

## **An exploration of the renewal and design of landscape in the old urban areas of China based on the urban culture context**

Xiaoyi Hu<sup>1,a \*</sup> and Yuxin Wei<sup>2,b</sup>

<sup>1</sup>Department of School of Art and Design, Wuhan University of Science and Technology, Hubei, China

<sup>2</sup>Department of School of Arts, Tiangong University, Tianjin, China

<sup>a</sup>Sunhil@163.com; <sup>b</sup>Pinxue1212@hotmail.com

**Keywords:** Reconstruction of the old city; Landscape Renewal; Urban Context; City features

**Abstract:** With the acceleration of urbanization, many cities in China are faced with the problem of landscape reconstruction in the old city. Various cities have taken this opportunity to explore ways to optimize the urban environment and promote the urban construction and development. However, there are also relatively obvious problems in this process. For example, the stereotyping of the reconstruction of the old city, the destruction of the previous culture footprints of the public space of the old urban areas, leads to the vagueness of the city's cultural characteristics, the uniformity of the urban image and the obvious convergence. This article is based on the protection, repair and redevelopment of the traditional urban culture context, from a variety of landscape renewal design methods and the specific design cases from the macro level, to explore the feasible path to update the landscape of the old city, thus to activate the vitality of the old city, improve the living demand in the high-density urban environment, create a livable urban landscape environment, and promote the sustainable development of the urban environment.

### **Introduction**

The reconstruction and renewal of the old city is an important construction measure in the process of urbanization in China. At present, many cities in China are faced with such realistic problems as the renewal and sustainable development of the old city.

Due to the complexity of China's urban development process, some cities in the old urban areas there are a lot of old communities of self-built housing which are dirty and poor in the old urban areas of some cities. Although these old communities have also accumulated some time-honored traditional architecture and characteristic culture, and have the architectural layout with philosophical significance. But as a part that has not been integrated in the process of rapid urbanization, it forms a sharp contrast with the modern, clean and tidy appearance of the city. Many cities are eager to get rid of these backward features and adopt the method of bulldozing and rebuilding for overall reconstruction, which results in a loss of the city's original residential cultural characteristics, but make cities look the same.

At the same time, this kind of anxi transformation also brings harm to the original living group of the old residential community. Although they are full of yearning for the good living environment, but the extensive way of renovation broke their living dreams, and destroyed their familiarity, habit and psychological feelings of belonging to the original living environment. Studies have shown that the public space environment in the old city is created by the daily behavior of residents' daily autonomous activities and becomes the source of activating the city. Therefore, in the landscape renewal of the public space in the old city, it is necessary to combine the exchange and feedback between designers,

city managers and residents, and propose the functional link renewal design based on the joint participation and collaborative transformation under the guidance of the old city culture [1]. Moreover, the renewal and protection of public space in the old city need to move towards daily activation, and the optimization of the old urban areas should focus on the creation rather than the reconstruction, the emphasis is on the human nature[2]. How to balance urban construction with residential ideals? How to protect the regional cultural characteristics to the maximum limit in the urban construction and development, find a point of fit between traditional value and modernity, and not casually erase the cultural imprint of any period, as well as to achieve the optimal allocation of existing resources in the urban environment and the improvement of living environment quality, etc., are all major research topics faced by the city landscape renovation of China's old urban areas.

### **Theoretical thinking - the meaning of urban context in the design of landscape renewal in China's old urban areas**

The context of a city refers to the accumulation of history and culture formed by a city in its continuous development. The relationship between urban context and the environment of China's old urban areas is inseparable, and the old urban architectural environment should follow the rules of urban development and meet the inherent requirements of urban culture and inheritance. The relationship between the renewal design of the old urban landscape and the urban context mainly involves the cultural and historical environment of the city, the natural ecological environment of the city and the regional cultural environment of the city.

Although the renewal project of China's old city has been carried out for many years, but due to the ignorance of the considerations for the city's cultural and natural environment, many failure cases are caused. At present, the landscape renewal of the old urban area has become one of the means to solve the problem of culture deficiency in the urban development process. The urban context has prominent significance to the improvement of the utility of urban landscape renovation in old urban areas[3]. Therefore, when studying landscape renewal design of the old city, it is necessary to analyze the relationship between the landscape renewal design of the old city and the natural ecological environment, regional characteristics, and the cultural environment, and the concept of sustainable development, so as to provide a theoretical basis for the special research of the landscape renewal and design of the old urban cities.

**The relationship between the landscape renewal design of the old city and the urban cultural environment.** Many of the original residents in the old city have retained their original living habits, history and culture, religious beliefs and other cultural elements. And the premise of our transformation is to take residents as the main object of consideration. As Yu Kongjian said, "For China, landscape design in the process of urbanization is different from the traditional garden design, and more serves the public[4]. " Therefore, it is necessary to carry out landscape design in accordance with the culture elements and properties, and to create a place of activity that conforms to the residents' original living habits, a leisure space for neighborhood communication, assembly square, a place of religious sacrifice, a block park with the educational nature of popular science culture, etc. In addition, people's psychological demand of people for the environment promotes the division of landscape functions, and the design should also take this as the basis for consideration, to provide a variety of space to meet the needs of different activities of different people, inject emotional characteristics, to the residents to a sense of belonging, so that landscape design and its human environment can penetrate with each other.

