

Study the Spatial Strategy of Waterfront Landscape Design in Regional Culture

Lingling Xin

School of Art, Anhui University of Finance and Economics, Bengbu, 233000, Anhui, China.

Abstract

With the development of economy and the acceleration of urbanization, the landscape design of urban waterfront space has also become a subject of great concern. For a city development, waterfront space has extraordinary significance, through the waterfront space of the city landscape reasonable planning and design, not only can beautify the urban ecological environment, improve the residents' daily entertainment and life, but also can promote the history of the city cultural culture, become the city show special business card. Therefore, in order to achieve green and healthy ecological development, it is very important to do a good job in landscape planning and design of waterfront space. The historical context, folk customs and natural environment of the city can be transformed into the design elements in the waterfront landscape, and the artistic innovation of landscape design can be used to maintain the innovation and development of regional culture.

Keywords

Waterfront Space; Regional Culture; Landscape Planning; Design Principles.

1. Introduction

With the gradual improvement of China's urbanization construction, people are also increasingly pursuing a higher quality of life. Urban waterfront space can provide a place for urban residents to relax and entertain, so that urban residents in the fast pace can gain spiritual enjoyment and satisfaction here, and at the same time narrow the unfamiliar distance between urban residents, and make the whole city more vibrant and dynamic[1]. Therefore, the successful landscape design of a city waterfront space can make the residents who come to watch form a beautiful scenery line, and make the city more distinctive and charming. In general, the waterfront space of the city is located at the junction of the mainland and the water area, and the natural landscape is relatively rich. Then the designer adds some modern artificial landscape on this basis to make it more attractive and achieve the harmonious realm of coexistence between man and nature. Moreover, compared with other urban landscapes, the waterfront space of the city is more open and marginal. Through reasonable planning and design of the landscape, we can clarify the culture contained in the city and understand the general style of the city at a glance. Therefore, the rational planning and design of urban waterfront space landscape is very important for the city. Designers need to maximize its advantages, which can not only show the city style, but also meet the daily life and living of urban residents.

2. Meaning and category of waterfront space

2.1. Meaning of the waterfront space

Waterfront space refers to the regional space formed by the water environment, water landscape and water culture with the river as the center under the natural as the main landscape carrier. It is the concentrated reflection of urban natural environment and cultural

environment in space, and is an important basis for urban construction and development[1]. The land area available for development and utilization in the waterfront area is very large, and it has natural river courses, lakes or wetlands, marshes and other natural conditions, so the development, construction and utilization are very convenient. Therefore, on the whole, the waterfront area has important economic, social and ecological benefits. The waterfront area includes a natural landscape area or scope which can be integrated with the natural environment and cultural environment with certain landscape characteristics and cultural connotation, which is to grasp and utilize the urban water and waterfront space as a whole. Waterfront areas can be divided into three categories: (1) artificial landscape section and natural landscape section; (2) waterfront public space section; (3) waterfront green space and others. The waterfront area has two remarkable characteristics: first, its scope is mainly on both sides of rivers, around lakes and near wetlands; second, its regional distribution is centered around the river. These two characteristics determine that the waterfront area has a rich and diverse natural and cultural environment, and these two environments are also the most important basic factors forming the complete spatial structure of the waterfront area. The waterfront area is not only a natural attribute, but also has a certain economic value. Its value lies in improving the urban ecological environment, improving the living conditions, improving the quality of the city, so as to improve the city's taste, popularity and reputation[2].

Urban waterfront space is an area connected by the urban land area and the water area. It is a special water space formed by the urban water system, water and land line, including the water space of 200~300 meters and the adjacent urban land space; considering the comfortable attraction distance to people, the range is parallel distance of 2~3 km, equivalent to 15~30 minutes walk[3].

2.2. Category of urban waterfront space

Categories of urban waterfront space: (1) urban artificial waterfront space, mainly using various engineering measures, such as beware, protecting stalls, etc., to carry out comprehensive treatment of urban water, protect and transform the natural form of water body.(2) Urban natural wetland refers to the habitat space area formed in a natural or artificial environment that is in direct contact with water and has certain protection and utilization value.(3) The urban wetland park improves its environmental quality through artificial facilities such as DAMS, roads, Bridges, and water-friendly platforms, etc.(4) The constructed wetland park is one of the largest and most distinctive ecosystems in the city.(5) Ecological wetland is a natural and artificial organic combination of the complex[4].

