

Causes of Buildings' Abandonment in the Years

1960-1990

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Abstract: When a relatively new building is not being fully utilized, there must have existed, at one time, a change in its initial conditions. The aim of this research is to study the changes in the initial conditions which cause buildings to be underutilized and analyze whether the demolition was justified. Causes can be found in problems due to the building's management, as the owners make the main decisions concerning the buildings. Additionally problems are due to the location where the building is constructed because site conditions changes a lot in one generation. The use of the building can also be a cause of abandonment as the original use can end before the lifespan of the building. Architectural style can be dated as fashions and styles change rapidly. Finally, causes can be in the physical condition of the buildings: structure, construction, installations and adherence to current regulations. In this article, the authors provide guidelines demonstrating how buildings of a past generation which were initially considered obsolete, can be properly reused.

Key words: Historic architecture, demolition, restoration, upgrade.

1. Introduction

A demolition is a symbol of destruction of something which was in some way ill conceived. The demolition of a building can happen because a building was improperly built, is shameful to see or simply no longer able to serve its initial purpose. When buildings which were built not long ago are either demolished or abandoned it is wise to wonder what caused the building to fall into disuse. Buildings are expected to remain, except those that are grouped under the term ephemeral architecture.

The loss of efficiency or the inability to meet the expectations for which a building was built can cause buildings to be abandoned.

Buildings can be fully or just partially abandoned, partial abandonments leave only a part of the building in disuse. It is also possible that a building is temporarily abandoned until a new use of the building

is found to meet its current conditions.

Refurbishment of the twentieth century architecture has aroused an enormous interest in recent years. Although much has been done, there is still much to be done in the field of refurbishment. After contrasting experiences and achievements, we have become aware of the importance the heritage has referring to this architecture. Most of the literature we refer to highlights the idea that the conservation of the architectural heritage of the twentieth century is a difficult but necessary task [1].

The possible causes for the problems which provoke the neglect of a building can be classified into five different groups. In many cases the abandonment of a building results from a combination of reasons belonging to different groups.

2. Problems Due to Heritage Management

Issues related to the property and to the management of heritage are decisive in the destiny of a building since its owners are the ones who are in control of those

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decisions.

Buildings can have different owners throughout their lives as they are economic assets which can be profitable depending on how the property is managed. Any change stemming from the goals of property owners can have, in what refers to how to use the building, a decisive impact on the life of a building, no matter their architectural qualities.

There are other economic reasons. Maintenance of a building can be very costly and can render investments unprofitable. Furthermore, changes in the urban planning of the surrounding area can change the conditions for maintaining the building in a specific site.

Sometimes it is much more convenient to allow an abandoned building to fall into ruin before building a new one in its site. Therefore, we firmly believe that the criteria which make a building profitable should determine whether or not a building is continued to be used or abandoned.

The corporate headquarters of the car manufacture Seat in Madrid and Barcelona were located in buildings which were deeply linked to what the enterprise represented in Spain in 1960s. The evolution of the company was a fundamental factor in the evolution of these buildings. This is the reason why they have not survived after the original seat factory disappeared. They were never completely abandoned and only partially demolished, however, their original image has been removed. These buildings were the result of an architecture that was the image and representation of the emerging technological development of Spain in those years, and of a dictatorial political system eager to turn Spain into an industrialized country and consolidate relationships with foreign countries [2].

Buildings such as the Bank of Spain in Gerona and Jaén were abandoned after the part the state central banks play declined since their functions were absorbed by the European Union. The closing down of most premises all over Spain was at its height in 2002 [3].

There are also buildings which are abandoned before being finished. Apart from the illegal constructions which are obviously paralyzed, there are also promotions in which the housing demand does not meet the previous expectations. Economic crises also disrupt the construction process due to the lack of funds to continue with it or the lack of prospective buyers.

In general, we can say that the management of heritage suffers from instability due to different reasons, profit being one of the most important ones. As a consequence of poor management a building can cease to be profitable before the building begins to deteriorate.

3. Problems Due to Location

The location, the physical space where the building is constructed, can undergo a dramatic change which can create problems or, at least, not fulfill the conditions under which the building was built. Site conditions can vary enormously in just one generation. Most of the buildings of a past generation, according to the urban development of the 1960s, are currently located in areas that there are favorable to speculation. Speculation will certainly make demolition more likely. On the other hand, it can also create new lucrative possibilities.

