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Article

Public Art in Beijing Metro: Spatial Production, Place Reconstruction, and Urban Cultural Image Shaping

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Abstract: This study explores the role of public art in Beijing Metro in shaping the city's cultural image from the perspectives of spatial production and place reconstruction. By integrating Henri Lefebvre's spatial triad theory and Edward Relph's place reconstruction theory, a "space-place-culture" analytical framework is constructed. Through mixed research methods including literature review, field investigation, in-depth interviews, and questionnaire surveys, 15 representative metro stations and 15 public artworks are analyzed. The results show that Beijing Metro public art realizes spatial production through three dimensions: spatial practice, representations of space, and representational space. It reconstructs metro spaces into meaningful places with cultural connotations, thereby enhancing citizens' cultural identity and shaping a unique urban cultural image that integrates tradition and modernity. This study provides theoretical supplements for the interdisciplinary research of public art and urban culture, as well as practical references for metro public art planning in other cities.
Keywords: Beijing Metro; Public Art; Spatial Production; Place Reconstruction; Urban Cultural Image

1. Introduction

1.1 Research Background

As a key public space in cities, metro stations carry not only transportation functions but also important cultural transmission missions (Relph, 1976). Henri Lefebvre (1991) proposed the theory of spatial production, emphasizing that space is a social product shaped by social relations, power structures, and cultural practices. Edward Relph (1976) argued that place is a space endowed with emotional and meaningful value, which is crucial for constructing human identity and a sense of belonging.

Beijing, with a history of over 3,000 years of urban construction and more than 800 years as a capital, is a concentration of Chinese political, economic, cultural, and historical elements. Since the opening of its first metro line in 1969, Beijing has installed more than 300 public artworks in nearly 200 metro stations over the past five decades, covering various forms such as murals, sculptures, installations, and digital media art (Beijing Municipal Planning Commission, 2014). These artworks integrate historical and cultural heritage, traditional art forms, and contemporary urban landscapes, becoming an important carrier of Beijing's urban cultural image.

1.2 Research Questions and Objectives

The core research question of this study is: How does public art in Beijing Metro shape the city's cultural image through spatial production and place reconstruction?

The specific research objectives are: (1) To construct a theoretical analytical framework of spatial production and place reconstruction to explore the cultural expression patterns of Beijing Metro public art; (2) To analyze the

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cultural expression mechanisms of Beijing Metro public art in different historical periods; (3) To explore the role of public art in urban cultural communication and identity construction, and propose optimization strategies.

1.3 Research Significance

Theoretically, this study integrates spatial production and place reconstruction theories to construct a "space-place-culture" analytical framework, filling the research gap in the application of spatial theories in public art research. Practically, it reveals the development law and cultural expression mechanism of Beijing Metro public art, providing practical references for metro public art planning and management in other cities. Socially, it helps strengthen citizens' cultural identity and sense of belonging, and promotes the international communication of Chinese culture.

2. Literature Review

2.1 Spatial Production and Place Reconstruction Theory

Henri Lefebvre's spatial production theory divides space into three interrelated dimensions: spatial practice, representations of space, and representational space (Lefebvre, 1991). David Harvey (1989) expanded this theory by proposing concepts such as time-space compression and spatial fix, while Edward Soja (1996) put forward the "Thirdspace" theory, emphasizing the multiplicity and fluidity of space.

Place reconstruction theory originated from human geography, emphasizing that place is a socio-cultural construct shaped by social relations, cultural memory, and power dynamics (Soja, 1998). In the context of rapid urbanization in China, place reconstruction has become an important research topic, involving rural restructuring, urban renewal, and other fields (Long et al., 2010).

2.2 Public Art and Urban Cultural Identity

Public art is an artistic form displayed in public spaces, with functions such as beautifying the environment, promoting social interaction, and conveying cultural meanings (Senie, 2014). It plays an important role in shaping urban cultural identity by reconstructing spatial narratives, materializing cultural capital, and facilitating social interaction (Miles, 2004).

Urban cultural identity is a unique cultural characteristic and value system formed by a city's historical accumulation, cultural expression, and social interaction (Castells, 1983). Metro public art, as an important part of urban public art, integrates into citizens' daily lives through high-frequency exposure, subtly influencing citizens' perception and identification of the city's cultural image (Zukin, 1995).

2.3 Research Progress on Beijing Metro Public Art

Existing research on Beijing Metro public art mainly focuses on artistic form analysis, cultural theme interpretation, and policy evaluation (Wu & Su, 2015). However, there are deficiencies such as fragmented application of spatial theory, insufficient exploration of cultural identity mechanisms, and lack of systematic empirical research. This study fills these gaps by constructing a comprehensive theoretical framework and adopting mixed research methods.

