Abstract


The industrial buildings represent part of the population’s cultural heritage of a city’s, often neglected. In many cases they occupy an important part in definition of the place identity and its inhabitants.

This research deals with the reutilization of industrial and manufacturing buildings located in peripheral areas of large cities, which became obsolete due to the economic restructuring that occurred after the heyday era of industrial activities, and assesses how their revitalization can contribute to territorial urban centers expansion in a sustainable approach.

The theme of reuse becomes relevant by the recurrent abandonment situation that affects the old industrial sites structures in contemporary cities.

Industrial establishments came to be regarded as cultural properties worthy of preserving only from 1950, specifically in England, when key buildings were demolished.

The approach seeks to value the individual and collective social memory preservation related to industrial archeology.

The study makes a brief reference to some examples where revitalization is presented as an ideal solution to enable the maintenance of the built heritage and simultaneously restore underutilized spaces back to the population, avoiding the predictable process of deterioration, obsolescence and illegal occupation.

The assignment of a new use, at the same time compatible with the characteristics of the remaining structures and consistent with the cultural value attached to those preexistence, becomes a valuable preservation tool, specially because it reverses the declining and obsolescence cycle that afflicts these architectural ensembles which represent the beginning of industrialization in Brazil.
Among the provisions brought in Nizhny Tagil letter, on the conditions of adaptation and new uses of industrial buildings stands out:

5. To adapt and continue to use industrial buildings avoids wasting energy and contributes to sustainable development. The industrial heritage can play an important role in the economic regeneration of depressed or declining areas. The continuity that reutilization implies can provide a psychological balance to communities faced with the sudden loss of a working source of many years. (TICCIH², 2003)

From the document contents we conclude that maintaining a building in use is equivalent to a favorable conservation mechanism, since it requires periodic maintenance of the property in question. On the other hand, the abandonment fosters deterioration and loss of important cultural heritage interest remains.

The aim is also the real estate valuation of buildings framed in the survey, since their location in urban centers’ integrated areas and, therefore, already served by public infrastructure services, reveals trends for real estate speculation, favoring its mischaracterization.

In the social universe, favorable arguments are presented to the preservation of industrial spaces as individual supporter of the employees’ memories, majority composed of immigrants, their families and descendants, as contemporary city dwellers, potential users of representative spaces in its history. With this approach it is also possible to enhance the collective memory of the population that will experience, by the resurgence of those areas’ functionality, the possibility of transmitting their city history to other generations.

The city of São Paulo can be considered as a cradle of immigration in Brazil, having experienced the emergence and development of urban areas around the factories installed there. Such reality has had an effect on the rapid development of urban infrastructure utilities and major advances in the city's economy. In this context of investments to promote economic growth large buildings and sets of factory buildings emerged in landscape. To accommodate the public markets, public services (energy, sewage and drainage and public lighting) industries as well as railway stations and its sheds, imposing buildings were constructed using most of the time imported materials, such as iron and glass.

The construction of some of these examples represents a milestone in the

² The International Committee for the Conservation of the Industrial Heritage.
city's architecture, as they were designed from projects originate from or with major influence of the most prestigious schools in the world, for example Belgium (Francisco de Paula Ramos de Azevedo, 1928 - Municipal Market of São Paulo), Italy (Giovanni Battista Bianchi in 1936 - Cotonificio Rodolfo Crespi) and France (Paul Pedraurrieux in 1912-1916 - Vila Maria Zélia).

In parallel, the technical focus of the research presents numerical records of the natural resources consumption, materials and supplies related to the production and application of constructive elements found in the cases studied, to allow assessment of the savings generated through their reuse, in the process of revitalization.

In order to illustrate the research and evaluate technical data of important revitalization examples in São Paulo city, The Municipal Slaughterhouse works of São Paulo, which currently houses the headquarters of the Cinemateca Brasileira and its supporting facilities, as well as spaces for exhibitions, and the group of buildings of the São Paulo Gas and Coal Plant, whose revitalization works, yet in progress, were chosen to host the Historical Museum of the City of São Paulo.

This research has considered that part of the building elements present in the studied samples are still under useful life, thereby justifying investments for their maintenance during the regeneration or conversion of those spaces that house.

Manufacturing processes of the components of certain building elements present in those industrial buildings were researched, for example, ceramic bricks, iron and concrete structures. Seeking to prove the importance of preserving those resources, data consumption of raw materials and fuels involved in the process were presented.

In the same direction of the reuse initiatives, investigative results show the possibility of reduction in emissions of greenhouse gases and energy costs, in the same proportion as the processed products in revitalized buildings is also reduced.

At the end of the analysis and interpretation of technical data from the building works, this research presents a table to launch the estimated amount of those elements with potential for reuse and the correlation of the amount of raw material preserved and spared from air emissions. Thus the perception of the economic and environmental benefits resulting from reuse becomes clearer and more objective, assisting the decisions to be taken in the process of revitalization.
The researches carried out resulting in the conclusion that the maintenance and conservation of important industrial sites inserted in the urban area of big cities, emerges as an option for occupancy of underutilized spaces, favoring the maintenance of collective memory, the reuse of building structures and highlighting the economy resources and energy inherent to the process.

**Keywords**

Industrial buildings; factory architecture; urban centers; collective memory; revitalization; sustainability.