Reconversion of Industrial Heritage
The reality of the cities of Lisbon and São Paulo

Carolina Sofia Lopes de Azevedo

Extended abstract of the Thesis to obtain the Master Degree in Architecture

Supervisors:
Professora Doutora Ana Paula Patrício Teixeira Ferreira Pinto França de Santana
Professora Doutora Sheila Walbe Omstein

October 2017
Introduction

The article analyzes the legal framework and the influence of the diverse interveners in the architectural process inherent to the reconversion of Industrial Heritage, in order to evaluate the impact in its preservation and valorization. The study is carried out by analyzing the practice of reconversion of Industrial Heritage, which has been carried out in two cities, Lisbon (Portugal) and São Paulo (Brazil).

The analysis includes the study of the evolution of the two cities and their industrialization processes, the analysis of the legal framework, policies and entities responsible for the preservation of Heritage and the study and discussion of two reconversion projects of Industrial Heritage in each one of cities.

Reconversion of Industrial Heritage

Although the interest and the first discussions on the industrial legacy have begun in the XIX century, its intensification and the first initiatives for its preservation only occurred in the middle of the XX century. One of the first to reflect about the subject was Kenneth Hudson, who first defined the concept of Industrial Archeology. Hudson (2014: 21) argued that Industrial Archeology “is the organized, disciplined study of the physical remains of yesterday’s industries”.

Although Industrial Archeology and Industrial Heritage are concepts with close affinities, they are distinct. Industrial Archeology includes the “study, analysis and registration of ways of industrialization from the past” (Kühl, 2008: 45) and aims to obtain knowledge that allows to increase the understanding of the industrial past and present. On the other hand, Industrial Heritage integrates all vestiges of industrial culture that have historical, technological, social, architectural or scientific value (Nizhny Tagil Charter, 2003).

The end of the 1970 decade was of great importance for the advancement of discussions about the preservation of the Industrial Heritage, because it was in 1978 that the first industrial testimony was integrated in the UNESCO – United Nations Educational, Scientific and Cultural Organization - World Heritage List, and because, also in 1978, the International Committee for the Conservation of Industrial Heritage (TICCIH) was created.

In 2003, regarding the XII International Conference of TICCIH, the Nizhny Tagil Charter about Industrial Heritage was elaborated, which clearly distinguishes the concepts of Archeology and Industrial Heritage. Most recently, in 2011, the Dublin Principles were drafted at the 17th General Assembly of ICOMOS – International Council on Monuments and Sites. The document states that “the industrial heritage consists of sites, structures, complexes, areas and landscapes as well as the related machinery, objects or documents that provide evidence of past or ongoing industrial processes of production, the extraction of raw materials, their transformation into goods, and the related energy and transport infrastructures” (Dublin Principles, 2011: Definitions). Although this is a current and quite complete definition, the theme of Industrial Heritage continues to be complex. This complexity is justified, not only by the variety of industrial objects, their scales and technical diversity, but also by the temporal proximity of the objects under analysis (Custódio, 2015).

About the current situation of the preservation of Industrial Heritage, Kühl (2010) argues that, despite being notorious the effort to establish definitions and monographic study of some industrial
testimonies, an interdisciplinary study of the works and respective surrounding is still need. The author also states that, although all the texts mention the need for preservation of this type of testimonies, they do not indicate how to proceed effectively.

Among the various possible interventions, the one that is of interest here to explore is related to the concepts of adaptation and compatible use. Adaptation means modifying a place in order to adapt it to an existing or proposed use. Adaptation should only be accepted if it has a minimal impact on the cultural significance of the place (Burra Charter, 1999), in other words, if the proposed use is compatible with the heritage and cultural value of the Heritage concerned (New Zealand Charter, 2010).

Reconversion is defined as an operation that implies the change of use and the accomplishment of a set of actions aimed to adapt the performance of the original structure to the new use (Flemming, 2007). Industrial buildings and complexes have a natural aptitude for reconversion interventions because they have architectural features that make them easier to work, compared to other types of buildings. Nowadays, the interest in industrial buildings reconversion is related to the need to preserve cultural values, but also with economic and ecological factors (Serrano, 2010).

Two cities, two realities
Lisbon and São Paulo

Lisbon and São Paulo are two cities that grow with different rhythms. Nevertheless, in both cities, the options adopted for the transportation of products related to industry strongly conditioned the location of industrial areas. In other words, in Lisbon the industries were located mainly along the Tejo river, initially to the west and later to the east side, and in São Paulo, initially, along the railway and, later, near the main highways (Matos, 1955) (Folgado, 2005).

