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Post-Industrial Land Transformation – An Approach to Sociocultural Aspects as Catalysts for Urban Redevelopment

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1. Introduction

The inheritance of idled, derelict and frequently abandoned post-industrial structures and sites we found nowadays in our landscapes is, arguably the result of human current and former land uses. One way or another, the present situation, enabled by technological innovation and structural economic change, is somehow based in human (ab)use of limited resources. As mentioned by Krinke, (2001, p.126) *"as the world moved from agriculture to industry, a mechanist view of the universe began to supplant the idea of an organic nature. A desire for "progress" and faith in technology implied that the earth was a place to extract resources and its "complementary" idea: that the earth could absorb anything humankind asked of it"*. However, the environmental and social consequences of such point of view enabled not only changes in society's values but also a different view, according to which the former production and consumption patterns were no longer acceptable.

As landscapes became economically disadvantaged, environmentally degraded and socially distressed, several planners, designers and developers started to react to decline, both by looking for answers to the social and economic problems caused by former activities (Secchi, 2007) and by developing new methods and frameworks to transform them. In this scenario, it became increasingly acknowledged that previously developed land (*e.g.* post-industrial landscapes) constitute an undervalued asset towards urban redevelopment. This idea is supported by the six key challenges for producing a sustainable built environment presented by the European Council for Construction Research, Development and Innovation (2001): urban sprawl; redeveloping industrial sites; regenerating brownfield sites; sustainable construction; green space, and regenerating distressed neighborhoods. Somehow, all these challenges may be directly or indirectly connected with post-industrial land transformation processes.

For this reason, all over the world, several regions and countries have begun to embrace the notion that post-industrial landscapes offer unique opportunities to the creation of renewed landscapes, viewing their value to society in a broad sense, recognizing that more than

ecological and environmental reclamation opportunities those sites embodied alternative social, cultural and economic values (Doick *et al.* 2006). In fact, development of creative cultural and recreational amenities and the improvement of the image of the city through landscape transformations is increasingly acknowledge (Beriatos and Gospodini, 2004).

The fact that derelict landscapes, originally viewed as threats, became increasingly recognized as opportunities, not only because of their location, proximity with infrastructure, uniqueness in form and configuration, but also because they became often the only lands available for development in urban areas Meyer (2000), enabled the emergence of new approaches and perspectives towards landscape, especially previously developed and abandoned ones, as it is the strategies for designing with drosscapes presented by Berger (2006). Though at the beginning the practices and approaches towards post-industrial land transformation were primarily site-specific and driven mainly by economic motivations, undervaluing the importance of a contextual approach in achieving sustainable redevelopment, now they tend to be more inclusive and holistic, providing directions on how ecological restoration, cultural preservation, economic development and public needs and interest should be met.

As Adam (1998, p.55) observes, we moved "from single and dualistic approaches and abstract, functional perspectives to knowledge that emphasizes inclusiveness, connectivity, and implication". These new perspectives and approaches, besides addressing issues at multiple scales and across diverse areas of concern, acknowledged that benefits could arise from incorporating existing and remnant patterns of development into land transformation projects, suggesting that the resolution of the natural and culture conflict, evident in previous approaches which focused either land restoration or cultural preservation alone, might influence both design perspectives and processes (Ekman, 2004 and Tymoff, 2001). Regardless the used approach, planning and design options should maximize the reuse of previously developed land, using methods and principles which enable landscape's redefinition through community-based interdisciplinary actions, integrating multifunctional longer-term solutions that consider social-cultural aspect at the same level as economic, environmental and aesthetic ones.

This idea is increasingly recognized by practitioners and academics as it will be proved throughout this exposition, considering both current state of the art and two case studies that will be addressed further in this research, which represent successful examples of industrial heritage protection and public participation and involvement in post-industrial landscape redevelopment.

2. Socio-cultural aspects as catalysts for post-industrial redevelopment

It is generally acknowledged that the different dimensions of sustainable development are not always equally prioritized by policy makers and designers within the sustainability discourse (Colantonio, 2007). However, in an increasing demanding society, designers have increasingly recognized the importance of social and cultural factors in sustainable landscape redevelopment. Citizens have the right to live in aesthetic pleasant and functional landscapes (Lamas, 2004). The access to quality natural and built environments constitutes a social right that should be the foundation of architectural intervention (Lamas, 2004). Planning and design projects will be unsuccessful, if the proposed landscape fails to earn enough interest and care from the society. This interest and care towards a certain landscape depend mainly on two factors: how does a certain landscape fulfill their needs and desires,

and how people experience and use them. However, as stressed out by Forman (2002, p.85) "*most landscape designers are still inspired by and primarily focused on aesthetics; society's other major objectives are secondary for them*".

Regarding landscape redevelopment, designers need to understand that more than aesthetic pleasant and iconographic, landscapes need to be though in terms of function, purpose, and intrinsic values, considering as far as possible public will and needs, given that, as stressed out by Andresen (2005), public space belongs to the public. Indeed, as mentioned by Secchi (2007, p.10) "*it is important in an era dominated by the rhetoric of uncertainty to pay attention to visions that help people reflect on different possibilities and opportunities. Discussing these hypothetical scenarios with the public seemed the only valuable strategy to us*". Thus, if society goals and concerns are to be incorporated, and design and planning proposals are to have legitimacy with those directly and/or indirectly affected by the plans, public participation need to be carried out from the outset of the process and throughout implementation.

Planning and design processes need to be site-specific ensuring that public aspirations are effectively addressed and proposals are thus appropriate for the site and that industrial heritage is safeguarded. In this sense industrial heritage preservation represent together with community participation major elements in post-industrial land transformation projects (CLARINET, 2002). In this scenario, recognizing the complexity of post-industrial landscapes, industrial heritage and public participation constitute crucial elements to the success of post-industrial land redevelopment projects.

