From Derelict Industrial Areas towards Multifunctional Landscapes and Urban Renaissance

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Abstract: The emergence of knowledge-based economy and knowledge intensive business service has transformed the urban landscape during the past decades. As a response to this processes several industrial landscapes becoming obsolete, threatening to end their original productive, social and economic roles and facing the communities of which they are an integral part, with serious environmental and socio-economic problems. The need for greater environmental protection, the appearance of several derelict areas, the decreased availability of new lands for development and the increasing public awareness for derelict land reclamation provide great challenges not only for landscape professionals but also for urban planners, natural resource mangers and policy makers. It is widely recognized that the reclamation of post-industrial landscapes plays an important role in city's development, not only economically but also environmentally. In Portugal those projects has been developed in association with major events like Expo 98 and Euro Cup 2004 – using state and European Community funds to carry out the urban regeneration programs. To exemplify the importance of the reclamation of derelict industrial areas, this paper presents two projects realized in Portugal during the last decade (Park-Expo 98 and Braga Stadium-Euro 2004) and compares with the Brownfield reclamation project of the river Arade valley. The relevance of this reclamation project both culturally and environmentally is discussed and demonstrated by the realization of a strength, weaknesses, opportunities and threats (SWOT) analysis. The significance of Brownfield reclamation projects and sustainable urban planning is examined. Furthermore, the present work demonstrates that industrial landscapes should be viewed as a resource and its recovery as an opportunity to develop new multi-functional landscapes.

Keywords: Brownfield recycling, multifunctional landscapes, sustainable development, urban renaissance, Portugal.

1 Introduction

Derelict urban industrial sites present a resource to society when reintegrated into urban context [31]. Industry is a human endeavour that is practiced in both developed and undeveloped countries. It is one activity that can occur practically anywhere on the planet's surface. The effects of the globalization of industry over the past decades has had a profound effect on the traditional industrial areas all over the world and produced a vast array of obsolete industrial facilities and the various impacts, which are generated from them. The formal products of the modernist movement have become obsolete, forcing this generation to decide on the disposition of the last generation's industrial environment.

In this context, abandonment, sale or demolition of such facilities, were fairly common approaches to dealing with facilities that were designated as 'surplus' no longer serving their original production functions [19]. However, the creation of new and more severe environmental legislation, and the public pressure related with the need to protect the environment, increased the necessity of converting post-industrial sites into multifunctional landscapes [30]. Clinton said "We should restore contaminated urban land and buildings to productive use, so that our children grow up next to parks, not poison" [11]. Landscape reclamation at large scale could restore natural processes and functions, regenerate several areas of the city, create multifunctional landscapes and promote sustainable growth [14, 28].

According to Tavernor [48], good design should e the aim of all those involved in the development process and should be encouraged everywhere. Good design can help promote sustainable development; improve the quality of the existing environment; attract business and investment; and reinforce civic pride and a sense of place.

The present article discusses the development of multi-functional landscapes in derelict industrial landscapes of Portugal as opportunities of urban regeneration and sustainable development. A strength, weaknesses, opportunities and threats (SWOT) analysis of the Arade industrial site was realized.

2. Deindustrialization: trouble or opportunity?

The contemporaneous city results from a long transition begun in the end of the nineteenth century [2, 44]. This period was influenced by the accumulation of different visions, different urban models [45] and by significant changes in consumption and production patterns. Those changes were so fast and alert many city planners. Patrick Geddes in his *Cities in Evolution* and Ebenezer Howard in his *Garden Cities of Tomorrow*, each published in the beginning of the twentieth century, sensed that the Industrial Revolution was going to modify the sense of balance of village around a commons [20, 23].

During this period almost all representations of the European capitals tried to demonstrate the relevance of the modern culture, emphasising their industrial complexes, commercial ports and railway stations [15]. Throughout this time cities grew in proportion to the scale of their industries, reason why the loss of industry without a comparable shift to new forms of economic activity eroded the tax base and caused a "ballooned public sector" [42].

The end of the twentieth century has brought a break in the industrial sector and the way in which it manifests itself physically and geographically in the world. This paradigm break brings with it an accelerating obsolescence of several industrial landscapes [25, 46].

