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Research on the Basic Framework and Elements of Landscape System Construction

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Abstract: The construction of landscape system is the basis of shaping urban characteristics. Based on the previous research results, this paper summarizes the types of landscape system construction researches at this stage, and points out that landscape system construction is mainly divided into three types: macro-level research, specific elements research and selection angle research. On this basis, the basic elements of landscape system construction are sorted out, including natural landscapes, artificial landscapes, natural and artificial landscapes and other landscapes, and each type is interpreted in order to provide theoretical reference for the research on landscape system construction at this stage.

Keywords: Landscape System; Construction; Basic Framework; Elements.

1. Foreword

Keeping close perception with nature is the basic need for people to live in cities. “Seeing the mountains and seeing the water” is the most direct result of perception of nature. In today’s urban construction, people’s perception of landscape environment is weakened because of the failure to fully consider the maintenance of the relationship with the surrounding landscape environment. The reason for this result is the lack of natural landscape space, so the space for landscape perception has become a “resource” that people compete for. Therefore, the urban landscape system needs to be rebuilt urgently, so that the city can return to nature again.

However, the research content of landscape system construction is complicated and there are many directions to be studied. At present, the research content of the elements of the landscape system construction is lacking. This paper hopes to combine the needs of the current human settlement environment construction and sort out the research framework and elements of the landscape system construction from various documents.

2. Landscape System Research Summary and Framework Interpretation

2.1. Basic Framework Type 1-research from the Macro Level

The representative scholars of this kind of research mostly start with specific objects and study the landscape system from the macro level. Part of them are doctoral dissertations of Beijing Forestry University, such as Li Heng’s doctoral thesis “Study on Chengdu Plain Regional Landscape System” [1], Ren Wei’s doctoral thesis “Study on Wenzhou Coastal Hilly Plain Region” [2] and Wang Yue’s doctoral thesis “Study on Traditional Regional Landscape in Central and Northern Shandong” [3], etc. These scholars set up a set of landscape/landscape system/systematic research framework to sort out and refine the landscape of a certain region. In the aspect of natural landscape, the local mountains and waters are studied; In the aspect of water conservancy construction, the overall development, water conservancy facilities and maintenance management of water conservancy are studied; Agricultural production is studied from the overall development, farmland construction and farming system; The urban-rural system is studied from the aspects of overall development, system characteristics and construction methods. Zhang Xueqi’s doctoral thesis “Study on the Landscape System of Fuzhou” [4] starts from three aspects: landscape pattern, secular space and artistic expression, in which the landscape pattern is summarized as natural mountain-shaped water potential, farmland water conservancy according to local conditions, landscape elements with complementary forms and geomantic model that appeals to both refined and popular tastes; Secular space is summarized as political space, traffic space, production space and tour space. The artistic expression is summarized as seasonal customs, poems and paintings, and cross-time comparison. Another representative of macro-level research is Professor Wang Shusheng, who discusses the tradition of landscape construction from four aspects: the landscape consciousness of China urban planning, the spatial level of urban landscape, the integration of landscape and humanity space, and the local tradition and maintenance of landscape, and conducts macro-level landscape construction research on Xi’ an and other cities [5]. These are all from the macro perspective of urban construction to sort out the landscape system, which provides a strong support for the theory of landscape system construction.

2.2. Basic Framework Type 2-research based on Specific Elements

The representative scholars of this kind of research mostly study the landscape system from the specific elements, such as “Diversity of China’s Land Landscape from the Perspective of Nature and Culture” published by Professor Wang Xiangrong and “China’s Traditional Mountain-Water-Field-City System from the Perspective of Land Landscape” [7], which discuss the specific elements in depth. Among them, in the article “Landscape Diversity of China in the View of Nature and Culture”, the types of landscapes are divided into natural landscapes and human landscapes in detail, in which natural landscapes include mountains, canyons, rivers,

lakes, swamps, forests, grasslands, Gobi, deserts, ice sheets, etc., and human landscapes include artificially managed landscapes and artificially controlled landscapes, in which artificially managed landscapes include farmland, orchards, pastures, reservoirs, canals and ice sheets. There are also some papers with specific examples as the research object, such as Professor Wang Yuncai's "Characteristics of Regional Landscape System and Overall Protection Mechanism of Water Towns in the South of the Yangtze River" [8]. According to the regional characteristics of water towns in the south of the Yangtze River, the elements are divided into water surface, islands, residential areas, mountains, canals, roads, farmland and so on, which are all representatives of the research based on specific elements.

2.3. Basic Frame Type 3-Select the Angle to Study.

The representative scholars of this kind of research mostly study the landscape system from a certain angle. For example, Chen Zhijun divides the urban landscape system into urban overall topography, urban water body and urban greening from the perspective of urban design, and points out that the landscape elements are scattered in the city, such as urban nodes, street green spaces, parks, waterfront green belts and urban squares. Wang Yue summed up the analysis of the characteristics of Jining ancient city landscape system, including the canal water conservancy landscape and the ancient city landscape system. Among them, the landscape of the canal includes natural rivers and lakes composed of swimming water, grave water, North Five Lakes and South Four Lakes, and the unique water conservancy landscape of the canal ridge established by the water diversion, water diversion and storage system on this basis; The landscape system of the ancient city discusses the features of the ancient city from six aspects: city site change, city shape, water network system, water conservancy construction function pattern and city image, in order to provide some theoretical support for the protection of Jining Canal landscape, cultural inheritance and urban renewal and development.

