

Renewal Design of Public Space in Old Alleys Based on the Theory of Spatial Conflict: A Case Study of Cherry Oblique Street

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Abstract: Old alleys, also known as Hutong in Chinese, are important carriers of urban history and culture. With the rapid development of cities and the rise of tourism, the spatial functions of traditional alleys can no longer fully meet the needs of modernization, leading to conflicts between residents and tourists in this space. This study, through field research and questionnaire surveys, employs spatial conflict theory to conduct an in-depth analysis of the conflicts between residents and tourists in Beijing's alleys. It identifies issues such as the imbalance in the order and structure of public spaces in the alleys, and the conflict between cultural heritage and modern demands. Based on these findings, the article focuses on the "chairs" that represent the conflict between tourists and residents within the alleys, using them as a starting point for the design of renewal plans for alley public spaces. It explores how to balance modern living needs while preserving historical culture, achieving sustainable development of the alleys. As urban development and community needs continue to evolve, such design plans have significant practical and promotional value, effectively promoting the protection and regeneration of urban historical and cultural heritage.

Keywords: Old alleys Space Conflict Theory, Residents and Tourists Conflict, Public Space Renewal.

1. Introduction

Old alleys represent the architectural style and way of life of a specific period. During the historical evolution of these alleys, various social entities such as governments, merchants, and residents from different times have carried out renovation and utilization to varying degrees. These activities have not only altered the spatial form and functional layout of the alleys but have also profoundly affected the social structure and cultural characteristics within them. In modern times, with the acceleration of socialization and the rise of the tourism industry, the involvement of multiple entities, especially the intensification of conflicts between tourists and residents, has led to issues of imbalance in the public space order and structure and the loss of historical memory and cultural characteristics within the alleys [1]. By employing field research and questionnaire surveys through the lens of spatial conflict theory, this article highlights prominent conflicts, such as those between public spaces and private facilities, as well as between the preservation of cultural heritage and the demands of modern life. Based on these findings, this article proposes a series of design schemes aimed at balancing the needs

of residents and tourists through the rational design and planning of public facilities. These design schemes may provide theoretical and practical guidance for the sustainable development of old alleys, promoting the protection and regeneration of urban historical and cultural heritage while fostering harmonious coexistence and long-term development of the alleys.

2. Overview of Cherry Slope Street

Cherry Street, located in Dashilan area, Xicheng District, Beijing, is one of the four famous inclined streets in Qianmen area. Since the period of Qianlong, the commercial activities in Qianmen area have been very prosperous, and there are extremely high requirements for the convenience of transportation. This not only shows that the area of Cherry Cross Street has been the center of commercial activities since ancient times, but also reflects its historical importance [2]. Close to the Second Ring Road, with a total length of 557 meters and a width of between 4.5 meters to 10 meters, it is an indispensable part of Beijing's old city. This Hutong is rich in cultural deposits and is filled with numerous ancient architectural sites. Its architectural style is mainly the traditional quadrangle courtyard and brick structure, which is mainly the residence of local residents, and attracting many tourists to visit. The neighborhood is close to commercial and residential areas, and the location of Cherry Slant Street makes it a bridge between history and modern times. However, with the rapid development of urbanization, this historic street is facing many challenges.

3. Problem: Analyzing the Public Space of Old Hutongs from the Perspective of Spatial Conflict Theory

Spatial conflicts arise from the scarcity of spatial resources and the spillover effects of spatial functions, which is an objective geographical phenomenon that comes with the competition for spatial resources. These types of conflicts reflect the manifestations of spatial conflicts across different dimensions, such as the spatial allocation of economic activities and the spatial demands of social activities [3].

As a historical and cultural heritage, Beijing's Hutongs have encountered problems such as crowded public spaces, changed social structures, fading cultural characteristics, and weakened community identity due to limited spatial resources, the influx of tourists, commercialization, and tourism development [4].

According to of spatial conflict theory, the issues with Hutong public spaces are not just about the contestation of physical space but also about conflicts of social relationships and cultural traditions [5]. The operation of Hutongs as collective spaces also constitutes the order of social relationships. However, this order is constantly challenged in the rapid urban transformation.

