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# Vacant land in city: potential functional, ecological and aesthetic role in the urban landscape

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## Abstract

The growth of contemporary cities has been accompanied by the appearance of forgotten and abandoned spaces, as well as derelict structures that are part of a broad category of neglected and unoccupied spaces within cities. This situation which arises for economic reasons, property speculation, and the consequent expansion of the suburbs has become an important topic subject, as can be seen from the international bibliographical review about the “reuse” of vacant land and derelict structures in cities.

Traditionally urban planning dealt with growth which was the centre of attention. Modern urban planning arose in the 19th century associated with the need to find suitable housing for a growing urban population, and it retained this function over almost the entire 20th century. Although during that period there were some amounts of ruins that urban planners had to cope with, such destruction was occasional and scattered, linked to cataclysms or other exceptional circumstances.

In the final quarter of the 20th century urban planners were faced with situations that had been unknown in the lives of cities. Suddenly they found that not only the central areas of agglomerations but also entire urban regions were losing residents and businesses instead of growing.

These “perforated/random” abandoned or vacant spaces are a potential challenge when it comes to assigning them new “functions”. Most of these spaces house ecological formations. Some are the remnants of gardens or derelict green structures that survive over time and very often also perform a social role, but usually underperforming.

This study seeks to raise awareness of the aesthetic, functional and ecological qualities that these abandoned spaces can bring to a city and discuss ways of integrating them into the urban landscape that go beyond the conventional urban restoration models but rather represent alternative intervention solutions that may be applied permanently or temporarily. The refurbishing or reorganising of these spaces

will strength the urban ecological structure in addition to green spaces and so contribute to the promotion and preservation of biodiversity, urban resilience and risk mitigation.

The study presented here is part of NoVOID Project – “Ruins and vacant lands in the Portuguese cities: exploring hidden life in urban derelicts and alternative planning proposals for the perforated city”, funded by the FCT and which is based on the identifying and classifying of the main vacant and derelict urban spaces (ruined buildings and public places vacant plots and abandoned or suspended projects) and assigning them an occupation in line with the new trends and sensitivities of architecture, landscape architecture and other specialist fields. The project, based on genuine situations in Portuguese cities Lisbon and Barreiro, seeks to contribute to sustainable urban and landscape proposals, of a permanent or temporary nature, that enhance their potential functional, ecological and aesthetic role and, in some cases, be an alternative to the conventional models of urban landscape restoration.

## **Introduction**

The growing number of abandoned, neglected and unoccupied urban spaces, marks a new era of cities where the urban landscape has become “perforated” by ruins and vacant properties.

These areas are widespread in the urban landscape, from the centre to the periphery. Their intermittent and ubiquitous presence calls for a moment of criticism and provides an opportunity for creativity.

There have been many terms used to describe this kind of landscape. Sometimes, the images conveyed by some of these terms evoke the abandonment, the disinvestment or the uncertainty, and marginality: “disabitato”, “wasteland”, “derelict land”, “drosscape”; “brownfield”, “nameless place”, “space of uncertainty”, “marginalia”, “interstices”, “in-between spaces”, or even “void”... The link to imperfection and incompleteness explains why to the solution has been to contradict

these expressions and transform them through major investments in urban regeneration and refurbishing operations.

Such places bring to mind the paradoxical ideas of absence and possibilities. An ambiguity that appears to have found agreement in the French term *terrain vague*, adopted by Ignasi de Solà-Morales to refer to city interstices, “its negative image, as much a critique as a possible alternative” [1]. Indeed, *terrain vague* summarises the complex phenomena of abandoned places in less strict and more holistic terms, accepting the triviality of the landscape and treating the “vague” in definition to be of aesthetic value. Gilles Clément goes further with his *Manifeste du tiers paysage* [2], when he praises the ecological value of such spaces, abandoned by Man but delivered to Nature. His work opened doors to a new way of understanding the functional, ecological and aesthetic value of these places.

