

International
Journal of
**Human
Sciences
Research**

**ADAPTIVE REUSE: ITS
ORIGIN AND ITS FUTURE
POSSIBILITIES**

Alberto Cedeño Valdiviezo

Titular research professor C, member
of the Department of Technology and
Production of the institution: Universidad
Autónoma Metropolitana Xochimilco
Ciudad de México

<http://orcid.org/0000-0002-1464-0100>

All content in this magazine is
licensed under a Creative Com-
mons Attribution License. Attri-
bution-Non-Commercial-Non-
Derivatives 4.0 International (CC
BY-NC-ND 4.0).



Abstract: Many architecture publications, especially North American and European, address the issue of adaptive reuse as a fashionable movement and, strictly speaking, it implies recycling old abandoned structures, adding in some cases ecotechnologies and bioclimatic principles. In this work we seek to delve into its origin, its historical relationship with restoration, with the riouso policy that emerged in Italy in the 70's and 80's, its implications and objectives in relation to the current economic forces of the market and with social groups. less favored, seeking with this, to establish if this architectural movement is just a fashion or if it contains elements that will allow it to remain in the future.

Keywords: Adaptive reuse, rehabilitation, reUrbanism.

INTRODUCTION

Reuse, that discipline that has accompanied the history of the human being and, which since the 1970s and 1980s has been dedicated to the conservation of cultural heritage, has changed its role in recent years, as a consequence of the arrival of neoliberalism and globalization. to the global economy, and has been transformed into what is now called adaptive reuse, formerly known as architectural recycling.

Adaptive reuse can be defined as a process by which an unused or ineffective item is converted into a new item that can be used for another purpose. Thus, adaptive reuse in architecture implies the occupation of abandoned structures for a use other than the one originally intended, using or not ecotechnologies and bioclimatism techniques.

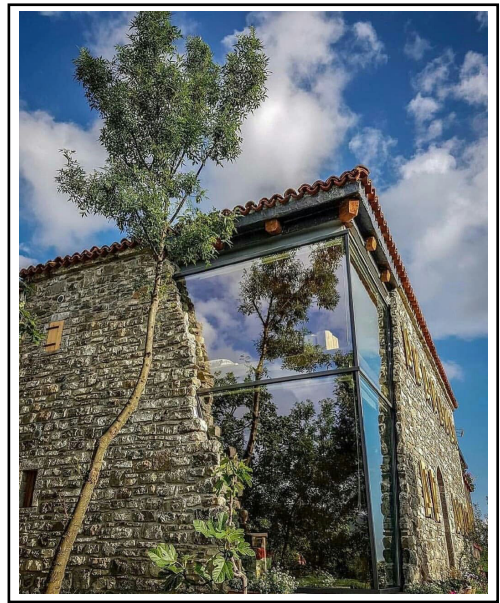


Figure 1.

Note: As an example of adaptive reuse, we have Mrizi i Zanave is a hotel and restaurant on a rural agro-tourism farm located in Fishte, in northern Albania.

Pleated design (Pinterest 2022).

This type of architectural recycling is the result of the need to save energy in the production of construction materials, one of the most energy-consuming and polluting industries. Although heritage buildings have traditionally been preserved through restoration, rehabilitation and reuse, through interventions carried out by restoration architects, it is not clear if those who today use this technique are the right professionals to do this way, which would put at risk the integrity of the monuments. This has allowed architectural freedom when it comes to doing it with the heritage that raises the following question: to what extent must these inappropriate professionals be allowed to exercise said freedom when practicing this discipline? We must add that this adaptive reuse is accompanied by other new disciplines that arise and collaborate with it, such as the new conception of rehabilitation and the so-called reUrbanism.