The entire industrialized world is experiencing similar effects of the restructuring of the global economy, the automation of production processes, and the relocation of industry to areas characterized by low production costs. This process termed 'deindustrialization' created severe economic, social and ecological repercussions [1, 5, 35, 36]. The industrial era left behind a legacy of derelict landscapes. Urban core areas became economically disadvantaged, socially distressed and environmentally degraded through industrial contamination and process decline [26, 39].

However, within every problem there is an opportunity. Derelict and contaminated industrial sites are unrealized resources for initiating urban regeneration and ecological restoration [1, 8, 34]. Those sites are often in advantageous locations near city centres, situated along waterways, supported by existing infrastructure, and adjacent to residential communities. Those landscapes are environmentally -impaired assets that need to be returned to productive use, and reintegrated into the surrounding community. For this reason reclamation projects should redefine the post-industrial landscape through community-based, interdisciplinary action that integrates longer-term solutions based on social, economic and ecological objectives.

Urban sustainability has been equated in Towards an Urban Renaissance [49], with the need for dense and vibrant urban space. Good design is a tool for achieving the best use of space and a compact city. Derelict areas should be reclaimed and areas of social exclusion, usually associated with poor; hostile environments, must form part of city regeneration [48].

Motivation for this increased interest and 'affection' for industrial structures is difficult to pinpoint, though it can be traced in the city planning of the early seventies. Efforts which focused on preservation and conservation as a strategy for economic revitalization were motivated by a major international occurrence: a violent reaction against the Urban Renewal policies of the 1950's and 60's which not only decimated the historic cores of many industrial cities, but also failed miserably in achieving the social and economic goals it purported [4, 32].

In the past twenty years there has been a growing need to address the damaging legacy of derelict buildings, environmentally compromised lands and polluted soils and water [21]. Moreover, in contrast to traditional ways of dealing with clean up, it is essential to explore creative ways to prevent these sites from becoming less interesting than they were before the clean up process began [24]. Following this principle several Landscape Architects had developed various reclamation projects such as Downsview Park, Fresh Kills, Gasworks Park, Duisburg Nord, etc. [27, 47, 50] have shown that it is possible to create culturally stimulating landscapes out of the derelict remains of past industry

3. From derelict industrial sites to premium urban landscapes: examples from Portugal

Although Portugal is a member of the European Community from 1986 [40] in those two last

decades few landscape reclamation projects have been done. Not only because "there is no governmental programme for brownfield redevelopment in Portugal" [10], but also because Portugal had not followed the steps of the developed countries and just in the end of the 90's a part of the Portuguese nation, changed view and attitudes toward older industrial structures and sites: initially considered blighted elements in an urban area, derelict, undesirable or redundant.

Consequently, there is still a long way to go for this type of interventions to achieve sustainable development, once the private sector prefer the more cost effective alternative to build new facilities than to renovate existing, abandoned and degraded sites [6, 29]. Therefore the realised reclamation projects were several times associated with other international events as the two case studies analysed in the following chapter. Actually the current practice of post-industrial landscape recycling is mainly site-specific and driven by economic development motivations, not offering the full potential for sustainable reuse and revitalization beyond property lines.

3.1. 'Parque' Tejo-Trancão - Expo 98

Park Tejo-Trancão is one of the most emblematic examples of post-industrial landscape reclamation project realised in Portugal (figure 1). It is located in the oriental part of Lisbon, in the right margin of the river Tejo, in a transition area between the municipal districts of Lisbon and Loures.

Before being a park, this area was composed by several industrial structures like a landfill, scraps, a sewage treatment plant and many obsolete industrial buildings. The high indexes of contamination and degradation of this landscape, the proximity of the Natural Reserve of the estuary of Tejo and the intention to develop the world exposition Expo'98 constituted decisive arguments for the intervention in this specific area.

According to Blokhuis and Schaefer the basis of this project was the long existing necessity to redevelop the eastern part of Lisbon, an area that showed lack of occupancy and obsolescence for a long time [6].

With approximated 90 ha, the park links physics and thematically with the Park Expo'98. The main objective of the project was the creation of a new public space [6], redirecting the expansion of the city and re-establishing the relationship between city and river.

Changes in land-use patterns and land-values, derived by urban growth, territorial specialization and new infrastructure turned this area into an increasingly attractive site [6].

