A Study of Strategies for the Conservation and Reuse of Historic Building Spaces

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Abstract. Today there are many ancient buildings from the ancients, these buildings are not only the buildings themselves they carry the human civilization of each different era, so in modern times protecting these ancient buildings is particularly important. The protection of historical buildings is complex, and in this process, there are three important principles, the principle of comprehensive protection, the principle of maintaining the status quo as far as possible, and the principle of historical authenticity, which play a key role in the protection of ancient buildings, so that more ancient buildings with a long history can be preserved. At the same time, due to the limited nature of the earth's resources, the reuse of resources is particularly important nowadays, which can make the limited resources expand their usefulness, and the redevelopment of buildings is also the same. In terms of historical sites this not only does a good job of preservation but also economically promotes the economic development of today's society, so that society can be sustainable development.

Keywords: Ancient building protection; reusable; historical authenticity.

1. Introduction

Nowadays, human civilization has developed with a history of 6,000 to 7,000 years, and history has left a lot of relics, such as intangible cultural heritage as well as tangible cultural heritage, which includes a lot of cultural relics and historical buildings in the past centuries. Take the remaining ancient buildings for example, they inherited the ideas and culture of the people at that time, these records evidence is very valuable and important, from a certain point of view, it just proves the existence of human beings.

Cultural relics and buildings are the carriers of history and culture and are the most authentic records of history and civilization. To repair and protect it or develop and utilize it, we must strictly abide by its historical original appearance and original status, and there should not be any changes and variations. Therefore, as modern people, we should protect and record these valuable historical relics through rigorous methods and advanced technology instead of destroying and eradicating them just because they are outdated.

Three principles need to be observed for the protection of ancient buildings, the principle of comprehensive protection, the principle of maintaining the status quo as far as possible, and the principle of historical authenticity. The formulation of these three principles will enable mankind to protect and repair ancient cultural relics and buildings to play the most authentic protection as well as the role of constraints.

In the 1990s urban renewal, some western cities produced many defective inner-city spaces, which made people start to understand the significance of industrial historical buildings and lots again, and what to do with the remains of civilization in the industrial era-industrial historical buildings and lots became a hot spot for architectural academics to pay attention to and study. In 1996, the 19th General Assembly of Barcelona International Architectural Association (UIA) proposed the concept of "Terrain Vague", which explicitly includes abandoned lots in the city such as industries, railroads, and wharves, pointing out that such lots need to be preserved, managed, and regenerated [1]. Under the premise of preserving and protecting ancient buildings, nowadays vacant land resources in densely populated countries are few and far between, so in the reuse of historic buildings we should hold the attitudes of sustainable development and architectural regeneration, using the example of the

Nantou Ancient City in Shenzhen as a mapping of the current national reuse strategies and goals for historic buildings.

2. Current status of conservation of historic buildings

2.1. Current State of China

In today's China society, the perception of historical buildings is not going forward in human ideal. Because of the large land area, China has one of the largest collections of historic buildings in the world. For this reason, some buildings have been excessively commercially developed which causes the loss of history and cultural value that cannot be passed on and demonstrated anymore and destroyed by natural disasters. Even though, there is still a great part of the history building it has been preserved and restored. An example in point is Suzhou Province where many Chinese courtyards and towns in China used to be located, but because of the increasing number of tourists many of the old buildings have been redeveloped into scenic spots and stores for tourists.



Fig 1. Picture shot by myself.

2.2. Current State of Foreign

Compared with the current situation in China, foreign countries are vast and sparsely populated, and therefore many ancient buildings in foreign countries do not tend to develop into commercial businesses that provide large numbers of tourists. In addition, in some rural areas where there are frequent wars, historical buildings often no longer exist, and armies and wars can destroy everything, so conservation measures are especially important, especially the overall structure of the building. Many old buildings have become fragile and outdated due to age, for example, having an interior designed as a wooden structure can easily be set on fire. In addition, if the building is built with a large amount of iron and steel, after the baptism of time the iron has long rusted, unbearable, very fragile, and dangerous. The above two examples illustrate the very high requirements for safety and protection in the conservation of ancient buildings.



Fig.2. The figure of Notre Dame de Paris [2].



Fig.3. The figure of Notre Dame de Paris [3].

3. Principles of Conservation of Historic Buildings

The value of outstanding historical buildings lies in the fact that they are things left over from history, that cannot be produced or rebuilt now, nor can they be restored once destroyed. With a historical foundation, a historical building is more than just the building itself, it carries on the wisdom of the people and the culture of the society at that time. At the same time, this is more like a kind of heritage, which can well reflect the scientific and technological level of the society at that time, the quality of life of the people, and the way the society operates. Therefore, based on the "clues" provided to us by these relics and buildings, human beings living in modern civilization can effectively explore ancient civilizations. Hence, the most essential principle of the conservation of historic buildings is not destruction or alteration.

3.1. Principles of Building Conservation

To comply with the principle of not altering the building itself, restorers can still only preserve the building as it is. Moreover, preserving and restoring a building in its present state means not altering any other part of the building, including retaining useless parts and not adding to the structure that is not part of the building itself, regardless of the quality of the materials.

A good example of this is the Yuanmingyuan, a royal garden in China during the late Qing Dynasty, which was burned down during the War of Aggression in 1860. The Yuanmingyuan covered an area of more than 350 hectares, and after the fire, the site now exists only as broken walls [4]. However, the restoration work has not restored the original buildings based on the site, and this restoration has only restored and conserved the site in three dimensions and carried out proper excavation of the site to excavate artifacts.

