fix* of capitalism (Harvey 2001): a kind of inward expansion, where land, already transformed to fit the needs of industrialism, is reshaped into spaces in line with the wishes of financialism, the upcoming wave of capitalism.

In a market driven by finance, indeed, the value of buildings is not just given by their square footage in the real estate market—a quality concerning tenants and owners that use building for production or living—but they are valued as assets that can be bought, sold or exchanged between investors in the capital market (DiPasquale and Wheaton 1992). Therefore, the location, facilities, and visual qualities of buildings contributes to their palatability as assets.

The availability of land close to the city core appeared to architects as "a historical opportunity for concrete transformation which won't happen again for many years, comparable to the city's industrial buildup," (Gregotti 1990, 3).

A fertile ground to investigate how architecture and urban planning could contribute to the consolidation of the European cities, testing the concept of architectural and urban design that Gregotti called *modification* (Gregotti 1984). Architecture as modification acknowledges the existing context as the underlying structure for new spatial configurations, not as mimicry, but as a way to establish relations with the techniques, the typologies, the topography, and the generative rules of the existing settlements (Gregotti 1991a, 73) as "reference points wide enough to allow all our nervous diachronisms to run in them [keeping] it from transforming itself into new fundamentalisms" (Gregotti 1990, 63).

In 1988, Gregotti Associati won the two-phases competition *Progetto Bicocca*, intended to establish a *technology hub* in one of the major brownfields in Europe, extending over an area about 700,000 m^2 wide belonging to the former Pirelli factories in Milan.

In his introduction to the proposal, Vittorio Gregotti highlighted three main design concerns.

First, the need to investigate the nature of the modification at the large scale, focusing on its relationship to the whole urban system.

Second, the idea that a technology hub should host a mix of pubic and private ventures, production, assistance to companies, and finally higher and experimental education facilities.

Third, a study of the morphological elements to establish connections to the surrounding urban fabric, turning the once enclosed factory into a substantial part of the city.

These concerns ensued in a scheme focusing on open spaces and buildings masses placed on a common grid and having the same height. The existing roads within the factory precinct, already matching the neighbouring roads, underpinned a hierarchic sequence of urban spaces like squares, parks, alleys, defined by buildings conceived through a combinatory approach, sharing the same constructive elements and formal language.

Gregotti's concept allows for a mix of private and public activities thanks to a strong architectural presence, intended to support a high degree of complexity at every scale. The basic shapes are designed to accommodate the unavoidable local exceptions, in a way non dissimilar from Oswald Mathias Ungers' formulation of *Grossform* (Schrijver 2011) as a new spatial quality arising from a combination of individual parts, that enables the unfolding of an unpredictable life.

This assumption translates at the scale of the building in different combinations of recurring elements imposed on the same grid—the facade panel, the beam, the pillar, and the louvred top containing the building services—which blends together memories of neoclassicist civil architecture, lessons from the *primal structures* of US minimalism, and a combinatory attitude loosely resembling the experiments of Dutch structuralism of the 1970s.

His explicit concerns are about the difficult relationship between the materiality of the building and the growing immateriality of the economic and informational flows. In defining this relationship, architecture accommodates these immaterial forces but also tries to shape and regulate them, channelling them into an urban structure that ensures the collective and public dimension, and the inherent multiplicity of urban life.

However, the opportunity to redesign the Western city went along a different path.

The rising financialism turned the regeneration of former industrial areas into a way to endow "architecture with the glamour and vitality of the commodity," through "the laughing gas of the market economy and the fertility drug of post-modernism" (Koolhaas 2003).

Therefore, many of the experiences in urban brownfields reclamation became an exercise in "design in the city" rather than "design of the city" (Gregotti 1991b).

One of the prominent examples of the role of architecture in the *spatial fix* of capitalism is represented by the regeneration of the former West India Docks on the Isle of Dogs in London, now better known as *Canary Wharf*.

Starting in the late 1980s, the design was functional to the transformation of the area into a new district for financial services, able to compete with the City in terms of rents and flexibility. This was possible because the then beginning dematerialisation in trading services no longer required the large floors suited for open-outcry trading (Stevens 2020), but interstitial rooms for data cables and wires, much easier to plan in new, purpose-built office spaces[1].

