Research on Vitality Improvement Strategy for the Historic District of Taiyanggou in Lushun

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Abstract. Located in the Lushunkou District of Dalian, Liaoning Province, the Taiyanggou Historic District is one of the most well-preserved modern historic districts in China, with the most surviving historic heritages. The area is home to a large number of cultural heritages, ranging from national to district level, as well as a large number of modern historic buildings that are not on the conservation list, which have immeasurable historical and cultural value. This District is reputed as an “open-air architectural exposition”. However, as Lushun is a military port city, most of the area is under the jurisdiction of the army, and the government and the army have multiple administrations that do not form a unified combination, making it difficult to implement conservation and development in the Taiyanggou Historic District. Eventually, this leads to problems of stagnant development, environmental degradation, population loss, population aging and a gradual decline in the vitality of the district. Therefore, how to reshape the vitality of the district and promote its long-term development while preserving its original historical appearance to the greatest extent has become an urgent problem to be solved. The paper began with an in-depth interpretation of the connotation of “vitality” and “vitality improvement” in historic districts through previous studies. The five major components of the vitality of historic districts were summarized as physical space vitality, social vitality, cultural vitality, economic vitality and political vitality. Subsequently, from these five aspects, the elements of vitality of the Taiyanggou Historic District were extracted and summarized, and the problems of its current decline in vitality were analyzed. Finally, using the problem-oriented and goal-oriented research ideas, a targeted approach was adopted to explore strategies to improve the vitality and get out of its current development dilemma, with a view to shedding light on the conservation and renewal of Taiyanggou Historic District.

1. Introduction

The Taiyanggou Historic District belongs to Lushunkou of Dalian, Liaoning Province, located in the southernmost part of the Liaodong Peninsula, with the green hills to the north and the blue seashore to the south. It is separated from the city by rivers to the east and west, forming a tranquil environment covering an area of about 3.5 square kilometers. It was listed as a Provincial Historic District by the Liaoning Provincial Government in February 2020. With its superior geographical location, it once served as an important military fortress contested by Russia and Japan, and the special historical background had left many old buildings of Russian, Japanese and European style in the district. The architecture here is a treasure of China with high conservation value. But on the one hand, because Lushun used to be a military port city and was under military control for a long time, over 70% of its...
old buildings are owned by the army, covering an area of 1.3 square kilometers. The complex land ownership makes it difficult for the government and the army to work together on heritage conservation. In addition, with the acceleration of urbanization in recent years, a series of conflicts have emerged between the historic district and the development of the city. This district is not well-protected and managed, leading to a poor traditional appearance, so it always fails to win opportunities for development. Nowadays, Taiyanggou is more like an urban village in a “frozen” state. Whether in the protection of historic buildings or the development of the district, there is no driving force. The district is basically stagnated. Therefore, how to revitalize this District during the modern urban development has become an important issue for us today.

2. Analysis on the connotation of promoting the vitality for historic district

2.1. The definition of vitality

“vitality” comes from the field of biology and ecology, which means the ability of living organisms to survive and grow, and its derivation can have different meanings for specific things [1]. In the 1860s, “vitality” was introduced into urban planning. In his book Urban Form, Kevin Lynch used “vitality” as the primary index to evaluate the quality of urban spatial form [2]. In this paper, urban vitality refers to the vitality of a city. A vibrant urban space should have functions that can satisfy citizens' entertainment, leisure, social activities, and other functions. The historic district is a part of the city with cultural characteristics, and its vitality is mainly reflected in the protection of historical buildings, the inheritance of cultural connotations and the continuation of residents' lives.

2.2. Constituent elements of the vitality of the historic district

Urban life is the basis for the study of vitality. Urban life can be divided into economic life, social life and cultural life. Therefore, the vitality generated in urban life can be divided into economic vitality, social vitality and cultural vitality [3]. The physical space in the city serves as a carrier for all activities. The architecture, and the district environment also have huge impacts on urban life. Especially in the historic district, the historic buildings and street space are important factors affecting the vitality of the district. In addition, a sound policy system is the key to the effective protection and utilization for a district, so political elements should also be incorporated into the framework that affects the vitality of the district.

