REVITALIZING OBSOLETE INNER INDUSTRIAL AREAS AS AN ALTERNATIVE TO PERIPHERAL URBAN GROWTH

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Abstract

The paper aims at assessing the revitalization of obsolete industrial areas as part of urban planning and management process, focusing their role in reorienting the peripheral urban growth.

Parameters for public policies are proposed aiming at preserving and converting the obsolete historic industrial areas of former large industrial cities, taking into account their privileged inner localization and the recent social demands for new uses. Special emphasis is given to the possibilities of converting old industrial plants to housing.

The last part of the paper deals with the main costs and technical hindrances associated to the renewal of obsolete historic buildings to update their use.

Key words: obsolete areas, industrial areas, revitalization, housing

1. Introduction

The purpose of this paper is to assess the conversion of obsolete industrial areas contemplated in urban planning and management processes as an alternative to peripheral urban growth.

Initially, the role of obsolete industrial areas in the urban structure of cities, whose economies have been strongly dependent on the industrial sector in the past, is contextualized. The parameters for public policies are then analyzed, regarding the preservation and conservation of obsolete historic industrial areas of these cities, taking into account their physical insertion in the urban context.

Special emphasis is given to the possibilities of converting old industrial plants into housing, as an alternative to peripheral low income urban growth. Furthermore, the main cost-related associations to the renewal of obsolete historic buildings are indicated referentially.
2. The current context of conversion of obsolete industrial areas

“New cities for old may seem, at first sight, an apt comment when reviewing the rentless pace of recent urban renewal in Western Europe. In the space of a generation, more change has been wrought on the European city than occurred to most in all preceding centuries of their existence”.

Shurmer-Smith & Burtenshaw (2001:125)

Until the third quarter of the twentieth century, the conservation of historic areas, regardless of the preservation of their original uses, was aimed primarily at isolated historic buildings, or at specific central areas. In most cases, the goal of the renewals was to enhance urban tourism.

From the 1960’s onwards, the major cities of developed countries experienced decentralization and/or deindustrialization processes that, simultaneously with changes in manufacturing sectors, made the economies of these cities primarily tertiary. Consequently, the configuration of urban functions changed, strengthening new sectors, such as services, leisure, and tourism, and creating new demands for non-residential buildings intended for the development of activities associated to the more modern sectors of the economy.

The immediate reaction of the real estate sector in these developed countries was the renewal of obsolete areas located in privileged sites, often achieved by tearing down old buildings and building new ones that incorporated the advanced technologies of telecommunications and engineering. The buildings, with their avant-garde architectonic forms, symbolized the economic power and modernity of the companies that set themselves up within them.

The residential sector that developed in renewed areas was, generally speaking, responsible for a process of gentrification, whereby the previous residents of lower income are dislodged as a result of an appreciation in real estate values caused by the new establishments. Many projects of urban renewal are emblematic of this process, as exemplified by Dockland in London, and the harbors of Rotterdam and Amsterdam, among others.

In developed countries, urban renewal projects in obsolete areas, whether industrial areas, harbors, or even historic areas, have indeed generated a high rate of return on the investments made by private entrepreneurs. Shurmer-Smith & Burtenshaw (2001:130) indicate that conviviality and livability are the key conditions for the success of investments in urban renewal for residential use by the higher income population of developed European countries.

It is noteworthy that in developed countries such as Holland, the requalification of obsolete areas for the purpose of building modern housing of greater square footage is a result of the rise in income and a more adequate income distribution. Developed countries have witnessed both as of the second half of the twentieth century. This has generated a significant demand for larger and better equipped housing by the population that lived in buildings of low technical quality and small square footage, and a demand for new commercial centers located in relatively central areas. This situation diverges substantially from the urban agglomerations of Latin America, where gentrification in relatively central areas with reasonable infrastructure signifies condemning the originally resident population – of lower income – to live far from their jobs and from urban equipment. It would imply relegating them to areas which are oftentimes even insalubrious, with no
assistance from a Welfare State, which still persists, in part, in the main European countries.