Nowadays, the two cities have already been through the deindustrialization process, through the mobilization of the industries to peripheral areas. This deindustrialization process meant that these buildings where these industries were located remained unused, some of them obsolete, but still integrated into consolidated urban areas, triggering the need to identify the main industrial testimonies that need to be safeguarded.

The safeguarding and preservation of the industrial legacy is under the responsibility of the entities responsible for the Heritage classification and inventorying. In Portugal, the responsible entity is Direção Geral do Património Cultural (DGPC), while in Brazil, for the same purpose, there are several entities with this responsibility linked to the various levels of government, federal, state and municipal. Thus, in the city of São Paulo, three entities are responsible for the preservation of Heritage, the Instituto do Patrimônio Histórico Nacional (IPHAN), at national level, the Conselho de Defesa do Patrimônio Histórico, Arqueológico e Turístico do Estado de São Paulo (CONDEPHAAT), at state level, and the Conselho Municipal de Preservação do Patrimônio Histórico, Cultural e Ambiental da Cidade de São Paulo (CONPRESP), at municipal level.

The analysis of the legal provisions for the Heritage preservation in both cities makes possible to conclude that they do not differ much between them, although it is relevant to mention that the
Portuguese legislation¹ is clearer and more explicit than the generality of the Brazilian laws². Nevertheless, it is considered that in both realities it would be useful the revision of those laws in order to make them more effective in guiding the practice of Heritage preservation, for example, through the establishment of possible deadlines for classification actions of Heritage, once that it does not exist in any of the levels to be considered in São Paulo and that stipulated deadlines in Portugal are rarely fulfilled (Silva, 2013a). On the other hand, the diversity of entities involved in the process of Heritage safeguarding in the Brazilian reality makes it difficult to practice. It is considered fundamental the internal communication between the different entities, so that the Heritage protection starts from joint measures, instead of individual acts of each entity.

Although concerns about the Industrial Heritage were manifested in both countries in the 1970 decade, in Portugal this subject developed more clearly through the creation of entities with concerns about Industrial Heritage protection and valorization, such as Associação de Arqueologia da Região de Lisboa (AAIRL), in 1980, and the Associação Portuguesa de Arqueologia Industrial (APAI), in 1988. In Brazil, although other groups and associations with less impact have arisen, only in 2004 a determinant group for the Industrial Heritage study and preservation appeared, the Comitê Brasileiro de Preservação do Patrimônio Industrial (TICCIH – Brasil). Nevertheless, there are clear failures in both countries regarding the Industrial Heritage preservation, in particular, the loophole of regulatory measures and the low sensibility of the majority of stakeholders in this type of Heritage conservation. It is necessary to unite theory and practice, formulating principles that guide the practice of conservation and restoration in Industrial Heritage (Rufinoni, 2009) (Filipe, 2015).

Interventions in Industrial Heritage
Lisbon and São Paulo

To analyze the legal framework and the influence of the diverse interveners in the architectural process inherent to the reconversion of Industrial Heritage, two study cases were selected in each one of the cities. The selection of projects was carried out in order to satisfy the following criteria: correspond to already executed reconversion projects and have been carried out on classified objects, or with ongoing classification processes. In Lisbon, the selected study cases were Lx Factory and Central Tejo, and in São Paulo were Sesc Pompeia and the Extra supermarket, former Cotonifício Crespi.

Lx Factory

The former Campanhia de Fiação e Tecidos Lisboense, current Lx Factory (Fig. 1) began to be built in 1846, on a plot of land in Santo Amaro (Alcântara). The Companhia kept functions in the textile sector until 1917. Subsequently, other industries settled in the same place, such as Companhia Industrial de Portugal e Colônias and the Gráfica Mirandela.

¹ Lei nº 107/2001, September 8th – Lei de bases da política e do regime de proteção e valorização do Patrimônio Cultural
Although there was a main building considered, because it was the first to be built and because it housed all the stages of the spinning, the complex of the former Companhia was growing and integrating new buildings according to the necessity of expansion (including a *vila operária*) (Fig. 2).