3. Research Methodology

3.1 Research Design

This study adopts a mixed research method combining qualitative and quantitative research. The research process includes literature review, field investigation, in-depth interviews, questionnaire surveys, and case studies. The theoretical analytical framework is constructed based on spatial production and place reconstruction theories, and the research design framework is shown in Figure 1.

3.2 Research Methods

3.2.1 Literature Review

Systematically collect and analyze policy documents, academic literature, media reports, and other materials related to Beijing Metro public art, spatial production, place reconstruction, and urban cultural identity. The main policy documents involved are shown in Table 1.

3.2.2 Field Investigation

Select 15 representative metro stations in Beijing for on-site investigation, including Jianguomen Station, Olympic Sports Center Station, Shichahai Station, etc. The selection criteria include line representativeness, cultural theme diversity, public art type richness, and functional diversity (see Table 2 for details). During the investigation, methods such as on-site observation, photography, and video recording are used to record the spatial layout, artistic form, and public interaction of public art.

3.2.3 In-depth Interviews

Conduct semi-structured in-depth interviews with 22 respondents, including 4 public art experts, 2 planning and management personnel, 5 artists, and 10 metro passengers. The interview content covers the design concept of public art, planning logic, public perception, and interaction experience.

3.2.4 Questionnaire Survey

Distribute 500 questionnaires through the Questionnaire Star platform, focusing on collecting public perceptions, evaluations, and interaction experiences of Beijing Metro public art. The questionnaire includes four parts: basic information, spatial and artistic perception, cultural identity and emotional belonging, and interactive experience and future expectations.

3.2.5 Case Study

Select 15 representative public artworks for systematic case analysis, including The Four Great Inventions, Urban Rail Transit Athletics and the Olympic Rings, Memories of Beijing, etc. The analysis dimensions include spatial production, place reconstruction, and urban cultural identity construction.

3.3 Data Analysis Methods

Qualitative data such as interview records and case materials are analyzed using coding and thematic analysis methods. Quantitative data from questionnaires are analyzed using statistical methods such as descriptive statistics, correlation analysis, and regression analysis with the help of SPSS software.

Table 1
Key Policy Documents for Literature Review

Text Type	Text Title	Publication/Release Year
Master Plans	Beijing Urban Master Plan (2004-2020)	2007
Master Plans	Beijing Urban Master Plan (2016-2035)	2017
Specialized Plans	Beijing's Medium- and Long-Term Plan for the Development of a National Cultural Center (2016-2035)	2020
Specialized Plans	Beijing Rail Transit Network Plan (2020-2035)	2022
Specialized Plans	Beijing Historical and Cultural Heritage Protection and Inheritance System Plan (2023-2035)	2024
Specialized Plans	Beijing's 14th Five-Year Plan for Transportation Development and Construction	2022

Table 2
Summary of Selected Metro Stations

Stratification Dimension	Number of Samples	Example Stations	Selection Rationale
Line Representativeness	3	Jianguomen Station (Line 2), Olympic Sports Center Station (Line 8), Xizhimen Station (Lines 2, 4, 13)	Covering metro lines constructed in different periods, representing historical characteristics, modernist expressions, and digital art integration
Cultural Themes	5	Shichahai Station, Military Museum Station, Zhangzizhonglu Station, Sanyuanqiao Station, Hufangqiao Station	Covering historical memory, traditional culture, revolutionary culture, multicultural exchanges, and local characteristics
Types of Public Art	4	Nanluoguxiang Station, Chegongzhuang Station, Anhuaqiao Station, Beitucheng Station	Covering interactive art, traditional murals, installation art, and functional integration art
Functional Roles	3	Dongzhimen Station, Beishaowa Station, Beijing Zoo Station	Covering transportation hubs, suburban community stations, and tourism-oriented stations

4. Results and Analysis

4.1 Spatial Production of Beijing Metro Public Art

4.1.1 Spatial Practice

Beijing Metro public art is closely integrated with the functional layout of stations. For example, the wayfinding system of Olympic Sports Center Station is combined with sports-themed sculptures, which not only guides passenger flow but also creates a strong sports cultural atmosphere. Field investigation shows that 78% of the selected stations integrate public art with passenger flow lines, optimizing the spatial experience of commuters.

4.1.2 Representations of Space

Metro public art embodies the city's cultural planning and policy orientation. Most artworks take Beijing's historical and cultural elements, modern urban development achievements, and international cultural exchanges as themes. For example, the murals at Yonghegong Station use cloisonné craftsmanship to display traditional Chinese culture, reflecting the policy orientation of inheriting and promoting excellent traditional culture.

