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## **New ways of Reusing Abandoned Industrial Architectures**

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The aim of this research is to focus on the theme of the reconversion of disused industrial architectures, prefiguring new productive scenarios. Through an examination of the concept of disposal and how the conditions and the scale of intervention have changed in relation to the idea of urban void described in the Eighties, we recognize how the abandonment of parts of the city and its artifacts have become a common practice in the territory. This produces ruins and fragments which represent the contemporary post-industrial landscape. The recycling of existing, disused buildings defines a strategy of urban rewriting, in order to give new meanings and uses to these places. The proposed strategies are an experimental approach to the issue of disposal and provide a set of best practices for the recovery. Stratification/overwriting, graft/inclusion measure/trace are examples of intervention strategies on the building, able to conserve the productive identity adapting it to the needs of contemporary production.

## **Introduction. Disposal: the changing of conditions and intervention scale**

“The idea of describing these dispersions themselves; of discovering whether, between these elements, which are certainly not organised as a progressively deductive structure, (...) one cannot discern a regularity: an order in their successive appearance” “ (Foucault, 2011; p.52)

The city is an artifact in continuous modification and the pulse for the transformation has crossed, for a long time, the construction of urban fabric, its growth and its subsequent evolution. Since the Eighties, the growth of the built-up spaces was accompanied by a gradual abandonment of some parts of the city. The so-called phenomenon of disposal has created a series of fractures and ‘voids’ in the predominantly industrial, urban tissue, due to the stoppage or relocation of the productive activities to other locations or changes related to the infrastructural system. The “question of brownfield sites” (Gregotti, 1990; p.4) assumes, therefore, a strategic relevance as a possible opportunity for intervention and redesign of entire parts of the city. Inside the compact historical tissue, we could see a sequence of open fractures, absences, “interrupted drawings” as defined by Bernardo Secchi (Secchi, 1984a; p.18), which show the need for the architectural project to give a new meaning to these places of disposal.

The issues expressed in Rassegna “The abandoned territories” and Casabella “Architecture for Planning”<sup>1</sup> on the theme of industrial dismantlement, highlight the necessity to find rules and intervention methods on these contexts, measuring the relationship between the existing and the new, between hierarchies and intervention scales. The industrial dismantlement occurs, therefore, as extended condition, both for its morphology and its specificity and the character of the artifacts involved. In this sense, it has been seen as a fundamental transformation opportunity for the European territories in the Eighties. An opportunity to test the idea of urban design as a tool able to give shape, structure and meaning to signs and memories which have shaped the industrial identity.

“The Urban Project means taking the geography of a given city, with its demands and suggestions, as a starting point and introducing, with the architecture, some elements of the language to give form to the site.” (M. de Solà Morales, 1999; p. 61)

The need to establish a critical distance from the concept of ‘large industrial disposal’, as was intended in the Eighties, shows a threshold between a season that is now over and the current situation. Today, the change is absolute: the dismantlement regards the contexts in which the city lacks or it is subject to disposal.

It is a change in intervention scale and its semantic meaning: from surfaces made free as a result of the demolition of previous structures, to the recognition of the need to work on the industrial artifact, that is to say, the architectural object. The concept of urban void, to measure a large area, is replaced by interstitial transformations, punctual interventions of restoration and enhancement of the existing industrial heritage. It is the work on built-up spaces that becomes the subject of the project.

## **Abandoned practices: from brownfields areas to returned architectures**

The practices of abandonment of production activities have profoundly changed the landscape of the contemporary city: fragments, waste and residuals constitute the post-industrial landscape, leaving skeletons and ruins such as footprints in the urban fabric. “The abandonment generates waste” (Lynch, 1990; p.205), says Lynch, prefiguring it as a gradual process of withdrawal towards a given object. He also states the crucial distinction between the concepts of abandonment and decline, the latter being a slow, but continuous, decrease in value, while the former being a loss, a lack. If a manufacture knows a season of decline, this does not imply its abandonment, but this may represent a stage of its evolution, a period of its life cycle.

The disposal of manufactures has been also accompanied by a progressive decline in the urbanized centers,

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1 Reference texts: Rassegna, The abandoned territories, n. 42, June 1990; Casabella, Architecture for Planning, n. 487-488, January-February 1983.



resulting in the abandonment of buildings and structures, as well as a reduction in the extension of the urban tissue. If, for a long time, we have witnessed a progressive growth of urban centers, with consequent problems of often uncontrollable, urban sprawl, nowadays in many urban contexts arises the opposite problem: cities decrease and reduce their dimensions.