According to Custódio (1994, *cit. in Oliveira*, 2007) the main building of the complex, built between 1846 and 1849, introduced in Lisbon the “*english model of incombustible factories, of rationalized and organized spaces according to a productive logic, adapted to the textile engineering and using stone in the facades, and iron in the internal structure, as building material and floor support*”. Carvalho (2009) characterizes the building as an extensive parallelepipedal block, consisting of four floors, with an interior metal structure, which consists of two rows of columns, and brick masonry walls.

In 2007, the *MainSide* group purchased all of complex’s buildings and transforms them into a creative hub with advertising companies, filmmakers, fashion companies and restaurants (Ferreira, 2008). The programmatic scheme that was intended to be installed did not require major infrastructures and, due to the reasonable state of conservation of the former factory, there was no need to carry out a major intervention, following a minimum intervention policy. Besides, it was *MainSide*’s goal that this new and innovative space reflect the industrial ambience, allowing all buildings to look very much like the former factories that worked there. It is important to mention that, at the time of the intervention, there was a *Plano de Pormenor* (PP) for the area of the former factory, which ended up also conditioning the proposed project. The generality of the actions consisted in the maintenance of the floor coatings, execution of paintings and introduction of light partitions (Silva, 2013).

*Lx Factory* had an open classification process, in 1999, which was later closed, in 2009, being in classification process when it was reconverted, in 2007. Currently, the factory is not classified, but is partially located in the *Zona Especial de Proteção do Palácio da Sabugosa*.

Thus, in the case of *Lx Factory*, what seems to have dictated success in preserving the memory of the former factory and its industrial and architectural testimony is related to: the light intervention of reconversion, determined by *MainSide*, and the program’s flexibility in integrating into the pre-existing space.

---

3 Portaria nº 262/2012 de 29 de junho de 2012.
Central Tejo

The former thermoelectric power station, belonging to the Companhias Reunidas de Gaz e Eletricidade (CRGE), current Energias de Portugal (EDP), started operations in 1908. The construction of the Central, located in the riverside zone of Junqueira (Belém), occurred in three main phases that originated Central Tejo I, II and III (CT I, CT II and CT III). Initially, in 1908, only one building was built, the CT I, that worked until 1921. CT II, the low-pressure boiler building, dates to 1919. Between 1938 and 1951, CT III was built at the site of CT I after its demolition. Currently, the buildings that make up the Museu da Eletricidade correspond to the buildigns of CT II and CT III.

The buildings that make up the current Museu da Eletricidade maintain the original architecture and, according to Mariano (1992 cit. in Freiria, 1999: 39), they are examples “of the iron architecture of the beginning of the century, of construction riveted in the place, red brick coating and transparent glass windows (...) [establishing] the perfect connection between the functionality of the forms, the architectural beauty of the layout and the simplicity of the construction processes, appropriate to the urgency of the programs and to the concept of economy of industrial achievements”.

Mariano (1992) describes the buildings, seen from the river, saying that: on the left is the tallest building, which housed the high-pressure boilers, in red brick, with windows topped by perfect arches and tubular chimneys; then, another lower building, which housed the low-pressure boilers, with similar windows to those previously mentioned; the machinery room, the next building, has three windows; finally, the office building appears, following the same characteristics, but this time with sets of two windows, the upper sets also topped by perfect arches (Fig. 3).

In 1972, the year of closure of the Central, EDP proposed the creation of a museum dedicated to electricity and gas, which opened in 1999. The space was only intervened in 2001 with the aim of installing an innovative museological program, where the former factory, besides being an exhibition space, was also part of the collection to be exhibited (Freiria, 1999) (Santos, 2013). This museological programmatic scheme did not imply significant changes in the architectural characteristics of the buildings, and the intervention only aimed to repair structures and equipment (Santos, 2006).
Central Tejo was classified as a public interest immobile\textsuperscript{4} at the time of the intervention, in 2001. Besides, in 1993, the Zona Especial de Proteção da Central Tejo\textsuperscript{5} was established.

The reconversion project of Central Tejo is a very interesting case of Industrial Heritage reconversion, in the perspective that allowed to preserve a very diverse and complete industrial legacy that included, not only the buildings that integrated it, but also its industrial equipment. Several factors contributed to this, such as the EDP’s decision to musealize Central Tejo and the museological programmatic scheme itself, where Central is both an exhibition space and exposed object.