In recent years, the booming commercial development and the influx of tourists have increasingly highlighted the conflicts between the residents of Cherry Inclined Street and the visitors [6], particularly evident in the use of "chairs" in the alley space. Firstly, Cherry Inclined Street has evolved into a mixed-use area combining commercial and residential functions, but the street lacks rest areas, and public rest facilities are extremely scarce. Residents typically place private chairs in front of their homes or at the intersections of alleys for rest, while tourists do not have dedicated rest chairs or spaces. Secondly, the improper placement of chairs by residents affects the aesthetic of the street, and due to the lack of fixed locations, it is not conducive to emotional exchanges and collective activities among residents. The elderly in the residential area have fixed social venues where they raise birds, walk dogs, and play Chinese chess together, but there are no fixed places for playing Chinese chess or playing cards in the alleys, and the size of the chess chairs they bring does not meet the needs of the elderly.

These challenges are not just a reflection of the conflicts between residents and tourists; they actually reveal issues of uneven spatial distribution and imbalanced social activity spaces caused by competition for spatial resources. The study of the Heritage Corridor Theory also proposes a framework for integrating historical spatial resources to promote sustainability in environmental, ecological, and cultural fields. It aims to meet the needs of modern life while preserving historical culture through reasonable planning and design [4]. To resolve these conflicts, my updated design focuses on how to balance the needs of residents and tourists under limited spatial conditions. The goal is to meet the daily leisure needs of residents while providing a comfortable rest environment for tourists. This paper uses questionnaire surveys and offline interviews to gain an in-depth understanding of tourists' and residents' needs. In addition, this study proposes three types of chair designs to create multifunctional public spaces based on the considerations of balanced needs, multifunctional design, flexible facilities, and cultural characteristics. The needs of tourists and residents were carefully analyzed, and based on considerations of balancing these needs, multifunctional design, flexible facilities, and cultural characteristics, three different types of chair designs were proposed. These designs aim to create a multi-functional public space that accommodates diverse user requirements while preserving the cultural essence of the area.

4. Solution: Renewal Design Strategies for Public Spaces in Old Alleys Based on Spatial Conflict Theory - A Case Study of Cherry Slanting Street

4.1. Community Research Analysis

Through field visits, questionnaires, and interviews, the primary groups within the Hutong community were identified, including tourists, elderly people playing chess, mothers dancing in the square, children playing, and staff members. The activities of these residents in the Hutong vary greatly, and their needs mainly focus on three aspects: protecting existing cultural heritage, advocating for small-scale and gradual renovation, and emphasizing practicality.

4.2. Design Strategy

Culture influences experience by offering mediated perceptions that influence how it is understood. In turn, experience affects culture, since individual experiences become communicable and therefore collective [7]. The swallow kites and Wudaoying Temple are important components of Beijing's Hutong culture. These cultural elements not only carry historical memories but are also part of the daily life of the Hutong community residents.

In designing the seating, special attention was given to integrating these cultural characteristics, ensuring that the seats serve not just as functional objects for rest but also as mediums for showcasing and preserving Hutong culture. Through such design, the seats can not only attract the attention of tourists but also stimulate a sense of pride in the culture among the residents, thereby promoting the spread and protection of the culture while meeting functional needs.

4.2.1. Kite Leisure Seats

The Kite Leisure Seats aim to address the lack of leisure seating on Cherry Incline Street. The swallow kite originates from Beijing and is one of the representatives of the Beijing kite genre, also known as "Zha Yan" or "Jing Yan". Its shape is inspired by a type of swallow living in Beijing. In the design, by simplifying and artistic processing of the swallow's form, a unique shape for the seat's armrests and railings is achieved. The surface material of the seats is selected for its strong weather resistance and ease of cleaning, suitable for outdoor environments. In terms of color, blue and red tones similar to those of the swallow kite are incorporated, evoking connections to Beijing's rich kite culture.

This design presents two types of seating options. The first is the folding seat (Figure 1), which is particularly suitable for areas with limited space and Hybrid spaces. Hybrid space can be switched according to the user's spatial needs or at different times of the day, thus achieving multifunctionality without increasing the building area, efficiently saving space resources [8]. It is also useful as a temporary resting place outside public bathrooms. The second is the leisure bench (Figure 2), which is more suitable for installation in spacious open spaces or areas with heavy foot traffic.