The theory of the “shrinking cities” (Oswalt, 2006a, 2006b) describes this phenomenon and recognize the growing presence of abandoned lands, due to events of de-industrialization, where the undifferentiated extension of waste produces “increasingly similar territories”<sup>2</sup>. The concept of decrease must, necessarily, overcome ideological and positivist claims, in order to try to anticipate intervention strategies adapt to new forms of disposal configured in the context of the contemporary city. Ruin, waste and residual spaces on the edge of the industrial building are the first reflections about the necessity to establish new ways of recycling and recovering existing buildings. How to consider and to treat the fragments of post-industrial landscapes? This is not an operation to fully recover a building, nor to intervene with a new construction, but it is a work of regeneration that allows the identification of new architectural languages and methods of intervention on existing industrial heritage. In the first place, it is necessary to recognize the value of what you decide to recover: discarding a material means making a critical selection on the value of the object. Afterwards, it is obligatory to choose what to preserve and how to transform its essence.

### **Recycle/Reuse: a matter of meaning**

The concepts of recycle and recovery of disused materials and structures start from the consideration that entire parts of the city are being progressively and growingly abandoned. This leads us to reflect on the necessity to restore the ruins and the waste generated by these processes of abandonment, instead of still creating new buildings. Kevin Lynch proposed some plans for the demolition of new buildings, including the abandonment in this design phase. The disposal is defined, therefore, as a moment of the life cycle of a building; the architecture may overcome its decline, changing its relationship with the context. In this sense, the architecture is a palimpsest (Corboz, 2001) of continuous rewriting: different meanings overwrite to the existing ones, stratifying and creating new value.

A reading of the history can let us affirm that the “architecture is in itself a recyclable material, which, besides, we have always recycled” (Ciorra, 2011; p.18). Let’s think of the progressive layers and rewriting which have transformed the Diocletian’s Palace in the first heart of the city of Split. The fence of the wall fortification was maintained and, on it, the city has gradually grafted its urban tissue. Fascinating is also the rewriting which affected the amphitheater of Arles whose footprint has become the trace for the construction of the medieval core of the city: after the demolition of the superfluous structures generated from the inhabited settlement, the construction has been liberated since 1882. Once more, we can see writing, rewriting and demolition of the parties.

The reuse is understood, therefore, as a practice of re-construction of the existing, not only as a process of conservation but also as a work of critical selection on the artifact, preserving the memory of the past and the characters of the preexistences towards the definition of a new architectural language. The concept of modification (Gregotti, 1984; p.2) introduced in the debate on architectural culture from Gregotti during the Eighties, has already had to deal with the issues of restoration and modification of the existing, recognizing, however, the role of these strategies to operate at the scale of the city and the territory. The transformation processes of the existing structures were closely linked to the concept of belonging to a place, therefore, to the reject of the tabula rasa, but knowledge and understanding of the context were seen as a precondition for the intervention project. Nowadays, the concepts of reuse must deal with the modification of the building and the scale of the architectural object. The industrial dismantlement is the ideal testing ground for what was stated above; the question is, thus, how to determine a transcription of theoretical and design strategies able of operate on disused spaces of production, suggesting new uses and typological characters.

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<sup>2</sup> Reference to the title of the magazine *Piano Progetto Città*, n. 22-23, Sala Editori, 2004, Departments Idea and Dart of Pescara.

The reconversion of these structures is aimed at the conservation of the productive component in order to design new flexible industrial spaces for a 'light production', intended for scientific activities, research and development. A set of good practices allowing the recovery of the industrial building, recognizing the necessity to integrate new functions and types of production and gradually opening the industrial space to the city is, therefore, crucial. The strategies do not only refer to spatial operations, on the archaeological structure of the artifact, but they are intended to recognize a new role to the use of production spaces, related to the development of technologies and to the methods of contemporary production.

### **Measure the disposal**

Working on the dismantlement of industrial architectures means, in the first place, to recognize that the problem of disposal is related to the vast extension of the phenomenon. It is a matter of measure and also of relationship between the components at play, solids and voids, built-up and open space.

Bernardo Secchi has already taken into account, with concern, the question of the relationship between abandoned places and urban fabric, stating that "(...) of the voids we note, first of all, the size and the location and all that is the cause of discomfort" (Secchi, 1984a; p.18). Measuring the disposal means to study the proportions of these areas with relation to the large size of open spaces and to the landmarks of the consolidated city, as a testimony of how the great extension of these places is not an unknown measure inside the city. If we think about the city of Paris, some large urban measures such as the Champs de Mars or the axis of Les Invalides are comparable with the large extension of industrial fabrics in the north suburbs of the city, such as the Plaine-Saint-Denis or Aubervilliers. This is an evidence, therefore, that the 'large scale', given by the system of open spaces, is not an unknown theme in the construction of the city.