The modernization of production and the dispersion of industries, witnessed by the Latin American cities in the last decades of the twentieth century, have caused a progressive abandoning of obsolete industrial plants, many of which were built in the early industrialization of the country, and whose buildings have a historic value. These pioneer industrial areas were usually located at the head of river or along railroad tracks, which, at the time, represented the infrastructure essential for receiving raw materials and shipping the final product, in other words, they were located in areas between the historic center and the expansion area of the “new city.”

The abandoning of these industrial plants practically shatters the balance maintained in earlier times between one’s place of residence and work, by creating obsolete central areas that need to be renewed and requalified, within a new proposal of urban policy that values the central area as a historic heritage. After all, according to Ferraresi (1991:200), “the future of the cities resides in the revival of the obsolete industrial heritage […] for we can no longer allow the city to again wipe out its own memory.”

Furthermore, the availability of obsolete industrial areas located in relatively central metropolitan areas indicates a new stage of transformation of these cities, with the possibility of reverting the traditional pattern of low income peripheral urban growth. Important challenges must be faced in renewal projects of obsolete industrial areas, such as the prioritization of actions, and the integration of these projects with others that make up the totality of the urban structure in the realm of an Integrated Master Plan1 aiming at the broader development of a specific agglomeration.

3. Planning the intervention

In describing the intervention plan of the historic center of Ferrara, which includes a fairly large area, Cesar (1977) highlights the need for its insertion in an integrated planning strategy that involves the whole city. In his understanding, a physically and socially integrated conservation principle is based on a detailed study of the expected results, and its operation. Therefore, an Integrated Master Plan of a city must precede any project drawing, and must also be a part of political decisions on a regional level.

The planning of the intervention process designed to convert industrial areas must aim at a socially, environmentally and technically adequate project. The first measure should be to write up an inventory of the area to be renewed, based on historic documents and iconography, with the objective of listing the buildings of architectonic or cultural value, a subsidiary measure for future propositions.

The confrontation of the new desired uses with the possibilities of modernization of a certain obsolete industrial building must be analyzed. This means that not all buildings can or must be restored, but that a choice must be made as to which buildings should be

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1 The concept of an Integrated Master Plan has been used in literature with many meanings, without any consensus to allow a precise definition. In the context of this paper it will be used in its broader sense, involving the inter-sectorial integration of public policies, the importance of social participation in the formulation of strategies, goals and aims, and the financial cooperation among many different public and private agents in the implementation of projects. Concomitantly, integrated planning should be understood as part of a process that involves the restoration, conservation and monitoring of the built heritage and of the environmentally protected areas, within the perspective of urban spaces in constant change.
reestablished and for what purpose, by means of a scale of value based on the inventory mentioned above. Some of these obsolete industrial buildings must be demolished, either for intrinsic technical reasons, or to ensure the potential development of the area where they are located, thus allowing the creation of open public spaces, the installation of urban equipment or the improving of local accessibility.

In synthesizing the conclusions of the study group on the re-use of industrial buildings, at The Third International Conference on the Conservation of Industrial Monuments – Sweden, Smith (1978) states that planners of industrial building renewal have four basic options. The first is to simply assure the physical integrity of the building, i.e., keeping it from falling to pieces, an action which implies little investment and usually simple techniques. The second option he refers to is preservation, which in addition to assuring the physical integrity of the building, also permits its use. The conversion of the building is presented as the third alternative and involves more complicated procedures designed to adapt the building to uses different from the original ones. As a fourth option, he indicates the demolishing of the building, with the proviso that those parts deemed important, whether for technical, cultural or historical reasons, be kept in museums.

Theses alternatives, as presented by Smith (1978), not only refer to the quality of historic heritage preservation, but also represent planning options. Therefore, to renew and convert obsolete industrial areas necessarily implies a long term project for the entire urban agglomeration, where the prospect of the areas to be renewed is conceived in close rapport with the new function that these areas would acquire on a local scale and in the general urban structure. It is of utmost importance to design the interventions in such a way that they will allow accessibility to the area and the infrastructure required to maintain the new activities, in addition to physical integration with the immediate surroundings. Of equal relevance, naturally, are the proposals for the historic center, including its role as the center of the whole urban structure.