The Expo 98 Park brought many benefits, once it implicated the decontamination of the place and the creation of attractive conditions, through the construction of high quality multifunctional space where citizens could enjoy the riverfront area. Nine years after this space is one of the most utilised public spaces of the Metropolitan area of Lisbon.

Figure 1- Past, Present and Future of the landscape of the 'Parque' Tejo-Trancão (adapted from CLWE, 1998).

The conceptual solution proposed by PROAP-studies and projects of Landscape Architecture and Hargreaves Associates analysed the problems of the place, converting them in opportunities of artistic expression. Besides the ecological and functional sense of the proposed structure, the solution serves the parallel intention of establishing a spatial organization to translate a coherence and formal unit reading the group. The scenic values were also essential in the development of the concept of the park, supported by the creation of visual corridors and by the establishment of elevated platforms of

observation of the exceptional views on the river and the marsh.

The implementation of the park's project was proposed to be accomplished in three phases (figure 2), once the financing for its construction depended on the sales of the urban components of 'Vila Expo'.

Figure 2- Landscape evolution of the Park Tejo-Trancão.

The first phase of the park corresponds to the construction of the south side of the park, which was accomplished during 1997. Once completed those works, the reorganization of the elements of the project begun. In this phase were defined the marsh areas, the location of the recreational facilities and of the connections to the adjacent areas of the park and the plantations. The works relating to the remaining areas contemplate a large natural area, which utilization is assured by the introduction of several recreational facilities, and have a conclusion foreseen for 2010 [43].

The project developed a space with several selected uses like sport recreation and passive recreation areas, zones for cultural activities and environmental education. The sport recreation areas included tracks for bicycles, docks for fishing, ramps for small boats, thematic parks and an equestrian center. The sport competition areas incorporated a golf academy, several tennis courts and informal lawns for active sports as soccer and rugby. The areas for cultural activities are informal spaces for musical exhibitions, theatre and any other cultural event [43]. In this way the elements of the program promoted flexibility for a wide range of activities by the creation of numerous informal spaces in the organization of the park, that provide varied social, cultural and physical activities.

3.2. Braga Stadium - Euro 2004

The extractive industry implies a temporary use of a specific landscape [7, 9, 22]. This activity usually leaves behind spaces with huge potential for multifunctional landscape creation. The Braga Municipal Stadium (figure 3), constructed against the stone wall of the Monte Crasto quarry will be analysed as a multifunctional reclamation project that accumulates in his architecture a sequence of decisions which will be listed.

The Braga Stadium was projected by the architect E. Souto Moura and constructed in a derelict quarry located in the urban area of Braga in North Portugal for the needs of the Euro2004 football competition. The stadium is part of a sports complex built in an area occupying more than 74 ha. A space that includes the stadium with capacity for 30100 people, olympic pools, and several other multifunctional facilities linked by numerous accesses where it is possible to contact with nature and feel the spirit of the old landscape – the quarry.

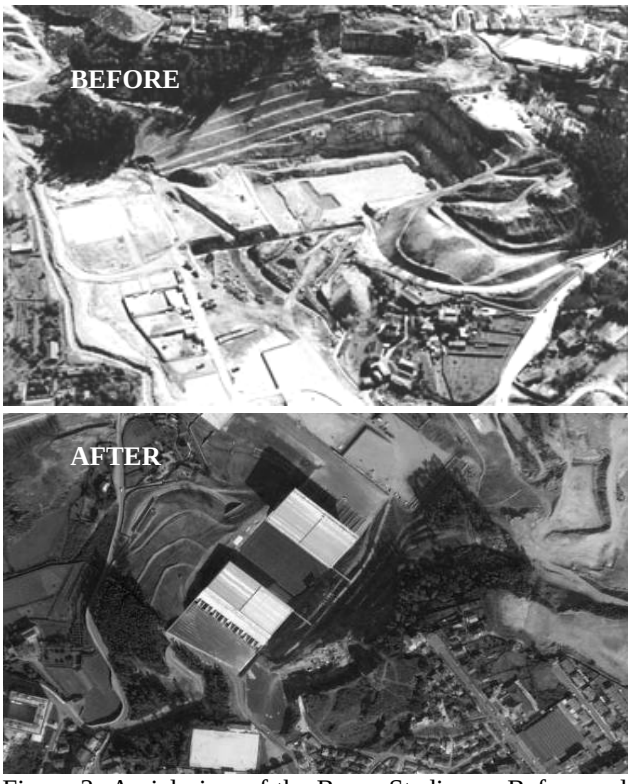

Figure 3- Aerial view of the Braga Stadium – Before and after the reclamation.

