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# Intervention of public art in urban micro-regeneration

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ORIGINAL RESEARCH  
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## ABSTRACT

With the gradual improvement of urban construction, more and more experts and the public realized that the speed of urban development be reasonable, which caused urban regeneration to turn to a new-minded “urban micro-regeneration”. “Micro-regeneration” is an extension of the concept to the direction of urban construction. The concept of micro-regeneration was first applied to the regeneration of individual buildings in the old city. The research on the intervention of public art in urban micro-regeneration is still in its infancy in China. Based on practice, this paper explores the possibility of public art’s intervention in urban micro-regeneration.

## KEYWORDS

urban micro-regeneration, urban design, landscape architecture design, public art

## 1. INTRODUCTION

This paper takes the cultural regeneration of Chinese cities as the practice and takes the design of the Capital Iron and Steel Company Community in Beijing China as the main research object. Explore Art-oriented Urban Design (AUD) theory and practice guided by art in developed cities of China.

Under the guidance of urban culture and cultural policy in the new era, and by the specific situation of the development of First-tier cities in China to the 1920s, some targeted design methods are explored for the development of urban culture revival in China. Through the discussion of practical projects combined with domestic and foreign experience and achievements, the research puts forward the art-oriented urban micro-regeneration strategy. The project is an in-depth field study of the past story of the site and the revitalization of the area through the design of landscape architecture. Then it is the way to solve the problem in the old urban areas of China.

## 2. RESEARCH BACKGROUND

In the past 30 years, many cities in China have experienced rapid urbanization development, the urban population has exploded, and the urban environment has also experienced rapid development. When people amazing about the speed of urban construction in China, they also pay more attention to the problems caused by rapid urban construction. For example, the original culture of the city has been destroyed, the function of the large-scale construction of the city is not reasonable, the rapid influx of rural people into cities, the

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imbalance of the urban industrial structure, and the sense of belonging of the citizens has decreased. More and more cities have similar features. As early as the end of the last 20 century, a similar situation occurred in many western developed countries. Designers began to pay attention to urban construction and seek culture-oriented urban regeneration strategies. Many researchers pay attention to the practical achievements of developed countries in Europe and The United States in the past two decades and carry out relevant studies. Based on these achievements, the author will also study the methods of future urban construction and guide the construction of relevant projects. Finally, explore a way to help the Chinese to solve the urban problems after the rapid construction of the city.

### 3. METHODS

#### 3.1. Urban micro-regeneration model

Driven by the public art Regulations of cities in Europe, the United States, and China, public art is gradually involved in the practice and exploration of the micro-regeneration of guided cities. Fieldwork is the first step in this project [1]. This model takes art and design activities as the motive force and triggers the micro-renaissance of urban public space while promoting the emotional communication of citizens. The way of urban regeneration guided by public art is usually the construction or upgrading of public space in old architectural space urban landscape architecture (the research focus of this paper), or in the form of urban markers, sculptures, and other forms.

Urban regeneration can be divided into cultural Renaissance and space environment Renaissance. The actual situation of urban renewal in China is mainly divided into renewal, reconstruction, redevelopment, and regeneration. The concept of "urban micro-regeneration" in this paper focuses on the revitalization and upgrading design in a small area. On the one hand, this design exploration includes the excavation and inheritance of the urban context in a specific area, and on the other hand, it should satisfy the citizens' well experience of the practical functions of modern urban public space. Public art should pay attention to key factors like public space, social care, diversity of space when engaging in urban micro-regeneration.

#### 3.2. Arts space

The city provides both material exchanges for its citizens and historical and cultural memory for the public. In urban space, art plays an extremely important role, and it is an art that affects the masses of people every day and every hour. Today, with more and more abundant materials, the cultural and artistic attributes of cities are becoming more and more important, and the cultural and artistic attributes are also moving from traditional privatization to popularization. As the carrier of human existence, urban space has more important cultural and artistic attributes. Better urban public

art will bring enjoyment and a sense of belonging to the public.

#### 3.3. Public space

In the practice of urban micro-regeneration, the research focuses on the study of those spaces with public attributes. Improving these spaces gives more to society. So what kind of space is public space.

Public space is enlivened by exchange or mutual imitation competition in places where everyone acts or speaks freely (with a common goal foreseen). It requires the participation of others, and when there is talked about public space, it is not just a space for individuals to gather together, it is especially a space where people can meet and listen to each other, a space that has vision and hearing. The civic square, from which the Greek proper term derives, is the specification of public thought, in which all men, born equal, gather and decide together the future of the polis [2]. Public space means the free association, free dialogue, and free action of citizens. The activities of the public in public space form the order of public space, which effectively promotes the harmonious development of society and is an important place for the formation of social relations. Public space should be a place where the public who can tell the story of the city can get along and communicate equally, a place of freedom and a place needed by the citizens.