The presence of industrial buildings becomes an indelible mark in the urban fabric. Indeed, Sergio Crotti argues that "the footprint of the abandoned areas is impressed in the city and preserves the structural memory which links it to the context." (Crotti, 1990). Therefore, it does not seem possible or correct to hide the footprint the industrial structures leave on the ground, but it is necessary to recognize the exceptional importance of these objects, real 'out of scale' within the urban fabric.

Moreover, at the image of the productive spaces is added also a continuous rhythm, a repetitive scan of elements which highlights the presence of a measure underlying the industrial artifact, for example the rhythmic succession of sheds of the roof or of the high chimneys. Can we think that, as a result of the identification of measures and rhythms which mark the industrial landscape, it is possible to determine a rhythmic scan in the landscape elements able to make the industrial buildings preserving the great extension related of these spaces 'livable' and productive? In particular, it is necessary to study some forms of distribution and some "grids of specification" (Foucault, 2011, p.57) able to determine a measured relationship between open and built-up spaces, public and private spaces. The crucial question, when it comes to determinate design strategies of recovery, is to understand how to act through capillary transformations in the intervals between the parts of the urban fabric and how these strategies can provide design solutions concerning the large-scale disposal to which the territories are increasingly subject.

### **New ways of recovering fabrics and artifacts: design strategies of intervention**

The increasing relevance of the problem of disposal highlights the need to pave the way to new forms of intervention on industrial heritage, the architectural project being the tool to construct new productive spaces, as well as a new relationship between productive sites and places of living. Modifying the existing presupposes a change in design methodologies, in particular it is necessary "(...) to give meaning and future through continuous modifications to the city, the territory, the existing materials, which implies a modification of our design method" (Secchi, 1984b; p.12).

Through a sequence of design operations it is possible to highlight different ways of intervention on the industrial building. In particular, three design methodologies (stratifications/overwriting, graft/inclusion, measure/trace) are identified.



## Stratifications/overwriting

The architectural project writes and defines a new lexicon: the act of overwriting something on the existing means to stratify the signs and the memories of a place. It works through additions and subtractions, removing, discarding what has no value, and, on the contrary, preserving the elements that define the character and the image of the place. It is necessary to make a critical selection on materials, parts and signs which make up the artifact; in this sense, the project of recovery of the Entrepôts MacDonald carried out by OMA is exemplary. The old MacDonald warehouse is “le bâtiment sans fin” (Laborde, 2003; p.73), a 617-meter building situated between the Aubervilliers’ and la Villette’s door, whose horizontality is emphasized by the repetition of the concrete pattern that structures the facade. Today, the building is the subject of one of the biggest restoration projects planned in Paris in the coming years, a tangible example of the reuse of an existing structure. (Figure 1)

The expressive power of the architectural artifact brings OMA Studio to refuse the demolition in order to work on a recovery and stratification strategy between the new and the existing. Through operations of subtraction and addition of different parts, the building opens itself to the city and it is configured as an urban capacitor able to define a new centrality in the urban fabric. The scale of the building allows a comparison with the great architectural objects built up during the Eighties and Nineties such as Corviale (Rome) and Karl Marx-Hof (Wien), two extreme examples of the possibility of thinking the building as a part of an autonomous city.

With an extreme sensibility OMA’s project recognizes the necessity to maintain the identity of the building, working on the permeability of the artifact and transforming the rigid industrial structure in a flexible one, open to new uses of the urban space.



Figure 1 | Recovery of Entrepôt MacDonald. Present situation, development of the building site

## Graft/inclusion

Graft means to join together two parts of different nature, establishing a relationship between them. The action of inclusion is an operation of addition that must be related with the existing. The design experimentation carried out on the OTE factory (Officine Trasformatori Elettrici) in Bergamo, Italy, is an expression of this process: the structure of shed warehouses is preserved, the strategy consists in working with specific interventions through the introduction of modular systems, surfaces and volumes which create a new landscape within the factory.

The industrial space loses its private character and opens itself to the city thanks to a series of selected demolitions creating a system of shared places and semi-public spaces that allow to break the fence that separates the productive spaces from the urban fabric.

The graft is, therefore, a device able to reactivate the places of post-industrial disposal, without erasing their memory but defining new relationships. (Figure 2)



Figure 2 | OTE, Officine Trasformatori Elettrici, Bergamo. Design strategies on the building: graft and inclusion

## Measure/trace

The issue of industrial disposal is mainly a problem of measure, both of the industrial artifacts and, above all, of the open, often residual, space determined between them. Therefore, it is the free space between the industrial buildings, the place for the architectural project, starting point of the re-signification of these areas and key element in the articulation of built-up areas. An example is the recovery strategy developed in 1991 by Yves Lion for the arrangement of Plaine Saint-Denis, a 600-hectare territory in the north outskirts of Paris, an immense industrial extension waiting for a reconversion.

