

Research on Interactive Trend of Urban Landscape Based on Design Semiotics

Jing HU

Wuhan Technology and Business University, Wuhan, Hubei, 430065, China

ABSTRACT. The emergence of design is a kind of human response to the continuous improvement of material and cultural living standards, and it is the result of materialization of human needs. Different types of needs will produce different forms of design, thus realizing people's needs. As an indispensable part of urban environment and image, urban landscape has increasingly become the focus of attention of designers, developers, government management departments and urban citizens. Firstly, this paper summarizes the related theoretical knowledge such as the meaning overview of design semiotics, and on this basis, explores the relationship between symbols and landscape design, and analyzes how to make design symbols play a good role in interactive design of urban landscape, so as to enhance the quality and connotation of landscape.

KEYWORDS: Design semiotics, Urban landscape, Interactive experience

1. Introduction

Today, with the rapid development, people's research on disciplines is no longer limited to the disciplines themselves, but more integrated with cross-border forces. In recent years, a few designers have made some attempts and typical works of "interactive landscape" in the practice of landscape design, but they have not summarized these individual phenomena to form a complete theory and design method to guide the design practice [1]. The research on landscape perception at home and abroad has become a certain system, but it is basically the perception of space itself, and there are some deficiencies in the research on the interaction between people and landscape, culture and landscape at a higher level.

Semiotics, in a broad sense, refers to the humanities that study the process and law of symbolization, which is characterized by cognition, universality, stability, inheritance and creativity. Semiotics has its own specific reference to symbols, which must be a double face of signifier and reference created by human beings, and must also constitute a system independent of the objective world. The stronger people's sensibility to nature, the deeper their willingness to express in landscape design [2]. This is a kind of creation of people's thinking activities, which includes understanding and perception of objects. It is a prominent problem facing the construction of installation art today, and it is also a realistic opportunity for contemporary installation art to achieve higher development goals and realize itself. The trend of mutual influence and integration between installation art and urban landscape is increasingly obvious.

2. An Overview of Semiotics

Symbols are derived from original symbols, so there is a corresponding mapping relationship between original symbols and design symbols, which are similar or even consistent in extracted elements. Symbol is the product of man-made creation, which was born in man-made signification, and the process of implementing signification is called symbolic process. What designers need is this kind of perception. Only through the symbolic perception and understanding of things can their connotations be displayed in design works. The elements in the design symbol are similar or the same as those of the original symbol, which shows that the design symbol is a kind of secondary symbol [3]. When the designer becomes an inner person and integrates into the local people's life, when the design object has function and significance, when the design starts from people's behavior and cares for people's soul, we can return to the place of humanity. Design symbol is a symbol system attached to a design work, and its carrier is a concrete design work.

3. Significance of Urban Landscape Design under the Trend of Interactive Experience

Design symbol refers to the symbol system attached to design works, and design works are the carriers of symbols. It is the imprint of complex natural processes and human activities on the earth. Landscape design refers to the planning and design of landscape and gardens, and its elements include natural landscape elements and artificial landscape elements. Urban space provides a channel for buildings to communicate with the outside world, and urban space provides safe protection for buildings. Fire exits are a representative example. Adapting the landscape to the modern urban environment not only enhances the aesthetic feeling of the city, but also provides a good ecosystem for improving the comfort of citizens' lives. Landscape design is closely related to people's needs at all levels, especially to the social needs of people in the middle link. Every landscape is a space-time place for us human beings. We can restore the essential design of the landscape not only from the space itself or the elements themselves, but from the perspective of people and their perception of the environment.

The success or failure and level of a landscape planning and design are evaluated by users. Urban street green space is closely related to citizens' life, and it is a place for people around to carry out outdoor activities. Therefore, designers should consider the use of the public when designing, "people-oriented", giving priority to groups, and it is necessary to investigate the surrounding environment before designing [4]. The designed program should be (see Figure 1):

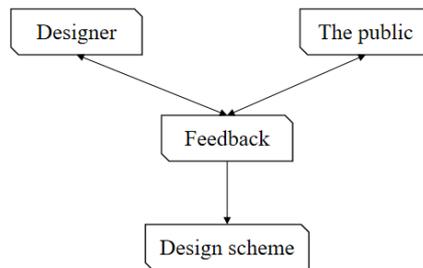


Fig.1 Interaction between Designers and the Public

Since the birth of modernist style, designers have adapted to the required knowledge level and constantly enriched themselves, striving to design more influential works. Now, we should improve the regional natural environment, increase biodiversity, maintain ecological stability and improve the natural quality of urban life. This definition means that the waterfront should be regarded as a section with a certain spatial boundary, which is the main place for human waterfront construction [5]. Science and technology have a great impact on people's ideological concepts and cultural concepts, and have a subtle influence on people's aesthetic taste, especially in landscape design, where designers' thoughts and tastes will be affected to some extent. From the point of view of the material noumenon of landscape, its function refers to the mutual correlation with the material, energy and information of the surrounding environment, and various changes in the landscape under the mutual influence, including material flow, energy flow and species flow. Since perception is the integration of individual information of perception by cognitive subjects. Then, this integration must be related not only to the information obtained by feeling, but also to the subject's internal cognitive style and the previously existing information structure.