#### 3.4. Caring space

Urban micro-regeneration should pay more attention to humanistic care, which is the important source of the sense of belonging in space. This humanistic care can be the continuation of history and culture, or the rationality of human scale and function for example, barrier-free access system for the disabled to go out for leisure, or some people's exclusive holiday behavior facilities, etc. The suitability of a square mainly refers to whether its public space and the urban mechanism at that time are consistent with the behavior and habits of its residents. The use of urban square should fully reflect the concern for "people", that is, its design ideas should be consistent with the behavior space and behavior trajectory of the citizens of the activity and form [3].

#### 3.5. Limited space

In urban reconstruction, it is not easy to improve the environment by large-scale transformation but to obtain the maximum effect with the minimum cost of transformation. It is the designer who pursues to drive the vitality of the whole region through partial transformation and renewal of the space. This kind of transformation activity is both low carbon and fast. Limited modifications become more practical when they are given more requirements.

#### 3.6. Multiple spaces

In the process of urban micro-regeneration, the urban problems architects are faced are diverse. This leads to



approaching designers that have practical problems to solve. Designers promote the community by creating diversity in the space. The involvement of public art is not only the ornaments and works of art, and it also considers and treats the public environment from the perspective of art, so as to optimize the living conditions and its own situation [4]. According to the different transformation space set different functional attributes, so that the transformed space can adapt to the multi-environment or itself is with multi-attributes.

## 4. A CASE STUDY

### 4.1. Micro-regeneration landscape architecture design project for Laoshan community, Shijingshan District, Beijing

Laoshan Street Community Landscape architecture micro-regeneration project is located in the north of Shijingshan District, Beijing. Laoshan Community is close to the Green axis of West Chang'an Street, which is an important industrial relic area of old Beijing. At present, the residents of the community are employees of Capital Iron and Steel Company, mainly the elderly and children (Figs 1 and 2).

Prior to the project's renovation, the entire community landscape was designed to be dilapidated and unable to meet modern practical functions. Public leisure facilities for residents are lacking, and the utilization rate of community space is not high. Through on-site investigation, this design focuses on the design of residents' activity space related to Capital Iron and Steel Company's memory and cultural inheritance.

The project site covers an area of about 3000 square meters, the terrain is high in the northwest and low in the southeast. There is an underground parking lot under the site. The main leisure time for residents is from 6 to 9 a.m. and from 2 to 5 p.m.



Fig. 1. The range of design (Source: The project team drew)



Fig. 2. The site situation (Source: The project team drew)

After visiting residents, the design team concluded that residents are concerned about the inheritance of Capital Iron and Steel Company's memory. Adults want their children to remember and live closely with Capital Iron and Steel Company, which are cultural feelings. How to reflect these memories of manufacturing iron and steel in this space and make space play a greater role is the problem we need to solve.

Let art lead the urban design, art as the source of urban development and the eternal pursuit of the goal. Urban design led by art creates social value and humanistic value, cultivates cultural innovation, improves urban cultural atmosphere, and highlights urban character. If art guides urban design, then public art is the micro renewal of urban landscape architecture space design to increase the concern for residents' emotions. The principle of this design is to make the old community full of new vitality, improve the quality of community space and the sense of belonging of residents, and inherit the history and culture of manufacturing iron and steel.

The design takes Capital Iron and Steel Companies' memory as the theme, and the main audience is the elderly and children's complex community activity space. The design team adopted eight typical processes in steelmaking: slagging, slagging, molten pool stirring, dephosphorization, low blowing of electric furnace, melting period, oxidation period, and refining period to carry out landscape architecture design and creation (Fig. 3). The traditional symbol is an effective and no negligible material of creating attractive form [5]. To enable residents to experience the process of steelmaking in leisure and entertainment is of great significance to the inheritance of regional urban context, which is also the spiritual continuation of design pursued by urban micro-regeneration practitioners (Fig. 4).

This area is designed to balance the space for children to experience activities (Fig. 5). The concept is the "melting tank stirring" process in steelmaking, which is integrated with the facility. The sphere on the ground is a lighting installation that also meets the needs of night lighting.

This area is a space for children to climb and experience activities (Fig. 6). The facilities combine the steps of "electric furnace low blowing" in steelmaking, and the spheres on the ground are lighting devices to provide lighting needs at night.