**The impact of urban natural ecological environment on the renewal and design of the old urban landscape.** The old city has many natural ecological environment resources with its own characteristics, which undertake some important functions in the urban natural ecological landscape system. Therefore, on the premise of improving living environment of the old city, we should adopt the entire optimize strategy towards the natural ecological environment, use the site environment for landscape transformation and design reasonably, which will play a great adjustment role on the overall ecological environment of the city to improve. In addition, in the overall landscape transformation design, we should carry out the idea of landscape ecology, pay attention to plant landscape, so as to connect the landscape inside and outside the region, pay attention to the application of three-dimensional greening and roof greening, try the best to choose local native tree species, the design techniques should be as far as possible in line with the ecological principles for water bodies and vegetation, to continue the original ecological environment properties through the above means.

**The impact of urban regional cultural characteristics on the renewal and design of the old urban landscape.** As an organic part of the city, the old town, the landscape transformation design of the old city also faces the assimilation of urban landscape form, which leads to the loss of regional culture. Each regional culture has its uniqueness, which is a self-distinguishing feature of regional individual difference. It exists as a living fossil of urban history and its neglect in the transformation, will inevitably lead to the memory crisis of residents. Therefore, it's necessary to pay attention to the exploration of the regional characteristics of landscape design in the transformation of the old city. Humanization needs, culture, history, society, nature and so on should be incorporated into the considerations of landscape environment renewal design, and the regional cultural symbols from the urban areas themselves should be extracted and utilized, and appropriate means should be adopted to convey regional information, which is also an effective way for the landscape transformation and design properties of the old city. As Japan's Urban Renewal attaches great importance to the regional characteristics of the old urban renewal, including functional optimization, social vitality reconstruction, multi-subject participation from bottom to up and so on. These can provide a reference for China to explore the sustainable path of urban landscape renewal[5].

**Urban Landscape Renewal Design must be guided by the concept of sustainable development.** With the concept of sustainable development as the guiding principle, this paper studies the design characteristics of the landscape transformation in the old city. The fundamental goal of the Landscape Renovation design of old urban areas is to solve the problem of urban aging, improve the urban environment, and promote the sustainable development of society, economy and environment. The content of the transformation is mainly the improvement of the original facilities, the improvement of living environment, the re-creation of architectural space, etc., which involves complex contents, and makes the economy, environment and society become the necessity of comprehensive consideration. Therefore, in the design, first of all, according to the main source of income of the residents in the old city, economical and feasible environmental landscape design that adapts to their living needs should be used. Secondly, to protect the original ecological environment in the old city, its original natural resources should be made use of, and finally, we should respect the way of life of the original residents, retain its original human characteristics, and reasonable development and reuse.

#### **Path exploration -- landscape renewal design strategy in the transformation of China's old urban areas**

Many of the old cities have their own differences in the aspects of culture environments and natural

environments during the reconstruction of the old city, therefore, in the old urban landscape transformation, for after the investigation on the transmission object, we must use different methods of research, and adopt the creation method of landscape "micro-renewal" on the premise of ensuring economic benefits towards the key space of these old urban areas landscape. it is also one of the effective ways to promote the renovation and design of the landscape renovation in the old city. It can further strengthen the promotion of the concept of landscape renewal in the old urban area, stimulate the public's enthusiasm to participate in the renewal of public space in the old city, and realize the innovative ideas of urban co-construction, co-governance and shared governance[6]. This paper further discussed and analyzes the renewal and design strategy of the old urban landscape under the relationship of urban context, so as to make it better integrate into the sustainable development of urban environment. Here's the way:

**The repair and update method of "patch and collage".** To Investigate the vein environment of the Old city, adopt the way of concrete renovation to specific problems, and to protect the landscape elements and patterns with important features and key significance with "patch and collage", will effectively make Ecological development process, historical and cultural progress, etc. of the old city effectively be maintained. The critical landscape parts, elements, and spatial positions are connected together to form a benign development of urban regional network frame work. On this basis, according to the living needs of residents in the old city and the systematic urban landscape transformation needs, the restoration design is carried out to drive the urban development. In addition, the narrative method is used in the study of the characteristics of the landscape transformation design of the old city, and the transmission between the old and the new is connected through the characteristic landscape, so that the old city veins can continue to develop.

**The "old as old" mode of integration and renewal.** The old houses, courtyard environment and old trees, etc. in the old city are the precious memory carriers and spiritual support of the residents of the old city. Therefore, in the creation of properties of the retrofit design of the urban landscape, through investigation for the historical and cultural landscape structures, relics, plants, other objects and so on ,the repairment and organization shall be conducted, to keep the old as old, not taking a new way to change them, but to protect its original appearance, as a historical element into the landscape features the environment.