2.3. Characteristics of the urban waterfront landscape

Urban waterfront landscape is formed by natural resources and artificial construction, which has its own uniqueness compared with other urban landscapes. Because the mobility of the water area makes the cultural, economic and social communication and integration, so that the city continues to develop and update.

2.3.1. Publicity

The characteristics of the urban waterfront area itself are public. In the contrast with the urban physical space, it reflects the visual transparency and also connects other public Spaces in the city. Economically, the urban waterfront has diverse and rich recreation areas and facilities, where roads, squares, sketches and shops attract a large number of people to walk, shop and dance; ecologically, despite the continuous manual intervention and destruction, the waterfront is still indispensable in maintaining the urban ecological environment.

2.3.2. diversity

Urban waterfront area is generally a complex of the city, in which architecture, city and landscape are integrated with each other, thus generating the diversity of spatial function, land

use type, landscape appearance and other aspects. Among them, shopping, sports, leisure and other activities are interspersed among them, making the urban waterfront landscape more dynamic and charming. Kevin Lynch summarizes the spatial intention formed by people's understanding of the city into five elements: image, boundary, region, node and landmark. The water area in the urban waterfront is the most significant and direct passage and landmark, carrying more functions, so it is necessary to reasonably plan and design the urban waterfront to fully meet people's various needs.

2.3.3. Historical and cultural nature

Many cities in the world are mostly built with water, and they are also the most prosperous area among the cities. In the continuous development of the society, there are rich historical and cultural relics on both sides. Piers and ports are places for people to carry out trade and transportation, and assume the important functions of cultural exchange and integration, gradually forming an inclusive, free and open culture. In the landscape design of urban waterfront, we should not only reflect the modern scientific and technological design, but also reflect the historical and cultural context of the city, which can satisfy people to remember the footprints of history and feel the changes of The Times.

2.4. Waterfront landscape design and value based on regional culture

2.4.1. Waterfront landscape design based on regional culture

First, regional culture is the basis of waterfront landscape design. Regional culture constitutes the characteristics of each city, which is a precipitated history of a city, gathering the lives and customs of countless generations. Integrating regional culture into urban landscape design will inevitably have a profound impact on the city. Integrating regional culture is the way for people who come to this city to feel the most intuitive and natural feelings of the city characteristics and emotions.

In the waterfront landscape design, focus on the application of regional cultural elements, can also make the designers will not be influenced by the design form, give full play to the local cultural characteristics to create the local unique landscape space.

Second, the waterfront landscape can indirectly inherit the regional culture. There are many ways of cultural inheritance in the city. It is an indirect way to transform the rich history and culture in the city into design elements for landscape design. People will gradually accept the cultural connotation they contain while appreciating the landscape. The urban waterfront space is adjacent to the water, which gives the waterfront landscape unique advantages in reflecting the artistic and cultural values and meeting people's social life needs, and enhances the cohesion of the city.

2.4.2. Application value of regional culture in waterfront landscape design

First, to provide the basic material. In the process of urban waterfront landscape design, regional culture is the most basic element and a valuable historical material. In the design process, natural geographical characteristics and regional customs, combine local elements to provide good materials for waterfront landscape design, and use good humanistic symbols and customs to provide good conditions for the creation of designers. For example, stone tablets, ancient temples and ancient streets in Xi'an, Shaanxi can become unique cultural materials of Xi'an, Shaanxi to express the unique historical and cultural connotation and effectively meet the needs of the audience. In the design of the local waterfront landscape, the regional cultural symbols have the characteristics of uniqueness, which can reflect the unique charm of the city, combine with the local waterscape, and stimulate the appreciation and resonance of the masses. First, protect and inherit regional culture. In the design of waterfront landscape, in the form of material or non-material expression of cultural connotation, create waterfront landscape with local regional characteristics, can let people in the new understanding than in the culture, let

the cultural elements and the integration of modern city, protect the history and culture will be forgotten, inheriting the humanistic spirit and cultural connotation of regional culture.