2.1 Industrial heritage

Concepts as heritage and cultural heritage have clearly meant different things to different groups of scholars and the public interested in reclaiming traditions – and landscapes – presented as part of shared, remembered pasts (Carr, 2003). In 1949, the Statute of the Council of Europe, adopted in London, stressed out that in order to achieve a greater unity it is imperious to safeguard cultural heritage, facilitating economic and social progress. The years ahead proved that the conservation and safeguard of the natural and cultural environment (people's common heritage) was one of the major issues confronting society. The concept of heritage is normally divided in two groups: one cultural and another natural (ICOMOS, 2008). However, most of what is today protected or celebrated as patrimony has been chosen within industrialized societies as pre-industrial or non-qindustrial, as older, more rare, beautiful, spiritual, and/or traditional, though it is increasingly acknowledge that what is known as heritage can no longer be merely equated with monuments built before the eighteenth century. 'Recent' patrimony may no longer be considered, *a priori*, of lower value than old ones. It is essential to emphasise the idea that the history of the city and consequently our history do not stop in the eighteenth century (Custódio, 1993). The analysis of society and this understanding of cultural heritage lead to a social perception of the kind of place people wish to live in, and to the realisation that the whole city is "our heritage", regardless of whether it is large, small, historic, industrial, old or new (Fadigas, 2007; and Storelli, 2003).

These circumstances coupled with the destruction of relevant evidences from the industrial architecture during the middle of the twentieth century (Kuhl, 2004), with the 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 (Rea, 1991; and Appleyard, 1979), and with the increasing

contestation regarding "*existing criteria for monument classification and restoration*" (Custodio, 1993 in Ribeiro, 1998, p.118), created a *momentum* to the emergence of the industrial heritage concept and consequently to the interest in its preservation. Significant efforts have been developed in order to define the meaning and the scope of industrial heritage, establishing chronologic parameters and performing several studies, with the objective to define what to preserve and why to preserve it. Since then, cities have been increasingly recognized as cultural entities that contain representations from the past, via the present, to the future, running through the entire cultural evolution of the "*city as object*" (Loures, 2008a). In this way intrinsic values need to be determined, meaning given to elements of the city, its importance identified and exceptional sites highlighted.

In this sense, it is important to recognise that heritage, regardless of being architectural, vernacular, industrial, etc., is an irreplaceable expression of the wealth and diversity of common culture. It is an "entity" shared by several people, which every country must show real solidarity in preserving. While the definitions of why to protect and how to protect are sometimes dissimilar, it is commonly recognized that the concept of industrial heritage is applicable to every type of industrial activity and to every material or immaterial element created by the industrial society (Berliet, 1985; and Green, 1985). The fact that historic areas are progressively coming under threat of new development (Strike, 2003, Loures, 2008c), and that the impact of new construction is noticed not only at nationally important sites, but also in local areas – where small changes can be very significant, diminishing landscape character and local distinctiveness – increased the need to develop new strategies and frameworks to protect and highlight our cultural heritage and consequently the sense of place (Montaner, 2001; and Aguilar, 1998). To tackle this urban/cultural problem, there is a primary basic assumption that should be followed: in order to maintain this heritage, it is necessary to consider, first, the reasons behind the development of certain industrial landscape, second, the relation of that landscape with its surroundings and, third, its meanings to citizens.

In this regard, and even if industrial heritage did not have a "formal" document regarding its protection until the creation of the Nizhny Tagil Charter in 2003, followed by the Monterrey Charter, some of the principles enounced in several other international charters and conferences, supported by the Council of Europe (COE), the International Council on Monuments and Sites (ICOMOS) and United Nations Educational, Scientific and Cultural Organization (UNESCO) included somehow the protection of industrial buildings and landscapes as it may be confirmed in figure 1.

As Mendes (1995) points out from 1978 to 1994, the UNESCO list of World Heritage Sites included twelve elements with industrial characteristics. Created in 1978, the list contains today 890 world heritage properties (689 cultural, 176 natural and 25 mixed) considered as having outstanding universal value by the World Heritage Committee (UNESCO, 2010), of which over 60 related to old industry (Fuchs, 2010). However, the buildings, sites and landscapes, which are not listed as World Heritage Sites, but that are recognised as industrial heritage, falling under the scope of the Nizhny Tagil Charter, still face inappropriate material and cultural appraisal and stereotyped ideas of industry, once the way in which they were designed do not satisfy the aesthetic, ecological, and functional requirements and standards (Alanen and Melnick, 2000). Appearance was and continues to be almost everything, given that the assessment of the industrial heritage is often anchored to visual values rather than to any other consideration of function or history (Smith, 1974).

Fig. 1. Information present in international charters and conferences regarding heritage and historic matters. Loures (2011) – all rights reserved.

When analyzing and re-developing these landscapes, landscape architects, architects, designers and other planning professionals need to realise that post-industrial, typically part of ordinary or vernacular landscapes, incorporate the passage of time (Loures, 2008a, and 2008b; Loures and Panagopoulos, 2007a; and Panagopoulos and Loures, 2007b), representing multiple layers of time and cultural activity therefore being part of the identity of a people and a place. In this sense, these landscapes should be seen as assets, once as historic sites they enhance the possibilities of creative practice in preservation, design, and planning, given that they are often unique, as a result from the combination of natural landforms and buildings defining a particular place or region. These changes in perception contributed to increase the relevance of industrial landscapes and to highlight the need to study and protect the material and immaterial remains of our industry from a different perspective (Casella and Symonds, 2005; and Stratton and Trinder, 2000).