The main public access is located to the North, by means of a parking esplanade the dimensions of which are controlled by means of a netted plantation. From the esplanade, climbing the gentle slope, we approach the Stadium diagonally, accompanied by its foreshortened lateral views.

From this point of view, the Stadium appears as a concave recipient, as an open vessel, later perceiving the interior space and the surrounding structure. Ascending the gentle slope, the foreshortened figures are transformed into a frontal vision of the North Stand's concrete structure [37].

This visual conflict between the geometric and formal expressiveness of the stadium and the natural, shapeless walls which surround it, finally find a point of synthesis in the pressured roof, in which the cables (symbolizing the bridges that were constructed by the Inca civilization) deformed by the weight are able to camouflage the repetitive sequence in the changing texture of its natural environment. In this specific project architecture and

its surroundings were treated as the same thing, at least from the Landscape Architecture point of view (figure 4).

Both, architecture and its environment are constructed using the same techniques, to reach the same goal, to construct a unique balance. They are only differentiated by their degree of visibility, in their desire to appear present or unperceivable, formal or environmental. This option enables the opportunity to create a multifunctional landscape and emphasises the great possibilities that lay beneath a derelict post-industrial landscape.

Figure 4- View of the Braga Municipal Stadium and surrounding landscape.

The Braga Stadium and the surrounding landscape are the inimitable response to an exceptional initial situation [38]. They may not set trends for the future of sports facility development, but they reflect the growing importance of architecture, landscape architecture and urban planning in post-industrial construction.

In this meaning the Braga Stadium project is an outstanding example for future interventions once it used derelict land in order to create premium urban space minimizing environmental and aesthetical impacts of the former industrial activity.

4. The Arade valley industrial landscape – an indispensable near future intervention.

Urban design is the art of making places for people. According to Tavernor [48], the existing poor quality of the urban environment has contributed directly "to the exodus from towns and cities." It reasons that urban renaissance should be stimulated by re-establishing "the quality of urban design and architecture as part of our everyday urban culture."

"In the opening years of the twenty-first century, that seemingly old-fashioned term landscape has curiously come back to vogue" and with it the necessity to reclaim derelict landscapes in detriment of consuming new landscapes [16]. This thought is particularly true in regions were the potential benefits of a certain reclamation project would bring profits at several levels, as it is the case of the old industrial area of the Arade valley.

In order to present the potential benefits of the implementation of a reclamation project in this landscape, a swot analysis was developed, once it constitutes an important instrument to evaluate the cost-benefit relation and the feasibility of the implementation of the project.

4.1. Brief description

The importance of the river Arade and its surroundings (figure 5) in the local, regional and national context can be attested by several archaeological tracks that had been found submerged and around it. However, it was only in the beginning of the twentieth century that the implantation of an industrial center in the river margins promoted some development of the area.

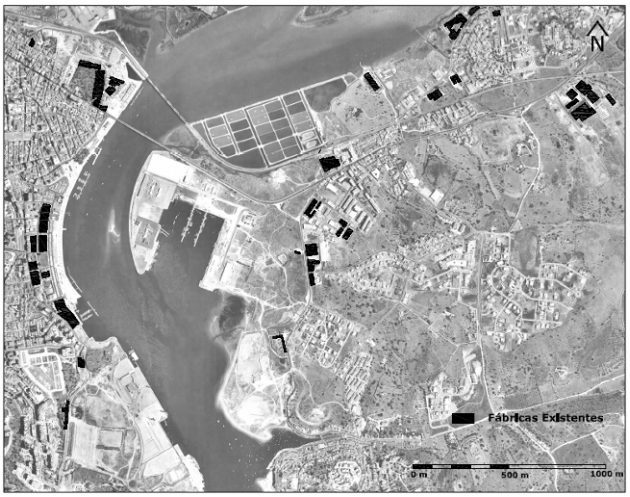

Figure 5- Aerial view of the Arade valley brownfields.