The architecture and urban design of the complex was conceived by Skidmore, Owings & Merrill, with YRM Partnership Limited, a London office, as associate partners, and I.M. Pei & Partners as consulting architects, who also involved Hanna/Olin as landscape designers.

Such an involvement of important design offices implies that the formal aspects of the scheme were decisive to the client.

The first perspective drawings by SOM (ca. 1987) show a concept informed by a post-modern eclecticism, coupling skyscrapers topped by pyramidal roofs with low-rises forming a crescent and a waterfront, adorned with classicist motives like arches and pediments, arranged following an episodic symmetry. The designers deliberately sought to link their scheme to the architecture of Nash, Soane, Wren, and Hawksmoor (Graham 1989). The perspectives themselves are rendered in fine watercolours, emphasising the historicist flair of the intervention.

Actually, the proposed spatial conformation resonates with the main preoccupations of the client.

First, the need to captivate the decision-makers who had to give the green-light to the whole operation. In fact, the British Environment Secretary Kenneth Baker, describing the project in a memo to the Prime Minister Margaret Tatcher, described it primarily as "visually stunning". This was also important to secure the public expenditure in infrastructure requested in order for the project to work (Stevens 2020, 80).

Second, it had to legitimate the project in front of the public opinion, especially the local residents and the City of London, both considering the operation as a threat to their interests.

Third, it conveyed an idea of security about the new financial practices, in a time of transition to the financial economy.

The two narratives about Progetto Bicocca and Canary Wharf show two different ways to interpret the role of architectural design in brownfield development of an urban area. Their spatial arrangement performs in rather different ways at the different scale.

The general plan and the massing of Bicocca defines spaces that could host a partially undetermined mix of functions, while at the same time providing a meaningful relationship with the surroundings and with the wider urban structure. The relationship with the context has a structural value, establishing a continuity through the open space, while the architectural language avoids to mimic the surroundings and focuses more on internal coherence than pleasantness.

The plan of Canary Wharf packages investors assets in a professionally crafted-envelope, captivating

[1] Indeed, the floating floor characterised also the sections of Progetto Bicocca, and was apparently the ubiquitous hallmark of the urban brownfield redevelopment projects in the 1980s and 1990s.

decision-makers with a palatable urban landscape. Its post-modern language is instrumental in blending at different scales the representation of modernity—the skyscraper at a typological level and an urban scale, and the curtain wall at a smaller scale—and a reassuring, literary contextualism—the crescent and the pediments.

Reframing production

Brownfield regeneration receives currently a renewed attention because of the growing concerns about the relationship between the built and the natural environment.

The expansion and relocation of industrial sites appear to be part of a larger pattern of resource exploitation, particularly land consumption, rather than just a further step in the development of industrialism. Production has left deep environmental scars on the ground and landscape in terms of pollution, waste, soil disturbance, self-referential indifference to adjacent urban and territorial structures, and visual clutter.

Thus, the rehabilitation of extraction and dump sites — which are the places where the appropriation of resources starts and ends—acquires a growing importance along that of urban brownfields.

Henry Lévi Strauss (1961, 397) described humankind as the one "whose activity hastens the disintegration of an initial order and precipitates a powerfully organised Matter towards a condition of inertia which grows ever greater and will one day prove definitive", not having "man (…) done other than cheerfully dismantle million upon million of structures and reduce their elements to a state in which they can no longer be reintegrated. No doubt he has built cities and brought the soil to fruition; but if we examine these activities closely we shall find that they also are inertia-producing machines, whose scale and speed of action are infinitely greater than the amount of organisation implied in them". In Lévi-Strauss's words, inertia is an equivalent of entropy, the humankind's ultimate production.

On a level more properly linked to architectural design, the theme of entropy as a hallmark of the landscapes of production emerged since the late 70s of the last century.

Emphasis was placed both on the analysis of the disruptive processes in progress, and on its spatial peculiarities, for example the "Piranesian" space of Rem Koolhaas in Lille (1994), the "architecture éclatée" of Jean Nouvel in Perpignan (2005) as well on its antidote, the patient work of mending and recomposing these fragments (Gregotti 1987).

These experiences are concerned above all with the loss of sense of the structure of settlement and territory under the pressure of the forces of the economy and the ability of architecture to restore forms of coherence, at least local, temporary and circumscribed, often placing itself in a complex dimension at the intersection of architectural and landscape design.