Consequently, the factors that affect the vitality of historic district are summarized into five dimensions: physical space vitality, social vitality, cultural vitality, economic vitality and political vitality.

2.3. Vitality improvement for the historic district

The vitality improvement for a historic district is to bring into play the potential spatial, social, cultural and economic values of the district by optimising the physical and spatial environment, preserving the historical context, and giving new functions to the historic buildings, while preserving the original historical appearance of the district to the greatest extent possible. Thus, it can adapt to the requirements of modern life and regain its original vitality. However, this should not be limited to restoring the original vitality, but also, based on the needs of people, continue its vitality while adapting to modern life, eventually achieving the healthy and orderly development of the district.

3. Analysis on the current situation and problems of vitality elements in Taiyanggou Historic District

The following part interprets the five components of vitality in the Taiyanggou Historic District, mainly through detailed field research and relevant literature review, to provide detailed basic information for the exploration of the strategy to improve the vitality.
3.1. Physical space vitality
The physical space is the vehicle for the vitality of the district, and the historic buildings and street spaces in the physical space are important factors that influence the vitality of the district. The quality of physical space will directly affect the vitality of the district as a whole.

3.1.1. Historic building
There are many historic buildings in the Taiyanggou Historic District, with distinctive modern historical features (Figure 1). According to relevant documents, there are about 353 historical buildings in the district, among them, about 90 are from the Tsarist Russian lease period and 263 from the Japanese imperial occupation period, including 5 national-level cultural preservation units, 17 provincial-level cultural preservation units, 3 district-level cultural preservation units, and 15 immovable cultural heritage [4]. The unique charm emanating from these historic buildings is an important source of vitality for the physical space. However, as a result of the complex land ownership and the lack of effective management measures, these buildings are not well-protected, and are in different construction quality (Figure 2). This leads to a poor quality of the district and a lack of vitality for the physical space.

![Figure 1. Map of protected buildings in the Taiyanggou Historic District. (Drawn by the author)](image1)

![Figure 2. Map of building quality in the Taiyanggou Historic District. (Drawn by the author)](image2)

3.1.2. Architectural style
Due to historical reasons, from 1898 to 1945, the Taiyanggou Historic District was colonized by Russia and Japan successively for 50 years. Under the perennial planning of Russia and Japan, the district retains buildings of different styles such as classical, neoclassical, baroque, modern eclecticism, Russian national style, and Japanese western style (Figure 3-5). As one of the major historic districts with the largest number of building styles in China, it is spatially recognisable with a good basis of physical spatial vitality. However, with the acceleration of urbanization, the style of new buildings is not consistent with that of the historic buildings, and the architectural scale is unbalanced, which hinders the integrity of the overall appearance. There are still some buildings in idle state, deteriorating in the “frozen” protection situation, and the vitality of the physical space gradually decreased.
3.1.3. Street space
Street scale is an important standard to measure the vitality of a district. Compared with the Chinese traditional historic streets which give people a sense of comfort and security because of the pleasant space with a small scale, a large-scale district texture with large squares and a radial geometric road network for the Taiyanggou was planned by Tsarist Russia due to the solid military ideology. The large scale of the street space creates a sense of emptiness and distance, which affects the vitality of the district. The street environment is also an important part of the physical space vitality. During the research, it was found that residents had built additional living spaces on their own initiative and replaced windows and doors at random that did not fit in the style of the historic buildings, which led to a chaotic street interface, and eventually a declining vitality of district.

3.2. Social vitality
Social vitality is the concrete manifestation of district vitality. Firstly, a certain number of people in a historic district is the basis for social vitality, and the population composition of a district will affect the level of social vitality directly. Secondly, the service facilities for social activities are also the influencing factors of social vitality.