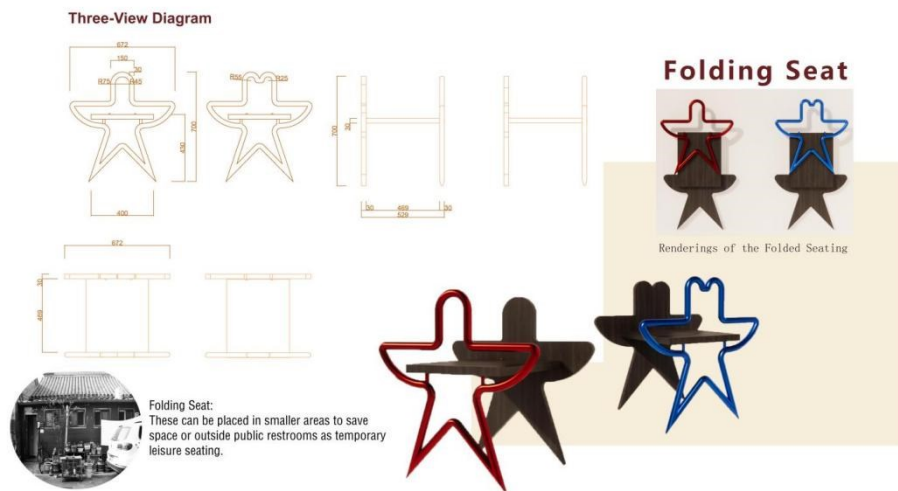


Figure 1: Folding Seat

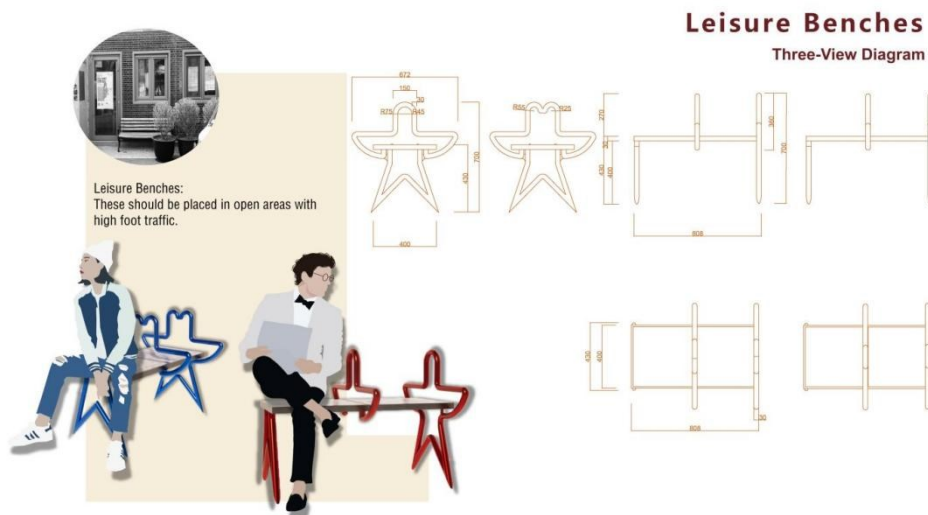


Figure 2: Leisure Benches

The kite leisure chair meets the needs of tourists for rest along the streets in a convenient, efficient, cost-effective, and fun way, while cleverly and vividly integrating the cultural elements within the Hutong. It solves the problem faced by tourists from other places when looking for temporary rest areas along the streets.

4.2.2. Multifunctional Chair

Wudaomiao Temple, located on Cherry Alley, has a long history dating back to the Ming Dynasty. However, the temple is not well recognized or marked within the Hutong, and its cultural significance has been largely overlooked. To improve this situation, the design of the Multifunctional Chair was conceived to serve as both a functional seating option and a cultural landmark for the Wudaomiao Temple. The chair draws inspiration from the outline of the temple eaves, and uses modern materials and craftsmanship to create a piece of public furniture that is both in line with modern aesthetics with traditional charm.

The Multifunctional Chair offers three different seating configurations and is designed with a color scheme reminiscent of the temple's eaves, ensuring visual harmony with the surroundings.