At present, however, the environmental and social crisis emerges as something much more complex and deep.

The turning point is the acknowledgment of a new era in which humankind becomes an Earth-shaping force as strong as other natural forces: the Anthropocene (Crutzen and Stoermer 2000).

According to Moore (2018) the social and productive organisation underpinning the Anthropocene rests on a systematic appropriation of materials, energy and sometimes labour, to feed the production of commodities. Progressive spatial entropy is thus produced by the continuous expansion of this system of appropriation, as resources run out and production methods change.

In the wake of Lévi-Strauss, Stiegler (2017) considers the Anthropocene as an era during which the world reorganises itself into closed systems, ensuing in the production of an enormous quantity of entropy. Both the fragmentation of physical space and the specialisation of knowledge stem up from this process. The segmentation of the city and territory corresponds therefore to the disintegration of knowledge in separated disciplines, each with its own idea of efficiency and rationality that precipitates into physical form.

Architectures, cities and landscapes, being dense fabrics of environmental and artificial processes, engender this growth in entropy.

Therefore, brownfields are not just places to reconnect to the urban structure or the geography of the countryside. They are also places where the appropriation of land, resources, and energy occurs, which implies the separation from the surrounding environmental processes. They are strongly related to a way to conceive technology, production, and ultimately a whole way of life built on harnessing nature and its resources.

Abandoned industrial areas cover a broader spectrum of issues: not only loss of centrality and functional use, but also pollution and societal and cognitive disintegration. Dealing with those problems separately, expecting solutions from those very specialised disciplines that have been part of the problem and still defend their boundaries, seems quite paradoxical.

For this reason, according to Stiegler, the reaction to Anthropocene requires a *neg-entropic work* to establish a new order capable of repairing the dissipation of material and knowledge.

Barbero and Leonardi (2017) suggest that Stiegler's neg-entropic work might be a formulation to inhabit the Anthropocene, refusing to accept the aut-aut between the optimism of technological acceleration and the self-restrictions of de-growth, and allowing to imagine

production as increasingly based on peer-based networks, related to common goods and environmental sustainability.

This definition bears remarkable similarities with some characteristics of architectural design, understood as a way to establish relationships through spatial configurations. Architecture, in its practice but also in the original meaning of the Ancient Greek word ἀρχιτέκτων as *chief builder*, *principal craftsman*) is also the negotiation and the synthesis of the contributions of specialised disciplines, and a way to explore new articulations between the existing physical space and the society.

Under this point of view, architecture is a weaver of relationships, in opposition to the disciplines of engineering, whose self-referential and optimising specialisation contributed to the fragmentation of physical space (Gregotti 1988).

It seems therefore appropriate to assimilate the negentropic work to the designer's gaze, examining the need for reorganisation and modification of brownfields from a broader and radical point of view.

At the end of the 90s, designers and scholars stressed the importance of land reuse as a far more sustainable strategy than occupying new plots (Moewes 1997).

Nevertheless, regenerating brownfields adds some more complexity to reuse. In fact, first green settlements have been associated with a picturesque idea of life in the countryside, away from the hustle and bustle of the dense town, in whose vicinity most brownfields lay.

Moreover, heavy pollution and the environmental consequences of manufacturing, apparently clash with the idea of a sustainable, healthy, and "green" way of life.

Ruins in reverse, or the monumentalisation of entropy

In consonance with these reflections, Smithson (1967) in his essay *The Monuments of Passaic* critically observes the transformations of the American landscape in the late 1960s, underlining its novelties: its inextricable dialectic between nature and artifice, its entropic charge, and its peculiar monumentality.

Without any nostalgia for classic and pure urban landscapes and forms, the spaces of industry, infrastructure and suburbia are portrayed as a zero landscape, where artefacts are "ruins in reverse": they rise as such, instead of falling into ruin (Smithson 1967, 50), already conceived as elements indifferent to any coherence with the context and therefore to the recognition of values and external relations.

At the same time, the description of this new reality already provides a way out. Reading these artefacts as new monuments and giving them names related to geography, materiality and use (*Monument of Dislocated Directions*, *The Fountain Monument*, *The Sand-Box Monument / The Desert*), Smithson breaks their self-reference, placing them in a wider system of relationships that describes a new, unprecedented urban space.