Planning strategies must be rethought in order to restore and/or reinforce the decision making power of the public sector over urban development, which has taken on a role secondary to the designs of large private enterprises. It is up to the public sector to manage an Integrated Master Plan in which the restoration or renewal of obsolete areas is contemplated as a necessary and plausible alternative for peripheral growth (Ferraresi, 1991).

The challenge of the public administration, as pointed out by Shurmer-Smith & Burtenshaw (2001: 130), is to avert the growing duality of urban areas, a consequence of renewal projects of obsolete areas, since they “also serve to keep in place the barriers between [social] classes because of the contrast [they create] between the renewed areas and their depredated surroundings.”

New public management structures will be required for Latin-American cities, since they are not used to living with and conserving historical buildings, oftentimes millenarian. To achieve this, the activities of architectural planning and projects must be rethought within this new context.

4. The conversion to residential use

Because of the demands placed on the first industrial buildings, the buildings were projected in a flexible manner, so that they could adequately address the technological production transformations that would arise through the course of time. This flexibility now facilitates different propositions of change in use.
The transformation of use of obsolete industrial buildings into housing has been little explored, either because of possible technical difficulties, or because of the increasing value of the building and its surroundings, a normal occurrence following the renewal of the area in which it is inserted.

Low income housing, as already stated, is rarely the object of urban renewal projects in developed countries. However, the conservation of the historic heritage is part of the cultural values of these societies, and is the focus of sizable effort by the local governments and the population to conserve and renew.

In developing countries, like Latin American, where the low income housing deficit is one of the crucial problems to be faced in the beginning of the 21st century, urban renewal projects cannot dismiss this deficiency. This fact has important implications on the institutional structure under which these projects will be proposed and monitored. The role entertained by the public realm becomes much more central and fundamental than in the case of developed countries. It must either act directly or else encourage or regulate the private sector to guarantee the prospect of social housing for the low-income population.

Diamond (1976) stresses that any plan to convert industries into housing must involve many stages of planning and decision-making, which often reveal the unfeasibility of the project. In the author’s view, these projects must necessarily involve the planning of an entire area, even if the intervention will only affect one industrial building, in order to guarantee the basic infrastructure and services needed for future residents. Although stating that the conversion of uses of obsolete industries cannot be treated as a “restoration” project, he admits that, in many cases, the form, the location, or other technical factors may indicate that a conversion is inappropriate, especially when involving the low-income population, which doesn’t count on the resources needed to introduce, on their own, the specific technology in their homes to solve the eventual problems that may arise from this converted use.

Particularly relevant is the chemical analysis of soil used by polluting industries that in some stage of production have employed toxic chemical elements that could potentially contaminate the soil. Therefore, it is not merely the existence of an obsolete or degraded industrial area, even if historic, that will allow its conversion into housing.

In addition to this aspect, Worland (1976), based on findings by his researchers and on related works, includes other technical factors that condition the transformation of obsolete industries into housing, such as adequate ambience lighting, thermal comfort, the use of materials that will allow acoustic isolation, and fire protection.

Another important issue that must be addressed in restoring buildings is related to the application of the current safety norms and building code, without altering the original structural system (Jokilehto, 1989:54).

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2 Carbonara makes a conceptual and operational distinction between the term “restoration” and “conservation.” He states that the term conservation has been used formally since the early 1980’s to indicate a concrete action to protect cultural heritage, almost like an alternative term for restoration. On the other hand, restoration seems to have acquired a negative meaning during this period, alluding to an almost complete reconstruction of the building. According to Burns (1963:14), “urban revitalization” is a process which involves the removal of buildings and the construction of new structures, previously established in a Plan, where the new proposal differs from what originally existed on the site, whereas “urban renovation” refers to the process by which a large area of the city – such as the historic center – slowly renews itself, gradually changing in response to the needs of contemporary society.
The recommendations above will certainly require new aptitudes of the architectural project, which must respond in its technical solutions to the demands of the modern activities of the new specific use, restore the structure of the obsolete industrial building and value its history. A new field of academic and technical research thus emerges from the implication that projects for obsolete industrial plant renewal and conversion actually entail a “surgical intervention, which proposes to atone for the offense of time, to stop the present phenomenon of degradation...[simultaneously]...attentively and meticulously respecting the industry as a historic document” (Ferraresi, 1991: 21).