To understand the forces that originate and promote this technique, we believe that we must contemplate the economic changes that capitalism has promoted in recent years, changes that have led to strong cultural changes. The issue of cultural heritage is not alien to these changes produced by modernization, but strongly influenced by another factor: globalization (Rojas, 2015). Globalization can be understood as a current arm of capitalism, a synergy that corrodes the fundamental bases of modernity: the State, science and cultural identity (Brünner in Rojas, 2015, pp. 157). And modernization as “an economic and instrumental reductionism of modern rationality” (Rojas, 2015, pp. 146-147). However, it seems that culture has spread like never before, due to a close relationship with economic development, becoming a pretext for economic growth, even generating jobs, especially in transnational cultural industries (Rojas, 2015, pp. 160) such as tourism, whose growth in recent years has made it “one of the most important and fastest growing economic sectors in the world”. Going from 25 million in 1950 to an estimated 1,600 million in 2020 (Bandarin & Van Oers, 2014, pp. 154), although a possible reduction due to the Covid pandemic must be considered.

How does adaptive reuse arise? This technique seems to have its roots in the destruction of buildings as a result of the Industrial Revolution, a situation that was taking place in the United States of America in the 1960s, and which gave rise to important social movements.

In parallel, it is important to mention the development of the discipline that since the 1970s has been known as reuse or riuso policy in Italy. This arose in the 1970s, and at the beginning of the 80s, as a consequence of the urban struggles of the late 1960s, mainly for access to housing, as well as the legislative modifications after

the intervention in the historic center of Bologna to preserve historical architecture and promote social welfare. Being a left-wing public administration that orchestrated this intervention, an ideological-political position was developed on the way in which the intervention must be carried out in heritage buildings and their subsequent reuse. This idea on how to reuse cultural heritage is still valid in Italy and this would be a different position from the one proposed by adaptive reuse.



Figure 2.

Note: Images of the Historic Center of Bologna, a paradigm of intervention on historic centers (Cedeño, 1982).

DESCRIPTION OF THE METHOD

The method begins by taking a tour of the history of architectural reuse and its relationship with the history of restoration. We analyze the economic conditions that have led to adaptive reuse arising from the 70's policy in Italy, with the environmental crisis. We analyze the possibilities and conditions for this discipline to remain in the future. This paper uses comparative methods to develop a historical framework for adaptive reuse.

WORK DEVELOPMENT

REUSE AS PART OF THE HISTORY OF HUMANITY

To understand the historical role of reuse, we consider it important to refer to Valerio di Battista and his book: *“Il riuso: casistica, problematiche, potenzialità”* (1995), in which he presents his version of the origin of the discipline of architectural reuse. According to this author, the history of reuse is evidenced in the history of the constructions carried out by humanity, since human settlements could be used by a number of generations for different purposes, and it is precisely the continuity or destruction of said settlements and their values, which has determined the permanence or decline and disappearance of ethnic groups and cultures (Di Battista, 1995, p. 90).

Throughout history, built heritage is sometimes valued simultaneously as a resource and as a symbolic value, and sometimes one or the other prevails. As occurs in times of war, famine and epidemics - and as promoted by movements in favor of the poorest population groups - when reused, the value of old structures as a resource prevails over their symbolic value. This has happened, for example, with religious structures, transforming pagan temples into Christian basilicas or building churches in the place of Roman baths (Di Battista, 1995: 90, 91).



Figure 3.



Figure 4.

Note: The reuse of caves in Cappadocia, Turkey (Cedeño, 2012), and of a Roman basilica by Andrea Palladio in Vicenza (Cedeño, 1982).

The restoration arose in the 19th century after the French Revolution with Eugène Viollet le Duc, and appeared later in England with John Ruskin, who had a position completely contrary to that of le Duc (Choay, 2007, pp 133). In 1879, the Italian architect Camillo Boito, with an intermediate position between these two characters, wrote the first restoration charter, which one of his most outstanding students, Gustavo Giovanonni, supported and developed so that the first international restoration charter was achieved. of Athens in 1930 and, which later, would lead to the international Athens Charter of 1964. With the restoration, the vision of symbols is separated from that of resources, that is, of goods with use value delivered by history. The former are more protected and necessary, since in this century there is little significant architecture and, therefore, constructions become an economic good. Thus, reuse accompanies restoration and becomes its complement to the point that it will be absorbed by it, which invites us to think of other values, other symbols, for those old buildings that had difficulties in being reused. Noble destinations are sought as the headquarters of institutions or museums, except for religious buildings that retained their use, thus “reuse, previously a vital and intrinsic activity to the duration

and continuous project of the construction, in short, dies in the historicist paradigms and aestheticians of the restoration” (Di Battista, 1995: 92).



