

Interactive Perspectives on Environmental Sculpture in Zhengzhou Urban Area: A Systematic Literature Review

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To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v14-i2/20687>

DOI:10.6007/IJARBSS/v14-i2/20687

Published Date: 09 February 2024

Abstract

At present, the construction of urban environmental sculpture has been greatly developed. Whether it is a square, a park or a street community, everywhere you can see some environmental sculptures with different contents and forms, different languages and styles, among which there is no lack of works with the audience and the environment to establish a good interactive relationship. It directly faces the audience, takes sharing and communication as a premise, arouses the emotional resonance of the audience, stimulates the interest of the audience to participate, and plays an important role in enhancing the taste of the city, enriching the connotation of the city, beautifying the urban space and creating the cultural image of the city. This paper starts from the literature review, from the theme, form and innovation and other aspects of the study of the elements of interaction.

Keywords: Environmental Sculpture, Zhengzhou Urban Area, Interaction, Psychology, Behavior

Introduction

Modern cities have evolved beyond mere concrete structures to embody urban culture and fulfill human physical and psychological needs. Today's cities emphasize comfortable and humanized spaces, and art and culture, especially environmental sculpture, play a central role in enhancing urban appeal. Environmental sculptures are not limited to art galleries or museums; they permeate every corner of the city, symbolizing the integration of art, life and the city. However, the challenge remains: how to strengthen the connection between these sculptures, the public and the urban environment. The key is to highlight the aesthetic, cultural and social significance of these sculptures and to ensure that they blend seamlessly into everyday life. Despite the importance of environmental sculptures, there is still a research gap in terms of their interactivity. This study will focus on this aspect by examining sculpture in Zhengzhou and exploring the relationship between sculpture, individuals and urban space.

The Purpose of The Study and Research Status

Research Purpose

The purpose of this paper is to analyze the current situation of public participation in environmental sculpture and its influencing factors in Zhengzhou City through an extensive literature review and cases of excellent environmental sculpture. By delving into the definition of environmental sculpture and the theoretical framework of interactivity, this paper provides an in-depth look at the current state of environmental sculpture design in Zhengzhou City. The study also examines the challenges encountered in this field from an interactivity perspective and points out potential prospects for future development.

Research Status

Relative to china, Europe, America and other developed countries construction started to develop earlier, urban public art, environmental sculpture is very developed, environmental sculpture in the city image shaping the important position is also very significant, some environmental sculpture has become the iconic symbol of the city's visual culture, such as the United States of America's Statue of Liberty, Singapore's Fish Tail Lion, Denmark's Little Mermaid and so on, the centre of visual status is obvious. Therefore, theoretical studies on urban construction, urban public art and environmental sculpture, including relevant studies and literature on interaction, are relatively abundant.

Gehl (2011) in his book "Life between Buildings" analysed the way and characteristics of public use of squares, parks, streets and other public spaces, and how to positively influence and promote the public's daily life and interaction through rational design and planning. The author classified different spatial relationships, and came up with the public's special requirements for different environmental spaces in terms of interaction between people, environment and space, and put forward the idea of creating vibrant and humane spaces. The authors have studied the classification of various spatial relationships, and in view of the interaction between people, environment and space, they have come up with some special requirements of the public for different environmental spaces, and proposed ways to create dynamic and humanised public spaces.

The book "World City Environmental Sculpture America Volume" (1997) by the famous Japanese environmental sculptor and public artist Shoichiro-Higuchi introduces many environmental sculptures and public art works in American metropolises such as Chicago, Los Angeles, New York, and so on. It analyses the current situation of the works in terms of spatial relationship, art and sociology, and discusses the application of environmental sculpture in urban environment and cultural construction. The book analyses the current state of environmental sculpture from various disciplines, including spatial relations, art and sociology, and explores the ways in which environmental sculpture can be used in urban environment and cultural construction. The examples of environmental sculpture explored in the book are all excellent classic cases of the American metropolis, with strong infectious force and persuasive power, and systematically summarize the interactive way of the existence of public art works in the city, which is called a model with revelation and reference for the construction of urban public art and environmental art in China.

China's environmental sculpture construction after more than thirty years, formed a relatively unique Chinese characteristics, together with the rapid progress of urbanisation, the end of the last century in the country set off a wave of environmental sculpture construction. The theoretical study of environmental sculpture began in the early 1990s, and

although it has achieved certain academic results, it lags behind the development needs of environmental sculpture.

Zhong (2017) in the book "Introduction to Public Art" cited a large number of novel cases, the definition of public art, historical lineage, artistic creation, humanistic connotation, development trend, as well as the United States, Western Europe, Japan and other developed regions of public art policies and regulations, the creation of a way to carry out a systematic introduction and analysis, for the creators of art has a certain inspirational role. This book analyses the future development direction of urban public art construction and public art education in China, and the overall idea is relatively clear, but from the theoretical point of view, there is still a lack of overall thinking and analysis of Chinese-style public art.

Yali & Qiumei (2014) in the "urban public sculpture "interactive" analysis of the article, the study of domestic and foreign urban space in the sculpture works of interactivity as the focus, through the analysis of urban public space in the sculpture of interactivity, openness, fun and other characteristics of the representative of the outstanding works of appreciation, the authors summarized for the sculpture works design should satisfy the artistic interaction, while making the public feel the culture, art and technology.