A very specific case that illustrates this way of understanding production sites and their conversion is the proposal for the environmental recovery of a quarry in Castelnuovo Berardenga drawn up by *Quattroassociati* in 1991[2] (Fig. 1).

The design concept acknowledges the reality of the quarry's excavation and the impracticality of returning the area to its natural form.

Instead, the plan plays with the aesthetic value and spatial features of the altered terrain, using the emptiness of the quarry as a way to spark interest and prepare the observer to a critical immersion into the landscape.

Instead, the concept builds a multi-scalar system of linkages to the surroundings, breaking the isolation of the quarry as a self-referential industrial site.

At the scale of the observers, the design works on their perceptions, at the scale of the artefact, it emphasises the excavation's emptiness, at the territorial scale, it carefully plans relationships with the geography of the site and the settlements, and finally, at a much larger scale, with references and sights towards the celestial bodies.

The essential tool to connect the different parts is geometry. The observer may quantify the quarry's real depth using a perceptual horizontal plane at a height of 465 m above sea level, passing through an earth cone reaching the same height (Fig. 2). This central earthwork establishes precise visual references to adjacent cities' bell towers. Additional links to the surroundings are made possible via a cycle route following an arched trajectory on the inner wall of the quarry at the same elevation. A water pool builds a distance from the slightly unstable quarry front, and establishes a further horizontal reference in a space made of height differences. Finally, a steel tube hangs in the centre of the quarry. To further emphasise the relationship between the location and the enormous scale of natural phenomena, it might create a sound that reverberates against the cliffs and function as a solar watch.

From a formal standpoint, the concept makes numerous allusions to *Land Art* in its lexicon, which includes earthworks, conical hills, spiral walkways, steel cylinders, and sky-gazing chambers. Smithson's *Broken Circle / Spiral Hill* (1971), which was constructed in a disused sand quarry in Emmen, Netherlands, and Nancy Holt's *Sun Tunnels* (1973–1976) and *Annual Ring* (1980–1981) are the most prominent examples.

[2] Quattroassociati (1991).

Fig. 1 Quattroassociati, Environmental regeneration of a quarry in Castelnuovo Berardenga (Italy), 1991. General plan. Courtesy of Quattroassociati

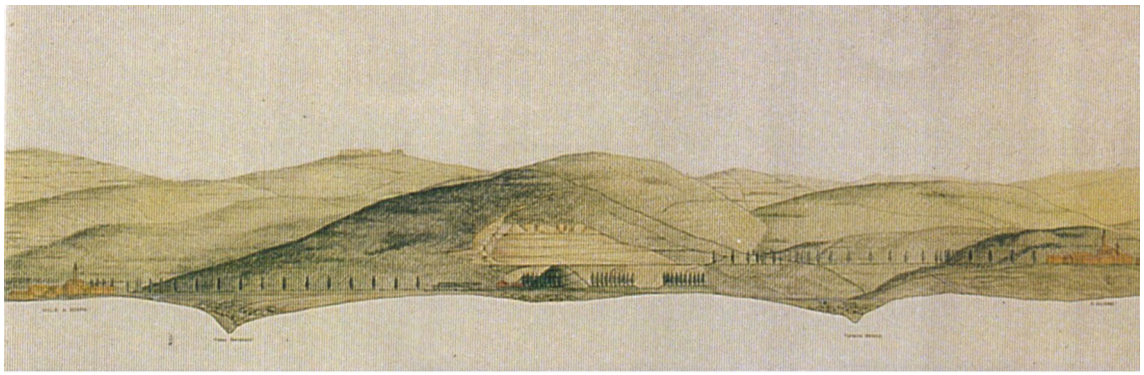

Fig. 2 Quattroassociati, Environmental regeneration ofa quarry in Castelnuovo Berardenga (Italy), 1991. Elevation. Courtesy ofQuattroassociati

Under a theoretical point of view, the concept embraces the idea of *high maintenance* of the territory formulated by Gregotti as a way of "thinking about the mending, repair, reconstruction, the revelation of the existing, as possible content and quality of the new architecture" (Gregotti 1987).

Unlike the regeneration of urban brownfields, and similarly to the first works of Land Art, this intervention does not produce rentable or sellable square footage—except small buildings designed to sell local products—but assets outside the market: collective space and a deeper perception of the surroundings and of its recent industrial past.