In the context of the NoVOID Project – “Ruins and vacant lands in Portuguese cities: exploring hidden life in urban derelicts and alternative planning proposals for the perforated city”, funded by the FCT, we will present the quantification by defined categories: ruin, ruin and yard and vacant land, to the cities of Lisbon and Barreiro, in order to future landscape architecture proposals.

### ***Terrain Vague* and the History of Contemporary Landscape Architecture**

Both the American Revolution (1776) and the French Revolution (1789) paved the way for increasing social democratisation, which meant that gardens, parks and enclosures that had belonged to the Crown, the aristocracy and the Church were opened to the public. The Industrial Revolution, which began in England in the second half of the 18th century and continued until the first half of the 19th century, spread to Western Europe and to the USA, bringing industrialisation to the major cities. Due to the factories huge need for manpower there was a rural exodus and unplanned urban growth which led to serious pollution and precarious living conditions. The building of the railways over this period brought

major upheaval to cities, such that “With a trebled population, with railways and expanded roads crisscrossing the countryside, with town spreading independently into suburbs, with huge areas ravaged by exploitation, with smoke pollution damaging the life of man and plant and destroying human pride in environment, the end of the century saw Britain in a sorry state of landscape decomposition”<sup>[3]</sup>. The Public Parks Movement began in England, the birthplace of the Industrial Revolution, and the world’s first public park, Birkenhead Park, opened in Liverpool, as an attempt to mitigate the negative effects of the pollution caused by industrialisation and the commercial port. **Birkenhead Park** (58 ha) was designed by Joseph Paxton (1803-1865) in 1843 and opened in 1847. On the other side of the Atlantic in New York, Frederick Law Olmsted (1822-1903) and Calvert Vaux (1824-1895), as part of a multidisciplinary team, designed **Central Park** (341 ha) in 1856, on marshland unsuited for building skyscrapers. Frederick Law Olmsted had visited Birkenhead Park in 1850 and had been very impressed by this public park, stating: “[...] in democratic America there was nothing to be thought of as comparable with this People’s Garden [Birkenhead Park]. Indeed, gardening, had here reached a perfection that I had never before dreamed of”<sup>[4]</sup>.

The transformation of Paris from 1852-1870, directed by Baron Haussmann (1809-1891), was concentrated in the “city’s old quarters”<sup>[5]</sup>, with the aim of accommodating the growing population, as the number of inhabitants had doubled in the 19th century, and of creating places for recreation and conviviality such as gardens (Jardins des Champs-Élysées, Jardin des Plantes du Mans, etc.), parks (Parc des Buttes-Chaumont, Parc Monceau, Bois de Boulogne, etc.) and boulevards (Boulevard Montmartre, Boulevard des Capucines, etc.), thus ensuring that the 19<sup>th</sup> century landscape became essentially “[...] urban, public and Romantic”<sup>[6]</sup>. **Parc des Buttes Chaumont** was built in a former quarry and the design and work was overseen by the engineer Jean-Charles Alphand (1817-1891)<sup>[7]</sup>, one of the main designers of new green spaces in Paris.

According to Gonçalo Ribeiro Teles “At the end of the 19th century the industrialisation era becomes more marked in Lisbon, as factories are built on the outskirts such as Alcântara and Poço do Bispo. During its time as an industrial city Lisbon’s population almost doubled from 200 000 inhabitants in the 19th century to around 350 000 inhabitants at the beginning of the 20<sup>th</sup> century”<sup>8</sup>. In Lisbon, one of the largest urban parks, **Parque Eduardo VII** (25 ha), designed by the architect Francisco Keil do Amaral, was opened in 1945. Before the project was completed, the land was the stage for informal and improvised use over a long period of waiting and indecision from the first project to the day the park opened<sup>[9]</sup>.