Second, to cater to the needs of the audience. The urban waterfront landscape has a certain modernity and history, and the integration of the waterfront landscape and the local characteristic culture can increase the relationship between the waterscape and the local masses, and reduce the distance between the landscape and the masses. Strengthening the requirements of social natural landscape can better reflect the cultural connotation of the landscape while ensuring the appreciation needs. Only by combining the landscape with the needs of the audience, can we enhance the participation of the masses, enhance the life experience of the public, increase the recognition of the landscape, better join in the waterfront landscape activities, increase the participation of the public, and enhance the regional cultural atmosphere of the whole city.

3. Current situation of urban waterfront space

3.1. Ecological destruction and environmental pollution

As the urban development and construction constantly occupy the waterfront space, the ecological environment quality of the waterfront space is getting worse and worse. In the period of rapid industrialization, the convenience and transportation value of waterfront space have become the primary factor of industrial site selection. While creating economic value, it more or less pollutes the water quality and the surrounding soil. Therefore, the transformation of brownfield is the focus of the remediation of waterfront problems. In addition to industrial pollution, a large number of catering, residential and other functional land adjacent to the waterfront water pollution can not be underestimated. System is an important part in the urban drainage system, at the beginning of urban construction, in order to meet the requirements of the drainage, often take to bend straight, hardening revetment, build pool water, will open channel culvert and other negative regulation method, lead to revetment artificial hard, changed the natural shape of the urban waterfront space and energy circulation mechanism, destroyed the local water ecosystem.

At present, compared with other countries, China's urban landscape develops relatively later. In the 1990s, China began to learn and learn from the essence of waterfront construction in other countries, and in the process of learning, the development of waterfront landscape to a boom. With the increase of urban population and the pursuit of high quality of life, urban land becomes more strained. Therefore, the future construction of urban areas along the water is mainly to restore the sustainable ecosystem, develop the economy, protect the water system and realize the sustainable development. At the same time, due to the accelerated development of Chinese cities and the lack of experience in urban waterfront construction, many problems have gradually emerged.

In the future, the urban waterfront landscape design should focus on the integration of traditional culture, which must be closely related to the local culture and human history, respect the cultural characteristics of urban history, strengthen the construction of characteristic culture and public custom environment, and reflect its essential characteristics. At the same time, the concept of modern urban design must be combined in the design in order to form a scene adapted to the future development of the city. Waterfront landscape and water ecological treatment should be designed according to the topographic characteristics, and the urban water body and wetland should be protected as far as possible.

3.2. Space decline and loss of vitality

As an important urban space, urban waterfront space should become a healthy, comfortable and dynamic communication place for residents. However, some investors develop non-open

high-end residences in pursuit of economic benefits, and the public space attribute of waterfront space is occupied. The high-consumption commercial district adjacent to the waterfront space layout turns the waterfront space into a private space for businesses, and the urban residents lose the right to enter the waterfront space equally for hydrophilic activities. The homogenization of business forms causes the monotonous function of the waterfront space, ignores the needs of different social classes, and the lack of intersection with the daily life of residents, which directly leads to its lack of attraction.

In addition, the planning and design of the waterfront public space itself are defective. The waterfront area is not fully connected with other surrounding functional areas, forming a separate negative space. The lack of system design in the design and planning of various kinds of leisure and entertainment sports projects in the waterfront area leads to its single function and cannot meet the needs of entertainment and fitness activities of all kinds of people in the city. The internal spatial organization lacks systematic, it is difficult to form an orderly and rhythmic landscape interface, the landscape form is monotonous, lack of local characteristics. The singleness and irrationality of the spatial scale of various places cannot meet the needs of residents' communication and different types of social activities in cities. The waterfront public space is lack of supporting facilities, poor hydrophilic quality and low environmental quality make residents feel poor experience. Many waterfront landscape designs blindly undertake environmental transformation and ignore the integration with the surrounding environment. Make the whole waterfront landscape and other landscapes are not smooth connection and deviate from human behavior habits. As a designer, it is necessary to create a leisure place for the urban residents, and the functional zoning can be divided into public and private and other diverse Spaces. Pay attention to the design of three-dimensional and hierarchical sense, starting from the two aspects of soft and hard landscape.