Figure 5.

Note: Historic buildings are underestimated by modern architecture, which only considers them as memories, places of contemplation. Images of the city of Buenos Aires (Cedeño, 2007).

As Di Battista (1995, p. 91) affirms, the Modern Movement “selects the remains of the past exclusively based on their symbolic value”. The city and the historical buildings are no longer a resource; rather, its use value is devalued. Modern architecture claims its total autonomy from architecture with respect to history, proposing new symbols for the city and for the environment of industrial civilization, denying the value of a building as a resource and living symbol of its city, its environment and the architecture of the past. So, for modern architecture, historic buildings are just memories, places of contemplation alien to contemporary daily life, assigning new economic and use values to new buildings,

with the understanding that their life cycle would be short (Di Batista, 1995). It would be a long time before this cultural position was modified by a new relationship between the history and the value of the already existing architecture. However, over the years and still within modern architecture, a trend or style emerged that Jan Cejka (1995) in his text *Trends in Contemporary Architecture* calls “the timeless detail”. Cejka places in this category the work of architects from the 1970s to the beginning of the current century: Carlo Scarpa, Karijosef Schattner, Gottfried Böhm, Heinz Bienefeld, José Rafaél Moneo and Guido Canali, who sought to reuse historical heritage, for example, as museums, favoring contemporary design, but disregarding environmental concerns.



Figure 6.

Note: Carlo Scarpa is famous for his work at Castelvechio, Verona, which could be considered one of the first approaches to what would later become adaptive reuse. Images of Castelvechio (Cedeño, 1982).

At the same time, the interest of the wealthy classes to relocate to the historic centers for both residential and commercial purposes arose. However, this led to a true social struggle in which the leftist parties insisted on preserving these historic spaces for the marginalized classes, whom they considered their original inhabitants. With this, in the 1960s, the architectural debate about old vs.

the new went from building-focused to city-focused, tackling unresolved social issues due to the gentrification of historic centers. With this, the existing built heritage was shown, not only as a memory or a symbol of human communities, but also as a resource that offers the possibility of responding to social problems, mainly that of housing if it is reused properly. Thus, at the beginning of the 70s, throughout the world the “virtuous” reuse proposal began to oppose the vision that saw built heritage as “constructive waste” that needed to be replaced, attributing use value to the interior of the building. existing heritage, ennobling it. regardless of its degradation, technical construction requirements and environmental conditions (Di Battista, 1995).

Thus, the collective use values and symbolic values of existing structures that had been denied for a long time, were now recognized by society and the State. This position was supported by the left in many European nations through new housing policies (Di Battista, 1995). The Italian left was able to make significant modifications to the legislation regarding the intervention in the historic center of Bologna in the 1960s and 1970s, when the architect Pier Luigi Cervellati - carried out one of the first projects under a municipal Party administration Communist in Italy, which was received by the middle class as a threat to their interests (Cedeño, 1998). From this paradigmatic intervention emerged the concept of integral conservation - reuse of heritage as a “container”, for example, for low-income housing or public services such as health and education. In addition, the laws resulting from this intervention, such as Law 457 of 1978, which led to a policy of architectural reuse and recovery, recognized the problems related to historic centers, such as homelessness, gentrification,

and urban deterioration, as part of the more general problem of housing, within which the recovery of urban heritage must be prioritized (Cedeño, 1989). According to this policy, reuse allowed: the possibility of covering the housing deficit through the reconstruction of the residential fabric; the possibility of requalifying urban structures through a careful service policy; and finally the possibility that historically marginalized classes reappropriate the social and collective use of urban spaces.