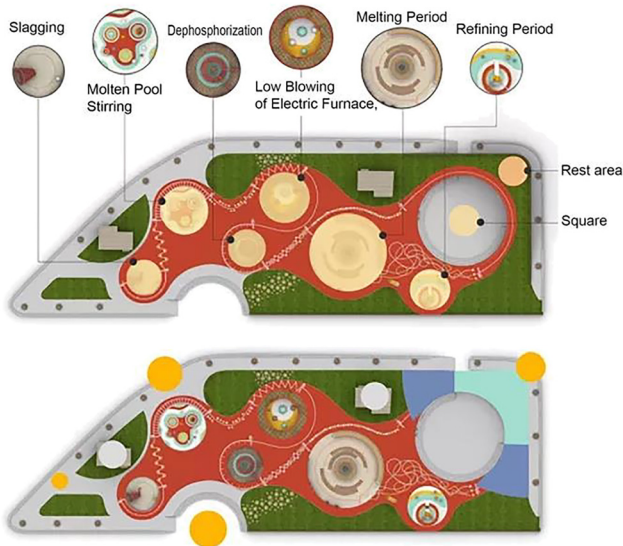


Fig. 3. The functional partition (Source: The project team drew)



Fig. 6. The “electric furnace low blowing” space (Source: The project team drew)

These areas are still complex cultural experience spaces for the elderly and children. The concept is combined with the steps of the “melting stage” and “dephosphorization stage” in steelmaking (Figs 7 and 8). The floor of the fitness trail area for the elderly is paved with pebbles to provide the elderly with the function of slow walking massage. Peripheral with children swing experience facilities. The wind-

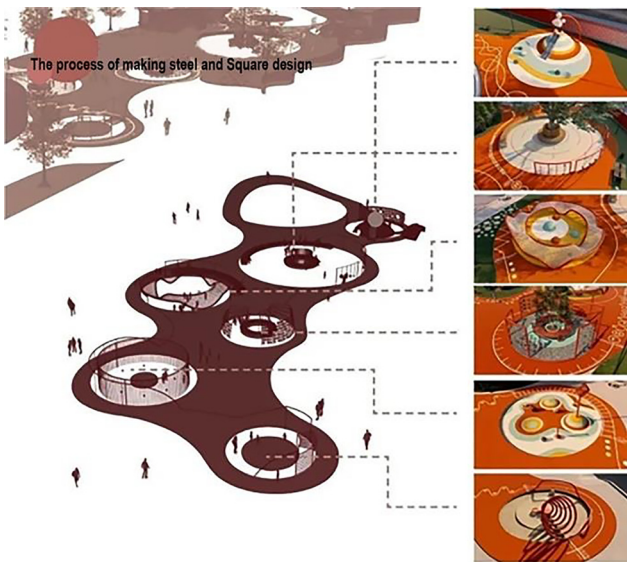


Fig. 4. The idea of design (Source: The project team drew)



Fig. 7. The “melting stage” space (Source: The project team drew)



Fig. 5. The “melting tank stirring” space (Source: The project team drew)



Fig. 8. The “dephosphorization stage” space (Source: The project team drew)



driven device, Memory of Capital Iron and Steel Company is a collection of photos from the establishment, glory, and adjustment of Capital Iron and Steel Company.

In the children's slide experience space, the concept combines the steps of "refining" in steelmaking, the slide is integrated with the terrain for the overall design (Fig. 9).

The pattern of the floor in the "Memorabilia" area shows the company culture. Six series sites are set around the children can help them learn more interesting company knowledge (flying chess game, hopscotch, learn to walk) (Figs 10 and 11).

Some residents of this community, former employees of Capital Iron and Steel Company, participate in the opening ceremony of the Community Micro-space renovation project on Laoshan Street (June 15, 2021). Residents took a tour of the park based on the company event signs printed on fitness trails. The project, as an exploration of Chinese urban micro-regeneration techniques, improves the public living space of residents.

## 5. CONCLUSION

As time goes on, the city will face many problems of the new era in the process of development. Based on the



Fig. 9. The "refining" space (Source: The project team drew)



Fig. 10. The game area and "Memorabilia" area (Source: The project team drew)



Fig. 11. Old photo of the area (Source: The project team drew)

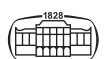
existing urban construction, designers should not only respect the existing urban construction, but also make urban renewal to meet the current social needs. In most cases, large-scale demolition and construction are not desirable. In the face of the specific regional problems of the city, it is efficient and low-carbon to realize the revitalization of regional vitality with limited design transformation. Urban micro recovery is the way to compound the urban reconstruction in this era. Through a series of means of public art, there can make limited adjustments to the space to improve the regional environment and activate the mass culture of surrounding residents. The core of public art is publicity and the public spirit of society. It is not a niche appreciation of the artist or designer himself, nor is it a commercial core purpose. Public art is a kind of art culture that benefits citizens, aesthetically educates citizens, and is conducive to the self-education and growth of civil society.

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