3.3. Traffic obstruction and limited communication

The traffic connection between the urban built-up area and the waterfront is not smooth, and residents waste a lot of commuting time to arrive at the waterfront, which hinders some residents to go to the activities, resulting in the low use frequency of waterfront activity space. As the waterfront space of the urban boundary, the roadway along the river with large traffic flow and wide road surface meets the needs of automobile traffic, but ignores the needs of the waterfront space users walking safely, which greatly reduces the accessibility of the waterfront. Inside the waterfront space, the slow traffic system, mainly walking and cycling, is not connected with the hydrophilic platform and landscape nodes, which weakens the interest of waterfront users to the near-water space.

4. Elements and design concepts that should be followed in the urban waterfront space landscape planning and design

4.1. Elements to be followed in the urban waterfront space landscape planning and design

Road, edge elements. With the function of connecting space, the presentation form is generally street, etc. The design of the road elements plays a crucial role in the entire landscape. Edge is a linear element, and unlike road elements, it does not have the function of connecting space. But for landscape design, they are an indispensable part of the design process, and play an important role in the whole landscape.

Nodes, and landmark elements. Nodes are the points where the observer reaches and leaves during the journey. They are key points in crossing hubs, the transition from one region to another. Nodes can also be simple meeting points, and under some conditions they have an important role in affecting the global situation. Landmarks are reference points of another kind,

the benchmark of central radiation. They can be inside or outside the city, enough to long indicate any type of activity in life. As people become more familiar with certain pathways, people feel more and more dependent on landmarks.

4.2. Design concept

4.2.1. The holistic concept shall be followed

For the infrastructure construction of a city, the waterfront space landscape design plays a very important role. Therefore, in the waterfront space design, it is necessary to understand the development concept of the city first, so as to carry out the landscape planning and design of the waterfront space on the basis of this concept. So that the waterfront space can be well integrated into the city construction, and optimize the image of the whole city. Urban waterfront space refers to the regional landscape with certain spatial level and landscape characteristics based on natural or artificial river courses and water surface in the area on both sides of the river. For the urban waterfront area, the landscape is mainly composed of embankments, banks, embankments and the beaches on both sides, mainly with the naturally formed beaches. As water plays an important role in the city, attention should be paid to the overall planning and scientific zoning in the relevant design of the waterfront area, so as to maximize the use of water. The principle of integrity is the overall understanding of the environment, and its connotation includes the overall relationship between ecological environment factors and non-ecological environment factors. Grasp the design requirements and planning objectives on the whole, and analyze and deal with the relationship between the internal functional areas and parts of the site and the relationship between each space and other external environment locally. From the macro consideration and study of regional cultural characteristics and ecological requirements, analyze the relationship between the special projects from the specific implementation, and carry out the overall planning, design and implementation from the actual situation. The specific measures are as follows (1) rational planning and utilization of the river space of the whole city; (2) the needs of people's leisure and entertainment activities in the design of both sides of the river; (3) the unification of ecological benefits, landscape benefits and social benefits; (4) the protection of historical culture and natural ecology; and (5) protection, supplemented by development. The landscape planning and design of urban waterfront space should pay attention to the overall planning and scientific zoning.

4.2.2. The principle of ecological priority should be followed

As the country and the people for the importance of the ecological environment in increasing year by year, so in the urban waterfront space landscape planning and design, the first to investigate the nearby ecological environment, ensure that cannot destroy the environment in the design process, affect the geological ecology, the concept of man and nature, harmonious development throughout the design process[5]. As a natural environmental element, urban waterfront space has an irreplaceable position, and plays an important role in meeting people's living needs, social and economic development, and natural environmental protection. With the accelerating urbanization process in China, people's requirements for waterfront space environment are becoming higher and higher. Due to the huge population in China, the demand for public land construction and public management land is also very large. In the modern design, the principle of ecological priority has also been widely applied to the urban waterfront space landscape design. This will not only meet the requirements of ecological civilization construction, but also will bring a good life experience to the public and provide more wealth and environmental resource value to the society. In this process, we must protect the ecological environment, protect the human survival and development of the home-rivers, lakes and other water area ecosystem. Water is the source of all things, the foundation of life, the source of culture, and is the basic condition of a country's sustainable economic and social development.