Avoiding the impossible reproduction of an original state, the project reorganises the relations between the elements of human settlement and the geography of the site with the methods of architecture, building a connection between the material space of the quarry and the various scales of the context through a geometry that becomes more abstract as the reference system expands.

Producing the production, or hacking the second nature

"Hacking is the production of production. The hack produces a production of a new kind, which has as its result a singular and unique product, and a singular and unique producer" (Wark 2004, par. 158).

The editing of existing items not simply a cultural trend in a society overflowing with artefacts, but also a radical need that extends to all disciplines.

Australian scholar MacKenzie Wark defines the theoretical framework behind hacking in her *A Hacker Manifesto*. Specifically, she states that production transforms nature into an assemblage of objective and subjective elements, that produce a second nature. "This second nature consists of a sociality of objects and subjects that may enter into relations of production for the further, quantitative, development as second nature" (Wark 2004, par. 161).

French art critic Bourriaud (2004) describes the production based on the second nature, born out of artefacts, in aesthetic terms. He calls *post-production* the artistic practise of using existing products as raw materials. The primary mode of action thus shifts to the reprogramming of the already existing through the incorporation and sharing of items, media, or social forms and activities from the art world and its history, the industrial system, or the civilisation of consumption, with the creation of works or performances that make them into components of another story.

The Voronezh Sea (2014)[3] is a large artificial water basin contaminated by industrial activity, laying at the center of the homonymous city. The proposed redevelopment designed by *Ecosistema urbano* is an example of reprogramming the existing to build a new relationship between the city and the basin, obtained by recombining strategies of urban design, space sharing and remediation. The main interventions are of three types, all oriented to environmental recovery both from a social and ecological point of view (Fig. 3).

The first type consists in the construction of islands with floating macrophytes that improve the performance of treatment plants up to 40%, requiring less energy and maintenance. These are located both in shallower areas of the basin and on the banks, and contribute to the construction of bathing areas.

The second line of intervention includes a system of purpose-built barges that work as floating mobile cleaning infrastructures (Fig. 4). These barges aid in preventing water eutrophication by lowering phosphorus levels. The lower part of their hull hosts alum tanks that will favour phosphor sedimentation. Their decks provide diverse recreational activities and opportunities, so they may be used as collective and public surfaces in different parts of

[3] Ecosistema Urbano (2014).

Fig. 3 Ecosistema Urbano, Voronezh Sea, 2014. Perspective. Courtesy of Ecosistema Urbano

the city over the summer. These floating barges also carry sampling and analysis equipment so that real-time data regarding the water quality and conditions may be made available to everyone via web platforms and mobile apps created particularly for this purpose.

The third mode identifies two areas that strengthen the city's new relationship with water.

A mixed-use area designed for financial redevelopment is the first. In this zone surface water and rainwater are collected, cleaned, and prepared for irrigation in little ponds with macrophytes. On the shore, there are small wind turbines that provide energy.

The second development area is located close to the current Pridachenskaya dam which is turned into a Leisure Island with various activities. This would create a new infrastructure for the city that would include clean water areas suitable for bathing and swimming. The island also has urban beaches, gardens, parks, jogging and biking lanes, boat docks for water sports, playgrounds, and sporting facilities.

The proposal hacks the contaminated context by weaving a distinct story around each of its elements, addressing the urban form, the terrain, and the existing infrastructure.

By reorganising specialised knowledge and providing users with a multiform and shared environment within a fixed settlement framework, the architectural proposal also fosters a dialogue between disciplines.

An interesting feature of the design is how its quality arises from a variety of components at different scales and of different nature. Some of them are already existing and part of the context, like the dam, the banks, the shallower areas of the basin. Others are almost *objets trouvés* borrowed from other disciplines, like the barges and the artificial islands, and the transmission of data. Some of them are fixed, some mobiles, some intangible like information.

Conclusions

The study outlines an evolution of the architectural discourse on brownfield regeneration, from the attention to the opportunities offered to urban and architectural design in the late 1980s, to the current concerns about environmental remediation.