Sesc Pompeia

The former barrel’s factory was built in 1938, in Pompeia neighborhood (Lapa) of São Paulo city. In 1945, it changed its activity to the production of fridges. It ceased its operation in 1967 and remained without any use until 1971, the year in which Sesc\textsuperscript{6} bought the complex.

The former factory was constituted by a set of warehouses, built with reinforced concrete structure and brick masonry walls. The warehouses are arranged perpendicularly along a (not built) central axis.

Sesc, as owner, wanted a programmatic scheme that included canteen, social room, library and sports area. The intervention had two premises: to maintain the experiences already lived by the users, because before the intervention cultural and sports activities were already promoted there by Sesc, and to preserve the existing building, because it denoted great constructive richness, mainly at the structure. The intervention was deep and slow, but, due to the sensitivity of the team responsible for the project, it was possible to preserve the former factory memory and integrate a new cultural and sporting program (Ferraz, 2013). Besides the reuse of the former factory buildings, two new buildings were also built for sports activities. The new buildings are two towers in concrete, which are connected by prestressed reinforced concrete passages. There is another construction that corresponds to the water tank.

Sesc Pompeia (Fig. 4) was not classified at the time of the intervention, in 1977. It was later classified at the municipal level by CONPRESP, in 2009, and at the federal level by IPHAN, in 2014.

\begin{figure}
\centering
\includegraphics[width=0.5\textwidth]{fig4.jpg}
\caption{Aerial view of Sesc Pompeia, São Paulo city.}
\url{https://vejasp.abril.com.br/estabelecimento/sesc-pompeia/}
\end{figure}

\textsuperscript{4} Decreto nº 1/86, January 1986.
\textsuperscript{5} Portaria 140/93, 23th June 1993.
\textsuperscript{6} Sesc is a private entity, maintained by business entrepreneurs, whose objective is to provide the well-being and quality of life to the sector workers and their family.
It can be said that Sesc Pompeia is a success example of Industrial Heritage preservation, because not only the physical characteristics but also the reminiscent values associated with the factory were preserved. This success stems from the following factors: the sensitivity of the team that developed the project to the pre-existences and the acceptance of the project by Sesc, which included the preservation of original structure of the former factory.

Former Cotonificio Rodolfo Crespi

The former Cotonificio Crespi (Fig. 5), located in Mooca neighborhood, was founded in 1897. Dedicated to the spinning and weaving of cotton, the complex consists of several buildings built between 1897 and the 1940 decade (Fig. 6). The first building to be built was also the one that has gained more importance, not only for housing all the spinning stages, but also for its architectural features, namely its metallic structure from Europe (Rufinoni, 2005). The factory stopped working in 1963 and remained unoccupied until 2004.

The main Cotonificio building had approximately 16,000 m² of constructed area, distributed over four floors. This building had steel structure (pillars and beams), reinforced concrete slabs and brick masonry on the external walls. The building was developed in an open space which, together with the resistant structure and the high ceiling, allowed it to house the necessary machinery for the spinning process (Rufinoni, 2005).

In 2004, the owner, an heir of the Crespi family, rented the whole Cotonificio complex to Grupo Pão de Açúcar. This firm had the objective of reconverting the space in a supermarket. CONPRESP demanded the preservation of all façades and part of the metallic structure, but Manoela Rufinoni (2005) considers that the preservation of the characteristics that confer to the complex patrimonial value was not guaranteed. Manoela Rufinoni (2005) reinforces his criticism by saying that the approved project destroys the interior of the building and builds, in the resultant space, a new building that follows the pattern of the group’s stores.

The intervention was quite invasive and, instead of “providing the preservation of its facilities, it ended up destroying much of the original building” (Carrilho, 2007: 13). Marcos Carrilho (2007) also
point out that, regardless of the flexibility of the former space, the demands of the commercial group ended up prevailing over the preservation of the elements that allowed the spatial perception of the work and production environments.

Cotonifício was provisionally classified at the municipal level\textsuperscript{7} by CONPRESP when the reconversion intervention starts, in 2004. Since August 2017, Cotonifício has been classified at municipal level\textsuperscript{8} by CONPRESP.

Cotonifício Crespi is considered one of the most controversial projects of Industrial Heritage reconversion of São Paulo city due to: the economic position of the owner and Grupo Pão de Açúcar, who only wanted to maximize the profitability of space use; to the ineffectiveness of the responsible entities, who have not been able to adequately ensure the preservation of a good in classification stage; to the rigidity of the new programmatic scheme which, despite being able to be integrated into the former structure, not sought to integrate the constrains that were derived from pre-existing.