With the deterioration of physical environment and the stagnation of development in the Taiyanggou Historic District, the young people and the residents with higher income move out in large numbers. Eventually, low-income groups and the elderly form the main residents of this district. At present, this district is more like a gathering area of socially disadvantaged groups. The poverty and aging population structure hinder the further development of the district. The Taiyanggou Historic District presents the characteristics of decay and negativity. Besides, the backward infrastructure cannot meet the requirements of the residents. Most areas still use the power supply, water supply, and drainage pipe network built during the 1940s and the 1950s. Many areas still rely on coal-burning for heating, with no central heating system. These problems have caused the disconnection between the district and the society, leading to significantly insufficient social vitality.

3.3. Cultural vitality
Cultural vitality is the spiritual connotation of a historic district. A historic district rich in cultural heritage and cultural ambience will be more attractive and easier to win the recognition of local residents and tourists. On the contrary, a historic district that lacks cultural characteristics and has a “depressed” cultural ambience will appear lifeless.

3.3.1. Cultural history
In 1898, after the signing of “Sino-Russian Treaty on the Lease for Land of Luda”, China’s military town of Lushun was ceded to Russia. After occupying Lushun, Tsarist Russian decided to develop and build a new city to the west of the Dragon River as their military station, which is now known as...
Taiyanggou. The construction of the district took into account the topography and hydrological shoreline conditions, and drew on the urban layout of Western European countries during the same period to achieve harmony of function, space, environment, technology and political culture [5] (Figure 6). After the end of the Russo-Japanese War in 1905, the victorious Japan reoccupied Lushun and refined its construction. On the basis of continuing the architectural style of Tsarist Russia, Japan built many houses with Japanese style. In 1945, Japan surrendered, the Soviet Union occupied Lushun and began to exercise martial control. Until the withdraw of the Soviet army in 1955, the property rights of the Taiyanggou were returned to the hands of the Chinese army. For a long time thereafter, this area has been in a military restricted zone and its development has been restricted. Nearly 50 years of colonial rule has created the district form of the Taiyanggou. After more than 100 years of development and changes, the Taiyanggou still maintains its original historical pattern in general, and the overall protection of the form is relatively complete.

3.3.2. Cultural connotation
Cultural connotation is a necessary condition for a district to have its cultural attribute. The cultural connotation of the Taiyanggou Historic District is mainly manifested in two aspects. Firstly, the spatial pattern of the district gives it unique cultural characteristics. The Taiyanggou Historic District faces the sea to the south, and is surrounded by six mountains to the east, west and north. Based on the location of these mountains, a north-south axis and seven radial cross axes with characteristics of European cities are formed (Figure 7). The seven axes are interlaced with each other, suggesting a certain harmony between reason and nature and reflecting the cultural charm brought by its unique landscape pattern. Secondly, it has a long colonial history. During both the period of Russian and Japanese occupation, the Taiyanggou Historic District has been given an important position. A large number of historic buildings of different styles have been built in the district, giving it a unique cultural flavour.

![Figure 6. The planning of the Taiyanggou during Russian rule. (Picture from the Japan Center for Asian Historical Records, https://www.jacar.go.jp/)](image)

![Figure 7. The Spatial Pattern of Taiyanggou Historic District. (Picture from ‘Conservation Plan for the Historic District of Lushun’, 2008, Dalian Planning Bureau)](image)

The Taiyanggou Historic District has profound historical significance and cultural connotation, which provides a sound cultural foundation for shaping the district’s vitality. However, due to inadequate protection methods, its historical and culture value are lost. Besides, the lack of platform to display its cultural resources leaves this district no place to promote its cultural heritage, making the residents not sufficiently aware of the cultural connotation of Taiyanggou, and its protection. If this state continues, it will not only make the original cultural advantages of the Taiyanggou lose its
attraction, but also cause its cultural charm and historical significance to gradually weaken. Ultimately, the sustainable vitality of the district will be affected.