2.1.1 What future for the industrial heritage?

As it was mentioned before, the concept of Industrial heritage was only introduced in England in the middle of the twentieth century, during a period when several industrial buildings and landscapes were destroyed (Casado, 2009; and Kuhl, 2004). From rural to urban, and now to industrial, the concept of heritage is now larger than ever. This enlargement is not only thematic; it is also spatial, once its scope changed from the protection of a single monument to the protection of a whole landscape, or even a whole city (Neyret, 2004). The notion of heritage includes now, the landscape which has become a part of inhabitants' identity. Nonetheless, the theme of urban heritage is still surrounded by a conceptual ambiguity, based in a clear ambivalence between ideological speech and practical policies (Ferreira, 1998). Civil society and decision makers have become more aware and are paying greater attention not only to the "environmental and economical dimensions" of urban rehabilitation, but also to the "socio-cultural dimension", currently recognised as a powerful driving force for local redevelopment, given the challenge of maintaining local identity. The preservation of the industrial heritage constitutes an important cultural objective, not only because it enlarges the sense of community (Brandt *et al.* 2000, Burley and Loures, 2008), but also because it constitutes a sustainable approach, once it encourages the positive re-use of redundant buildings that are part of our industrial and commercial heritage. In this regard, several efforts have been made in order to define what should and should not be considered as industrial heritage. In this sense, before planning the redevelopment of post-industrial landscapes it is important to find the answer for two different questions: 'why' and 'how' to reclaim and protect the industrial landscape?

The answer to the 'why' is often clear. As it was mentioned before, industrial landscapes describe an important part of the history of a place, thus, constituting a testimony of cultural, social and economic conception and evolution which documents and interprets considerable values for urban heritage. Furthermore, the analysis and recovery of these landscapes constitute an opportunity that tends to be lost in time, considering the growing urban pressure that, especially in pleasant and valuable landscapes, had several times led to the disappearance of various industrial infrastructures, some with high heritage value and significant relevance.

The answer to the 'how' is relatively more complex, once, even if there are several possible answers to this question; each one includes generally several restrictions enabled by the

search for profit maximization by private and public sectors. Although it is recognized that the economic and social dimensions of the redevelopment process cannot be dissociated from the environmental and cultural dimensions, and that the cultural heritage has become a key factor in improving people's surroundings, addressing issues of social cohesion and encouraging economic development, little has been done in order to rehabilitate industrial buildings and its surrounding landscapes which were often the catalysis to the creation of the urban settlement; and in addition to that, design professionals tend to highlight 'how' to manage cultural landscapes (redevelopment proposals, analysis, cultural landscape reports, heritage management plans, etc.) but not 'why' should we be concerned with historic sites and places or 'what' are the expectations and 'which' are the objectives we seek to accomplish by working with them.

2.2 Public participation

As already mentioned it is generally recognized by landscape architects, landscape ecologists, and sociologists, among others, that the social component plays a relevant role in urban planning and management activities, and that participation processes are linked both to landscape and strategic environmental valuation. The last decades have seen a rapid change in attitudes towards the environment, which reflects a greater environmental awareness amongst professionals as well as the general public (Ozguner and Kendle, 2006). There is a growing trend in government to conclude that the commitment and will of the population is a crucial element to the development of a sustainable city (Giddings *et al.* 2005), and that the redevelopment of derelict, abandoned or underutilized land can play a significant role in future planning activities (Loures and Panagopoulos, 2007b). For this reason it is often recognized that the social component plays a relevant role in planning and management activities (Loures *et al.* 2008; Faga, 2006; Christensen *et al.* 1996; and Grumbine, 1994). The need of introducing public participation into planning and management activities has been reinforced not only by designers, governments and private associations, but also in several international meetings and conventions. Examples include Rio Declaration on Environment and Development in 1992; the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters in 1998; the recent Leipzig Charter on Sustainable European Cities in 2007, and the Cimeira de Lisboa in 2008, among others.

In this sense, as stressed out by Bellah (1998, in Potts and Harrill, 1998, p.16), "a good community is one in which there is argument, even conflict, about the meaning of the shared values and goals, and certainly about how they will be actualized in everyday life. Community is not about silent consensus; it is a form of intelligent, reflective life, in which there is indeed consensus, but where the consensus can be challenged and changed — often gradually, sometimes radically — over time". More than active citizens, in order to achieve sustainable development, cities need active involvement on the entire policy and decision-making process, which needs to be decentralized and as far as possible focused at the local level (Taylor, 2000 in Camagni et al. 1998; and Selman and Parker ,1997).

In fact, public participation has become increasingly more important, playing a relevant role in determining the way society will manage, protect and reclaim not only the natural but also the built environment. The recognition that the economic and social dimensions cannot

be dissociated from the environmental and cultural ones, contributed to increased the relevance of public participation (Loures, 2008a and 2008c).

A wide range of methods have been established all over the world, including new ways of people interacting, new types of event, new services and new support frameworks. Governments look now to provide greater community input in the identification of needs and problems, and in the design and implementation of remedial and preventive solutions (Creighton, 2005; and Hartig *et al.* 1998). However, according to Faga (2006, p.xiii) it is still common in Europe, "*elite professionals enter competitions and propose designs (often very exciting designs) that are selected by a panel of experts* (...) *a similar process is inconceivable in the United States, where community participation has become a central element in deciding what will be built*".

2.2.1 The use of public participation in landscape redevelopment

Although public participation in planning, management and redevelopment of post-industrial landscapes has gained wide acceptance among private and public domains, in part motivated by the introduction of public participation in several international design competition (Fresh Kills Parkland, Duisburg Nord Landschaftspark, Westergasfabriek Culture Park, among others), though academic literature and research offers still limited understanding on how to accomplish it and what contributes to its success (Beierle and Konisky, 1999; and Davies, 2001).

As it is common among "concept definitions", the concept of public participation is not unanimous, once there are always different perspectives of understanding a specific concept. Still, public participation may be generally defined as a descriptive and exploratory method, which enables the observation and analysis of specific issues and phenomena, allowing the establishment of relations among variables (Triviños, 1995; and Gil, 1994). In opposition to an experiment (which according to Strauss and Corbin (1990) is a research conducted in a laboratory under controlled conditions), public participation instruments (*e.g.* surveys and questionnaires) are conducted in a real-life context, and can be descriptive (using standardized questionnaires for describing a specific phenomena) or analytical (using qualitative and quantitative methods to find relations among variables and explanations.

