Application Of Characteristic Protection Of Historical And Cultural Blocks In Urban Renewal Through The Investigation And Research In Jinan By Taking Furong Street- Qushuiting Street As An Example

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Abstract. Many historical and cultural blocks have faced challenges due to the acceleration of urban modernization in China, not only the aging of urban buildings and municipal infrastructure, but also transformation, construction and renewal of the urban have a large-scale impact on the historical and cultural blocks, the fundamental changes in the way of life and street function of the citizens put forward new requirements for the physical environment of spatial environment of historical and cultural blocks. The healthy and orderly development of the traditional scenes of historical and cultural blocks can bring different vitality and economic points for the development of the city. Taking urban renewal of Jinan and historical block protection as the discussion point, this paper discusses the present situation, characteristics and existing problems of Qushuiting Street and Furong Street from the space structure, historical context and humanistic characteristics, so as to explore the integration, inheritance and development of the artistic style and cultural connotation of traditional historical and cultural blocks in urban renewal.

1. Introduction
With the rapid development of modern civilization, the traditional historical and cultural blocks are separated from urban life to a certain extent, the immature protection theories and methods also damage the cultural relics of blocks to different degrees. The core problem of the contemporary city has been concentrated in the traditional block characteristics can not be smoothly integrated into the modern city construction. As an important part of the urban historical and cultural heritage protection system, the historical and cultural districts bear the profound cultural accumulation of a city and as irreplaceable precious resources of the city. Historical and cultural blocks are living and constantly changing. They not only contain many practical urban functions, which are closely related to the users, but also have unique historical value. Nowadays, more and more people are aware of the importance of historical and cultural streets, the protection is imperative. Therefore, how to construct and protect traditional cultural blocks with modernization is the focus of urban renewal.

2. Overview of Jinan historical city
Jinan, as the birthplace of Longshan Culture, has a history of more than 2700 years, is the capital of Shandong Province. It is reported that the south of Jishui which is one of the four ancient rivers is the position that Jinan located. The unique geographical location and structure make Jinan became a city
with unique landscape of "mountains, cities and lakes", and springs running through the streets and residential areas.

In recent years, with the transformation, upgrading and protection of the old city are strengthened, the urban landscape has been highly improved. Meanwhile, some problems have been caused like the protection and transformation of the old city conflicts with the new development.

2.1. Current situation of historical and cultural blocks in Jinan

The uniqueness of blocks depends on different folk culture formed by different residents. Most of the historical and cultural blocks in Jinan are located in the central area, such as Furong Street and Qushuiting Street. Furong Street is one of the districts with the best-preserved historical landscape in Jinan with well-developed spring vein and prosperous spring culture, it also had typical residential houses in northern China. Puli Street and Jianzi Lane took the modern trade as the main orientation, and eventually formed Xiguan business district after experiencing the economic transformation period of Jinan opening port. [1] Within this block, there was a mix of commercial and residential development, it had the unique features of the old Jinan city. Sili Street and Suoli Street were the residential areas for the official and commercial, most of the residents in this street have been businessmen for generations, and some officials lived here. Commercial port district was the representative of Jinan's port opening culture and the epitome of Jinan's modern urban development and change, its had opening planning and layout, and its streets and lanes are shaped like checkerboard, the aggregation of traditional dwellings and western-style buildings carried the rich social forms of Jinan.

2.2. Problems of historical and cultural blocks in the old town of Jinan

Jinan old city reconstruction is closely related to the development of our country. Before the 1990s, large-scale construction was carried out all over the country, the city developed rapidly, people's awareness of the protection of historical blocks was weak, many old buildings and houses in the old city of Jinan were demolished. Since the 1990s, the real estate market has a rapid development, and the old city has been favored by developers for its huge profit potential and development space. Driven by economic interests, high-rise buildings have sprung up and historical and cultural blocks...
have been more seriously damaged. The original space size was difficult to meet the current functional requirements, the road structure is weakened and blurred, and the functional space division is not clear.