3.4. Economic vitality
Economic vitality is the foundation of other vitality, and the economic development of a historic district often affects its prosperity. If the economic development level of the district is high, then its infrastructure construction will also be at a high level, which in turn will promote economic development, so that the economic vitality of the district is always in a benign state.

Lushun has existed as an important port city since ancient times. The Taiyanggou Historic District is in the prime area of Lushun, with favourable geographical conditions. The district’s location is leaning against the mountain and overlooking the sea. Taiyanggou has the advantage of commercial agglomeration. However, during the field survey, it is found that the commercial forms in this district are scattered. At present, the district is dominated by small-scale catering, clothing, hotels and other scattered businesses operated by individual merchants, which have a low level of business, and the correlation between each other is not high. The centralized consumption places have not been formed yet. This not only fails to satisfy the daily life and consumption needs of local residents, but also fails to attract tourists. Therefore, it reduces the consumption behaviour of foreign tourists, and inhibits the generation of economic vitality.

3.5. Political Vitality
If the above four kinds of vitality are the internal representation of the vitality of the district, then the political vitality is the external condition to guarantee the sustainable development of the district. A sound legal system is the key to the effective protection and utilization of the district.

Up to now, the government has made several rounds of conservation plan for the Taiyanggou Historic District. The first was the ‘Conservation Plan for the Historic District of Lushun’ formulated by the Dalian Planning Bureau in 2008. In 2011, the Lushun government and the College of Urban and Environment of Liaoning Normal University jointly prepared the ‘Project planning for the Taiyanggou in Lushun (2011-2020)’. The plan stated that on the basis of the protection of historic buildings, the functional replacement of the district should be realized, and the vitality of the district should be improved [6]. In 2012, the Lushun government entrusted Shanghai Tongji Urban Planning and Design Institute to compile the ‘Conceptual Planning of Taiyanggou in Lushunkou District of Dalian’, which divided the district into thematic modules with different functions. In 2013, the Lushun government formulated the ‘Implementation Plan for the Protection, Restoration and Utilization of the Taiyanggou Historical and Cultural District’, and established a leading group for the management of the district, headed by the district chief. In 2018, the Dalian government formulated the ‘Work Plan for the Conservation of Historic Buildings in Taiyanggou of lushun’, which proposes to focus on the development of cultural industries.

Although several versions of the plan have already been made for the Taiyanggou Historic District, due to the uncertainty of the protection policy on one side, the conservation plan is often only a general overview of the historic district, and it lacks detailed protection plans for historic buildings. This leads to the ambiguity in the implementation of the protection measures, and the final protection effect is not satisfactory. On the other hand, due to the complex ownership of district, some precious heritage has not been reasonably restored and renovated. For example, the restoration of Guandongzhou Hall, a national level protection site, and Lushun Normal School, a provincial level protection site, and other cultural preservation units in the district have not been carried out effectively, leaving a troublesome protection status.
4. Analysis on vitality improvement strategy for the Taiyanggou Historic District

Based on the analysis of the vitality elements, the corresponding vitality improvement strategy is proposed for the Taiyanggou Historic District, including the renewal of physical space, the improvement of functional configuration, the diversification of consumption formats, and the inheritance of historical culture in the district.

4.1. Optimize district environment for the physical space vitality improvement

In order to improve the physical space vitality, the priority is to protect the historic buildings. During the process of restoration, the original cultural characteristics of the buildings should be fully considered, and differentiated renovation should be carried out so that the restored buildings can also reflect their original cultural characteristics accurately. A good street interface is also an important factor affecting the vitality of the district. Therefore, it is necessary to integrate the street interface, dismantle the illegal buildings built by the residents spontaneously, and remove the inharmonious factors in the district. Then, the landscape system in the district should be improved. We can add cultural experience sketches, green space and other new landscape node elements to enhance the rhythm and interest of the street, and achieve the purpose of activating the vitality of the district.