5. The costs involved

Analyzing the issue of renewing an architectonic building, with a focus on estimating the return of the investment, Roscelli (1989:353) stresses that because this action involves individual cultural assets, it has become practically impossible to apply methods such as cost-benefit, or standard cost analysis. He states that the costs of the investment or the amount of return on the investment are often not the factors determining a restoration or renewal intervention in urban areas. Instead, the decision to perform the intervention depends on a series of complex factors, such as the valorization of the socio-ecological context, the appreciation of the historic value of the asset, the consideration of symbolic – not economic or immaterial – values, and the opportunity to revitalize part of a city, among others. (Roscelli, 1989:354)

The choice of a new use for an obsolete building must be made not from an ideal theoretical scheme, but based on a detailed study of the present state of the construction and of its ability to assume the new intended use without loosing the essential historic, structural and material characteristics of the original building materials. This implies that the restoration or adaptation of a new use must be based on a substantial historic and technical study of the building before beginning the works. (Jokilehto, 1989:54)

The required historic and technical studies involve an additional cost to the renewal project of an obsolete building. The cost of interventions in building restorations and in urban renewals tends to be high, despite the pre-existence of infrastructure and urban equipment, in other words, of a previously invested fixed social capital. The fact is that the cost of the renewal process should be calculated by adding the pre-existing investment to the investment needed to make the existing infrastructure adequate and modern, both in the buildings, and in the urban structure. The latter is achieved by constructing new accesses, implementing new infrastructure technology, and providing public support services, or else investments aimed at promoting the economic development of the site within the urban context, in addition to funding the long-term maintenance cost.

In determining the economic plausibility of converting industrial areas, Vermeulen (1976) compares theses costs to those of a new construction. To make the comparison, he classifies the industrial buildings according to their physical-structural condition, i.e., reasonable or good, based on the state of their structure and their casing. Those in better condition will certainly demand lower conversion costs and will be elected to make comparisons with new constructions, since the others may present a variety of inadequate situations which would require a case by case analysis.

According to Vermeulen (1976), the substructure will not represent a cost in the conversion project, because it is already built. As for the structure, the old buildings usually require only small interventions, like floor restoration, especially if they have up to three stories, in addition to fire protection measures. If the old buildings have more than three stories, additional costs must be included, since part of the structure will have
to be torn out in order to install elevators and a more complex fire protection system, with its own stairwell. The author presents the same line of thought in regard to the casing, ceilings and roof, concluding that the cost of all of these items in the conversion project are much lower than the cost of a new building.

What really represents a significant additional cost in converting an obsolete building versus building a new one, according to Vermeulen (1976), is the demolishing and reform work, because of the added cost involved in demolishing plus costs related to any reconstruction work. The internal divisions must be built in both the conversion and the new projects, considering that the old industrial buildings usually have vast spaces with no internal subdivisions, meaning that the costs will be similar. The same is true of the furnishings. On the other hand, the electric and hydraulic systems tend to be more expensive in reconverted buildings, since they must be completely substituted by new systems, involving adaptations for the new installations.

As a synthesis of the cost comparison, Vermeulen (1976) states that, in speaking of obsolete buildings in good structural and casing conditions, the construction costs are fairly similar for both when it comes to the construction of similar spaces, in terms of materials and square footage. He stresses, however, that the costs associated to the building of parking lots must be analyzed in the context of the availability of areas adjoining the historic buildings, considering that if a parking garage had to be built under the building, the costs would be very high, even higher than constructing a new building.

6. Issues to be addressed in the legislation

One of the greatest challenges in devising the legal provisions needed to regulate and control urban renewal projects, as Paiva (1990 a) accurately states, is that these projects must truly structure the market. While these provisions must meet the social demands and requirements of the entire urban and/or regional structure, they also represent public and private investments that define changes in the urban structure, which further reflect changes in the value of real estate and in the accessibility between areas.