Therefore, in the landscape planning and design of waterfront space, we must pay attention to the harmonious coexistence between man and nature. Only in this way can we provide people with a good and healthy living space. In recent years, with the rapid development of social economy and the improvement of people's demand for quality of life, the waterfront space landscape planning and design in China[6].

4.2.3. Humanization concept should be followed

Part of the design of the urban waterfront space is to beautify the city and publicize the city culture, and more importantly, to provide services for the daily entertainment and life of the urban residents, so that the urban residents can gain satisfaction and happiness in this space. Therefore, the designers should be people-oriented in the waterfront space landscape design, and follow the humanized design concept. The landscape planning and design of the urban waterfront space meets the personalized needs and builds the hydrophilic space. Water is the source of life, and people's pursuit of nature is also deepening. What People pursue is not only the visual beauty, but also pay more attention to the protection and use of water. As we all know, the rivers in a city merge with their surrounding environment and buildings to form an organic whole. Urban waterfront space landscape planning and design is an important means to construct people's hydrophilic space and reflect the urban regional characteristics. How to better meet the needs of humanization, build hydrophilic function and hydrophilic character is an urgent problem to be solved in the current social environment design, which depends on the development and progress of landscape design major. Through in-depth study of the project, we found that only by integrating humanized needs into the urban waterfront space landscape planning, can people's needs for hydrophilic function and hydrophilic nature be met, so as to create an urban waterfront space with vitality, comfort, safety, environmental protection, health, humanity and other characteristics and functional characteristics.

4.2.4. The concept of cultural continuity should be followed

It can not only realize the inheritance and development of the city's history and culture, but also make it have a modern artistic atmosphere, bringing a different experience for residents and tourists. For example, the culture of the city is well reflected in the landscape planning and design of the waterfront space. In the waterfront area of the Huangpu River, the charm culture of Shanghai as an international metropolis is vividly displayed. The landscape design on both sides of the Huangpu River integrates the changes of Shanghai over the past decades. Through these landscape designs, people can directly understand the cultural traces left over in the history of Shanghai, especially one of the most famous landscape buildings in Shanghai——Oriental Pearl, which interprets the connotation of Shanghai. In addition, there are still many civil houses on both sides of the Huangpu River, which reflect the cultural heritage of Shanghai and its international modernization under the reflection of modern technology.

5. Problems and applications of regional culture in waterfront landscape design

5.1. Application

5.1.1. Add commercial and entertainment functions

With the improvement of people's requirements for the quality of life, the urban waterfront space has also become a new bright spot in all the major cities. Among them, the play of the commercial function is also very important. For example, a large real estate project in Shanghai from east to west is green space, cultural center, commercial, residential, office and other different types of buildings, of which the commercial area accounts for more than 50%, and there are more bottom businesses and some bottom businesses for catering and entertainment facilities. In the construction of the project, the building volume is divided into six areas: the

cultural center in a large group is residential areas and hotels, the other four groups are office offices and hotels, while the south side is the cultural center. Each space has different roles in the six groups: for example, the cultural area is not only the commercial core of the whole plot, but also a landscape and visual focus. As a residential area, the building plays a role of separating the two major areas, and also plays the functions of beautifying the environment and creating a landscape visual center. Because the cultural area and the residential area itself are relatively isolated and independent state, it is the most dynamic and cultural atmosphere space in the whole plot. It can be seen that for the urban waterfront space, it is important to increase commercial functions, but it cannot ignore the architectural style and characteristics needed to be retained and improved for urban development. These are the key factors that make the whole project stand out in the competition, become a landmark and lead the regional development prospect[7].

5.1.2. Fully reflect the sense of hierarchy

Reasonable landscape planning should be considered in the urban waterfront space design, so that the overall landscape of the city has a sense of hierarchy in the space. At the same time, the water environment, water environment and plant landscape should be coordinated and balanced, so as to avoid excessive human intervention and make it a public open space of the city. Reasonable planning of the functional zoning of waterfront space, according to the actual situation and the requirements of functional zoning, should clarify the nature of different land use, different types of water, different scales, and the relationship between and coordination with the surrounding environment. Using the waterfront space resources, the two sides are connected through the water surface traffic connection, hydrophilic square, bridge and other traffic facilities to form an organic network system in the urban waterfront area. In the design, the layout of various facilities, traffic organization and green vegetation in the waterfront area should be considered comprehensively, so as to make the urban waterfront area a place for harmonious coexistence between man and nature[8].