The circumstance of the 1st World War had a great importance for the development of this industry, once it absorbed all the production. At this time almost two thirds of the population worked on industry [33]. Even so, during the sixties the industrial activity collapsed and numerous industrial structures left abandoned. However, the memory of the place remained as fragments of collective history of an activity that shaped lives along time. A memory that if will not be protected faces the risk of disappearing forever.

The destiny of this whole industrial landscape is still unknown, although during the last decade, some of the interventions that had been accomplished contributed to the disappearance of some buildings

with significant meaning (figure 6). In this way, it is essential to take to practice a group of coordinated actions that allow the recover of this post-industrial landscape. Unlike explanations that tend to become dominant, the reclamation of the industrial landscape of the river Arade is not just a type of insurance against forgetfulness. It is an instrument of social legitimation [13, 17] and a strategy to reclaim and valorise a post-industrial site in order to turn it into a multifunctional landscape [3, 18, 41].

Figure 6- Derelict buildings of the Arade valley old industrial landscape.

This industrial area describes today more than a hundred years of local and regional history, constituting a testimony of an industrial, cultural and social conception and evolution which documents and interprets considerable values for the industrial heritage of Algarve. For this reason the reclamation of this post-industrial landscape, should result essentially from new activities projected to introduce in the space, in order to valorise landscape and protect the industrial heritage.

4.2. SWOT analysis

To prove the relevance of this reclamation project it was realized strength, weaknesses, opportunities and threats (SWOT) analysis. Cultural, economic and environmental aspects were considered.

Strengths

- Idyllic location;
- Possibility to use natural resources;
- High geographical possibilities at local and regional levels;
- Soil and climate characteristics and high bio-energy potential;
- Several industrial buildings with high heritage value;
- Substantial resources where it is sensible to invest;
- Easy access to the cities of Portimão, Lagoa, Silves and Lagos.

Weaknesses

- Short national tradition in landscape reclamation;
- Low articulation of urban planning tools;
- Lack of specific principles for urban renewal;
- Difficulty to convince the state (municipality) for immediate funding in order to reclaim derelict land;
- Municipal intent to convert this valorous landscape into a residential area (profit maximization).

Opportunities

- Use of sun and wind energy;
- Increase soil and water quality;
- Multipurpose use of water;
- Create business clusters and expanding already existing clusters;
- Possibility to reuse derelict areas in spite of consuming new ones;
- Create a wide range of recreational facilities;
- Re-create its potential as a traditional landscape with strong links with the other towns in this area;
- Redevelop the old industrial landscape enhancing the linkage between the area and its surroundings.

Threats

- Shortage of financial sources for ambitious projects of landscape changes;
- Lack of awareness on the importance of estuarine landscapes for ecological balance and stability of the area;
- Limited possibilities to finance support for municipal development;
- Lack of political will to establish and finance funds and institutions to support cultural and environmental development;
- Failure to implement policies which will protect the built heritage;
- Urban sprawl.

However it is clear, that the analysis and recovery of this landscape constitutes an opportunity that tends to be lost in time, considering the growing urban pressure leading to the disappearance of various industrial infrastructures, some with heritage value and significant relevance at local and national level, little has been done in order to conserve and rehabilitate.

5. Conclusions

The reclamation projects of derelict industrial areas should follow design principles that promote

sustainability, reduce negative environmental impacts, and foment economic prosperity, social inclusion, multifunctionality and a better quality of life. For this reason those projects should reinforce landscape character taking into consideration the spirit of the place – *genius loci* – and integrating the pre-industrial existence in the new landscape, in order to achieve sustainable development.

Evaluating the design strategies that are used in reclamation of derelict industrial areas, it is concluded that reclamation projects studied and independently from its character have a great potential to convert derelict post-industrial urban areas in multifunctional landscapes. Once even if in Portugal the post-industrial landscape is commonly experienced negatively as fragmented and incoherent because it is difficult to conceive a legible whole, the projects presented constitute representative examples of post-industrial landscape reclamation that enable a sense of spatial enlargement, with high degree of complexity, richness in discontinuities and with varied ecological, economical, social and cultural benefits.