THE CONDITIONS THAT CAUSE ADAPTIVE REUSE

With the advent of neoliberalism, cities suffered substantial social changes such as the privatization of public space, and the purely economic vision of the relationship between classes. Social inclusion disappears from the vocabulary of institutions. Laws are enacted that suppress many of the rights of those most in need. Thus, social and fiscal justice, the main weapon of the most needy, is abandoned (Gissara et al, 2018, pp. 10).

To make the city more inclusive, there is only one way out: reuse the enormous abandoned or underutilized public property heritage: disused barracks, abandoned schools, factories, commercial premises and public land that are precious due to the potential use of the city and that could lead one to think in a new city: the “imagined city” (Gissara et al, 2018, pp. 11). It is in this framework that the origin of adaptive reuse is gestated, with social initiatives on occasions and with speculative operations on others.

Another element to consider in this sustainable city is the large amount of abandoned industrial heritage. As Ronchetta and Trisciuglio (2008, p. 9) point out, industrialization is a complex and pervasive process that involves physical, environmental, technical, economic, cultural, and institutional

factors. Since industrial heritage is often private property, it is usually not subject to the rigid protection rules that generally apply to public property. These authors maintain that the correct approach for the recovery of industrial heritage is industrial archaeology, which studies the industrial development of a territory. Taking industrial archeology into account, adaptive reuse makes it possible to repair and reuse said heritage without having to submit to the rigid rules that apply to traditional historical heritage, thus allowing greater constructive freedom.

Thus, technological advances in recent years have been essential for the correct reuse of heritage architecture. In recent decades, those who inhabit or use these monuments have experienced an improvement in their level of well-being, for example, through the reduction of humidity in heritage architecture, which was previously a major obstacle to achieving comfortable spaces. This has been overcome thanks to advances in techniques such as waterproofing of foundations and walls, industrially manufactured bathrooms, and improved artificial heating and cooling systems in historic buildings. Such construction techniques allow to achieve a historical architecture with a level of comfort equivalent to that of modern architecture.

As heritage architecture was generally made to last for centuries, it is a sine qua non sustainable architecture. The challenge is to achieve adequate conditions of comfort and reduction of energy consumption in historic buildings.

Finally, it must be mentioned that the UN Sustainable Development Goals do not correspond to what adaptive reuse and reUrbanism propose as a discipline originating from the liberal economy and globalization, so regarding the question, what will happen to adaptive reuse in the future? Will the reuse for social purposes that have been promoted by

policies in Italy return with greater force? We believe that this will depend on the path that the world economy takes in the future and the social policies that counteract the trends of the economy.

CONCLUSIONS

The environmental crisis has reaffirmed the need to reuse old structures to reduce the need for manufacturing construction materials. Thus, the recycling of heritage architecture -today known as adaptive reuse-makes it possible to adapt the use of some types of heritage buildings, such as industrial heritage, in accordance with the regulations on ecological architecture, however, the application of eco-technologies and of bioclimatism is not a mandatory condition and it must be.

New constructions must be built in such a way that when they are no longer useful they can be disassembled and reused to avoid waste. Although historic buildings were built according to construction procedures that do not facilitate the subsequent separation and reuse of their materials, such buildings were built to last for many years, even centuries; therefore, their longer lifespan makes them more compatible with a sustainable vision, which must be a global priority today (Giordano, 2010). However, achieving architectural sustainability in practice still presents challenges, and architects and others involved in restoration must try to balance historic authenticity with environmentally sustainable building practices and socially just housing practices. Working towards a circular economy that involves the adaptive reuse of historic buildings for social purposes will allow maximizing architectural sustainability while prioritizing social, economic and cultural values.