2.3. Protection status of Jinan historical and cultural district
From the analysis of the actual construction situation, Jinan attaches great importance to the protection of natural heritage and cultural relics, and has insufficient understanding of the urban value of historical and cultural blocks, the corresponding protection still shows great limitations and blind obedience. Historical and cultural district is a complex and unified integrated unit, the actual operation of its protection planning is difficult to achieve complete scientific and rational in a short time. [2]

3. Analysis on the protection and development of Jinan historical and cultural street in Jinan by taking Furong Street- Qushuiting Street as an example
Combining the preciseness of northern dwellings' design with the smart beauty of layout, Jinan traditional streets have their own remarkable characteristics due to the unique geographical environment factors. With a long historical accumulation, Jinan historical contain a profound cultural heritage and spiritual connotations. Although people's awareness of protecting ancient residential streets is gradually enhanced, it is easy to ignore the regional characteristics, which could lead to the phenomenon that our cities are becoming the same. Therefore, in the process of urban renewal, only by better protecting the regional characteristics of ancient districts and excavating the artistic style and cultural connotation, can the traditional urban context be inherited, integrated and developed in modern life.

3.1. Layout of streets
Furong Street and Qushuiting Street are characterized by "six vertical and seven horizontal, spring system runs through the area” as the main street pattern. The main street space is regular and smooth, and the minor roads are tortuous, circuitous, narrow and dense, showing the state of free development and organic layout.

The limitation of spring system makes it possible for the court to exist, and it adapts to the traditional pedestrian traffic. The streets and lanes are shaped like the letter “T”, and the ratio of height to width is about 1:1. Water system is well-developed in the whole transportation system, running through the north and south with free flow. Most of the buildings are located along the river and built according to the spring. The positioning function of river makes the block and street derived from the grid layout different from the traditional folk dwellings in the north, which is more inclined to the layout of fishbone along the spring.

3.2. Architectural features
The commercial buildings on both sides of Furong Street have various functions, mixed use of commerce and residence. The layout pattern is: shop along the street in front of the yard, a house in the lower floor is used for commercial function while the upper floor for living, it has a variety of styles and forms, and pattern style of the block inherits the neighborhood style formed after the Jinan port opening. The gathering of traditional two-story wooden buildings and western buildings or the combination of Chinese and Western styles can reflect the evolution of Jinan's social mode and commercial structure. Many shops with traditional and residential style are distributed in the streets outside Furong Street, now they have been transformed into dwellings.
Most of the residential buildings in the block retain the traditional scale of architecture and introverted layout of courtyard, most courtyards are one-entry courtyards, supplemented by a small number of second or third entry courtyards. The majority of the buildings are made of brick and wood, some of them are made of brick and stone, and the existence of adobe houses is a minority. The main materials of the building are grey brick and white stone, the roof form is sloping roof of green tile decorated with grey tile, has a large warping. The eaves are decorated with brick and wood carvings, diagonal braces are set under them. The black facade painted red outline of the gate is the most common form. The gates’ roof has many forms, such as clear water ridge, round ridge roof and so on. The wooden buildings in the courtyard can be painted in different colors due to different materials, such as dark red for wooden buildings and black for blue brick buildings. Overall, the environment is elegant with classic simplicity. [3]

The area like Baihua Pond and Furong streets have a developed water system, so the buildings are easy to be affected by moisture. Therefore, stone slabs are often laid at the bottom of the external walls to reduce the damage of moisture to the buildings. The overall style of dwellings is traditional and implicit, only building materials, construction technology and architectural decoration have developed differences in different cultural contexts, reflecting the characteristics of the continuous evolution of blocks.
3.3. Landscape space

In Qushuiting Street and Furong street, the system of street and spring put the organic growth of dynamic landscape into the overall spatial level. [4] For example, fellow the Wangfu Pond Street north to the Qifeng Bridge Street, cross Qifeng Bridge and continue to look south along the Open Channel Flow, you can see the corner of Wangfu Pond partly hidden and partly visible. The spring intersects with the street, and the space is wandering and free, the idea of "moving with the landscape changing" is hidden between the drops of the street landscape, which can reflect the smooth and delicate spatial expression of traditional communities. The small space for public activities, that is, the enclosed space of Wangfu Pond and its surrounding buildings, has good communication with the surrounding streets.

