

Application of Waterscape in Space Environment Design

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Abstract

Water is the finishing touch in landscape design, and waterscape is the most charming element in the design. In recent years, waterscape has been widely used in space environment design. People living in cities hope to get close to nature and build a healthy life after their material life is satisfied. Therefore, many designers hope to make the space environment create a natural style through waterscape design. Taking case analysis as the starting point, this paper explores the construction methods and design principles of waterscape in space environment design, and provides more waterscape design ideas for creating a green ecological space environment.

Keywords

Waterscape; Art Design; Space Environment; Nature.

1. Introduction

With the progress of society, people have higher and higher requirements for living environment and living environment. As an indispensable partner of mankind, water is greatly loved by people. Both adults and children have a strong desire to contact water. In Chinese traditional space environment design, craftsman designers have begun to pay attention to the use of waterscape. The use of water in Chinese classical gardens can be traced back to the Zhou Dynasty, and then continued to develop in the Han Dynasty. Buildings will be arranged on the wide water surface, or small pool landscapes will be designed. The application of waterscape in space environment design has been popularized in various environments, including squares, residential areas, indoor buildings and other spaces. Set the space of waterscape to make people closer to nature and relax. However, there are also many problems in the actual design, such as the addition of some materials without considering the analysis of its use function by regional people, resulting in the waste of some materials; The designed waterscape is in disrepair due to the lack of post maintenance. Therefore, when designing waterscape, we should fully consider the full use of local materials, select a small number of materials in remote areas, and achieve green environmental protection from the selection of materials.

Sufficient case collection has been done in the early stage of this study. The case collection methods include the network, newspapers, books and other materials, introduce and summarize the current situation of waterscape design in China, and analyze the application of waterscape in space environment design, so as to summarize the construction methods and design principles. The methodology obtained from the study provides a theoretical basis for creating a green ecological space environment.

2. The Value of Waterscape in Space Environment Design

The value of waterscape is formed in the interaction between subject and object, which is mainly reflected in the interaction between people and things, thus forming the value characteristics of different stages in creating a natural atmosphere, increasing interaction and

artistic aesthetics, and finally achieving a perfect unity in the harmony between water and people.

2.1. Create a Natural Atmosphere

Water is a part of the natural environment. Integrating waterscape into space environment design makes the environment more natural. Chinese traditional design thought requires mountains and waters, which is an artistic conception expression in Chinese design. When waterscape is embedded in the environment, it can create a quiet and peaceful sense of space, as shown in Figure 1. Waterscape in space.



Figure 1. Waterscape in space

2.2. Interaction between Man and Nature

Waterscape design provides people with a variety of entertainment methods. Materially, waterscape can become the carrier of space entertainment activities. Mentally, waterscape can make people happy and release their inner emotions. In terms of senses, waterscape brings people different feelings, including calm, vitality, excitement, calmness, liveliness, etc. Spiritually, people perceive the relationship between people and water from the flexibility of waterscape, and form different levels of perception in thinking. Figure 2. Interaction between people and waterscape.



Figure 2. Interaction between people and waterscape

2.3. Aesthetic Value

Water has a strong expressive force. The shape, color and sound of water can show ever-changing effects and bring people different aesthetic feelings. Aesthetic needs are becoming more and more important in people's consciousness. The core of waterscape is aesthetic needs. Waterscape not only shows the beauty of water in shape, sound, color and state, but also people will experience different feelings at different times and places. Although this feeling is not expressed in specific forms such as poetry, calligraphy and painting, it is a higher-level waterscape form.

3. Waterscape Design Principles

Now, in the design of space environment, the design of waterscape needs to follow three principles, including safety, economy and ecology.

In the space environment design of waterscape, the safety principle is the first one to be considered. In recent years, with the progress of science and technology, the combination of waterscape and equipment has become more popular. However, whether the equipment is regularly maintained has become the culprit of the potential safety hazards to the waterscape. In particular, the interactive water landscape, which is expressed in the form of fountains, or by adding lighting effects to the pool, will cause leakage in the pool due to the combination of water features and powered equipment, making people more cautious in the face of water features. Secondly, in cities, waterscape design should not be too deep, and protective devices need to be installed in deep pools.

The cost of designing waterscape is high, which not only makes the construction cost, but also includes the later application cost and maintenance cost. Therefore, it is necessary to consider the economic cost in the early stage of design to determine whether the waterscape can be used continuously in the future. For example, the design of landscape pools in some indoor spaces has a good initial effect, but in the later stage, due to the high operating cost, the pools are either empty or the water is dirty.

In the design of space environment, more and more designers pay attention to the ecology of waterscape. Designers hope to use waterscape to make the space environment closer to nature. Therefore, waterscape design should not only reflect the artistic function and appreciation of water, but also coordinate with the natural environment. When designing waterscape, we need to consider the fluidity of water. When the water body flows, we can achieve the effect of living water. Affected by the environment, the waterscape will breed organisms and affect the water body, which requires that attention be paid to the ecological treatment of water quality during later maintenance.

4. Application of Waterscape in Space Environment Design

4.1. Waterscape Design in the Square

Square waterscape is widely used in commercial buildings. The main body of waterscape is water, which together with other surrounding elements constitutes the waterscape. The waterscape of the square is designed by using the surrounding natural rivers and also by artificial construction, which is the vitality of a city and the aggregate of people's production and life needs. The Waterscape in the square makes people relax and feel like returning to nature.