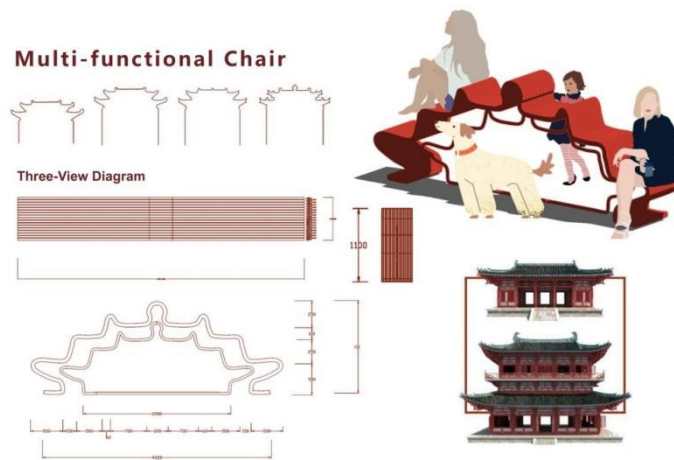


Figure 3: Multi-functional Chair

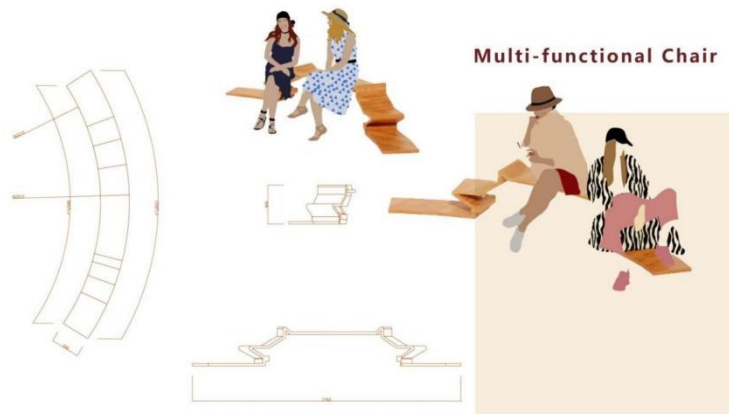


Figure 4: Multi-functional Chair

The design of the first two types of multifunctional chairs (Figures 3 and 4) not only provides a resting place for visitors but also helps address the issue of visitors having difficulty locating the exact position of the Wudao Temple. Drawing inspiration from the contours of the temple eaves, the chairs aim to serve multiple functions for people of all ages. They provide seating for residents, a play area for children, and a convenient spot for residents walking their dogs, with iron pipes under the seats for securely tying leashes. Each detail of the multifunctional chairs has been carefully designed, creating a seamless connection between history and modernity, as well as tradition and innovation.

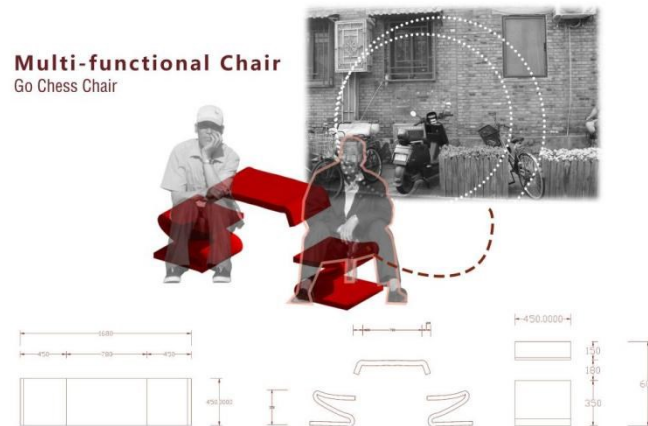


Figure 5: Multi-functional Chair: Go Chess Chair

The third functional chair, namely the Go-Chess chair (Figure 5), aims to solve the problem of a lack of suitable places for residents of Hutongs to play Go and poker in limited spaces. The design of the chair considers the narrow spatial constraints of Hutongs, with the table part being fixed to the wall, and its square shape perfectly fits the needs of Go placement. The side decoration of the Go table adopts a simplified version of the temple eaves silhouette pattern, adding a touch of traditional aesthetics. In addition, are carefully considered to ensure ergonomic comfort, particularly for elderly users, allowing them to engage in their leisure activities with ease and comfort.

5. Conclusion

Cherry Slope Street, as a compelling case study for the renewal design of old alleyway public spaces, proposed comprehensive design strategies through in-depth exploration and application of spatial conflict theory. These design solutions aim to balance the needs of residents and tourists, protect and showcase cultural heritage, and improve the quality of life in the alleyways. By resolving spatial conflicts and promoting sustainable development, this study provides valuable theoretical and practical guidance for the protection and regeneration of urban historical and cultural heritage. To further refine the design proposals, several strategies have been incorporated, including multifunctional seating to cater to diverse user needs, the use of culturally relevant design elements to create a sense of place, and the introduction of flexible public spaces that can adapt to both day-to-day activities and special events. These measures address not only the spatial conflict but also the social dynamics between the different groups using the space, ensuring a balance between rest and activity, and facilitating a more inclusive and engaging urban experience.

Despite the achievements in design strategies and implementation outcomes, there are still some limitations to this study. Due to time and resource constraints, a thorough investigation and interviews with all potential users were not conducted, which may have affected the comprehensiveness and depth of the design strategies. Future research could explore how to integrate these strategies with modern technology and sustainable development concepts to adapt to the evolving needs of urban development.

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