From the nineteen seventies, in a post-industrialism period, old factories that had been closed down begun to be seen as industrial heritage, and History of Contemporary Landscape Architecture projects started to arise, aimed at recovering *terrains vagues* and abandoned spaces. One of the first projects under this new approach was **Gas Works Park** (8 ha) in Seattle, designed by the landscape architect Richard Haag (born 1923), which was opened to the public in 1975. The architect took advantage of the abandoned gas plant, retaining the industrial structures in the make-up of the park and preserving its memory. The project paid particular attention to the treating of contaminated soil, which was moved and modelled to form an artificial hill called the Great Mound, and which provides a scenic view of Lake Union and the city of Seattle. Other examples followed as spaces abandoned by industry were recovered. In Germany, in the nineteen nineties, the landscape architect Peter Latz (born 1939) converted a heavily contaminated, steel plant covering 230 hectares into the famous **Landschaftspark Duisburg-Nord** (North Duisburg Landscape Park) as part of **IBA Emscherpark**. Another project worthy of mention because of the organisation and scale was the urbanisation plan for **EXPO’98** (1998 Lisbon World Fair) which transformed one of the city’s largest brownfields (50 ha) into the setting for the World Fair of 1998.

A key contemporary reference of a linear park that took over a deactivated transport structure is **The High Line Park**, built from 2009 to 2014 in New York, a project developed in line with a planting plan devised by Piet Oudolf (born 1944) and coordinated by the landscape architect James Corner (born 1961). The nature of the vacant land changed the way we appreciate and understand the landscape. Christophe Girot argues there are two dominant approaches to landscaping vacant land: the first holds that the ruin will inevitably be the aesthetic core of the project, while the second more reactionary and inclusive attitude seeks a more active change through which the vacant land is seen as the starting point for a new landscape<sup>[10]</sup>. We can also add that while these approaches are contradictory they are often complementary at the time of the intervention and are the raw material for creativity and the readapting of new city dynamics, where very often the budget is limited. Their conversion into public parks or gardens is a permanent, rigid and costly solution. We should question the option for long-term solutions. Meanwhile or intermediate uses are increasingly the solution most suited to the dynamism of contemporary cities. One example that may prove to be the model for this approach to reusing abandoned urban spaces for new temporary or intermediates ends is the former Berlin airport which gave rise to **Tempelhofer Feld**<sup>[11]</sup>. Another example of readapting to the new dynamics of a city is the **Petite Ceinture de Paris**: one of the oldest railway lines in the city it was deactivated in 1993, and today is host to new experiences of urbanity and nature that contrast with conventional urban planning <sup>[12]</sup>. Christophe Girot points out that “When confronted with desolation, there is always a chance to cultivate a new garden. This is the case of the temporary gardens on the terrain vague of the abandoned Hardturm stadium in Zurich (2014)”<sup>13</sup>. All over the world, city dwellers, organised in collectives or associations, have the chance to increase participation in city building. Many initiatives of this type go through a stage of re-appropriation of public space or the

occupation of *terrains vagues* or abandoned land. In this way, they aim to act as urban catalysts and regeneration projects. And the strategies used favour greater flexibility and reversibility of access and uses over density of forms and design. To attract the public and bring investment and profitability to the project, it is normal to include services (restaurants, shops, artists' studios, gymnasiums) and organise events, such as concerts, conferences and festivals, or to include facilities such as allotments, playgrounds, creative workshops, art galleries, community kitchens. The interest in this type of approach stems from its scope, as it can be implemented in new areas of the city that are being eyed up by real state developers and in dilapidated neighbourhoods or the poorest parts of the city.

### **Vacant land in Lisbon and Barreiro: between reality and potential**

The research project NoVOID – “Ruins and vacant lands in Portuguese cities: exploring hidden life in urban derelicts and alternative planning proposals for the perforated city”, funded by the FCT, where the multidisciplinary team consists of geographers, architects, landscape architects, urban planners, botanists and other specialists, aims at looking into and discuss the value and potential of vacant and abandoned land in four cities – Guimarães, Vizela, Lisbon and Barreiro – and present solutions that enhance their value through meanwhile and permanent projects. Therefore, the project seeks to answer a number of questions, such as: how many plots of vacant land are there, what type are they, and how are they distributed across the city; what is their ecological value, their biodiversity potential; who uses or would like to use this land; are there conflicts within these spaces and many other questions related to the challenge of intervening in these spaces located within the city or sometimes on the outskirts, resulting in a porous city, perforated by vacant land and ruins. The NoVoid project includes three stages: Stage 1 – Definition and identification of the subject of the study  
Stage 2 – Analysis of the subject of the study

### Stage 3 – Discussion and prospects

In the first stage three abandoned urban space categories were defined (ruin, ruin yards and vacant land) which were identified and quantified by way of geographical information systems.

