

Strategies for the Protection, Renewal and Development of Industrial Heritage

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Abstract: Industrial heritage is an important witness of the development of human civilization, which affects the production and life of a country or a period of time, and has important historical significance. The protection, renewal and development of industrial heritage need to consider this. Based on this, this paper summarizes the industrial heritage, analyzes the current problems in the protection, renewal and development of industrial heritage, puts forward some improvement strategies, so as to promote the protection, renewal and development of industrial heritage, and find an innovative path suitable for China's current political, economic and cultural development.

1. Introduction

Industrial heritage is the historical witness of human development for thousands of years. It has important historical value, scientific and technological value, artistic value, cultural value, economic value and social value. For a long time, people pay more attention to the long history of cultural heritage and take positive protection measures, but the important value of industrial heritage has not been paid enough attention, leading to the contradiction between demolition and protection of industrial heritage. Therefore, it is of great practical significance to strengthen the research on the protection and renewal of industrial heritage.

2. Overview of Industrial Heritage

2.1 Definition of Industrial Heritage

The term "industrial heritage" has a relevant definition in The Nizhny Tagil Charter. It refers to industrial cultural relics with historical, technological, social, architectural or scientific value. At present, due to the different national conditions faced by different countries, the definition of industrial heritage protection is also very different. For China, the definition of industrial heritage is the industrial equipment and the remains of industrial creation which are still running or idle in the past and now. In a word, industrial heritage exists in the urban space where we live, and it has unique value for the development of the city.

2.2 Content of Industrial Heritage

Industrial heritage contains a lot of content. The narrow sense of industrial heritage includes the following aspects: first, warehouses, workshops, docks and other places engaged in industrial activities; second, various tools, appliances, office supplies, machinery and equipment used in industrial activities; third, related contracts, manuscripts, bills, trademarks, photos, books, paper files, audio-visual materials, etc. involved in industrial activities. In addition to the above, industrial heritage in a broad sense also includes industrial production process, industrial production skills, industry-related culture and all intangible cultural heritage existing in people's living habits, brain memory and oral transmission^[1]. With the deepening of people's research on industrial heritage, the content of industrial heritage is also expanding. It can be said that industrial heritage includes all the material and intangible cultural heritage preserved in the process of human industrial development.

3. Problems in the Protection, Renewal and Development of Industrial Heritage

Human civilization has a long history, experiencing a long development from the agricultural society to the industrial society and then to the post-industrial society. In the process of development, a large number of material and intangible cultural heritage appeared. However, people pay close attention to the protection of cultural heritage in the period of agricultural society, but do not pay enough attention to the protection of industrial heritage in the period of industrial society. As far as China is concerned, in recent years, with the continuous advancement of China's urbanization process, there is a fierce debate between the demolition and protection of industrial heritage. Although the historical significance and cultural value of industrial heritage are recognized by more and more people, and some industrial heritages are listed in the scope of protection, there are still a large number of industrial heritage projects facing the risks of demolition, destruction and oblivion, lacking effective protection mechanism, so the preservation and inheritance of industrial heritage is difficult.

On the one hand, with the rapid development of the real estate industry, many ancient buildings that survived the war and cultural catastrophe were destroyed. People began to pay more attention to and protect the ancient relics of a hundred years ago and a thousand years ago. But at the same time, they are destroying the cultural relics created decades ago. The continuity of history is destroyed. On the other hand, the modern industrial heritage is facing the impact of the continuous updating of technology. The ancient industrial production process is being replaced by more advanced technology and process, which makes the industrial heritage more vulnerable to be damaged. Therefore, in the process of social development, the progress of the city and the renewal of industrial technology make the protection of industrial heritage more prominent. How to protect the industrial heritage and do a good job in the renewal and development has become an important topic in the field of cultural heritage protection.

4. Strategies for Industrial Heritage Protection, Renewal and Development

4.1 Principles of Protection, Renewal and Development of Industrial Heritage

The protection and reuse of industrial heritage should follow the principles of respect, ecology and symbiosis.

Firstly, the principle of respect means that in the process of the development and utilization of industrial heritage, the original building space structure can't be damaged or changed, and the characteristics of the original building space structure, volume relationship and technical equipment should be fully respected, and it is strictly prohibited to damage the original industrial heritage simply for the purpose of development, resulting in the loss of its own industrial history and cultural information. In terms of reuse, we should start from the details, carefully analyze and study the original building, so that the new part can perfectly integrate with it, respect the history and culture, and highlight the characteristics of the times^[3]. New buildings should avoid personalization, and their architectural style should be consistent with the original buildings, focus on technology and materials, so as to make it harmonious with the ancient buildings. We should do a good job in the protection of industrial heritage while meeting the aesthetic taste of modern people.