There are examples of central locations which were once important but have since lost their significance, like Plaza de España in Madrid, where, currently, are numerous buildings which have been abandoned. This begs a question whether the influence of the site has played an important part in the abandonment of the buildings especially given they are not only representative buildings but are also ones that are in good condition. A priori, the site does not seem to have suffered a dramatic change that might have led to the abandonment of the buildings, but it should be considered that the abandonment of the first building had a spillover effect which provoked the abandonment of other buildings.

When industrial districts are incorporated into the

city centre, they cannot longer maintain their original status. This is what has happened to central markets and docks in some cities. Some examples are the docks in Lisbon and Oporto, Les Halles in Paris and El Matadero (slaughterhouse) in Madrid.

There are other situations which can be far more dramatic but, fortunately, they are very rare. Cities and entire villages have been abandoned for different reasons always related to the area where they were built. There are some examples of populations who had to migrate when the industrial holdings they were working for closed down. This has happened in areas with mines, ports, quarries and oil fields. Other reasons for abandoning a place can be due to geographic instability caused by natural disasters or wars.

The neighborhood of Varosha, a famous resort in the town of Famagusta in Cyprus was completely abandoned after the Greek-Turkish conflict in 1974. Its location near the new borderland made its reoccupation impossible and its buildings were abandoned long ago [4].

Another example is the city of Pripjat in Ukraine, which was evacuated after the accident that took place in the nuclear power plant in Chernobyl in 1986.

4. Problems Due to Changes in Possible Uses

In many cases, during the design process before a building is constructed, its potential use becomes obsolete. The use of a building is variable thus subordinating the survival of a building to its use may compromise the building itself and put an end to it long before the life span of a building.

In the cases mentioned above, the survival of a building can be viable if the building can be assigned a different use. The success of restoration may depend on the building's capacity for serving new uses which do not require changing the fundamental structure as buildings outlast their uses.

Moreover, it is unlikely that a building will only serve the use it was originally intended for. Buildings are, in some way, living creatures and their adaptability

is one of their main features. Society evolves, needs change and adaptation, mutation and natural selection are all facts of life which can occur if change is not prevented.

Residential housing is, however, an exception due to its permanent features. There have been very few changes in what people require from their homes throughout time. So these buildings can be easily adapted to new situations as long as the use does not vary excessively. We can find lots of examples of buildings from past centuries which are still in very good condition and are being used for the purpose they were projected.

Buildings constructed for temporary exhibitions and events, for example, the Olympic Games, are not fully utilized after the event.

So far there has been a policy of finding subsequent uses for the building after the event is over. Many of the buildings created for the Olympics in 1992 in Barcelona were successfully reused afterwards. A part of the city which was an abandoned industrial area was turned into a residential area which opened the city to the sea. What was originally the residential housing for Olympians became a permanent residential area.

However, reusing buildings as they did in Barcelona has not always been successful. The facilities built in Valencia for the American Cup, the pavilions for the Expo 92 in Seville, the water tower in Zaragoza and the Olympics in Athens in 2004 were abandoned, and are examples of unsuccessful attempts to reuse the facilities. The cost of maintenance is so high that neither the municipality of Athens nor the Greek government can afford to spend a single euro towards its conservation and use. The facilities built for the Olympics in Beijing in 2008 seem to suffer from the same fate.

These previous experiences made the London local government take other measures for the 2012 Olympic Games. Very few of the facilities were built to outlast the event and those built to last a long time have or will be reused. The shooting center designed by the Plasma

architectural firm will be reused in Glasgow for the Commonwealth Games in 2014. The basketball court of Wilkinson Eyre could also be reused in the 2016 Rio de Janeiro Olympic Games.

This is a different approach to the one based on investing a lot of money in facilities whose aim is to be reused in a near future. This approach is more pragmatic and less costly as its aim is not to leave any building or facility unoccupied when the event is over. This new approach is in line with the current economic and social reality which supports a much more responsible and civic investment [5].