4.2. Improve service function for the social vitality improvement

Satisfying the needs of social life is the basis for ensuring the vitality of the district. The perfection of the living environment is an important reason for the retention of the indigenous people in the historic district, and it is also a prerequisite for mobilizing the enthusiasm of residents. Therefore, efforts should be made to improve the infrastructure in the district to provide residents with adequate living security. In addition, the district management office should actively carry out community activities, improve public participation of the residents, continue the authenticity of the district life, and activate the social vitality. We can also introduce souvenir sales and the production and display of handicrafts in the district to enrich the life of the residents, increase new employment opportunities, and enable residents to form a sense of identity and belonging to the historic district. In this way, a virtuous cycle of the social system in the district can be guaranteed, as well as the durability of its vitality.

4.3. Continue historical context for the cultural vitality improvement

Historic district is the place for cultural consumption. Consequently, the fundamental strategy for renewal and renaissance of the historic district is to reveal the social value attitude of cultural consumption by tracing the historical context [7]. In the process of protecting historic district, the overall protection of various cultural elements, including historical environment, natural environment, and humanistic spirit should be emphasized. In addition, the inheritance of traditional culture in daily life is also a key to the improvement of cultural vitality. The government needs to explore the cultural characteristics of the district from multiple perspectives, and can carry out some historical and cultural experience activities, for example, set up cultural hall and so on. This will shape the richness of the district’s life and allow historical culture to be organically integrated into the lives of the residents, injecting new energy into the district.

4.4. Optimize industrial structure for the economic vitality improvement

To realize the improvement of economic vitality, it is necessary to carry out a reasonable industrial configuration based on the existing material elements and functions in the district. The Taiyanggou Historic District has good natural scenery and rich cultural heritage. Using these two advantages, we can create an economic development model based on historical and cultural heritage, with special tourism as the mainstay. A spatial system of cultural tourism that combines points-lines-surfaces should be constructed, and creates vibrant spaces in the district (Figure 8). This will attract people, and enhance its commercial value and economic vitality. It is also necessary to integrate the scattered commercial in the district to form a series of consumption places, and ultimately form a virtuous cycle in which various forms of commerce promote each other.
4.5. Improve protection system for the political vitality improvement

First of all, it is necessary to improve the formulation of conservation plans, and strengthen the census and classification of historic buildings. A comprehensive investigation and survey of the historic buildings in the district should be conducted, recording and filing the different protection status and styles of buildings respectively, and ensuring the conservation of historic buildings being carried out under comprehensive and reasonable policies in an orderly manner. The second issue that needs to be solved is the shift in housing property rights from military property to government ownership. At present, most of the historic buildings in Taiyanggou Historic District belong to military property. Therefore, in order to better carry out the protection work, it is necessary for the government to actively negotiate with the army to swap the ownership of the military land to the local government, and then the government will gradually implement the conservation of the Taiyanggou through specific planning programme. In this way, the district can be protected and renewed more reasonably and effectively, and the vitality of the district can be reshaped.

5. Conclusion

Historic districts are not only the microcosm of urban development, recording the cultural memories of specific historical period, but also the material carrier of people’s real life. We should respect the original history of historic districts, fully preserve the cultural heritage, and satisfy the needs of the residents’ social life. Therefore, improving the vitality of historic districts and catering to the development requirements of the times is the core content for conservation work. Based on field surveys, this paper extracted and summarized the vitality components of the Taiyanggou Historic District, explored the causes of the current decline of the district's vitality, and proposed an adaptive strategy for vitality improvement, specifically including “optimize district environment, improve service function, continue the historical context, optimize industrial structure, improve protection system”. It is hoped that the reasonable protection of the cultural heritage of the Taiyanggou Historic District and the overall improvement of vitality elements can be realized, so as to get out of the woods of “frozen preservation” and “inefficient conservation”. It is also hoped that this will provide new inspiration for the conservation and contemporary development strategies of other historic districts in China.

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