Secondly, the ecological principle is mainly for the selection of the used building materials, the space form of the building and its details, etc. In the relevant construction, we need to establish the concept of sustainable development for protection and utilization. In recent years, with the improvement of people's awareness of environmental protection, green building is more and more favored by people. Therefore, in the protection and utilization of buildings, green and recyclable building materials should be selected to avoid the generation of a large number of construction waste. At the same time, we should pay attention to the ecological characteristics in the utilization of buildings, and make scientific repair and rectification of old industrial buildings to make them more ecological and environmental protection.

Finally, the principle of symbiosis means that the protection, renewal and development of industrial heritage is the integration process of the old and the new. In this process, it is inevitable to integrate more new things, and it is necessary to protect well the old industrial heritage, so that the

new part and the old part can coexist. The principle of symbiosis between the old and the new is the most effective way to protect the industrial heritage. We should not destroy and deny the old industrial heritage, but should derive and develop new things on this basis, continue the history and culture, and create its new value in the new era.

4.2 Research on the Protection, Renewal and Development of Industrial Heritage At Home and Abroad

With the concept of industrial heritage put forward, more and more countries strengthen the protection and renewal of industrial heritage. At present, from an international point of view, the strategies for the protection and renewal of industrial heritage can be divided into the following modes. First, museum mode, as the name suggests, is to put the industrial heritage with historical and cultural value into the museum for preservation, or to add modern scientific and technological means to the industrial heritage or equipment with architectural art to create a theme museum. This mode makes the industrial heritage get better protection, renewal and development, brings new experience to the public, and gives full play to the cultural value of industrial heritage. Second, creative industry park mode aims at the industrial heritage with a large area, and contains a large number of ancient industrial equipment. This mode can fully use modern means to integrate its resources, carry out new architectural design on the basis of not destroying the original industrial heritage, so that the original declining factory will radiate new vitality again. By adding new ideas, it will have more new functions. For example, the abandoned factory can be transformed into an exhibition hall, a culture and art center, so as to make it more practical. Third, the heritage park mode and the tourism route mode are theme park and theme tourism route set up with industrial heritage as the core, making the old industrial heritage forgotten by people come back into people's vision, and making it perfectly integrate with modern life^[2].

From the perspective of the protection, renewal and development of industrial heritage in China, there are mainly the following aspects. First, we can develop and utilize the industrial heritage in a certain area, and carry out the industrial tourism industry in relevant regions by establishing the regional cooperation platform of industrial heritage routes. Second, we can organically integrate industrial heritage and modern city, promote urban regeneration, enhance the public's experience, realize the continuity of historical civilization and urban context. Third, we can make overall planning of industrial heritage.

5. Case Study on the Protection, Renewal and Development of Industrial Heritage

Taking Hubei Huangshi Mine Park as an example, Huangshi mine park is located in Daye Iron Mine Area, Huangshi City, Hubei Province, covering a total area of 30 square kilometers. Sun Quan had cast weapons here 1700 years ago. At the end of the Qing Dynasty, Zhang Zhidong, governor of Huguang (Hubei and Hunan Province), revived the Westernization Movement and built Hanyang iron factory. He used the iron ore here as raw material, and this place became the first open-pit iron mine in China. With the founding of new China, Daye Iron Mine was brought into WISCO for reconstruction.

Those brilliant mining experiences become the inspiration for the construction of Huangshi Mine Park in the later period. Since the 1960s, miners have carried out ecological reclamation work. After years of efforts and development, 3.66 million square meters of Robinia pseudoacacia forest has been planted in Daye iron ore waste quarry, becoming the largest hard rock reclamation forest in Asia. In the 21st century, Daye Iron Mine actively carried out industrial transformation, with the concept of green, ecological and sustainable development as the starting point. On April 22, 2007, Huangshi National Mine Park opened, which is also the first national mine park in China. Up to now, Huangshi Mine Park has received more than 300000 tourists every year. During the blooming season of sophora flower, tourists from all over the country flock to participate in the annual Sophora Flower Tourism Festival. Huangshi Mine Park has realized the protection of industrial heritage, and on this basis has carried on the renewal and development, brought new jobs and economic income for the local, and realized the transformation of industrial city.

6. Conclusion

For the protection, renewal and development of industrial heritage, each region should have a definite aim, deal with it in combination with the characteristics of different industrial heritage, take urban development as the goal, take the protection of industrial heritage as the premise, and make scientific overall planning.

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References

- [1] Chen Huaxin, Meng Zhaojun, Zhang Xiaomei, Wang Jianqiu. Research on Reuse Design of Regional Industrial Heritage. Furniture and Interior Decoration, no.01, pp.93-95, 2021.
- [2] Tian Jing. Strategies for Protection, Renewal and Development of Industrial Heritage. China National Expo, no.20, pp.53-54, 2020.
- [3] Zhang Wenqing, Zhao Lei. Research on the Protection and Development of Industrial Heritage in the Context of Urban Renewal. Proceedings of the 26th Annual Conference of Beijing Society of Theoretical and Applied Mechanics. Beijing Society of Theoretical and Applied Mechanics, pp.2, 2020.