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THE SPATIAL FABRIC ANALYSIS OF HARBIN JINGYU HISTORICAL BLOCK BASED ON THE RELATIONSHIP BETWEEN CULTURE AND MORPHOLOGY

Abstract: A city, being an organism, takes the urban fabric as the external manifestation, which contains a lot of historical and cultural information. And in this organism, JingYu Block is a typical representative of Chinese and Western cultures in Harbin, a historical block integrating the baroque style and the traditional street lifestyle, also the core of “re-engineering” strategy. This paper mainly analyzes JingYu historical district in Harbin, China. Firstly, it is a historical study of JingYu Block. Summarizing and analyzing the important events in the history and culture we can have a deep research on the historical and cultural elements related to the urban texture morphology. Secondly, we analyze the historical background, of the urban texture morphology of JingYu Historical Block, including macro and micro analysis – urban structure and urban space, in this process, the urban elements such as road, street, profile, open space, urban space pattern, architectural fabric are analyzed respectively and sometimes we also compare it with other historical city texture. Finally, on the basis of morphological analysis, we continue to analyze the related urban culture, aiming to summarize the influence that urban plan has in different phases of historical development of Harbin city, to analyze how the plan goes, and then to show the development of urban texture of JingYu Historical Block on the timeline. This paper is subsidized by NSFC project which is named as <Research on Technical System of “Downtown Factory” Community-oriented Regeneration in Yangtze River Delta Region>, NO.51678412.

Keywords: Harbin Jingyu block, urban fabric, historical study, morphology.

Introduction

I. Historical Research on Old Daowai Historical block -- Living + Business + Foreign Culture

Since the 19th century, with the rise of the Eastern railway, a group of Russians has been brought to Harbin. The influence of foreign culture on the city of Harbin is enormous. From “clothing” – wearing Russian dresses and fur hats; to “food” – drinking Russian beers, eating Russian breads; then “live”, “travel” – shuttling on urban streets planning based on the theory of urban pastoralism, praying in the Orthodox churches built by the Russians and living in the two-story Western-styled buildings left behind by the Russians. All aspects of Harbin people are deeply influenced by foreign cultures. But when the buildings of Baroque, Gothic and eclectic styles emerged on the streets of Harbin, a different block appeared in the out-of-town area.

This is the old Daowai district, Jingyu block. The slogan of “rejuvenating the Chinese area and decentralizing the forces of the concession” rang here. In the 19th century, the Qing government built such a place where much wisdom of the Chinese people was gathered. The Chinese Baroque came into being here. There are no experienced European architects or classical buildings here. There is and not only is the Chinese Baroque. There once were life, exuberant scene and people who came and went away. The innovative spirits of the Chinese people were here. Both the shape of the block and the buildings make contributions to the China’s architectural history.

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1. The floorboards of the fabric of the old Daowai historical block – courtyard house

The space form of the Jingyu District continues the style and texture of the traditional Chinese neighborhoods. It coexists in the form of courtyards and lanes. This type of space is the main place for people to live. The residential building is a wooden structure with a veranda-style ground floor housing. The surrounding corridor is a scene space in a residential building outside the old road. The traditional cooking stove extends along the corridor, and the unforgettable fragrance of the food floats in the corridor during every meal. The herringbone staircase, which is the main transportation hub for people from top to bottom, connects the courtyard with the floors, and is surrounded by people on every side. The wooden railings serve as the boundaries of the enclosed corridor space. The family lives in harmony with each other. Not only is the atmosphere of the neighborhood filled, but the private and quiet veranda has also become a space for the family to rest after dinners or drinks. People in the district habitually name this four-story courtyard as “circle house”. It connects activities in and out of the building via the outer veranda and provides places and spaces for residents’ activities. This living habit is affected by the enclosed space and it continues at present.

At the same time, Harbin is located in a severely cold area with strong cold winds in winter. The enclosed, inward-facing type of building can withstand cold winds and improve the microclimate inside the building. This type of enclosing house has had some influence on and continued the forms of residential texture buildings in Harbin in the 1990s.