While in the late Twentieth century the relocation of industrial-related activities might appear like a progress in industrial development, architects and scholars today have a different understanding of how industry shaped the landscape, how various types of industrial sites contributed to the conversion of raw materials

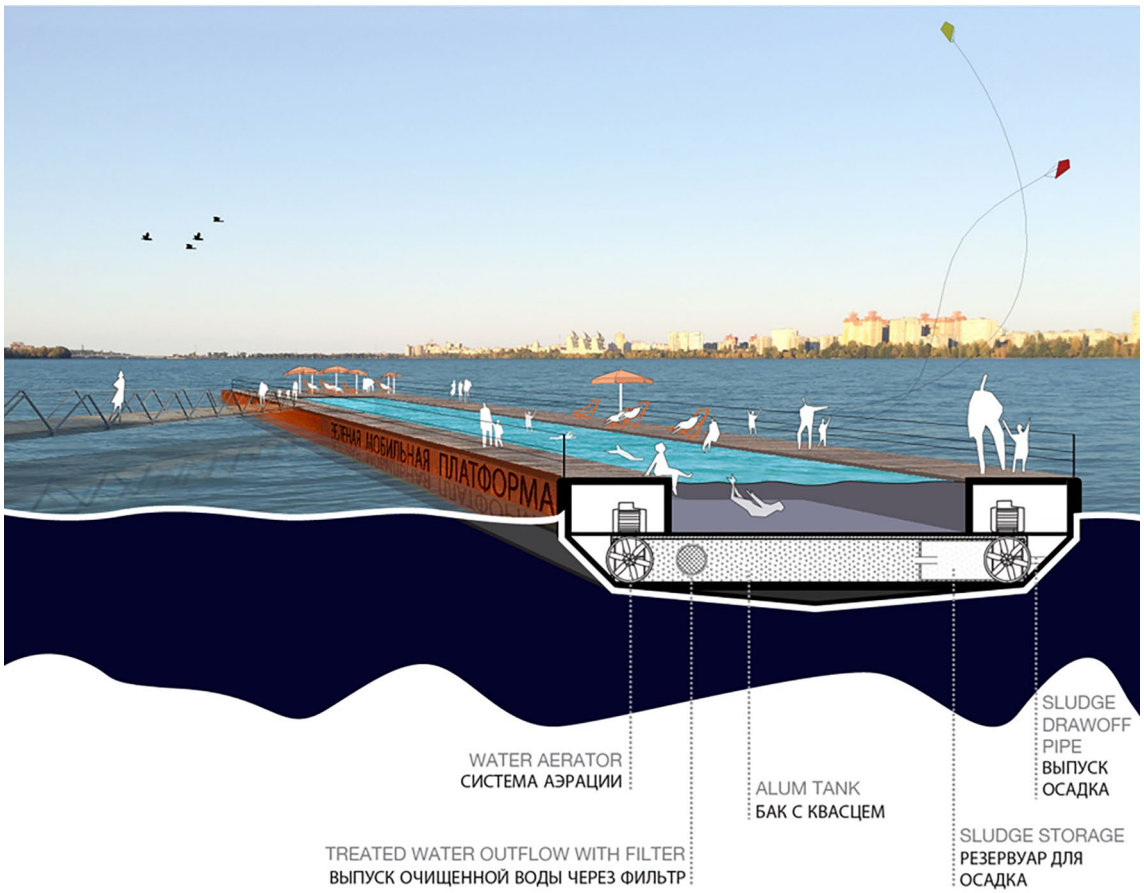

Fig. 4 Ecosistema Urbano, Voronezh Sea, 2014. Detail ofone of the barges. Courtesy of Ecosistema Urbano

into commodities, and how industrial processes had an impact on the environment.

As a result, the architectural discourse's focus changed.

Architectural, urban, and landscape design issues are still prominent, but they are now set on a different backdrop. The focus changes from repairing the urban fabric and laying the foundation for flourishing urbanity to addressing the wounds caused by resource exploitation, including space consumption, pollution, and social segregation.

Entropy is a state that penetrates cities, landscapes, and territories, making it a difficult challenge for architectural design to overcome.

Even if originating in different times and contexts, the examples discussed above have a common trait in their aim to restore a meaningful spatial experience that balances the loss of sense of the mono-functional areas they insist on.

Bending the capitalist spatial fix to pursue urban intentions like in Progetto Bicocca, packaging it to attract consensus like in Canary Wharf, monumentalising its trace and breaking its isolation like in Castelnuovo Berardenga, and finally inventing a new urban environment through the various steps of remediation like in Voronezh, bring an architectural ingenuity to the fore, which reinterprets the tools of geometry, composition, massing, assemblage.