Considering that interventions in urban areas are subordinated to legislation and to the control of public management, one of the relevant aspects in urban renewal processes is the conflict of interest between the public sector and the community. The latter must be represented by a legitimated public management that should be giving priority to addressing the main shortages in services, infrastructure and urban equipment, and to preserving the local historic heritage. The private sector, on the other hand, follows the “market framework,” where profitability is the ultimate goal, even if consequential to the intrinsic logic of capital accumulation. This implies that investments in conservation and/or renewal of the historic heritage in the private sector should be accounted for in their commercial and promotional strategies. Hence, the importance of a legislation that addresses the public control of historic heritage interventions and that is monitored through time.

Although the quality of the legislation in many countries is related to preserving the historic or cultural heritage, Lindtveit (1978) stresses the importance of creating a specific legislation for the conservation and renewal of use of the historic heritage, including obsolete industrial buildings. The legal provisions must allow the renovation of industrial areas or specific buildings, but also guarantee the preservation of the history of the place or of the building. This legislation cannot be dissociated from the general urban planning and must incorporate the participation of the population and other social groups involved
in a specific urban renewal project, not to mention that it must also address the natural conflicts between conservational and developmental aims.

Lindeveit (1978) stresses the utmost necessity of creating specific public funds to guarantee the long-term conservation of renewed areas, especially in those cases where the legal instruments do not allow the owners to modify the building or its use. This constraint may lead to a disregard for the adequate conservation of the historic building, if there is not some kind of public financial aid.

7. Final considerations

In many countries, whether developed or developing, the historic centers have evolved and degraded in very similar ways. Likewise, large industrial districts, usually located not far from the historic centers, have become obsolete and partially abandoned. In these areas, the value of the properties depreciates and the resident population tends to be of lower income. However, the large obsolete buildings located in these areas present an opportunity for converted use as a space to house cultural and economic activities or as housing, given its close location to the historic center. The historic center, in turn, tends to be revitalized and revalorized, as a primary upshot of the growth in the tertiary sector and in so-called “global economy” related services, and as a consequence of its symbolic meaning.

The revitalization projects of historic centers necessarily involve not only restoration and/or renewal of specific buildings, but also up-dating of the infrastructure, especially regarding telecommunications and electricity. These investments tend to lead to gentrification, that is, the expulsion of the resident low-income population due to the subsequent increase in real estate values. The fundamental issue that arises in this process is securing against the “banishment” of the population from the renewed historic center, or from of any urban area subject to gentrification, and making sure it has the option of low-cost housing near the job centers. The upshot is that the now obsolete pioneer industrial areas will become one of the most plausible alternatives.

A delimitação da área de intervenção é função da avaliação das carências metropolitanas e dos efeitos locais decorrentes da ação planejada. Áreas imediatamente vizinhas à renovada devem ser objeto de estudos especiais, e muitas vezes incluídas na área de ação.

The conversion of industrial areas requires planning within the scope of an inter-sectorially integrated plan, but basically considering the city and/or metropolis as a whole. The delimitation of the intervention area is directly related to an assessment of metropolitan deficiencies and local effects consequential to the planned action. The areas immediately adjoining the renewed sites must be the object of special studies, and must oftentimes be included in the area of intervention. In these areas, relatively small investments in infrastructure can often promote demographic and job growth by means of special fiscal and credit incentives. The low-income population must be the main target of these incentives, in an endeavor to revert the traditional pattern of growth of the peripheral urban areas, where there is a severe lack of adequate physical and social infrastructure and job opportunities.

One of the essential issues that must be addressed to devise an integrated plan involving the renewed use of obsolete industrial areas is the establishing of the valorization criteria. These criteria must be flexible enough to meet local needs, and concomitantly incorporate the area better within the greater scope of the whole city, while exercising the prerogative that the historic characteristics of the building or area must be maintained.
It is a question of reversing the longtime practice adopted in many Latin American cities: that of denying history, of “wiping out, with a single stroke of an eraser, the construction that brings written within it an entire historic period. Primacy is bestowed on the demands of the market and of work schemes. Preference is given to what is new, without valuing the usable, social, and production resources made available by an industrial plant” (Ferraresi, 1991:21).

References


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