As far as interactive experiential landscape is concerned, it is the deeper needs of people after the urban landscape has completed the basic environmental beautification and provided the basic functions of viewing, and it pays more attention to the emotional needs of landscape in the city. In landscape design, landscape nodes and sketches are the representation of image symbols, including the size of the modeling structure and the color of materials. In order to make this material environment and the social group living in it get the best cooperation with the body, mind and behavior. So as to form an organic and coordinated system of man and space, man and environment. The combination of architectural design and urban design makes the boundary between them disappear, forming an "urban architectural system" which is closely related to landscape, and penetrates landscape into urban architecture and life. This kind of space will be humanized, comfortable and suitable for life.

4. Urban Landscape of Interactive Experience Design under Design Semiotics

4.1 Landscape Design of Public Space with Interaction between People and Plants

Plant environment is the most basic and dynamic component in urban ecosystem, and it is also the key element to activate urban ecosystem. People's position in landscape changes from passive appreciation to active participation in landscape, and their objective understanding of landscape also changes from element recognition to overall recognition. Interactive experiential landscape is a human-centered design, which puts forward a new design concept for the design

subject landscape. Designers should not only meet the aesthetic needs of tourists, but also consider people's spiritual needs. The use of design symbols will not only show the natural scenery and cultural scenery, but also include the local traditional cultural connotation [6]. In plant matching, the differences in time, space, habits and utility of different species should be skillfully and rationally utilized to form a multi-dimensional three-dimensional compound plant ecological community with the combination of trees, shrubs and grasses, rich levels and reasonable configuration. In a sense, it is also a cultural symbol and a cultural symbol. People give a certain meaning to the landscape when designing, thus conveying a kind of emotion or idea.

In view of the recreational purpose and satisfaction degree of urban waterfront landscape, the author made a field survey, took a random sampling method, conducted a random sampling survey of citizens and tourists in a city, and interviewed some tourists and citizens with open questions. In this survey, 100 questionnaires were distributed and 89 were recovered, among which 78 were valid questionnaires, with an effective recovery rate of 78%. Understand the purpose and satisfaction of respondents' urban waterfront recreation through uncertain options. The survey results are shown in Table 1:

Table 1 Investigation on Satisfaction Degree of Urban Waterfront Landscape Recreation

Satisfaction of citizens and tourists with waterfront landscape	The number of	Proportion(%)
The landscape is novel and has distinct local characteristics	18	23
The landscape has not changed much and there are few interesting scenic spots	31	40
Poor environmental sanitation and inadequate public facilities	24	31
The landscape is not interesting at all	5	6

Streets and squares are the main components of urban landscape system. As an important open space or public space in a city, streets and squares will become symbolic representatives of urban landscape images. Landscape decoration art is the design product of the integration of landscape art and installation art, which affects people's life, etc. It has the basic characteristics of installation art, and is also full of emotion and public service expressed by landscape art. The urban landscape not only reflects the style of the city, but also reflects the cultural accomplishment of the urban public. A good environment can not only meet the needs of citizens' public life, but also play a very important role in cultivating morality. People generally regard plants as a decorative element, and treat them as the matching of landscape environment. In fact, plants can provide people with various sensory enjoyment and natural interest besides being ornamental and partially edible. Under natural conditions, it is usually the marginal zone of land relative to water. This definition means that the waterfront should be regarded as a section with a certain spatial boundary, which is the main place for human waterfront construction. Using interactive experiential design, visitors can take the initiative to participate and interact, and arouse the emotional resonance between people and landscape.

4.2 Interaction between Man and Terrain Enhances Terrain Perception

Landscape perception is a selective psychological process, with selective attention and selective memory. After losing a lot, people begin to re-recognize the relationship between man and animals, and the interdependent symbiotic relationship is expected to return again [7]. In this complex environment, the intelligent monitoring system can locate the growth of each plant and the activity of living things, and judge the balance of the whole ecological environment based on this, so as to ensure the normal growth of animals and plants. Through sculptures and cultural walls, the spiritual meaning behind symbols is expressed, and through sound and light color design, plant arrangement, hard pavement and soft landscape matching, the landscape artistic conception with certain symbolic meaning and cultural characteristics is created. The universality of design symbols makes the design acceptable to the public, and the landscape identification system is the representative of this characteristic. The universality of the identification system enables people to easily identify them in the complicated environment, thus guiding and instructing passers-by. For example, a river can be called an extension of the sight of a landscape, a unique building is called a regional symbol, and an urban decorative sculpture is called a symbol of a certain section.