Moreover, the swot analysis realised to the old industrial landscape of the Arade valley demonstrated that there is a positive cost-benefit relation for this landscape reclamation, not only because it permits the rehabilitation of a significant industrial heritage and high environmental value landscape, but also because it contest urban sprawl enabling urban development by reusing derelict spaces in stead of consuming new ones.

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References

[1] Altena, B., Linden, M. *De-Industrialization: Social, Cultural and Political Aspects*. Cambridge, U.K.: University Press, 2002.
[2] Adams, T. *Outline of Town and City Planning: A review of Past Efforts and Modern aims.* Russell Sage Foundation, New York, 1935.
[3] Ashworth, G. J. From History to Heritage - From Heritage to Identity. In: Search of Concepts and Models. Greg Ashworth e P. Larkham [orgs.], Building a New Heritage. Tourism, Culture and Identity in the New Europe. Routledge, New York, 1994, pp. 13-30.
[4] Appleyard, D. *The Conservation of European Cities.* MIT Press, Cambridge, 1979.
[5] Berger, A. *Drosscape – Wasting land in urban America.* Princeton Architectural Press, New York, 2006.
[6] Blokhuis, E. and Schaefer, W. A sustainable approach for industrial area redevelopment in the Netherlands. In: Kungolas, A, Brebbia, C.A. and Beriatos, E. (eds) Sustainable Development and Planning III, WIT Press, 2007, pp. 81-94.
[7] Bradshaw, A. *Handbook of Ecological Restoration, Principles of Restoration*. Perrow, R.M. & Davy, J.A. (eds), Cambridge University Press, 2002.
[8] Brebbia, A., Almorza, D. and Klapperich, H. Brownfield Sites: Assessment, Rehabilitation & Development. Southampton, WIT Press, 2002.
[9] Burley, J. *Environmental Design for Reclaiming Surface Mines.* The Edwin Mellen Press, New York, 2001.
[10] CABERNET. State of the Art Portugal – 1st Edition. www.cabernet.org.uk, 2003.
[11] Clinton, B. Presidential State of Union Address, February 4, 1997.
[12] CLWE – Commissariat of the 1998 Lisbon World Exposition – Parque EXPO 98 SA. The Green Book. Lisboa: Fernandes e Terceiro, Lda. 1998.
[13] Colardelle, M. Les acteurs de la constituition du patrimoine: travailleurs, amateurs, professionnels. In: Actes des entretiens du patrimoine. Fayard, Paris, 1998, pp. 123-135.
[14] Collins, T. Art and Ecological Restoration in Cities. In T.Hall and M. Miles (eds) Urban Futures. Routledge, London, 2001.
[15] Corboz, A. La ciudad desbordada. http://urban.cccb.org/urbanlibrary – 27-04-2006.
[16] Corner, J. Terra Fluxus. In: The Landscape Urbanism Reader. New York: Princeton Architectural Press, 2006, pp. 21-33.
[17] Davallon, J., Micoud, A. and Tardy, C. Vers une évolution de la notion de patrimoine? Réflexions à propos du patrimoine rural. In: Daniel J. Grange e Dominique, 1997.
[18] Fortuna, C. Destradicionalização e imagem da cidade – o caso de Évora. In: Carlos Fortuna [org.], Cidade, Cultura e Globalização. Oeiras: Celta, 1997, pp. 231-257.
[19] Frenchman, D. *Connecting the Past to the Present.* Urban Studies and Planning. Msc Thesis, MIT, 1976.
[20] Geddes, P. *Cities in Evolution*. London: Williams & Norgate, 1915.
[21] HARGREAVES ASSOCIATES+PROAP,. Parque do Tejo e do Trancão. In: Arquitecti Vol. 30, 1995.

[22] Harris, J., Birch, A. and Palmer, J. *Land Restoration and Reclamation – Principles end Practice.*: Longman, London, 1996.

[23] Howard, E. *Garden Cities of Tomorrow*. Swann-Sonnenschein, London, 1902.

[24] Jackson, L. Beyond clean-up of Manufactured Sites: Remediation, Restoration and Renewal of Habitat. In: Kirkwood, N. (ed), Manufactured Sites: Rethinking the Post-Industrial Landscape. Spon Press, New York, 2001.