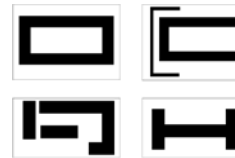


Figure 1. Real estate photos of the courtyard house.

Figure 2. The different forms of courtyard house (<http://imharbin.com/blog/>)

2. The white space of texture of the old Daowai historical block – business in the streets and alleys

The JingYu Block is one of the areas of Harbin’s early opening up to business. According to historical records, a group of industrial and commercial investors from all corners of the country took the lead in opening shops in the early 20th century, leading a group of people to do industrial, retail and wholesale activities, and spurred economic and industrial development in the neighborhood. The mansions of the bottom shop are generally of two to three floors. Commercial and living buildings are used together with “front shop and back factory” mode, which became the classics of the commercial district of Harbin. The service target of the block is various social strata. The scale of the shop is relatively flexible. It is a busy place where people coming and going in the streets and lanes. In the early years, there are many kinds of commercial shops, old brands and the time honored brands can be seen everywhere. The economy of the district has reached an unprecedented prosperous level. The old Dingfeng, Tongji Mall, Hengdeli, Zhang Baopu, Zhang Fei Grilled Meat, and other old brands has witnessed the ancient history of the city and the history of the commercial city and the prosperity of the business. The architectural form and space form of traditional commercial and commercial features are rare material cultures for Harbin. Many ordinary people and folk artists make a living here. There are performances such as storytelling, two-person turnaround, singing drums, pinching sugar, dancing knives, performing shadow puppets, monkeys. It is a peaceful business street and alley way atmosphere.



Figure 3. The streets of the 19th century.



Figure 4. The streets of the 20th century
(<http://imharbin.com/blog/>)

3. The formation background of the texture of the old Daowai historical block – integration of Chinese and Western cultures

Harbin has been greatly influenced by foreign culture from the life to the city construction under the long-term colonial rule. The urban construction of Harbin draws on the construction of foreign cities and towns. The new architectural styles are mainly divided into two types, which embody a multicultural culture. The primary task of Tsarist Russia's planning is to support the railway function. The purpose of the Japanese plan is to establish trade relations. The original intention of the design affected the distribution of streets, street scales, architectural forms, etc., "A block of flats in the south second and south third street, vertical linear continuity of Baroque style buildings and the typical Chinese small western-style mansions".

The layout of the building is very compact, the style along the entire street is unified, and the Chinese units, which make people feel the breath of traditional Chinese life. The coexistence of the two cultures is the diversification of Harbin's urban image, which is influenced by both capitalism and feudal culture. This imprint is deeply rooted in Harbin, and thus the JingYu District has a combination of Chinese and Western cultures.

II. Research Value of Urban Texture in Historical Districts

In the constant development of the city, due to the continuous development of the new city, the development of the old district is often stagnant. In recent years, investigations of old roads and other historical urban areas have found that, especially in some of China's economically backward regions, the measures taken to renovate old streets are inadequate and unreasonable. Our renewal and protection of historic blocks should be synchronized with urban construction and must be based on the development of the city. As F. Gibbard said, "*urban history protects not just for the past but for the sake of the present and respect the past*".

Therefore, it is imperative to coordinate the relationship between the construction of new cities and the protection of historical neighborhoods.

Harbin's attitudes towards the renovation of the JingYu area are different. The sociologists concerned criticize it from a humanistic perspective. First of all, they criticize that the reservations for the old buildings are not complete. The old buildings are demolished and new fake antiques are dismantled; second, they criticize large-scale commercial development, as well as the government's error positioning of historical blocks and the changes in the people's attitude to dismantling historical buildings from heartaches to indifferent ones, all these have caused Harbin's historical district to lose its original glory.