The project is located in the "forest of the sea" square in Chongqing, which is surrounded by commercial buildings. The naming of the square is intended to take water as the design theme to create a natural effect. The center of the square is made into a square logo by combining whale sculpture and waterscape, as shown in Figure 3. Whale sculpture and waterscape. The depth of the pool is designed as a shallow effect, attracting many children to play here, as shown in Figure 4. Children play in the water. As a childlike space in the commercial street, the designer deliberately designed a whale fishtail pool for children to enjoy water and adults to rest, as shown in Figure 5. Fishtail pool.



Figure 3. Whale sculpture and waterscape



Figure 4. Children playing in water



Figure 5. Fishtail pond

4.2. Hydrophilic Design of Art Installation

Milan botanical garden set up an art installation of "perceived energy" in June 2022. Art installation is a perception path created by using 500 meter curved copper tube. People can explore different forms of sustainable energy production and consumption processes. During the day, the device can absorb and store the generated clean energy, and then use the energy to illuminate the whole botanical garden at night. The energy generated by the device can also provide power for the water mist, cool the garden path and nourish plants. As shown in Figure 6. Artistic decoration spray effect. This also attracted a large number of people to the park. Sensors are designed on the crown of the plant. When the presence of human beings is detected,

the mist device will be activated to send cool for the hot summer. Light effects of various colors are set at night, and water mist is combined with light to form a light and shadow fantasy effect, as shown in Figure 7. Night spray effect.



Figure 6. Artistic decoration spray effect

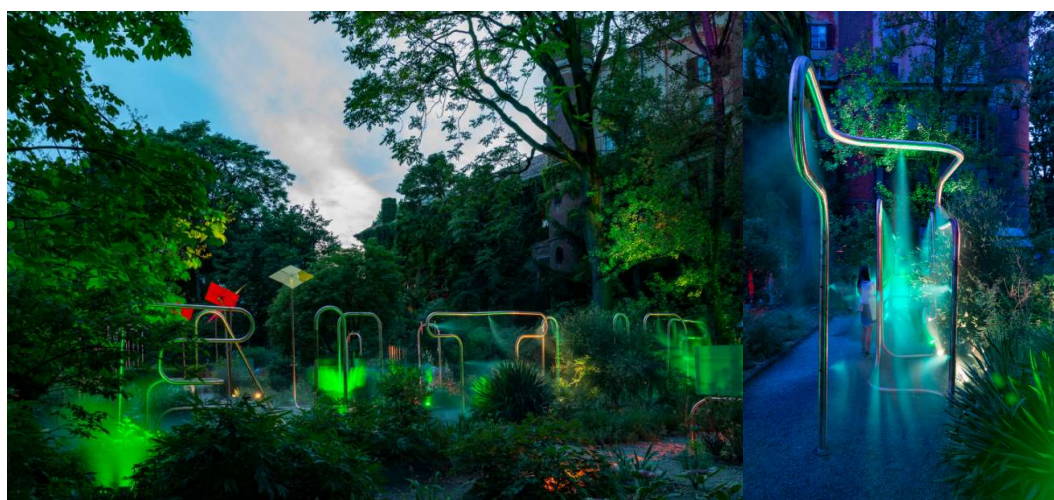


Figure 7. Night spray effect

4.3. Waterscape Design in Indoor Space

Waterscape design makes the space closer to nature, and the hydrophilic characteristics of human beings also lead people to prefer to add waterscape design to the space environment. Waterscape design is often in outdoor space, which is greatly affected by weather factors. Later, people prefer to experience the feeling of waterscape in a controllable environment. Furthermore, projects integrating waterscape design into indoor space have emerged.

"WuWeiJian" is a private club with an area of more than 800 square meters located in Tangshan, including galleries, restaurants, reception spaces, etc. The club strives to create a space mode with both art and restaurant reception functions. Therefore, the designer introduced the natural style into the indoor space environment. Inspired by Chinese landscape culture, the designer created a Waterscape in the restaurant area, which diners can enjoy from different angles, as shown in Figure 8. Indoor waterscape design. The space design weakens the sense of boundary between indoor and outdoor, and pursues the living space accompanied by landscape plants. Watch the waterscape effect from the perspective of the restaurant, as shown in Figure 9. The restaurant looks at the atrium waterscape.



Figure 8. Indoor waterscape design



Figure 9. The restaurant looks at the water view of the atrium

5. Conclusion

Water plays an important role in landscape design because of its ornamental and unique aesthetic expression. The diverse forms of waterscape can meet its integration with the space environment. At the same time, it is rich in changes, and its flexibility is beyond words. In the case, it can be found that the designer's understanding of waterscape is not just to design a pool, but to create waterscape from multiple perspectives. For example, use waterscape to increase the interaction between man and nature, or create waterscape to inherit Chinese landscape culture. The display of waterscape forms is also richer, for example, in the form of water mist, giving people a special sense of experience. Through case analysis, this paper explores the construction methods and design principles of waterscape in space environment design, which provides a design idea for creating a green ecological space environment.

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