[25] Jameson, F. *Postmodernism, or, the Cultural Logic of Late Capitalism*. Duke University Press, 1991.

[26] Kirkwood, N. Manufactured sites: integrating technology and design in reclaimed landscapes. In: Manufactures Sites – Rethinking the Post-Industrial Landscapes. Taylor & Francis, New York, 2001.

[27] Latz, P. *Duisburg North Landscape Park*. Anthos, Issue 3, 1992, pp. 27-32.

[28] Lootsma, B. Biomorphic Intelligence and Landscape Urbanism. *Topos*, 40, 2002, pp. 10-25.

[29] Loures, L. A Paisagem Industrial da Foz do Arade. Congresso 30 ANOS APAP – A Paisagem da Democracia, Outubro 12-14, 2006, Porto, Portugal, 2006, pp. 219-226.

[30] Loures, L., Horta, D., Santos A. and Panagopoulos T. Strategies to reclaim derelict industrial areas. *WSEAS Transactions on Environment and Development*, 2(5), 2006, pp. 599-604.

[31] Loures L., Panagopoulos T. Sustainable reclamation of industrial areas in urban landscapes. In: Kungolas, A, Brebbia, C.A. and Beriatos, E. (eds) Sustainable Development and Planning III, WIT Press, 2007, pp. 791-800.

[32] Macaulay, R. *The Pleasure of Ruins*. Weidenfield and Nicolson. London, 1953.

[33] Martins, J. *Estudo histórico-monográfico da freguesia de Ferragudo do concelho de Lagoa*. Algarve em Foco Editora, Faro, 1990.

[34] Murungi, J. On the Question of Land: A Philosophical Perspective. In: Transformations of Urban and Suburban Landscapes. Backaus G. and Murungi. J. (ed), Lexington, New York, 2002.

[35] Mostafavi, M. and Najle, C. Urbanism as Landscape. *Architectural Association*, 42, 2000, pp. 44–47.

[36] Mostafavi, M. and Najle, C. Landscape Urbanism – a manual for the machinic landscape. Architectural Association, 2003.

[37] Moura, E. Braga Municipal Stadium. http:// www.afaconsult.com/ - 20-01-2007.

[38] Moura, E. Braga Municipal Stadium. http:// www.iaks.org/pdf/award_2005/Braga - 15-05-2007.

[39] Page, W. *Contaminated Sites and Environmental Cleanup: International Approaches to Prevention, Remediation and Reuse.* Academic Press, San Diego, 1997.

[40] Pedrosa, F., Marques, B. and Pedrosa, A. Notas e Recensões. IV Colóquio Ibérico de Geografia. In revista da Faculdade de Letras – Geografia. Porto, 4, 1998, pp. 301-315.

[41] Peixoto, P. Imagens e usos do património urbano no contexto da globalização. Master thesis, Faculdade de Economia, Universidade de Coimbra, 1997.

[42] Price, A. *Redeveloping Brownfields: A Different Conversation.* Water Front Regeneration Trust, Toronto, 1998.

[43] PROAP and Hargreaves Associates. Parque do Tejo e do Trancão. *Arquitecti,* Vol 30, 1995.

[44] Secchi, B. Prima lezione di urbanistica. Editori Laterza, Roma, 2000.

[45] Shane, G. The Emergence of Landscape Urbanism. In: The Landscape Urbanism Reader. Princeton Architectural Press, New York, 2006, pp. 55-67.

[46] Sieverts, T. *Cities Without Cities: An Interpretation of the Zwischenstadt*. Spon Press, New York, 2003.

[47] Tate, A. *Great City Parks*. Spon Press, London, 2001.

[48] Tavernor, R. Visual and cultural sustainability: The impact of tall buildings on London. *Landscape and Urban Planning*, 83, 2007, pp. 2–12.

[49] Towards an Urban Renaissance, 1999. Lord Rogers of Riverside: towards an urban renaissance. Final Report of the Urban Task Force. Chaired by Lord Rogers of Riverside, HMSO, 1999 and 2002.

[50] Waldheim, C. Landscape as Urbanism. In: The Landscape Urbanism Reader. Princeton Architectural Press, New York, 2006, pp. 35-53.