Here I think of the famous Chinese scholar Professor Wu Liangyong, who said: "*The city is an organism. Its rectification and transformation should conform to the original urban texture and create a living environment that can adapt to today's environment of living. You must not brutally demolish or change it. Otherwise, the city has lost its historical site, as if people have*

lost their memory and made historical and cultural cities that have lost historical relics. The residents' mentality cannot escape the influence."

Every piece of urban texture is a mark left by history in this city. It records the space that people used to live in the city. Each piece of urban texture is a clue for people to read the city in the future, as small as a change in the shape of a house and as large as the change in the shape of the entire city are all telling the changes of history.

Measurement and analysis

III. Spatial texture analysis of old Daowai historical district

1. The present situation of urban spatial texture

Take the JingYu Street as the main axis, the roads in JingYu block old Daowai district extend in the shape of "fishbone" (fig.5), the fishbone-shaped street system forms the texture skeleton of old the Daowai district. In the early planning period, according to the records, the Daowai district was not classified into the scope of the town planning at that time, so the texture of the block showed the trend of growing from the bottom to the top, and along with the terrain.

The JingYu Street is the main vein, and roads extend to direction of northwest and southeast, therefore, most of the streets in old Daowai district are in northwest-southeast direction (fig. 6). The enclosed courtyard texture is the main element of the texture of the the JingYu Historical Block. Almost all of the important historical buildings in the block are in the form of the courtyard, courtyard texture is common in the historical blocks in China, such as Broad and Narrow Alley in Chengdu and Quadrangle in Beijing. There are not so many existing historical blocks with courtyard texture in China that are reserved relatively complete. The JingYu Block has great value of reconstructing and renewing, however, the problems now it is facing are quite severe, for example, the buildings in the block are in disrepair and illegal buildings are built in the courtyard, which destroys the original texture of the block. At (fig. 7) the same time, most of the buildings here are wooden structures, so fire has also caused some of the historical buildings cannot be repaired anymore, just leaving the building with brick facade, the original texture of the block was destroyed partly (fig. 8).

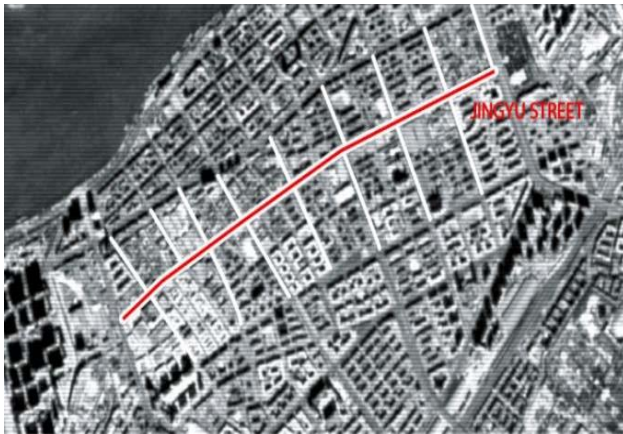


Figure 5. The Jingyu Street as a trunk road and roads develop in the shape of fishbone



Figure 6. Area indication of the JingYu Block old Daowai district

2. Analysis of spatial

2.1. Alley pattern

The alley pattern is the traditional urban space model in China, it is a city space developed on the basis of a transportation line, all of production, life, commerce and service facilities are located near the main street. Alley, the secondary traffic space, also attached to the main road, forming the basic form of the city. Alley pattern is the main spatial pattern of traditional Chinese

cities, such as the main urban space model of ancient commercial towns, which depends on a main trunk road to expand urban space and this is suitable for the settlement that depends on waterway wharf.



Figure 7. Illegal construction



Figure 8. Only the old facade was left after the fire

Harbin was a town based on the Songhua River, the Russians did not divide old Daowai district into urban planning at that time, so the whole block took on a free growth pattern and did not have a clear center. As a result, streets carry most of the city's functions and different buildings with different functions are attached to the main street, neatly lined up on both sides like fish bones, thus forming a street space (fig. 9).