5.1.3. The site should be more flexible

In the city, the water area is a very important resource, but also constitutes a part of the urban space. The waterfront environment can promote people's activities, increase people's happiness in the city, and have certain benefits to improving the urban ecological environment. Through the research and analysis of the site and surrounding environment, the new idea of "adapting measures to local conditions and people-oriented" is put forward. The scheme to Hangzhou city, Zhejiang province binjiang park as the design subject and site conditions, the landscape line of sight guidance system site partition control and organization, by setting the waterfront space, wharf, revetment, waterfront trails to meet the demand of different groups of activity venues, by retaining or transforming the status quo of the valuable building to increase the landscape environment, and combined with plant collocation to form a landscape with regional characteristics. These include: (1) planning multiple wharf areas in Binjiang Park; (2) retaining and transforming valuable buildings; (3) transforming Binjiang Square into waterfront green space, setting up wharf and revetment, etc. The scheme makes full use of the current situation of the site, puts forward new ideas such as "taking measures according to local conditions and being people-oriented", and carries out the spatial layout and functional organization of the waterfront footpath and wharf. In addition, the original buildings and facilities in the site are fully utilized for landscape design, and the waterfront landscape environment is enriched through greening and planting.

5.2. Application

5.2.1. Reasonable layout of garden buildings

Generally speaking, the design of garden architecture is very critical, and its design and layout should be combined with the specific situation of the site building. In order for effective protection, reasonable layout should be made on the basis of meeting the service function. In the process of urban waterfront landscape design, targeted measures should also be taken to retain and protect the historic buildings. In the water-friendly landscape design, the regional culture can be effectively integrated, so that people can understand the local development history through the landscape, and fully display the cultural characteristics of the landscape. To better design and protect historic buildings, scientific restoration of badly damaged and old buildings is needed. Historical buildings and regional culture have a complementary relationship. If the effective combination of the two is realized, it is bound to create a unique landscape. Therefore, in the waterfront landscape design, it is necessary to further strengthen the design and application of historical buildings, and take it as the main scene, and then carry out appropriate landscape construction[9].

5.2.2. Node space design

In the waterfront landscape space environment, there are many node Spaces, which cover a lot of more private space and some more open Spaces. When designing nodes, in order to better play the role of urban waterfront landscape space, it is necessary to pay attention to the detailed design of road pavement, square and hydrophilic space. We can try to add regional culture to the road pavement, and choose different paving forms according to the different road levels. Concrete pavement can be used in main roads, which can not only ensure the beautiful and generous appearance, but also effectively ease the traffic. The pavement materials of secondary roads and small paths can be used as stone and stone, and designed into rich types of texture patterns, which can be selected from element symbols and patterns with local cultural background. In the design of the square, it should not only ensure that the traffic can be better distributed, but also fully meet the needs of various urban residents' activities. The square needs the overall planning and layout, which can not only show the local culture, but also can better support the organization of various special activities. In addition, in the design of the hydrophilic space, the space atmosphere should be effectively created, and then the regional culture should be integrated into it, so as to effectively achieve a better display of a good ecological culture[10].

5.2.3. Landscape sketch design

In the landscape sketch design, the regional culture can also be integrated into it, effectively showing the living conditions of the local residents. Usually adhere to the principle of local materials of local materials, such way can reduce the cost of waterfront landscape design, and can realize people and landscape have closer distance, at the same time can be consistent with the local characteristics of element symbol, through the corresponding landscape way to highlight the characteristics of regional culture, show the rich connotation of the landscape[11].