According to the NoVOID classes definitions:

Ruins – may be described as structures produced by technology and intended for human use or for other purposes that have reached an advanced state of dilapidation, being therefore incapable of performing the function for which they were originally designed.

Ruin yards – correspond to non-built lands surrounding dilapidated buildings that visually can be considered as integral parts of the same property.

Vacant land – is defined in this study as unutilized, non-cultivated, non-landscaped, and non-built up land, with shrub and herbaceous covering showing signs of neglected and lack of maintenance, or presenting bare soil, rubble, and vestiges of razed buildings.

This paper will only look at two cities, Lisbon and Barreiro. Up to now we collected the comparative figures on Lisbon and Barreiro shown in table 1. In Lisbon (84.9 Km<sup>2</sup>) a total of 2 171 buildings in ruins were identified, which corresponds to 1.1% of the city area, while 772 plots of vacant land were found with a total area equal to 4% of the city. As for Barreiro (6.7 Km<sup>2</sup>) a total of 377 buildings in ruins were identified, equal to 2.2% of the area under study, along with 169 plots of vacant land that make up almost a third (29.2%) of the city perimeter<sup>14</sup>.

The second stage of the project will examine the potential of the urban spaces classified as abandoned land, from the architecture, landscape architecture, geographic and ecologic standpoints as well as from the recreational, leisure and social standpoints.

The aim of the third stage is to discuss and create innovative urban spaces with landscape architecture and architecture solutions. The range of ruins, vacant land and abandoned ventures will be selected to propose meanwhile or permanent rehabilitation/reconversion programmes for those

spaces as reference examples.

Many of the proposals will involve the re-appropriation of public space or the occupation of terrains vagues or abandoned land. In this way, they aim to act as urban zone catalysts and regeneration projects. And the strategies employed will favour greater flexibility and reversibility of access and uses. In order to ensure the spaces are used the proposals will include the organisation of events and activities, such as concerts, conferences and festivals, or gardens and facilities such as allotments, playgrounds, creative workshops, art galleries, community kitchens that can attract the public and bring investment and profitability to the project.

### **Final remarks**

From the landscape architecture, viewpoint for which the interventions may be of a temporary or permanent nature depending on the type of space and future town planning, this alternative approach to abandoned urban spaces is acceptable, practical and may even constitute a particularly interesting challenge. In fact it is in line with a naturalist trend in green space design which is not new but has been gaining ground in recent years, and favours spontaneous, organic and authentic solutions, which can also be seen as a tribute to ecology and the wild.

Interest in the type of approach employed in the NoVOID project may be applied both to new areas of the city that are being eyed up by real state developers (so called zones in waiting), both in the centre of the city, in the so called vacant spaces of a perforated city, as well as in dilapidated neighbourhoods or the poorest parts of the city. The aim is to find and create provisional and permanent solutions for the selected spaces in the cities of Lisbon and Barreiro. The methodology employed in this project, together with the different types of intervention proposed, could be used in the future in other cities.

## Endnotes

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Type	Nº	Total area (%)	Built-up area (%)	Classification accuracy (%)
Ruin (Lisbon)	2171	1,1	1,5	96
Ruin (Barreiro)	377	2,2	2,7	99
Ruin yard (Lisbon)	170	0,6	0,9	-
Ruin yard (Barreiro)	36	5,4	6,0	-
Vacant Land (Lisbon)	772	4,0	5,4	96
Vacant Land (Barreiro)	169	29,2	34,9	100

Table 1 - Lisbon and Barreiro: quantification by defined categories (Ruin, Ruin yard and Vacant Land) <sup>15</sup>.



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