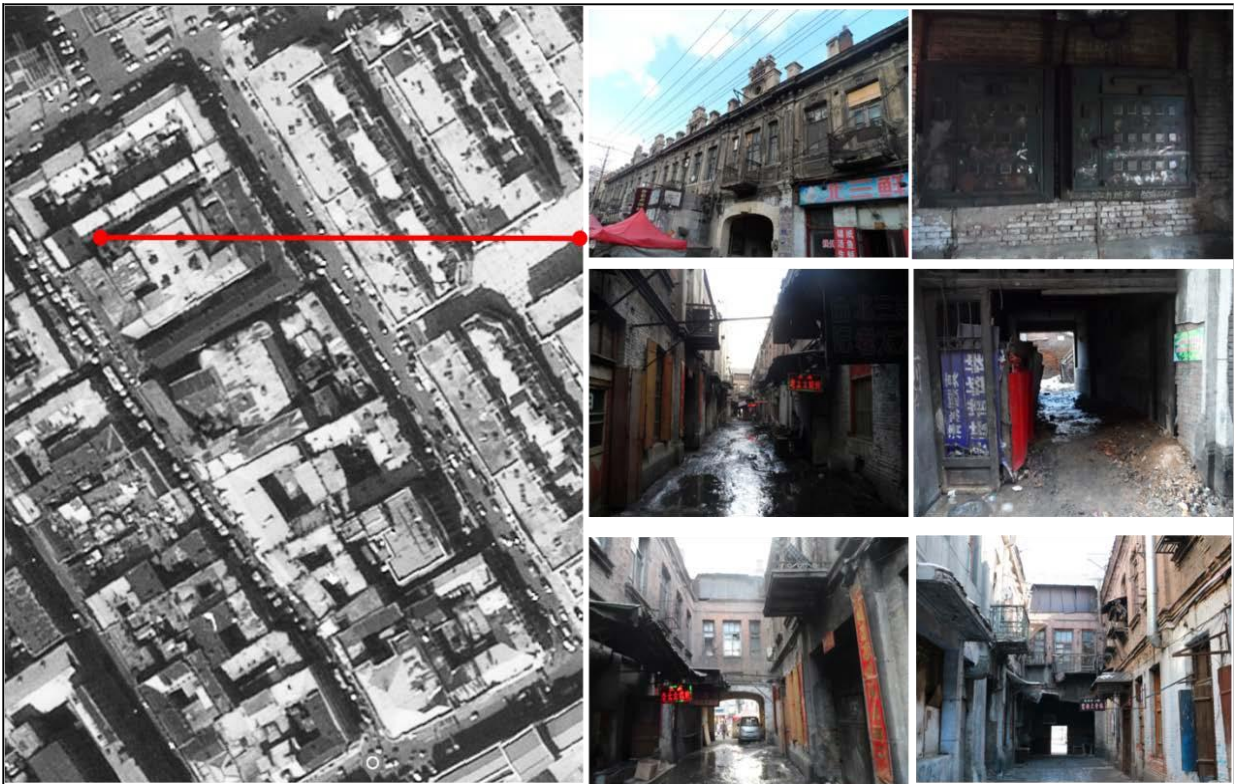


Figure 9. Actual picture of street and alley system which takes the North third street as the main street

2.2. Block pattern

Under the influence of the modern western urban planning method, the block model has been gradually put into practice in China. The main characteristic of this mode is high efficiency, using the building volume as much as possible to solve the traffic problems outside the road, while the drawback is the lack of internal traffic and poor connectivity between blocks. In modern society, in order to achieve the goal of rapid development, this model has been widely used in the development of modern urban commercial district.

Taking the area of the Xiajiashu Street in Nangang District as an example (fig.10), the planning layout design combined with Baroque technique, four main roads are of the radial extension with Center Square as the center, making the outer space passes more efficiently, but the interior is disorder and chaotic.

Harbin has further applied the functional zoning principle from < Charter of Athens > in its urban planning since 1930's. At this time, urban planning of Northeastern part of China has been fully integrated into the European and American functionalism planning trend. The efficient grid layout and the radiation layout are applied to the early urban planning of Harbin. The block space pattern occupies which were long-time colonized by European cities in China, have the similar urban pattern with Harbin (fig.11).