The fact that "*democracy is a work in progress*" (Creighton, 2005, p.1) have contributed to the evolving meaning of public participation over time. However, as mentioned by Duffy and Hutchinson (1997, p.351) concepts indicating different levels of public involvement, often associated with different styles of political decision-making (Table 1), with direct influence on the acceptance of the project "*such as participation, incorporation, empowerment, capacity building and consultation*", although having different meanings are often used as synonymous. Public participation is not a neutral concept. According to the World Bank (1992, p.22) definition public participation is a process that "*enables the public to influence the quality or volume of a service through some form of articulation of preferences or demand*", a definition that is closely linked to the concept of governance. In a more direct definition Beierle and Cayford (2002, p.6) defined public participation as "*any of several 'mechanisms' intentionally instituted to involve the lay public or their representatives in administrative decision-making*".

Fiorino (1996) characterize public participation as the involvement of people outside formal governmental decision-making processes. Nevertheless, there are still some authors (Britton, 1998; and Pateman, 1970) that defend that public participation is one of the components (together with public consultation) of what they consider to be 'public involvement'.

Political Style	Main Decision-maker	Options	Criteria	Scientific Instruments	Project Acceptability
Bureaucratic	Political responsibility	No explicit alternative	Not clear	Technical reports	Low
Technocratic	Specialist	Explicit multiple alternatives, determined according to scientific rationality by specialists	Economic or similar, expressed in monetary units Multiple: measured in different units and determined by the specialists	Cost-benefit analysis or cost-effectiveness analysis Multi-criteria analysis	Medium
Participatory	Actors and/or concerned - affected citizens	Multiple alternatives proposed by concerned - affected actors	Various: measured in different units and determined by the affected actors	Multi-criteria analysis Citizen participation tools	High

Table 1. Political Decision Styles - Loures (2011)

These approaches are not contradictory in their main principles, once they all comprise public activities directed at cooperation and team work, providing the authority with opinions and information about public will, needs and objectives. Public participation in landscape redevelopment and management can take several different forms (Faga, 2006; Creighton, 2005; and Beierle and Cayford, 2002): Public meetings, workshops, charettes, citizen juries, focus groups, internet, mail interviews, face to face interviews, etc. each of them legitimate *a priori*, and justified by the context in which the project takes place (Vasconcelos, 2001 and Hester and Blazej, 1997).

2.2.1.1 The role of participation in project acceptability

The relevance of the social acceptability of a specific project should never be underestimated. In the past, scientific and technological options having a negative environmental impact appeared to be inappropriate, not in terms of technical performance but for reasons of social acceptability (RESCUE, 2004). In recent years, due in part to a need to reduce social conflict and litigation, the planning paradigm has shifted to give the general public greater input in environmental decisions (Steelman, 2001; Dustin and Schneider, 1998; Fiorino, 1996; and Gunderson, 1995).

As (Beatley, 2004) mentions it is through ownership, commitment and the infusion of "local knowledge" in project development, unique places, genuinely native to the culture and environment, can be sustained. Still, designers have to be aware that different people have different ideas, perspectives, needs, and concerns (table 2), reason why the participation process as to be as inclusive as possible, considering the opinion of each and every single group related directly or indirectly with the project.

Environmentalists	Citizens	Law Makers	Farmers	Realtors | Developers	Businesses
Preservation	Good schools	Jobs	Investment	Profitability	Taxes
Water Quality	Quality of life	Industry	Right to farm	Affordability	Market
Energy	Health	Security	Equity	Community	Talent
Food Security	Community	Equity	Viability	Opportunities	Competitive ness
Biodiversity	Jobs	Welfare	Property rights		
Stewardship	Safety	Policy	Food security		
	Future for children				

Table 2. People's Concerns and expectations, Loures (2011)

The social acceptability of results in a decision-making process is linked to the way the different parts involved in the process perceive it: if they feel it is adequate and equal, they find it legitimate. For this reason, improving the social acceptability of specific design options during the process often results in higher legitimacy of the whole process, which in this way depends largely on how much people affected by the plan have been involved in it (Steiner, 2000). Considering post-industrial redevelopment projects, as they are often located in highly visible and accessible areas, public perception and support is essential to the long-term success of the project (Nassauer, 1997) and to enhance the social, economic and environmental benefits that they provide.

In order to ensure better organization and efficiency it is necessary to develop new forms of interaction between the social and the political sphere, enabling the creation of conditions for an active and participative citizenship. In past years, government development of large post-industrial landscape reclamation projects have increased on international, national, regional and local levels. Professionals involved are becoming more and more aware of the fact that specific local human and social factors need to be considered and introduced in the planning process of rehabilitation of industrial derelict sites. Public participation holds nowadays an essential position in the post-industrial regeneration process.

3. Applied theory – The impact of socio-cultural aspects in post-industrial redevelopment

Post-industrial redevelopment is a complex topic with many actors and stakeholders who often pursue contrasting aims in the development process. A socially well balanced planning process, assuring participation opportunities for all the affected parties, provides the necessary conditions for sustainability standards and is as such a prerequisite for each post-industrial reclamation project. To exemplify the relevance of using public participation and protecting industrial heritage in post-industrial landscape redevelopment, as it was mentioned before, this chapter will address two practical case studies (Duisburg Nord and Westergasfabriek) emphasizing the way these socio-cultural aspects influenced and catalyzed urban redevelopment.

3.1 Duisburg nord – From a blast furnace plant into a landscape park

Duisburg Nord Park represents only a small portion of the effort, which has been made in the Ruhr River watershed to reuse old industrial areas: the International Building Exhibition (IBA – from the German Internationale Bauausstellung). Based in the 1988 structural program created with the objective of redeveloping the highly contaminated former industrial and coal mining area in the Ruhr region (European Academy of the Urban Environment, 2001), the Emscher Landscape Park (1989-1999) was presented as one of the main projects of the IBA (Bothmann and Auer, 2009; Shaw, 2002; and von Haaren, 2002).