The following specific implementing provisions are made in the Technical Code for Maintenance and Strengthening of Wooden Structures of Ancient Buildings. The maintenance and reinforcement of ancient buildings must strictly abide by the principle of not changing the original state of cultural relics. The original state refers to the status quo of all historically significant remains of the ancient buildings individually or in groups [5]. If it is necessary to restore to the original state at the time of creation or to the original state characterized by a certain historical period, it must be by the needs and possibilities and have reliable historical evidence and sufficient technical justification.



Figure 4. The figure of Yuanmingyuan [6].

3.2. The principle of historical authenticity

Authenticity and historic monuments are two inseparable parts. As the World Heritage Committee has made it clear that it is also an important principle in the examination of World Heritage properties, World Heritage nomination projects should not only meet the criteria for inscription but also examine the authenticity requirements in the four aspects of design, materials, craftsmanship, and environment. However, authenticity does not only refer to historical architecture, but also many other aspects such as paintings, literary creations, myths, and legends. In ancient times, myths and legends were passed down from generation to generation by word of mouth [7]. However, with the development of science and technology and social civilization, there is a need for evidence to substantiate their authenticity, for example, hieroglyphic inscriptions on the walls of the same cave as well as inscriptions on bronzes unearthed later on can be evidence to substantiate the original authenticity of the information. In terms of both intrinsic and extrinsic aspects, the site or artifact itself is an extrinsic carrier, while the original authenticity is more like an intrinsic process, an essential part of the process of filling in the intrinsic. The value of artifacts and sites is demonstrated through the medium of the combination of external representational forms and internal cultural deposits. Authenticity is a measure of the degree to which cultural heritage is intrinsically unified in its manifestations and cultural significance.

3.3. Comprehensive Protection of Historical Heritage

About the comprehensive protection of historic building sites, there is a division into comprehensive protection of the building itself, which is more about architectural integrity, and the protection of the building. The building to be protected must be a complete entity rather than a missing one based on its original authenticity, it has a complete spatial pattern and physical characteristics in line with the original historical appearance. Partial or certain components of the heritage building can only be used as a kind of site or monument, but not as a complete historical building for protection. When formulating specific protection measures, it is necessary to consciously consider the heritage building and its surrounding environment as a whole and strive not to change its original appearance.

In terms of the protection of buildings at a later stage, the protection of security and management personnel is very important, and can effectively prevent the occurrence of security accidents, such as perceived fires and damage to buildings due to crowded and inappropriate security. It's worth mentioning that the 2019 Notre Dame fire was also caused in large part by poorly supervised accidents. Investigators deemed the fire to have been started by either a cigarette or a short circuit in the electrical system. Remarkably, there was relatively little damage to the interior of the cathedral beyond that caused by smoke and water. “There was a lot of luck in this fire,” restorer Emma Isingrini-Groult told TIME [8].

On October 14, 2022, two Just Stop Oil protestors prompted headlines around the world when they threw two cans of Heinz tomato soup at van Gogh's Sunflowers painting at London's National Gallery [9]. Luckily, Van Gogh's sunflowers were protected by glass on the outside of the painting. At the same time, the media coverage of this incident has also aroused a lot of people's attention as well as a lot of complicated social opinions.

As a result, the protection of historic buildings or paintings is not only about themselves but also about the dangers of the outside world, which should not be underestimated. Effective security and protection measures are therefore extremely important.

4. Strategies for the Reuse of Historic Buildings

On the reuse of ancient buildings in Shenzhen Nantou Ancient City as an example, the emergence of Nantou Ancient City can be traced back to the Republic of China in 1913, when Nantou was still a city of the existence of the new China in 1949 after the founding of the new China has been turned into an administrative village, it can be seen that Nantou Ancient City's history is very long. Shenzhen, as a small fishing village in the last 30 years, has rapidly developed into a metropolitan city, and Nantou Ancient Town has witnessed this process and has gradually evolved into a village in the middle of the city. [10] From the nature of use, it is a low-cost settlement provided to urban outsiders by landless peasants who utilize the land of collective resettlement area to build unauthorized structures. In terms of spatial form, it is a cluster of urban buildings with ultra-high building density, low spatial quality, and sanitary conditions. However, in terms of land and housing property rights, economic forms, and social structures, it still maintains the village status. Eventually, while preserving the original buildings themselves, the government made improvements to increase the comfort of the environment and refurbished old facilities, adding tourist attractions such as museums and intangible culture squares, etc., so that this originally backward village has become up-to-date but retained traces of its history.

The reuse of historical buildings must be to make the area better through renovation or new construction, such as space reuse, building sustainable cities, creating commercial value to raise the average economic level of the people, and bringing benefits to the people.

5. Conclusion

From the ancient buildings themselves to the extension of the future, for the protection of cultural relics there are three principles that people must comply with, the principle of comprehensive protection, the principle of maintaining and preserving the status quo, and the principle of historical authenticity, to carry out effective and correct protection of cultural relics, so that the historical sites themselves to remain intact. In terms of future architectural development, because of the gradual increase in population, in today's limited land already exists a lot of ancient buildings, so there are not many places left for people to build, so now The protection and utilization of historical buildings are extremely important, otherwise only the land will be wasted or compressed, but also because people do not correctly and effectively protect these buildings and lead to the loss of their value. It is precisely because people do not protect these old buildings properly and effectively that they lose their value. Therefore, people can choose to renovate some of the ancient buildings that no longer have cultural value or merge the ancient buildings with modern functions to realize the commercial value and provide them to tourists or residents. This paper mainly analyzes the typical cases of the integration of ancient architecture and modern architecture.

As a result, the correct protection of ancient buildings is a prerequisite for the reuse of ancient buildings in the future, and both are indispensable for the present society.

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