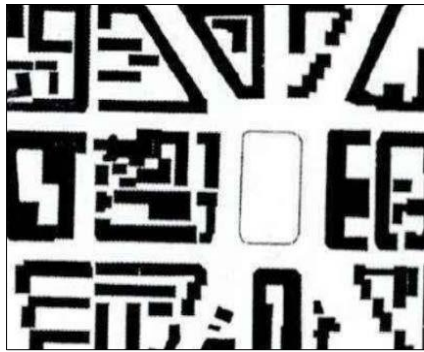


Figure 10. Block pattern of the Xiajiashu Street in Nangang District



Figure 11. Block pattern in Qingdao

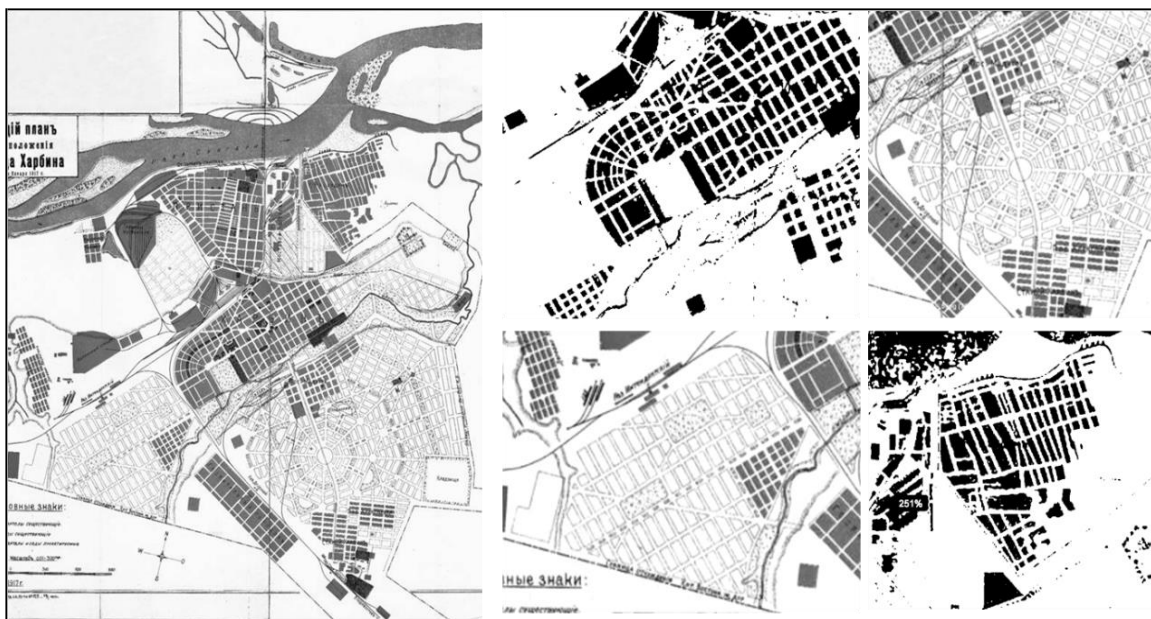


Figure 12. Harbin urban Planning Map (1917): a collage of different texture in a city

2.3. Block + Alley pattern

From the aspect of block texture, the pattern of the JingYu Block is not a simple street or alley, but is a combination of the two planning form, the advantage of this planning method is that it not only ensures efficient external traffic, but also connects the enclosed courtyard with smaller inner streets and lanes (fig.13, 14).

This not only liberates the outer streets, but also increases the accessibility of the courtyard space, enhances the external defense forms, separates the residential functions from the outside, organizes traffic inside the alley, and it is suitable to function combination model of the JingYu Block, which is famous for foreign domestic residence, front shop and back factory. While maintaining the traditional space model of alley in the West, the traditional street and lane elements of China have been adopted, and the high practice and integration of Chinese and western culture have been achieved, it is also a kind development and recreation for traditional commercial-living space model in Harbin.