The motivation for redeveloping this densely-populated, derelict industrial region was mainly driven by the fact that the area was becoming increasingly deteriorated as a result of the ongoing cease and abandonment of several heavy industries, initiated 30 years ago, which left behind a legacy of high unemployment, scars of environmental contamination, and the haunting shadows of the gigantic steel plants (EPA, 2009a, Shaw, 2002; and Hough, 1995). However, the unity and character of this landscape (considering the cultural and historic value of the former industrial buildings), coupled with the huge environmental and economical costs associated to a possible demolition of the existing industrial complexes, enabled the creation of a redevelopment strategy, based not only on the preservation of the industrial heritage, but also on ecological, economic and social principles to protect, enhance and develop the old industrialized region (figure 2) (EPA, 2009a; Sustainable Cities, 2008; and Latz + Partners, 2007).

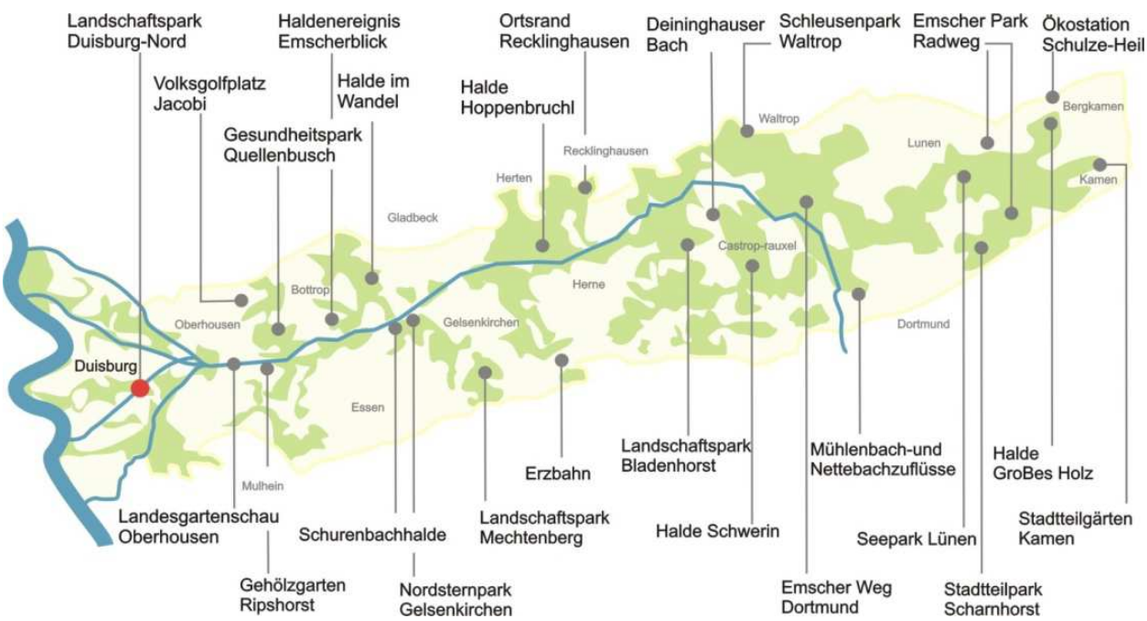

Fig. 2. Location of some of the most advertized projects developed in the Ruhr Valley during the International Building Exhibition (IBA). Loures (2011) – all rights reserved.

Considering these principles, the abandoned industrial landmarks of the region have been transformed to serve new recreational and leisure function, giving a greener and more sustainable image to the region while creating a more cohesive community with a sense of pride on the area's identity (Sustainable Cities, 2008). These facts, coupled with the

impressive numbers involved in the overall process, brought the IBA project into international spotlight.

As mentioned by Shaw (2002, p.77), "one of the Exhibition's principle features was that restructuring should take a holistic view rather than simply trying to attract inward investment and jobs". While highlighting the memory and spirit of the place and protecting industrial heritage, new experiments for the future were promoted, enabling the creation of monuments which are at the same time historic and experimental (European Academy of the Urban Environment, 2001).

In this regard, Emscher Park constitutes the result of the combined effort of a multidisciplinary team of experts (architects, landscape architects, sociologists, engineers, among others) in order to achieve a set of pre-established goals: cleanup one of the most polluted areas from Europe; decontaminate and naturalize a fluvial network of approximately 350 kilometers; reuse former industrial buildings; develop several cultural and leisure routes, reorganizing rural areas and promoting the creation of cultural and artistic installations; and renew former worker's neighborhoods and develop a socio cultural network. As mentioned by Latz (2001, p.150) "*the Landscape Park Duisburg Nord is a key project of the IBA that reflects new ideas about landscape and nature*".

Though the park was only completed recently, the proposal developed by Latz + Partner's constitutes an important legacy in the reclamation of derelict industrial sites in urban areas, not only as an individual case study but also as an element of the overall redevelopment strategy developed for the IBA Emscher Landscape Park. In fact, as new reclamation projects are looking to Park Duisburg Nord for inspiration it is evident that the way of looking at history, and at the world around us, is changing. By literally defining the park as a post-industrial landscape, Latz + Partner affected how people think not just about industrial areas but any place or space that helps to define a specific culture or cultural phenomenon. The attraction of the Duisburg-Nord Park lies in what Macaulay (1953) referred to as the pleasure of ruins, or the pleasure associated with exploring physical remains of the past. The combination of nature and industry enabled the creation of a landscape full and memories and feelings, considered as one of the most significant and noteworthy projects of the past decade (Nickerson, 2007; and Stilgenbauer, 2005). The relevance of the Duisburg Nord Landscape Park is evident not only in the high number of visitors (more than 500.000) it receives every year, but also in the ingenious way the program was merged with the industrial remnants. As mentioned by Vollmer and Berke (2006, p.60) the Duisburg Nord Landscape Park "*is not only a gigantic monument, but also an open-air museum, a free climbing and a scuba diving venue and an illuminated work of art*".

The way the surrounding communities were involvement in the project using multiple public participation techniques, as a way of assessing divergent interests and assuring that the site was developed according to existing relations and effective needs from those who will use it the most, constituted also an important element of the project. However, the strategy envisioned by Peter Latz while considering the aforementioned objective moved a step further taking into account the application of a new vision of "re-cultivation" to deal with the derelict industrial landscapes, based on the search for the way in which new landscapes should seek their position within existing industrial dereliction, considering at the same level the spaces that are going to be changed and the

ones that are going to be protected and highlighted as an integral part of our common industrial heritage (Latz, 2001).