The true ecological architecture that will have to exercise adaptive reuse requires the

use of construction materials that consume a minimum of energy and do not pollute, such as bamboo, raw earth, stone and wood in regions without deforestation. Given the state of the environment, today's architects must reject building materials such as metals and concrete, as well as large windows, while incorporating green technologies and climate-conscious design tailored to the local climate.

RECOMMENDATIONS

After reviewing all these elements related to adaptive reuse, we can affirm that there is no clear regulation that regulates this discipline, appearing as a fashionable trend that uses the postulates of the circular economy as a pretext, and that gives the possibility to professionals without experience of working with heritage without having a knowledge base on the principles of restoration or rehabilitation.

Pietro Carlo Pellegrini (2018) in his text "Manuale del Riuso Architettonico", addressing the issue of reuse, proposes criteria to follow when intervening in a building. He affirms that "it is necessary to correctly interpret the typology, function, structure, materials and construction modalities", and that "knowledge of each of the components of a construction is essential to correctly attribute new uses to existing structures", taking into account account the functional and aesthetic characteristics, and using physically and chemically compatible materials" (Pellegrini, 2018, p. 137). He recommends carrying out an architectural study to graphically design, illustrate the details of the construction, and critically analyze its spatial characteristics and historical evolution, so that the restoring architect preserves the original elements of the building as faithfully as possible (Pellegrini, 2018). This author affirms that such an intervention must be carried out by

a restorer, and not any architect, despite the fact that he is a good designer. However, in case an inexperienced specialist or restorer assumes responsibility, he must follow Pellegrini's proposal to avoid the risk of irreversibly damaging heritage architecture. However, the question arises as to whether restorers are prepared to take on the challenge of incorporating environmentally friendly materials and techniques. Presenting the successful example of the Roman Theater of Sagunto in Spain under the direction of Giorgio Grassi, Pellegrini states: "Considered as the utmost respect for what exists, conservation must go hand in hand with innovation [...] The recovery project must not be a crystallization operation, but [the restorer] must know how to positively respect the transformation while preserving the essence of the structure (Pellegrini, 2018).

We insist that as long as an international charter specifying methodologies and limits of adaptive reuse is not drafted, this will appear to be an activity outside the norm.

REFERENCES

- Bandarin, F. & Van Oers, R. (2014) *El paisaje urbano histórico La gestión del patrimonio en un siglo urbano*. Madrid: Abada Editores.
- Cedeño, A. (1998) “**Existen métodos nacionales para intervenir el patrimonio urbano?**”. En *Diseño y Sociedad* num. 9, winter, 1998. Mexico: UAM Xochimilco.
- Cedeño, A. (1989) “**Centros históricos italianos**”. En *Vivienda* vol. 14, num.2, Jul/Dec, 1998 Mexico: Infonavit.
- Cejka, J. (1995) *Tendencias de la arquitectura contemporánea*. Barcelona: Editorial Gustavo Gili.
- Choay, F. (2007) *Alegoría del patrimonio*. Barcelona: Gustavo Gili.
- Di Battista, V. (1995) “**Il riuso: casistica, problematiche, potenzialità**”. In Battista, V.; Fontana, C.; Pinto, M.R. *Flessibilità e riuso*. Florencia, Italia: Alinea Editrice.
- Giordano, R. (2010) *I prodotti per l'edilizia sostenibile*. Nápoles: Esselibri S.p.A.
- Gissara, M.; Percoco, M.; Rosmini, E. (2018) *Città Immaginate. Riuso e nuove forme dell'abitare*. Roma: manifestolibri – Sapienza Università di Roma.
- ONU (25/09/2015) **Objetivos del Desarrollo Sostenible**. United Nations (www.un.org.)
- Pellegrini, P.C. (2018) *Manuale del riuso architettonico*. Palermo, Italy: Dario Flaccovio Editore
- Rojas, M. (2015) *Dialéctica del Patrimonio*. Mexico City: UAM-Ediciones del lirio
- Ronchetta, Ch. and Trisciuglio, M. (2008) *Progettare per il patrimonio industriale*. Turín, Italia, Celid.