Here, the grid measures the open space between the artifacts. Instead of being imposed as a regulating element, it is considered as a structuring element of the public space, able to solve the discontinuity of preexisting languages. Measure and rhythm of the design of the open space come from the traces of the industrial heritage that marks the territory and whose footprint structures both the rhythm of urban space and of the architectural building. (Figure 3)

## Places of disposal: reconversion and rewriting. Open questions.

The above mentioned practices can only be considered a first experimental approach to the issue of industrial reuse. They invite us to consider the reconversion of the existing as a widespread practice of the architectural design, capable of showing, in the same place, the “memory of a place and the future use” (Robert, 1991; p.9). The processes of addition, subtraction and grafting can be seen as tools for the transformation

of these macro-urban structures. The large size of industrial buildings allows us to develop different relationships between interior and exterior space, between public and private. Thus, the practices of recycling, illustrated before, lead us to reflect on the incompleteness of the artifacts and on the possibility to rewrite new stories for the places of disposal, in order not only to complete but also to pave the way to other future rewriting.

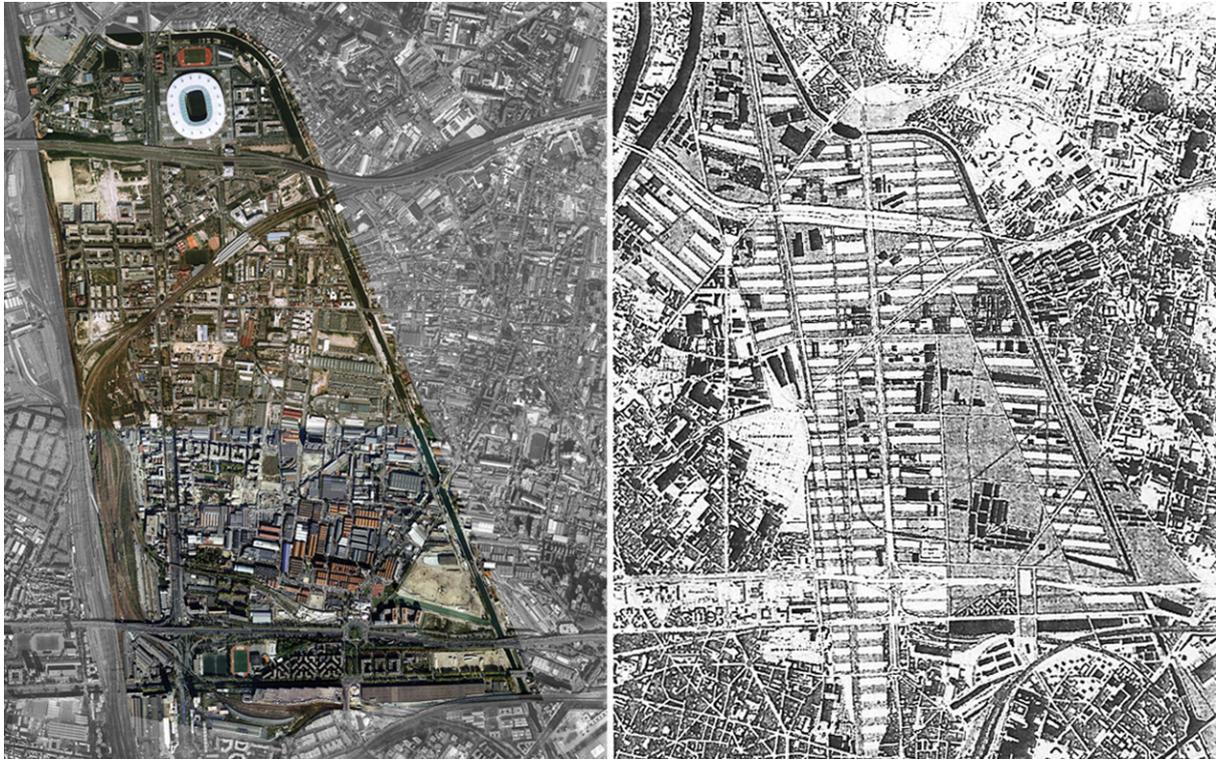


Figure 3 | Plaine-Saint-Denis. Present situation. Yves Lion, recovery strategy, masterplan, 1991

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