In this regard, considering the fact that the site is a complex matrix of buildings and landscapes the designers' goal was to utilize the existing fragments of industry as layers that are recombined through the lens of park design (Krinke, 2001). In fact, as mentioned by Latz (1992) instead of creating a completely new landscape, the proposed approach attempts to celebrate the area's industrial past by integrating vegetation and industry, promoting sustainable development and maintaining the spirit of the place. Instead of tearing down the industrial buildings, the project integrates them, enhancing the past and creating a perfect symbiosis between the past, the present and the future landscape.

The design strategy developed to the park was based in the idea of interlacing the existing fragments into a new "landscape", integrating, shaping, developing and interlinking the existing patterns that were formed by the previous industrial use, while finding a new interpretation with a new syntax. In this industrial landscape nearly everything has been reused in some manner, playing with the distinctions between natural and artificial, while confusing our definition of "park" (Latz, 1992). This project highlights the interest in the "spirit of the place" rather than in the genius of the creator. Developed in layers, both spatially and historically, Landscape Park Duisburg-Nord represents the contemporary interest in exploring the site as a palimpsest. Landscape Park Duisburg-Nord combines human intervention and natural processes to create an environment that neither could have created alone (figures 3 and 4).

Fig. 3. Landscape Park Duisburg Nord, Elevated Paths. Loures (2011), all rights reserved.

Fig. 4. Ore bunker garden. Loures (2011), all rights reserved.

Considering the configuration of the former site the proposed strategy enabled the development of a program in which the old industrial structures were adapted to new cultural and corporate functions (Berrizbeitia, 2007; and Nickerson, 2007). In this regard, and bearing in mind the objective of developing a multifunctional park, Latz and Partner proposed a design based in a group of specific functional areas (Latz + Partner 2007b): the blast furnace park, the water park, the sinter park, the railway park, play points, the ore bunker gallery. Besides the abovementioned program and functional areas, the park is composed by several other former structures that have been converted to new functions as it is the case of the old central power station, and the blast and tapping buildings now housing an event area, the old administration building that was converted into a youth hostel, the loading area transformed into a multifunctional and leisure area (López, 2004; and Weilacher, 1999), and the wind mill which besides constituting a land art piece, is used as a water oxygenation system (Krauel, 2008). Additionally visitors can still find several conference spaces, a museum and visitor center, a restaurant and several other performance spaces. The space is the results of a very ambiguous design, which on one hand could be seen as an outdoor museum of the iron and steel industry, but on other hand constitutes a simple space that allows the development of several public activities associated to an ecologically sound outdoor environment (figure 5).

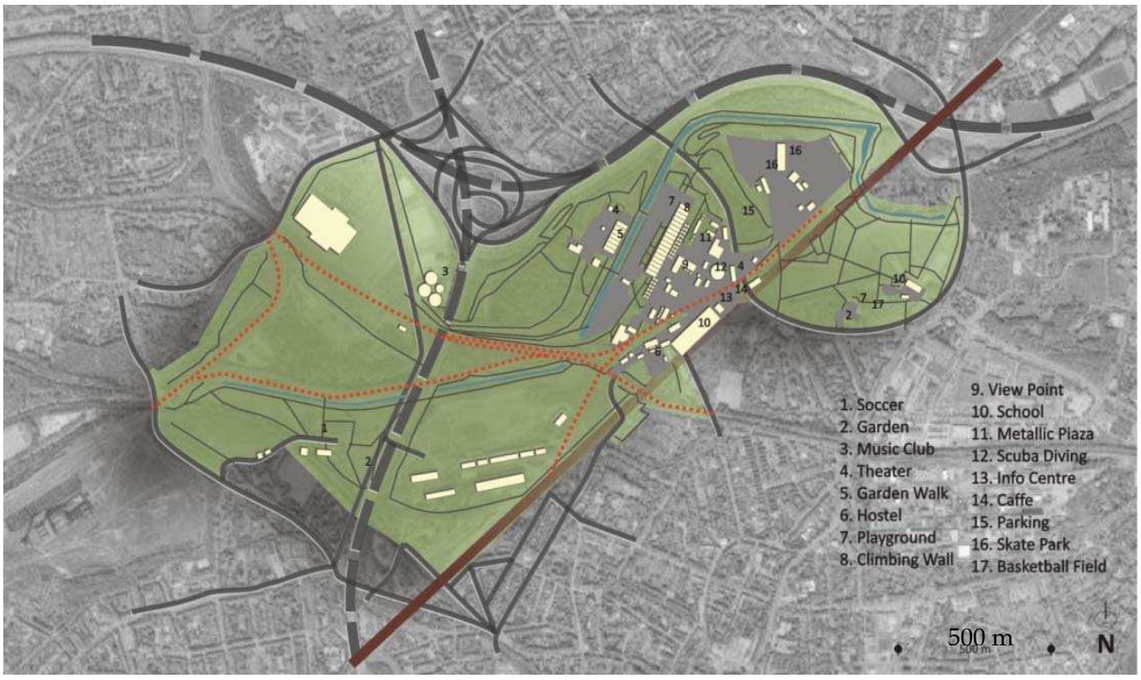

Fig. 5. Landscape Park Duisburg Nord, diagram of program and functional areas – Loures (2011), all rights reserved.

Besides the aforementioned elements which gave international recognition to this project, the approach used by Peter Latz's highlighted the importance of using a relevant theoretical basis in landscape design. The proposed design highlights the fact that even industrial wastelands can be filled with a new spirit and can be made worth living by keeping visible the spirit of the site and the characteristics that make it unique.