**Restoration and update mode of "scene restoration".** The original residents living in the old city have a lot of living habit scenes lingering around their memories, such as the scene of old people chatting in the sun, the scene of children playing outside the yard, etc., which have been deposited deeply in the deep heart of the residents and cannot be erased. Therefore, the restoration of these residents' living memory scenes must be considered in the renovation design of the characteristic landscape of the old city. The spatial location of its original scene should be clearly located, the scene environment features should be restored as far as possible in the transformation implementation, and some suitable new material technology should be adopted to update the existing damaged scene.

**Integrated and update method of "Memory Collage".** In the landscape transformation and design of the old city, the places with the key points of memory can be preserved by means of the characteristic landscape to show their "diachronic" characteristics, and continue their memory in the minds of

residents. To preserve the old city area with historical and cultural value, so that it can collage with the new environment in together as the carrier of people's memory, effectively integrate into the development of the new era of the city. Some objects are preserved in the old city to collage memory by means of retention; for the nonexistent objects that are deeply rooted in the memory of residents, through data collection, the method of re-extracting elements to collage memory for the update and design of the landscape and facilities are used.

### **Case reference – application of the landscape renewal design in old urban areas of China**

The old city of Hongshan District of Wuhan is based on the current environmental situation in the region, and different psychological and living needs of residents, combined with its natural human conditions and regional characteristics, after full investigation and analysis, take "preservation", "remediation", "updating" and other different landscape transformation methods, excavate and inherit the residents' existing living conditions of various positive factors, to protect the historical continuity and local characteristics of their landscape reconstruction and design, and made a Reference-based design scheme for the renewal of the old city's characteristic landscape.

First of all, due to the high building density in the area, there is no public green space to meet the needs of residents and households, so it is not appropriate to demolish the original buildings and rebuild them. Therefore, in the transformation, a small number of buildings without much value under harsh conditions were removed, and some buildings with distinct features were and restored to create a harmonious building community relationship, and construction components such as bridges or boards are used to connect between buildings with similar floor heights, and green space has been set up on the roofs of these connected buildings, directly by the stairwell to the roof. on the one hand, it can solve the shortage of public green space in the area, on the other hand, it can also form a microclimate regulation system in the area to alleviate the problem of hot climate in Wuhan in summer.

Second, new public areas should be created at the gathering points of the road network, and rooftop gardens, boulevards, residential areas with concentrated green spaces should be created in the region, and public green spaces are created in the area, using roads, recreational pavilion facilities, etc. for people's leisure. The "narrow street" feature is retained, while creating a new street system, demolishing some of the old buildings that are not well-integrated, preserving the direction of several old streets, designing parking spaces around public green spaces, and designing public services in residential centres.

Finally, through the transformation design of the regional landscape, three squares and the inner loop throughout the entire area, the concentrated group greening, road greening and residential green space are combined to create a landscape with rich landscape levels, openness and privacy which has a reasonable layout, and has a safe, humane, beautiful, healthy ecological environment. Landscape design follows the principle of "taking materials in place", choosing local building materials, flowers, trees, etc., which can present the landscape for the four seasons. The two green landscape leisure belts with the local characteristics are maintained, combined with the design of roof greening to form a three-dimensional landscape greening system, this series of design strategies will promote the development of the landscape design characteristics of the old urban areas of Hongshan in Wuhan City.

### **Conclusion**

There are many problems in the renewal of the old urban areas in Chinese cities, and a more scientific and reasonable, effective solution should be found, instead of simple and crude reconstruction

methods such as bulldozing and rebuilding in the original place. Designers should be based on the demands of the human's environmental behavior, according to the actual situation of the site environment, outstanding the landscape characteristics of the old city, Combined with urban humanities factors, natural factors, regional cultural factors, and learn to consider comprehensively from multi-angle, multi-direction, multi-dimension, to create a suitable life for urban cities, and urban environment with city culture context. In this way, China's traditional culture, social humanities and natural ecology and other context can be effectively continued, guiding the transformation of China's old urban areas into a sustainable development path, meanwhile building a Chinese city with different local characteristics.

## References

- [1] Hou Xiao lei, Guo Wei. Community Micro-Update: The discussion on the design intervention approach of public space in Beijing's Old City[J]. Landscape architecture, 2018, 25 (04):41-47.
- [2] Yan Yu, Xu Lei Qing. Human-oriented interpretation and practice of memory space activation - Perspectives of the Environmental Behavior and Sociology. Modern Urban Studies, 2016 (08):24-32.
- [3] Feng Yan, Liu Chuan Long. Construction theory and strategy of urban landscape reconstruction based on the cultural field. Urban Development and Research, 2018, 25 (03):54-58.
- [4] Yu Kong Jian: The landscape design must be "true, good and beautiful"[J]. Design, 2019,32 (16):72-75(J). Shanghai Urban Planning, 2018 (04):8-14.
- [5] Ran Ao Bo, Liu Jiayan, Shen Yichen. The experience and characteristics of the reconstruction of the old neighborhoods in Japan: A Reference to the Cases of two Neighborhoods in Tokyo
- [6] Lv yin. "Micro-Renewal Plan" for the landscape renovation of old residential cities in the city . Garden, 2018 (05):60-62.