Xi (2015) in the "sculpture interaction research" article, that from ancient times to the present sculpture works exist in a certain sense of interaction, contemporary sculpture interactivity is also becoming more and more attention; Analyzed since the 1960s at home and abroad with the interactivity of sculpture works, from the audience and sculpture interaction forms are summarized, emphasizing the value of the physical dynamics of craft technology and audience interaction; through the positive and negative case study analysis of the importance of interaction, from the creative method and other aspects of the analysis of interaction, the public should be able to feel the culture, art and technology. It also analyses the importance of interaction through positive and negative cases, and analyses the influence of sculpture interaction in today's plastic art creation from the aspect of creative method.

Yu Junfeng's article "A Brief Analysis of the Social Perception and Interaction of Environmental Sculpture" (2016), based on behavioural psychology and sociology, analyses the psychological and behavioural mechanisms and characteristics of the social perception and social impression of environmental sculpture, and emphasizes that in the process of planning and layout, creation and design of environmental sculpture, we should not only consider the art of individual environmental sculpture, but also pay attention to the sociality of its material background, aesthetic interest and popularity of its culture. At the same time, we should not only strive to create works of art in accordance with the social perception of the audience, but also pay attention to promoting the development of social culture and improving artistic taste; from the four interactive characteristics of environmental sculpture in terms of direction, depth, breadth and frequency, we point out that it is of great theoretical and practical value to explore the causes of social interaction of environmental sculpture, the social interest and socio-cultural characteristics, and to seek the innovation of the form of environmental sculpture in public art.

Based on the material and spiritual characteristics of environmental sculpture, Yu Junfeng's article "The Spatial Construction of Environmental Sculpture" (2010) analyses the sculptural space of environmental sculpture, the material characteristics of environmental space and the spiritual characteristics of the psychological space of the object (aesthetic space, behavioural space and cultural space) from the micro to the macro, pointing out that whether it is the physical space or the psychological space, they all have their own value or function. From the perspective of sculpture theory, it is emphasized that the overall grasp of

the spatial characteristics of environmental sculpture, the construction of the spatial environment of environmental sculpture of the material and spiritual community, is the sculptor, the audience and environmental sculpture of the mutual care of the essence of the problem, from the side of the overall relevance of the interaction is discussed.

From the research status can be seen, in the field of environmental sculpture research, for the domestic environmental sculpture interactivity research is relatively scarce, and most of the case summarized the most important, truly theoretical and instructive academic results are very rare, the relevant writings are only a few. For Zhengzhou City, the theoretical research on the interactivity of environmental sculpture is still in a blank stage.

Inspiration from excellent cases of Environmental sculpture

"Cloud Gate "in Chicago

This sculpture by artist Anish Kapoor is located in Chicago's Millennium Park. It is a huge curved stainless steel sculpture, jokingly called "Soybean" or "Cloud Gate". The excellence of this sculpture lies in its unique form and material, as well as its integration into the urban environment (Vodvarka, F., Irish, S., & Malnar, J. M.2006). The curved shape of the sculpture creates a striking visual focal point while reflecting the modernisation and innovation of the city. The stainless steel material not only gives the sculpture durability, but also reflects the surrounding landscape and sky, creating a harmonious interaction with the natural environment. In addition, the Cloud Gate sculpture has become an iconic landmark of the city, attracting a large number of tourists and citizens.

The "Playboy "sculpture in the Netherlands

The Playboy sculpture, created by artist Urs Meier, is located in Europe Square in Rotterdam, the Netherlands. The sculpture consists of a giant rabbit whose body is covered with colourful flowers. The excellence of this work lies in its unique creativity and visual appeal. The image of the sculpture is both humorous and vibrant, contrasting with its urban surroundings. The floral decoration enlivens the sculpture and attracts the viewer's attention. In addition, the huge size of the sculpture also provides an opportunity for people to interact with it, play around it, take pictures of it, etc., thus increasing the fun of public participation.

Brazil's "São Paulo Rainforest" sculpture

Artist Rodrigo Ohtake created the São Paulo Rainforest sculpture in São Paulo, Brazil. Inspired by plant and animal life, the sculpture expresses the vitality and diversity of the rainforest through metal and rich colours. The sculpture's excellence lies in its innovative design and choice of materials. It transforms the urban space into a vibrant rainforest environment through changes of image and colour. Viewers can feel the experience of being close to nature around the sculpture and at the same time think about environmental protection. The diversity of the sculptures also reflects the city's cultural inclusiveness and pluralism.

These outstanding examples of environmental sculpture demonstrate the artists' ability to integrate sculpture into the urban environment and public interaction through innovative design concepts, material choices and figurative expressions. These works are not only visually striking, but also create an experience for people to engage with art and interact with the environment, enriching the cultural landscape of the city.

Conclusions

As a form of urban public art, environmental sculpture connects artists, audiences and urban spaces through interaction. The incorporation of new materials and technologies gives it greater contagious power and influence, breaking through the traditional one-way art form. The interactive design enhances the connection between the sculpture and the audience, promotes the perfect combination of art and life, and highlights its social and artistic value. Considering the actual situation of Zhengzhou city, from the perspective of psychology and social behaviour, the planning, design and management should be strengthened to promote the development of urban environmental sculpture to a higher level.

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