3.2 Westergasfabriek – Listening people's needs and desires

During the early nineteen sixties, with the discovery of the natural gas fields, The Netherlands initiated the process of changing over to natural gas, the old coal-gas production facilities started to shut down one by one, and the Westergasfabriek (West Gas Factory) gasworks, built in 1884, at the western edge of the inner city of Amsterdam was no exception, closing in 1967 (EPA, 2009b; and Koekebakker, 2003). After the end of the gas production, after approximately eighty years of activity, various uses (e.g. a tram depot, a train washing yard, etc.) emerged for the site, considering mainly its privileged location. However, the proposed options created resistance among local residents, who thought that the site should become a large park, an option supported, indeed, by a historic map dated from 1875, according to which a large park should be developed in this site (Koekebakker, 2003).

In 1981, the site was re-zoned as a recreation space, its proximity to the city centre and the existing historic structures gave it potential for cultural re-use (Landscape Institute, 2007). In this regard the landscape was not only required to be a green space for residents but also a location for open-air and cultural events. After the new function for this area was decided, park plans, building restoration and soil-cleaning operations were continually readjusted to each other (Bokern, 2006; and Koekebakker, 2003). Even if some buildings of the Westergasfabriek were still in use, by the municipal energy company, the district council launched an "appeal for ideas" in which everyone was invited to submit their thoughts/dreams for possible interim uses. From the 334 submitted entries, four plans were worked out in further detail: a Museum of Civil Engineering, an Amsterdam Center for the Arts, a Centre for Modern Music and the Rhizome Plan, which involved the use of the building by local residents and organizations (Bokern, 2006; and Koekebakker, 2003). The success of the interim use activities was so evident that the plan, which was supposed to be implemented for only one year, lasted for more than six, a period during which the site housed an endless list of events, including performers as the Canadian Circus – Cirque du Soleil, and festivals as the National Music Festival.

Nevertheless, in 1996 the district council approved the development plan for the Westergasfabriek, in which the biggest task was to design the new park. For this reason, following the developed plan, twelve landscape architects were invited to present a general proposal to the committee, which selected five of them to take part in the limited competition: Michael van Gessel, Adrian Geuze, Kathryn Gustafson, Edwin Santhagens, and Lodewijk Wiegersma (Koekebakker, 2003).

From the five selected designers the commission chosen the plan entitled "Changement" by Kathryn Gustafson, which using a simple layout proposed a park that guaranteed various experiences both in space and time, fulfilling the original intention to maintain the cultural activities in the park. The significance of this project is evident at three different levels: the first is connected to the initial perception by a variety of stakeholders, residents and city officials of the ongoing cultural, social and civic value of the site even in its former physical state; the second is related with the development of a consistent and creative vision for the site, robust but flexible over time, embracing stakeholders and local communities; and finally the one associated to physical, social and material qualities (Kirkwood, 2003 in Koekebakker, 2003, pp.5-6).

The uniqueness of the park is somehow evident in the combination of a very strong structure with a subtle detailing in which each place has a distinctive atmosphere. This was mainly achieved by using the vestiges of the partially dismantled industrial site layout, as the structure of the park (Gustafson and Porter, 2007). "*By representing such a clear example of the passage from conceptual design ideas to implemented built work, it stimulates both professional and public dialogue concerning the range of possibilities that may exist for such sites in the future around the world*" (Kirkwood, 2003 in Koekebakker, 2003, p.7).

As it was mentioned before, the title of the proposed redevelopment scheme by Kathryn Gustafson, "Changement", is symptomatic of the design strategy used in the park, suggesting a subtle balance between landscape and society, city and nature, and order and freedom (Landscape Institute, 2007).

Besides retaining 22 of the buildings of the power company's former gasworks (Gastil and Ryan, 2004), to which several different functions and activities had been attributed (e.g. restaurants, cafés, clubs, offices, galleries, a cinema, a kindergarten, a basketball club, etc.), the Park's program proposed by Kathryn Gustafson is very diverse responding both to site and context, and to people's needs and desires, leading to strong narrative interpretations often apparent in the use of memory and history in design (Spens, 2007) (figure 6).

In summary, the design, based in the concept of change and transformation, represents not only the transition from city to garden, to landscape, to nature (Bokern, 2006), but also the effort to build a resilient and adaptable park, according to the inputs acquired throughout the public participation process.

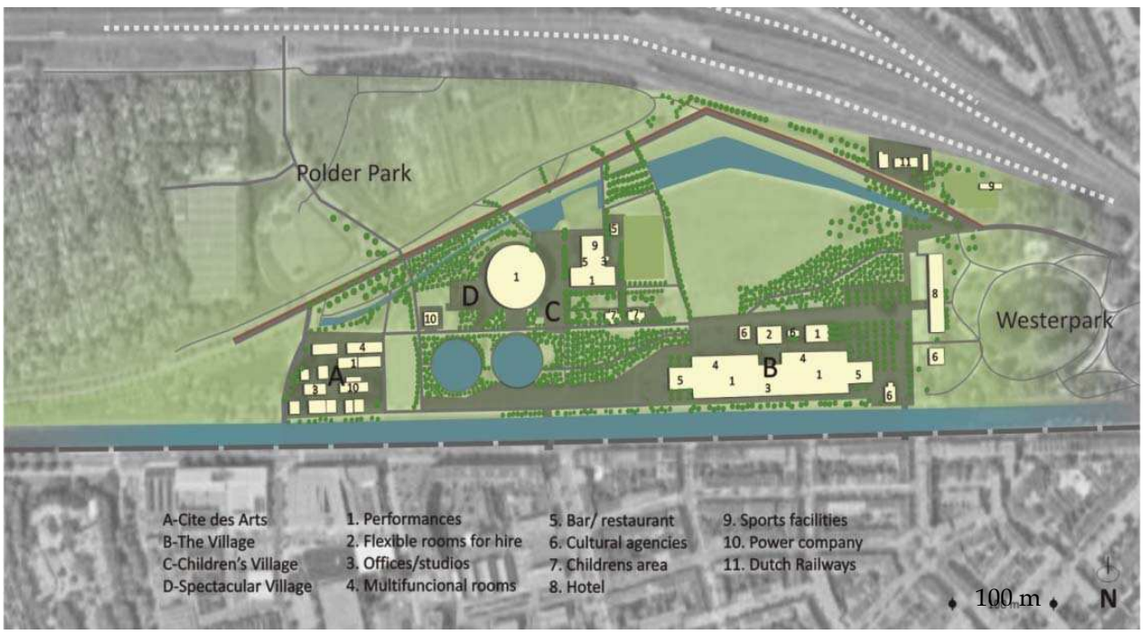

Fig. 6. Westergasfabriek Park functional areas proposed to the former buildings. Loures (2011), all rights reserved.