In the subspace system within the block, there are many expression forms at the spatial level, the combination of changeable courtyard and spring system is the main expression form, that is, in a small space, the spatial composition of water system and courtyard is different greatly in form. "Living nearby the water" is a traditional living habit in Jinan, springs, buildings, streets and people are integrated into one with each other, forming a complete space system. The changeable block relies on the zigzag space composed of space points, lines and surfaces, and the block landscape is rich in layers.

| Table 1. The combination of spring water, residential courtyards and alleys. |
|---------------------------------------------------------------|
| **Point-Spring spot space**                                   |
| Combined with residential courtyard (private and semi private space) | Combined with streets and lanes (public space) |
| According to the location of the spring, a variety of courtyard spaces are formed. | Concave and convex space with the exterior wall of the building as the background. |
| Small space existing independently in streets and alleys.     |
| **Line-spring canal space**                                   |
| Spring flows around the courtyard to form a unique residential courtyard. | Perpendicular to the streets and lanes with the exterior wall of the building as the background. |
| Parallel to the streets and lanes with the exterior wall of the building as the background. |
| Independent of the middle of the streets and parallel to them. |
| **Surface-spring pond space**                                 |
| Enclosed space are surrounded by streets and lanes on all sides (Baihua Pond). | Enclosed space are surrounded by buildings on all sides. |
| Enclosed space are surrounded by buildings on both sides.     |
3.4. Cultural features

Different from other historical sites, the originality of historical and cultural blocks lies in the participation of "people" all the time, which is the most significant part of its cultural connotation. [5] The traditional commercial function of Furong Street gradually disintegrates, and the tourism consumption function of the surrounding areas gradually occupies the advantage. Many of the humanistic characteristics created in the block are gradually shaken by accumulated commercial benefits in a short-term, the block environment is deteriorating day by day and the character is disappearing gradually.

At the same time, the deterioration of living conditions and the backwardness of infrastructure have led to a large number of original residents moving out, only part of the elderly and low-income people have to live here. For a long time, the social structures of blocks were gradually out of balance, neighborhood networks were destroyed, and the vitality of blocks was declining.

3.5. Influence of surrounding environment on historical and cultural blocks

With the rapid development of urbanization and economic society, Quancheng Road, a century-old street, has been repositioned as a commercial pedestrian street integrating shopping, commerce and entertainment, and its surrounding area has also become a representative part of Jinan. The renovation project of Daming Lake involved the spatial renewal of Qushuiting Street which was an vital node of block renewal. After the transformation, Daming Lake provided a broader visual interface for the north side of Qushuiting Street. In a short time, Furong Street was occupied by a large number of medium and low-grade catering and entertainment, the sanitary conditions were worse, and the people flow far exceeds its capacity that could be carried.

4. Existing problems of the block

4.1. Block dysfunction

Qushuiting Street and Furong Street basically maintained the original pattern, but with the development of urban modernization and the transformation of the surrounding environment, the number of tourists continued to expand, resulting in landscape chaos and other problems. The original space size was difficult to meet the current functional requirements, the road structure is weakened and blurred, and the functional space division is not clear. [6]

4.2. Backward construction quality

Buildings in the block, such as Guandi Temple and time-honored shops, have fallen into disrepair for a long time, urgently needed to be repaired. The overall building in the block was in a state of illness and the public service facilities were insufficient. Local architectures were gradually lost their traditional features due to the lack of great attention and protection for the population migration.
4.3. Protection and inheritance of intangible cultural heritage are not thorough

Historical and cultural district in Furong Street and Qushuiting Street has lasted for thousands of years, during this period, it has accumulated rich urban cultural characteristics. However, under the impact of modern emerging business models, that time-honored brands should had "the business status" was not strong.

5. Conclusion

The city is an organic life entity. There will be inevitable conflicts between the historical and cultural blocks left over by the city and the rapidly developing commercial culture of the city, just as there will be obvious contradictions between the old and the new. [7]

Traditional streets are the containers of urban historical and cultural resources which record the traditional life culture with a long history and reflect the historical features and local characteristics of the city, have great value that cannot be ignored. Urban renewal requires not only the transformation of the buildings, infrastructure, road traffic and other aspects, but also necessary to do a good coping strategies in the protection and utilization of historical urban areas’ cultural values, so as to make the cultural atmosphere, humanistic feelings and the spatial structure characteristics with a strong sense of belonging in the historical blocks reproducing into the contemporary urban space.

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