5.2.4. Plant planning and design

In the waterfront landscape, plants play a key role, making rational use of the characteristics of plants, reflecting the ecological design concept of the waterfront landscape, and realizing the better protection and improvement of the local environment. Because plants will directly affect the ecological environment, can play the role of the icing on the cake, therefore, need to combine the actual reasonable collocation of plants, in combination with the characteristics of plant growth and community stability optimization plant type, to ensure the local environment better meet the needs of plant growth, improve the survival rate and plant diseases and insect pests resistance, fully ensure the healthy growth of plants. At the same time, it is necessary to fully

consider the ornamental value of plants and rationally match plants. It is best to choose native plants, which can effectively reduce the cost. At the same time, the plant life can be extended, and achieve a better combination of waterfront landscape and regional culture. Optimizing plant types with strong regional characteristics requires further development of rural plants and better application of new varieties, which is of certain significance to the stability of waterfront plant landscape and community ecosystem. In particular, the application of aquatic plants not only improves the landscape of aquatic plants, but also realizes the purpose of improving the community ecological benefits[12].

The waterfront area in the transition zone of land and land has good environmental productivity, and the basis for realizing ecological benefits is to form a revetment through the comprehensive action of plants, animals and microorganisms in the natural state. The natural revetment can not only effectively enhance the landscape value, but also better maintain the balance of the ecosystem in the alternating land and water areas. Hard revetment is not conducive to the generation of benefits, and will make the ecosystem more sensitive and fragile, mainly reflected in the poor plant growth, water quality deterioration, animal habitat loss, etc. Therefore, in the ecosystem fragile areas, should restore natural revetment form, improve the ecological environment, usually, such plants will grow in the water's edge, finally can form a beautiful waterfront environment space, also can choose strong water resistant plants, and according to the regional actual situation, optimizing the right tree species, and further strengthen the protection of famous trees, trees, finally achieve the purpose of improving the waterfront landscape culture connotation[13].

6. expressive techniques, ways and strategies of regional culture in waterfront landscape design

6.1. The expression techniques of regional culture in the waterfront landscape design

6.1.1. Retention and Representation

In the design, the natural landscape left over by history should be fully retained and reproduced, and at the same time, the protection and development of Taian history and culture should be placed in an important position. For example, in the waterfront area of the city park, pedestrian trails are laid along the water edge as far as possible to connect the various landscape nodes containing historical relics. This provides a junction between the historical sites and the waterfront landscape, enriching the landscape design methods. By retaining and reproducing the natural landscape and material culture, and while designing and planning convenient sightseeing passageways, the waterfront landscape can have the function of historical and cultural education.

6.1.2. Summary and refinement

To combine regional culture naturally and waterfront landscape design, it is important to use the general and refining design technique, select the essence of cultural elements, history and culture culture elements abstract into design language into the landscape, eventually form a "shape" has "meaning" new cultural symbols, so as to further show the local regional culture characteristics.

6.1.3. Convergence and Innovation

To integrate the regional historical and cultural elements of Tai'an into the waterfront landscape design, it not only integrates the design innovation. Folk art elements and historical culture are added to the design, and the traditional cultural elements and modern aesthetic elements collide with each other, which can produce new design inspiration. In addition, the main urban axis will be extended to connect the existing waterfront area and historical relics

with the whole landscape, so that the history and culture of Tai'an can drive the development of Tai'an commercial center, and the overall city image of Tai'an can be reshaped[14].

6.2. Performance ways of regional culture in waterfront landscape design

6.2.1. Terrain

Terrain can have a great impact on people's perception, and its change will change people's cognition of landscape space, which is one of the factors that must be considered in shaping landscape space. Especially in the waterfront landscape design, it is necessary to fully consider the natural conditions of the original terrain and make full use of the advantages of the original terrain for the design. For example, in the terrain area with a large height difference, the natural conditions can be supported, and the retention of the terrain can be changed according to the different conditions of the site. For important landscape nodes, multi-level landscape nodes can be used to create multi-level landscape nodes to highlight the spatial changes. For the pedestrian passage, a rich and changeable tour path can be built through the terrain fluctuations. In short, the changes of the terrain should be transformed into a way to show the cultural characteristics of the landscape, so as to create a spatial foundation for people to understand the cultural connotation.