The Westergasfabriek project by folding historic surfaces, structures and places with emerging and progressive ideas in green open space, gives direction to other postindustrial

communities in the need to protect and enhance the visceral qualities of modern cities in another step in their evolution (Kirkwood, 2003 in Koekebakker, 2003, p.6). However, one cannot disregard, on the one hand the fact that several industrial buildings of what has been the formerly Europe's largest gasometer, with high heritage value, were demolished, and on the other hand the crucial public role in preventing a plan, which proposed that a tabula rasa approach for the Westergasfabriek site, of being implemented. This fact highlights the relevance of the introduction of public participation in land transformation processes, not only in the design phase but from the outset of the process.

The use of new forms of cultural entrepreneurship, in which it is not the government that adapts the former buildings to their new function, but the private property developer, is also considered an important factor, given that in this way the selected activities require little or no public subside, forcing the users to take a relatively pragmatic and independent attitude, which in the particular case of the Westergasfabriek Park proved to promote freedom and dynamism (Gaventa, 2006; and Koekebakker, 2003). In conclusion one may say that the used open ended process enabled the creation of a dynamic place in which residents, tenants, politicians, designers, organizations and other partners were, are and will continue to be inspired by the project.

4. Concluding remarks

One of the problems that happen in post-industrial redevelopment projects is that sometimes the results do not match the original aspirations. Not only because some projects are just speculative, using "sustainability" and "heritage protection" as marketing labels, but also because public is often not a relevant part of the project. In recent years several Architects, Landscape Architects, Urban Planners and other planning specialists have built a number of outstanding iconic landscape reclamation designs that do not represent the community of which they are an integral part. These fail in what should be considered essential in a landscape reclamation project: connectivity to the place and to the society. In fact as mentioned by Loures and Panagopoulos (2010) greening is not enough, reason why socio-cultural aspects constitute essential drivers in post-industrial landscape redevelopment.

As it was confirmed on the addressed case studies the integration of public participation in the decision making process benefits both project quality and society. For this reason it is essential to develop specific frameworks according to which public participation can be introduced in the different planning phases. It is critical to shift the power paradigm in the urban planning process to allow residents to proactively envision and create public green spaces that would reflect the diversity of the society it represents. The use of public participation and the incorporation of human preferences and needs in post-industrial landscape reclamation is a safeguard to achieve success and to develop a sense of community.

However, it is essential to continue studying the city as an evolutionary 'object', looking at culture and heritage, and highlighting that the values and the history of the city do not end in the eighteenth century, they continue right to the twenty first century. And, as Dolores Hayden (2000) has written: "*cultural landscapes (including industrial ones) tell us who we are, far more effectively than most architecture or exhibits in museums ever can*". For this reason, the redevelopment of post-industrial landscapes should be seen as part of larger,

ongoing processes of architectural preservation and urban design, once, it is not confined to the most symbolic factories. It includes, also, all the additional elements and structures associated with the industrial activity. In this regard, it is imperious that politicians, developers, stakeholders and planning professionals understand that the maintenance of the urban layout is one of the most important features for the cultural identity of a city, and that the industrial landscape is an important part of it. A place is only a fragment of a cultural space, which was given consciously or subconsciously certain meanings during the course of its creation.

In this way, industrial preservation and reclamation becomes more than the celebration of the past, as important as that is; it becomes part of reconstructing the future. Thus, industrial heritage preservation that connects people, place, and history fosters a sense of place and the power for community renewal.

Industrial reclamation proposals should therefore be a part of an overall urban project - a local development strategy - which requires a broad, integrated approach comprising all urban policy areas and promoting the reconciliation of heritage conservation with social progress and sustainable economic development. The development of an increasingly multicultural urban society, emphasizes the need of rising the "socio-cultural dimension" of the city, where the rehabilitation of the industrial patrimony appears to be an essential contribution to the creation of a shared local identity and hence to the cohesion of the urban society. For this reason post-industrial landscapes should be viewed as a resource and its recovery as an opportunity to develop new multi-functional landscapes.

In summary it is possible to conclude that public participation and industrial heritage protection and preservation encourage awareness of "belonging to" a community, sharing common culture and creating identity. It improves community consciousness and responsibility while fostering a "collective sense". These are "feelings" of considerable importance in the development of new, satisfying and concerted post-industrial land transformation projects, fostering sustainability and urban development.

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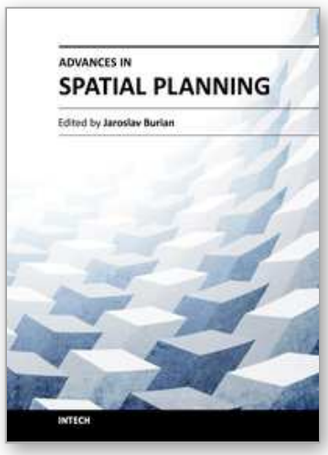

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Spatial planning is a significant part of geosciences that is developing very rapidly. Many new methods and modeling techniques like GIS (Geographical Information Systems), GPS (Global Positioning Systems) or remote sensing techniques have been developed and applied in various aspects of spatial planning. The chapters collected in this book present an excellent profile of the current state of theories, data, analysis methods and modeling techniques used in several case studies. The book is divided into three main parts (Theoretical aspects of spatial planning, Quantitative and computer spatial planning methods and Practical applications of spatial planning) that cover the latest advances in urban, city and spatial planning. The book also shows different aspects of spatial planning and different approaches to case studies in several countries.

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