A special issue refers to hospital uses. Buildings such as leper houses, psychiatric and nursing homes which are no longer in use, are usually neglected and rejected as if they were under an evil spell.

The industrial use of buildings is one which has been through severe changes throughout history. By nature, industry is a fast moving activity closely related to the site. Industries deteriorate, change their ownership or their objectives, move to a different site or simply disappear. Therefore, those buildings which cannot adapt themselves to a different use are unlikely to survive the ups and downs of industry. Detroit, for example, has a record number of abandoned buildings. The crisis in the car industry has made that many people and businesses have fled from the city. The exodus has not only affected working class neighborhoods but also the commercial centers.

Other buildings which are frequently abandoned are those related to transportation. Railway stations and tracks which are no longer in use leave a considerable amount of buildings which have proven difficult to be reused. The Subbética railway track in Andalucía, Spain, is a sensible example of how what was once a railway track can be used for tourism. The abandoned track has become a path for cyclists and the former stations have turned into restaurants and inns. Unfortunately, this is an exception among the distressing scene of abandoned stations you can find all over the world.

This distress can equally apply to gas stations which have been abandoned as a consequence of diverting the course of the road in which they were located after a new plan has been carried out.

The airports and railway stations located close to the city center cannot be enlarged cease to function properly because they cannot adapt themselves to heavier traffic or allow the take-offs and landings of modern aircrafts in the case of airports. Reusing them is difficult but possible. We can find significant examples in the city of Berlin, in which the former Tempelhof Airport, closed in 2008, has been used as a public park in the city since 2010. Also in this same city the former Hamburger Bahnhof railway station was renovated in 1984 becoming a museum of contemporary art.

Industrial facilities linked to ports that have changed their location as they cannot grow and accommodate larger vessels, are also abandoned but it is possible to reuse them. One of the finest examples is Chelsea, a neighborhood in New York, which has become one of the trendiest areas in the city.

It is obvious that the most remarkable buildings of a certain period cannot be neglected. A possible use can be turning them into museums of themselves. Unfortunately, this lofty fate is only reserved for the most outstanding buildings. Second rate buildings will have to preserve their existence by seeking a new use.

5. Problems Due to Aesthetic Conditions

This is a third group that is more difficult to analyze and define. Problems due to aesthetic issues, or issues related to changes in the architectural style of the time are difficult to predict.

It is perhaps in the aesthetic aspects of the building where the need for renovation is most necessary. There are fashions and styles that change rapidly and are increasingly important to the image of the building. These buildings belong to a period in which the prevailing culture is one of consumption and rapid disposal.

Now that we are in a period which rejects this culture,

you need to understand the values that led to the project and its original construction to know whether the building needs to be renovated or just remodeled.

Architecture embodies values, laws, intelligence, beauty, character, spirit and substance amassed over time. It is sometimes admired, sometimes ignored and often despised, and consequently enlarged, preserved or degraded for a continuous indefinite period of time. Each intervention further abandons the building's best condition: that which reveals its most genuine qualities [6].

It is, therefore, necessary to find out the potential within this architecture to give it new life while also attending to its original image.

We are in a period of time in which a lot of effort has been put in preserving our heritage yet we are in a society that continually produces objects, ideas, cultural products not intended to continue forever but instead to be replaced quickly. The coexistence of these terms is difficult. However, cataloging twentieth century heritage that has been undertaken either with degrees of protection or of cultural interest, has permitted the successful renovation of outstanding examples of modern architecture which would have been lost otherwise. It also shows that these buildings have life beyond the originally scheduled.

We cannot ignore the difficulty of assessing the architecture of a past generation. The architecture which corresponds to the years 1960-1990 is the

architecture of our parents which has to be denied in order to grow. It does not have the charm older architecture has for us. It is not old enough but simply out of fashion. Formal or stylistic obsolescence of a building may soon end long before its life and can make it appear ugly and degraded.

In the same manner, a car needs to be "restyled" or redesigned, architecture may need an updated image. This is not an exercise aimed at changing the facade but rather at altering the whole building and its elements, being the installations such as lightning, plumbing, partitions, interior design the most affected ones. In some way, the building should be redressed and given a new presentation to the public.

The administrative centre of Pantin turned into the National Dance Center of Paris [7] is an example of a reconstruction that has been able to provide the building with a new more attractive image while maintaining the best qualities of its original form (Fig. 1).