Due of its intricacy and the opportunity it presents to emphasise the core traits of architectural design in comparison to other disciplines, it is a doubly intriguing task. To meet the challenge, however, necessitates turning designers' focus to the vast built legacy that the past has left for us. To quote Vladimir Nabokov along with Smithson (1966): "the future is but the obsolete in reverse".

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References

Assunto R (1983) La città di Anfione e la città di Prometeo. Jaca Book, Milan
Barbero A, and Emanuele Leonardi (2017) Il sintomo-antropocene. In: Barbero A, Leonardi E (eds) Antropocene o capitalocene? Scenari di ecologia-mondo nella crisi planetaria. Ombre corte, Verona
Berman M (1988) All that is solid melts into air: the experience of modernity. Viking Penguin, New York.
Bourriaud N (2004) Postproduction. Come l'arte riprogramma il mondo. Postmedia Books, Milan
Carson R (1962) Silent spring. Houghton Mifflin, New York
Crutzen PJ, Eugene F, Stoermer (2000) The Anthropocene. Glob Change Newsl 41:17–18
DiPasquale D, Wheaton WC (1992) The markets for real estate assets and space: a conceptual framework. Real Estate Econ 20:181–198. https://doi.org/10.1111/1540-6229.00579
Ecosistema Urbano (2014) Voronhez Sea. https://ecosistemaurbano.com/voronezh-sea-revitalization/. Accessed 15 Mar 2020
Graham B (1989) Bruce Graham of SOM. Rizzoli, New York
Gregotti V (1984) Modificazione. Casabella 498–499:2–3
Gregotti V (1987) Alta manutenzione/High maintenance. Casabella 539:2–3
Gregotti V (1988) L'architettura della nuova ingegneria. Casabella 542–543:14–15
Gregotti V (1990) Aree dismesse: Un primo bilancio/abandoned areas: taking stock. Casabella 564:2–3
Gregotti V (1991a) Dentro l'architettura. Bollati Boringhieri, Torino
Gregotti V (1991b) Un compito per il disegno urbano/a challenge for urban design. Casabella 584:2–3
Harvey D (2001) Globalization and the "spatial fix". Geographische revue 3:23–30
Koolhaas R (2003) In: Obrist HU (ed) Re: CP. Basel: Birkhauser, Basel, pp 6–8
Lévi-Strauss C (1961) Tristes tropiques. Criterion Books, New York
Meadows DH, Donella H, Meadows J, Randers, Behrens WW III (1972) The limits to growth: a report to the club of rome (1972). Universe Books, New York
Menard A (2014) Robert Smithson's toxic Tour of Passaic, New Jersey. J Am Stud 48:1019–1040 [Cambridge University Press, British Association for American Studies]
Moewes G (1997) Solar, defensiv oder beides? Detail 3:292–296
Moore JW (2018) The Capitalocene part II: accumulation by appropriation and the centrality of unpaid work/energy. J Peasant Stud 45:237–279. https://doi.org/10.1080/03066150.2016.1272587
Nabokov V (2011) The stories of Vladimir Nabokov. Penguin Random House, New York
Quattroassociati (1991) Recupero ambientale di una cava, Castelnuovo Berardenga, Siena.http://www.quattroassociati.it/?projects=recupero-ambientale-cava-san-carlo. Accessed 15 Mar 2020
Rogers RG, and Philip Gumuchdjian (1998) Cities for a small planet. Westview, Boulder, Co
Schrijver L (2011) Grossform: a perspective on the large-scale urban project. Delft Archit Stud Hous 05:40–55
Smithson R (1966) Entropy and the new monuments. Art Forum 4:26–31
Smithson R (1967) The monuments of Passaic. Artforum VI 49:52–57
Stevens S (2020) "Visually stunning" while financially safe. Neoliberalism and financialization at Canary Wharf. Ardeth 6:79–99
Stiegler B (2017) Escaping the Anthropocene. In: Magatti M (ed) The crisis conundrum: how to reconcile economy and society. Springer, Dordrecht, pp 149–163
Wark McKenzie (2004) A hacker manifesto. Harvard University Press, Cambridge

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