Street green space is composed of ground plane, vertical plane and top plane. The ground plane can be divided by roads, small activity venues, ground cover plants, etc. They are a part of the ecosystem, and have established a close interdependent and restrictive relationship with the environment and other organisms through evolution and natural selection during the development of the ecosystem. Terrain is the foundation of landscape, which has the most direct sensory interaction with people. Compared with other landscape elements, this interaction is more inevitable. By transforming the surrounding environment and integrating the installation art created by ourselves with the surrounding environment, human beings will change their nature from accidental to final landscape.

People are the main body of environmental space, so people should have the right and freedom to choose and control space. Advocating the interaction between people and terrain is to strengthen people's independent demand for terrain. The closer the urban landscaping construction is to the natural state, the less artificial traces, the better. When

designing, the interaction between human and landscape can be realized at the technical level only by connecting the interactive sensing points of landscape with the system. Different spiritual connotations and cultural concepts are embodied in different areas of landscape design, and the local landscape image symbols are conveyed to the public in the most intuitive way, thus enhancing the regional image characteristics. Into the space, create a unique, beautiful artistic conception. By visiting these landscapes, visitors can enjoy the surrounding scenery and have emotional resonance with gardeners.

4.3 Landscape Space Creation of Interactive Street Green Space

Street green space is composed of ground plane, vertical plane and top plane. The ground plane can be divided by roads, small activity venues, ground cover plants, etc. The vertical plane is mainly composed of plant materials, and there are some sketch facilities and low walls, etc. If a building wants to blend into nature, the most important aspect is to build a brand-new landscape. Any behavior of integrating into the landscape that has been shaped by designers will make the landscape develop continuously. The process of interaction can be regarded as an event in the process of movement. This event is not composed of simple individual sensory data, but is based on a certain consciousness and generated through common cooperation. Bring the scenery you want to show into the field of vision; Or use traditional materials such as wood, rubble and earth brick in landscape design to express the crazy sense of age, and then match with modern materials such as metal, concrete and glass to realize the collision between technology and art and form the unique charm of combining old and new. Only in this way can we create a strong life scene, a suitable scale, and a landscape space full of interest and sense of belonging.

Experiential interaction is to let the public participate in the design, and even operate it and experience it. In design semiotics, modeling is one of the important forms of artistic expression, and the design forms of landscape wall are various. Landscape wall is a linear object, which has rich and changeable characteristics in plane layout. An observer can become an observed object, and an observed object can also become an observer. Therefore, installation art is not only an element in the landscape scene, but also a favorable factor. It can satisfy people's demand for space diversification and provide people with places for rest. When walking traffic is on the edge of open space, leaning against supports such as woods, low walls or arcades, people can walk in a friendly and pleasant space, and at the same time have a good vision and angle. Therefore, emphasizing interactivity is to study the relationship between people and terrain, people's feelings about terrain space and try to make them achieve balance in people's scale or sense of scale.

5. Conclusion

Landscape symbols play an important and indispensable role in modern landscape design, including the reuse of traditional landscape symbols, which is a way of inheriting historical context. The study of landscape perception is to recognize the environment from the perspective of human beings. Landscape is not only a kind of unilateral shaping of the environment by designers, but also a physical space that requires people to participate in interaction. Incorporating symbolic language into landscape design can not only enrich the design language of landscape design, but also give us some inspiration in future design life, which is beneficial to our design innovation and avoid blind and formal design. Through the mutual influence between people and landscape, it resonates, so that visitors can experience the landscape in the whole dynamic development process of urban landscape, meet visitors' personalized and diversified experience needs, and achieve the purpose of relaxing body and mind and entertaining life.

Acknowledgement

The authors acknowledge the 2020 School-Level Scientific Research Project of Wuhan Institute of Technology and Business, "design of Interactive Tourism Public Facilities Based on Vr"(Grant:XJ202000408).

References

- [1] Lin Jinxia. Application and function of design semiotics in urban landscape. *Beauty and Times (Urban Edition)*, no. 008, pp. 83-84, 2018.
- [2] Ban Naiming, Zhu Changyong, Liu Xiulong. The application of design semiotics in product design and landscape design. *Chi Zi*, no. 006, pp. 276, 2019.
- [3] Li Xiaolin, Gao Yu. The application of design semiotics in landscape design. *Art Technology*, vol. 030, no. 005, pp. 320-320, 2017.
- [4] Jiang Jianwu, Deng Jialin. Reconstruction of cultural relic elements based on design semiotics in landscape design.

Architectural Engineering Technology and Design, no. 017, pp. 1361,1350, 2018.

- [5] Kong Manru. Talking about the urban entrance landscape design. Fujian Quality Management, no. 017, pp. 239, 2018.
- [6] He Yuanyuan. The expression and application strategy analysis of design semiotics in interior design. Art Technology, vol. 031, no. 006, pp. 181, 2018.
- [7] Pu' anyuan, Zhang Lei. Research on the Deep Mechanism of Urban Brand Formation Based on Urban Semiotics. Journal of Shandong Institute of Arts and Crafts, vol. 116, no. 01, pp. 91-95, 2019.