Conclusions

Apart from the specific characteristics of cities’ development and industrialization processes, Lisbon and São Paulo are two cities that preset similar problems regarding the Industrial Heritage preservation. Concerns about Industrial Heritage study began in Lisbon and São Paulo in the 1970 decade. Although it is considered that in Lisbon (Portugal) the concerns about the Industrial Heritage have developed more clearly, in a practical way, the identified loopholes are, in general, similar in both cities. The main problem is related to the distance between theory and practice, which are not much connected.

About the legislation, the bigger difference between the two realities is related to a three-level legislative division (federal, state and municipal) of São Paulo, which results from the political organization of Brazil. It is considered that the Portuguese legislation is clearer and more objective in comparison to the generality of Brazilian law, but in both realities, there is a certain freedom of action to the legislation that may have negative consequences for the Heritage. Common to both cities are the nonexistent practical orientations that should guide and support the reconversion interventions.

Based on the aspects considered in the analysis of the study cases, it is considered that the reconversion project of:

- Lx Factory, did not significantly change the space of the existing industrial environment at the time of the intervention, since the programmatic scheme sought to adopt a practice of minimum intervention and indispensable to the operation of new uses.
- Central Tejo is an example of Industrial Heritage reconversion that allowed to preserve a diverse industrial legacy and the reading of the industrial environment of the former thermoelectric power station. The project allowed not only to preserving the industrial architecture but also the perception of the place as an industrial space.

\textsuperscript{7} Resolução nº 26/CONPRESP/2004 which aimed to open the classification process.
\textsuperscript{8} Resolução nº 06/CONPRESP/2016 published in Diário Oficial da Cidade de São Paulo, 18th August 2017.
Sesc Pompeia sought to preserve the memory of the former factory by preserving preexisting constructions and reminiscent values associated to the factory (for example, the option to resort to long tables in the canteen).

Cotonificio Crespi was the only one that, in a significant way, did not safeguard the preexistence cultural values and did not respect its industrial essence. This intervention proved to be intrusive, since it demolished part of the buildings of the complex and only valued the maintenance of the exterior characteristics of the main building of the complex.

Although classification and inventory are important instruments for the Heritage preservation, they do not guarantee, by itself, the protection and safeguarding of the patrimonial values, like to what happens for the generality of the Heritage. On the other hand, the awareness of the population and the technicians for the Industrial Heritage valorization is fundamental for an adequate industrial legacy preservation. Besides, it must be aware that not all industrial goods have sufficient values to be preserved, and their correct identification is fundamental.

Although the characteristics of industrial buildings and sites have an interesting potential to respond to various reconversion programmatic schemes and interventions, it is necessary that the new programmatic scheme be integrated in a compatible way with the pre-existences to be preserved, avoiding the decharacterization of the property and the loss of cultural values.

In this context, the role of architects and the multidisciplinary team is very important because, before the intervention in Heritage, the project, besides having to respond to a programmatic scheme imposed by the owner, should be able to identify and preserve the values of the pre-existence. Even when the project to be developed occurs in classified Heritage, it is important that the values to be preserved are analyzed and included in the definition of the project, since classification does not always protect all the characteristics that allow the experimentation of the industrial essence of the testimony.

The owner, or the client, also has a decisive role in the architectural process inherent to the reconversion of Industrial Heritage, since the project developed is always conditioned by client impositions. Often this position can have negative consequences for the witness, namely the loss of values and unique characteristics that witness past moments of industrialization.

Based on the above, it is believed that part of the unsuccessful cases Industrial Heritage interventions may have as main cause the loophole of connection between theory and practice in the scope of interventions in Industrial Heritage, especially the reconversion. Therefore, it is considered urgent new contributions to support the practice of interventions in Industrial Heritage and to analyze clearly the good and the bad examples of interventions in this type of Heritage, as well as the awareness of communities and technicians to the preservation problem or this type of Heritage.

It is possible to conclude that there is an urgent need to define a link between theory and practice in the field of Industrial Heritage interventions, to increase knowledge about the values of industrial testimonies to be preserved, to promote the dissemination of critical analyzes of the interventions already carried out and to sensitize communities and technicians for the Industrial Heritage preservation. It is believed that, part of the unsuccessful cases of interventions in Industrial Heritage result from the identified loopholes.
Bibliographic References