From the aspect of urban texture, the urban texture combination of block+alley model is more delicate than that of surrounding buildings, and its texture levels are richer than the other two patterns. In Harbin, where the main pattern is block, the existence of block+alley texture is of great significance and is the real crystallization of the wisdom of Harbin people. Therefore, it is worth repairing and preserving.



Figure 13. BLOCK



Figure 14. ALLEY

IV. Renovation of the JingYu historical district.

4.1. Status of the Reformation of the JingYu Historical District

Now JingYu Historical District has been gradually developed into commercial and residential area. (fig.15) As the largest existing and preserved Baroque-style neighborhood in China, the Harbin city government hopes that the historical block can be repaired and activate the site and transfer into the urban living room for Harbin citizens. The government hopes that the block can be repaired from two aspects:

1) Building restoration

During the process of renovation, it is in accordance with the principle of not changing the original appearance to restore the architectures which have certain historical value, scientific value and artistic value. For the “Chinese baroque” style architectures, but some architectures have been identified as a dangerous house and cannot be repaired anymore, it will be rebuilt according to the original appearance; for the buildings with complete facade, but situation of internal structure is bad, exterior appearance will do some protective maintenance and for the internal structure will do some renewal; the illegal buildings in this area will be demolished directly (fig.17).



Figure 15. Block renovation completion area

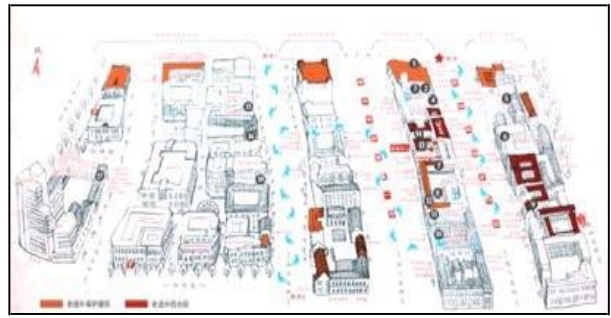


Figure 16. Aerial view of the area



Figure 17. The restored building and facade

2) Cultural restoration

Besides the architectural culture, the “snack culture” of the Daowai District is very unique. During the renovation of the block, due to the old buildings were under repairing, many snack shops that have operated for decades had to leave (fig.18), resulting in a great loss of

culture. After the completion of the first phase of the renovation, the relevant government departments allowed some old and famous restaurant to keep operating. But it still leaves hundreds of shops out. Nowadays, authentic Harbin snacks are occupied by tourist attractions (fig. 19).



Figure 18. A notice for a restaurant to move away



Figure 19. The restored street

4.2. The influence of renovation of JingYu historical block on urban texture.

In the old city reconstruction of the historic district, the historic buildings in many areas were demolished, which was replaced by plate multi-storey buildings (fig. 20). Historic buildings in the south of the Nanxun street and the north side of the Diling street have been changed into 7 or

eight-storey residential buildings, and some of the areas that are not rebuilt now are basically incorporated into the reconstruction plan in recent year. Many of the courtyards houses in the south of the JingYu street are also on the verge of being converted to multi-storey buildings. To a large extent, to the historic district it is the destruction of the urban texture.



Figure 20. New residential buildings

Conclusion

Through the analysis of the texture of the JingYu Historical District and other blocks in Harbin modern urban planning theory was based on Western urban planning theory. But the final urban texture was formed by combining the urban and Western urban fabrics. This kind of situation must arouse our reflection. We only make use of Western city theory to study and guide the texture of Chinese cities. It will inevitably lead to the disappearance of urban features. We should start with the urban culture in light of the characteristics of China's cities, and summarize the urban texture research methods suitable for Chinese cities. This is the fundamental means for the continuation of urban texture. Instead of not analyzing it and merely plagiarizing the urban fabric of the past to achieves the purpose of historical and cultural renewal.

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