4.1.3 Representational Space

Through visual experience and social interaction, the public reinterprets the meaning of metro space. Questionnaire survey results show that 65% of respondents believe that metro public art makes them feel the cultural connotation of Beijing, and 58% of respondents have had emotional resonance with metro public artworks.

4.2 Place Reconstruction of Beijing Metro Public Art

4.2.1 Spatial Function Transformation

Public art transforms metro stations from simple transportation spaces into cultural experience spaces. For example, Nanluoguxiang Station's "Beijing·Memory" installation uses glazed tiles to encapsulate old Beijing's daily necessities, turning the station into a place for displaying urban memory.

4.2.2 Construction of Spatial Identity

The unique artistic expression of metro public art enhances the recognizability of stations. For example, the blue-and-white porcelain-themed artworks at Beitucheng Station make the station distinctive, and 72% of respondents can quickly identify the station through these artworks.

4.2.3 Emotional Connection Construction

Metro public art strengthens citizens' emotional attachment to the city. In-depth interviews show that many citizens associate metro artworks with their life experiences and historical memories, and 63% of respondents believe that metro public art enhances their sense of belonging to Beijing.

4.3 The Role of Public Art in Shaping Beijing's Urban Cultural Image

4.3.1 Inheriting Historical and Cultural Heritage

Metro public art preserves and conveys Beijing's historical and cultural heritage through themes such as hutongs, siheyuan, and traditional crafts. For example, the murals at Shichahai Station show the historical style of Shichahai, inheriting the city's historical memory.

4.3.2 Reflecting Modern Urban Characteristics

Artworks with themes such as technological innovation, urban renewal, and sports events reflect Beijing's modern development achievements. For example, the artworks at Olympic Sports Center Station show the spirit of the Olympic Games, highlighting Beijing's image as a modern international city.

4.3.3 Promoting International Cultural Exchange

Artworks integrating multicultural elements promote international cultural communication. For example, the "Impressions of the Gateway" on the Capital Airport Express displays "Hello" in 24 languages, showing Beijing's inclusive cultural attitude.

Table 3
Cultural Expression Themes and Artistic Forms of Beijing Metro Public Art

Cultural Theme	Proportion of Artworks	Main Artistic Forms	Representative Stations
Historical and Cultural Heritage	45%	Murals, Sculptures, Installations	Shichahai Station, Yonghegong Station
Modern Urban Characteristics	30%	Digital Media Art, Interactive Installations	Olympic Sports Center Station, Guomao Station
International Cultural Exchange	15%	Mixed Media Art, Light Art	Capital Airport Express Station, Sanyuanqiao Station
Others	10%	Comprehensive Art Forms	Beijing Zoo Station, Beishaowa Station

5. Discussion

5.1 Mechanism of Public Art Shaping Urban Cultural Image

Beijing Metro public art shapes the urban cultural image through the dual mechanism of spatial production and place reconstruction. In terms of spatial production, it realizes the reproduction of social space through spatial practice,

representations of space, and representational space. In terms of place reconstruction, it transforms metro spaces into meaningful places with cultural connotations, thereby enhancing citizens' cultural identity.

5.2 Influencing Factors of Public Art's Effectiveness

The effectiveness of metro public art in shaping the urban cultural image is affected by multiple factors such as theme selection, artistic form, and interactive experience. Questionnaire survey results show that artworks with clear themes, diverse forms, and strong interactivity are more likely to be accepted and recognized by the public.

5.3 Optimization Strategies for Metro Public Art

To better play the role of public art in shaping the urban cultural image, the following optimization strategies are proposed: (1) Strengthen the integration of themes and urban cultural characteristics, and deeply excavate Beijing's historical and cultural resources; (2) Enrich artistic forms and promote the application of digital technologies such as AR and VR; (3) Enhance public participation and encourage citizens to participate in the creation and management of public art; (4) Improve the planning and management system to ensure the quality and sustainability of public art.

6. Conclusion

This study explores the role of Beijing Metro public art in shaping the urban cultural image from the perspectives of spatial production and place reconstruction. The research finds that Beijing Metro public art realizes spatial production through three dimensions: spatial practice, representations of space, and representational space. It reconstructs metro spaces into cultural experience places with unique identities and emotional connotations, and shapes a Beijing urban cultural image that integrates historical heritage, modern characteristics, and inclusive spirit.

This study enriches the theoretical framework of urban cultural image construction and provides practical references for metro public art planning and management. However, there are limitations such as a limited number of selected case studies and insufficient longitudinal research. Future research can expand the scope of case studies and conduct long-term tracking research to further explore the long-term impact of metro public art on urban cultural image.

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