6.2.2. Water body

As an indispensable part of waterfront landscape design, water body can play a key role in the formation and evolution of landscape. Therefore, in the waterfront landscape, the relationship between people and water bodies can be used to enhance the interaction between people and water by setting up interactive devices, so that people can feel the change process of Cangchuan and Tai'an cities. At the same time, according to the characteristics of the water body, with regional cultural elements as the design theme of the interactive installation art, the unique folk culture elements of Tai'an are added along the waterfront walk, and the water body is used to show the ancient cultural period of Chun'an, so that people can understand the local cultural characteristics and feel the cultural atmosphere while appreciating the art.

5.2.3 Architecture and Landscape Sketches

The style, color and form of waterfront landscape architecture will have a decisive impact on the construction of the whole waterfront waterscape space. Therefore, if the local characteristic cultural elements of Tai'an can be extracted and innovated and integrated into the waterfront landscape architecture, the inheritance and renewal of the regional culture of Tai'an can be realized.

Landscape sketch is the most flexible way of expression that can directly express the cultural theme. It can directly display the rich and colorful folk culture, and choose different expression scales according to different cultural themes to fully display the symbolism of culture. The design and treatment of the waterfront landscape sketch should not only meet the basic functionality, but also integrate innovative elements into the decoration. At the same time, it should be combined with regional elements in form to fully show the local history, culture and customs.

6.3. Application strategy

6.3.1. Application strategy of material landscape

In the construction of the waterfront landscape, such as the geographical environment with regional cultural characteristics, residential buildings and characteristic plants can be used as the cultural carrier of the waterfront landscape. Moreover, China has a vast territory, and the natural environment of different places is very different, especially some geographical elements have very obvious local characteristics, so China's regional culture is very rich and colorful. In material landscape application, pay attention to the following three points: (1) the use of local natural landscape factors, build a vertical biological corridor, create a strong local characteristic

culture of landscape, (2) the use of local characteristics, make buildings become the carrier of local traditional culture, (3) in the road pavement, can use the local unique building materials, build a local unique historical and cultural patterns to show the local characteristic culture. In addition, some local unique landscape sketches and buildings can also be integrated into it. For example, the unique ancient capital culture of Xi 'an can be integrated into it, so as to show the unique regional cultural characteristics of Xi' an, Shaanxi Province[15].

6.3.2. Application strategies of the non-physical landscape

Humanistic elements also belong to one of the functional features that need to be integrated in the ecological design of urban waterfront landscape, which aims to integrate the spirit of humanistic care in the city. Among each city, each waterfront public space has a unique geographical coordinate, which effectively introduces cultural elements to improve the cultural value of the landscape, and some areas can even integrate local characteristics and folk customs. A proper grasp of the main connotation can also play an attractive effect. Of course, in the specific design work, there are many contents to be considered, and designers need to maintain spiritual thinking and be good at exploring local characteristics, so as to expand the humanistic connotation of urban waterfront landscape design.

6.3.3. Specific techniques of landscape design

In the design of waterfront landscape, the traditional design method can be combined with modern technology, so as to realize the realization of traditional culture. For example, we can use abstract and then present techniques to display regional culture. First, analyze regional culture in detail, then summarize the theme of regional culture, and package it into a new artistic image and express it in reality

Now the memory of the traditional art. For example in the design of xi 'an qujiang pool ruins park, organic combine the regional culture and ecological protection together, in the north section of the park is given priority to with ecological ornamental area, the qujiang pool history museum as the center of the composition, the Qujing pinghu flying as dynamic landscape activity center at the same time, the park landscape, mainly by QuJiang full, qujiang closed feast, han wu spring, guard door lion, disappointed river head, aromatic and qujiang scenic, yuan white swim, Chang' an flowers attractions, such as to fully show the local regional culture.

7. Conclusion

For a modern city, a reasonable waterfront space landscape planning and design can effectively enhance the charm of the city, promote the city's culture, and promote the economic development of the city. Therefore, designers in the waterfront space landscape planning and design, to fully combine the regional cultural characteristics of the city, adjust measures to local conditions, follow the integrity, ecological priority, humanization, cultural continuation of the design concept, through the overall planning of the waterfront space, reasonable division partition, protect the ecological environment, do man and nature, into the city culture, realize cultural inheritance and development, meet the demand of humanity, build hydrophilic space method, make the city waterfront space more attractive, meet the demand of urban residents and tourists 'daily life, build the city's foreign card.

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