It is very rare for a building to be protected within the same generation of when it was built. It appears to take time for a building to have its value recognized. Sometimes protection is late and the damage is irreversible. There are exceptions: the building known as the crown of thorns of Fernando Higuera and Antonio Miró was the first to be declared of National Cultural importance in Spain while its designers were still alive [8].



Fig. 1 National dance center of Paris.

6. Problems Due to Technical Issues

This section focuses on the physical condition of buildings: structure, construction, installations and adherence to current regulations.

The object of this architectural article focuses on buildings built in the years 1960-1990 which are in most cases structurally unsound. Today's contrasting and well perfected techniques are the result of the developed modern heritage movement. The current time period is a time when the industry standards call for improved materials and tight quality control.

The structures are in general large and allow for easy changes in distribution. These structures tend to be durable and safe. The standards for building sound structures have changed little in a past generation, they do not need to be readapted in such a way which requires vast changes to meet new standards and quality controls which would render the reconstruction economically unprofitable. Such an example is the Hotel Ryugyong in North Korea. Its construction began in 1987, in response to the construction of another hotel built in Singapore by a company from South Korea, a nearby rival emerging economy. Certain complications, which resulted from the use of improper materials and poor architectural techniques, deemed the building too costly and it was thus abandoned in 1992 [9].

There are faulty buildings during this period but such buildings are the exception. The Piraeus Tower in the capital port city of Greece, was abandoned in 1983 before it was finished due to structural problems resulting from errors made during its construction. Concrete structures built in Spain between 1950 and 1980 with degenerated cement under certain atmospheric conditions at the time of discharge, may have resulted in Aluminosis, a serious pathology, which forced the owners of the buildings to demolish the buildings affected.

The structures built between 1960 and 1990 are generally durable and well supported. The nearly blind experimentation and precarious methods of the past

generation evolved into a more developed and tested construction thanks to technical advances. It could be said, for example, that flat roofs no longer produce leaks and curtains walls have no isolation problems. There is at this time a slight predominance of lightweight, easily adaptable facades in which, a priori, constructive solutions should be kept instead of exchanging them for another skin.

Facilities have advanced significantly since the last generation. Today's needs are far more complex, and so are our resources. The percentage of the budget dedicated to facilities since the last generation has increased from 15% to 30%, and to 60% [10].

Antiquated facilities which need to be updated are very common. The standards of environmental conditioning and comfort have grown very rapidly and few buildings of a past generation adhere to current standards. Updating facilities is generally feasible, buildings which were built to be more easily modified at the time of their construction can be readily adapted to current conditions.

Anti fire regulations pose the most difficult obstacle in updating old buildings to fit current regulations. The case of the Windsor building in Madrid which went up in flames during the renovation process and had to be subsequently demolished, speaks to the need to update buildings to adhere to current anti-fire regulations. Such updates need to be made before it was too late.

7. Conclusions

Function follows form (and vice versa): Abandoned buildings can be recovered. The romanticism of ruin inspires the glory of rebirth. The buildings were born to be useful and beautiful and all possibilities should be explored. In this light, modern modifications offer new opportunities for productive renovation. The potential of buildings generally remains partially latent. It is said that the famous sentence by Louis Sullivan, "form follows function" is restrictive and does not correspond with the current situation.

The documentation and knowledge of the building

are important for the purpose of renovation. It seems clear that modern architecture cannot be treated as ancient monuments are. Buildings are not conceived to serve as monuments but as structures which respond to specific useful functions. When it comes time to renovate a building the restoration process must depart from the classical or generic process of reconstruction and focus on the building specific attributes.

From this it follows that buildings with clear spaces can be more easily renovated to fit modern standards. A building with adaptable structures will be more likely to be adapted to different uses in order to live up to its full potential for a longer period of time.

Architects should consider the long term benefit of a building which can readily be altered to fulfill many purposes. For this reason, a building's structure should have few superfluous parts and the facilities and facades should be as independent from the structure as possible. If this is done the building can be far more easily modified. This does not imply that architects should design buildings as generic containers but they

should try to avoid adding insignificant details to a building which may deem future modifications less feasible.

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