3. The Framework and Elements of Landscape System Construction

Based on the related research on landscape system and landscape construction in recent years, this paper divides the landscape system construction into four aspects, namely, natural landscape, artificial landscape, natural and artificial landscape and biological landscape.

3.1. Natural Landscape

Natural landscapes include mountains (mountains) (canyons) (caves) (volcanoes), water, plants, land and meteorology. Natural landscape is the basis of urban planning. Natural landscape is the foundation of urban planning and construction and the source of artistic creation. China planning begins with the overall observation of natural landscape, and attaches importance to finding the uniqueness and ingenious order of natural landscape where the city is located. The process of finding the cleverness of landscape is the process of discovering scenery and planning urban pattern [5]. Mountains are the skeleton of the earth landscape. There are many famous mountains in China, and each famous mountain has its own characteristics, which constitute the image characteristics of male, strange, dangerous, beautiful, secluded, Austrian and spacious. Landscape environment is a basic cognition of ancient people in choosing the location of city sites and building cities. Land is the most direct carrier of urban construction, and every natural landform factor on its surface determines the development trend of a city.

Meteorology is an invisible factor in the construction of a city landscape, which has been neglected for a long time. However, meteorology has attracted people's attention since ancient times, and the most powerful explanation is the ancient city eight scenic spots culture. Although it stagnated in the late Qing Dynasty for various reasons, it is found in contemporary research that the city eight scenic spots culture still has guiding significance for today's urban construction.

The distribution and appearance of plant communities are also factors that should be considered in landscape construction. Plants are greatly influenced by land and climate, and the differences of plant communities in each region are also great, which should be considered in landscape construction.

3.2. Artificial Landscape

Artificial landscape mainly includes settlements (cities and villages), buildings, roads and bridges, squares and other elements. Different types of settlement forms will form different landscape systems. The internal reason is that the urban form is influenced by the natural environment, which directly affects the urban form, and the landscape system is restricted by the urban form. Urban form can be divided into regular and irregular shapes among traditional cities in China, in which regular shapes include squares and circles, and irregular shapes include towns along the river, mountain cities, dual cities and multiple cities. No matter what kind of urban form, it is the dual result of natural and artificial effects. The concrete relationship between urban form and landscape system is that regular cities are not easy to be detected from the city because most of them are located in plain areas with small topographic relief, with straight and square urban construction, strict and regular fields outside the city and long distance between mountains and rivers. Most of the irregular cities are influenced by the natural environment. Some of them develop along the river, rely on the mountains to build cities, or form a multi-city form due to historical reasons. Most of these urban forms are irregular, with free and flexible fields outside the city, and more interactions between mountains and rivers and cities, which are easy to detect.

Architecture is an indispensable part of the construction of urban landscape system. Wang Shusheng pointed out that the key sections and key buildings that form the whole landscape construction, just like the "acupoints" mentioned by Chinese medicine, are the good places to perceive the urban landscape, which can be said to be the "eyes" to appreciate the urban landscape. Wang Yuncai pointed out that architecture and settlements are widely recognized as typical local traditional cultural landscapes, and they are safe strongholds created by people for long-term survival in nature. No matter from any aspect, architecture is the most basic element of a city, and the key building is the crowning touch of the city. Nowadays, the development of the city is expanding day by day, and buildings with different volumes and heights come one after another. We should pay more attention to the construction of buildings in key areas. Return to the main body of the building and pay attention to who is building, why, what and how to use it. And then explore the main goal and behavior in the process of landscape construction. We should be cautious

about building construction in the early stage. Once the urban landscape system is formed, the city will continue to benefit.

3.3. Combination of Natural and Artificial Landscape

The combination of nature and man-made landscape includes garden green space, farmland, orchard, pasture, water conservancy project and so on. Among them, the garden green space built by people is the main factor in landscape construction, and one of the missions of landscape architecture discipline itself is to create a good living environment for human beings. For a long time, we have neglected the continuity of the earth landscape in the process. With the gradual expansion of the city, the garden green space has become an auxiliary space in the city that needs special maintenance. Most of this space exists in the form of points, which is isolated from the perspective of overlooking, that is, it has not formed a real landscape system. Why can forest trees far away from the city survive well without human care, but not in the city? One of the reasons is that the green space in the city has lost its ecological environment, thus losing certain natural attributes; The second reason is that most of the gardens in the city are transplanted from abroad, and the trees used for viewing are different from the living conditions of plants in this area.

3.4. Other Landscapes

Other landscapes include animal landscapes and human landscapes, which are also the conditions for landscape construction. Animal landscapes, such as birds, are less controlled by human beings, so we will not discuss them. In terms of human landscape, Wang Yue pointed out that from the perspective of landscape architecture, the landscape system focuses on the relationship between landscape elements and urban construction, including the material form of urban and landscape integration and the extended intangible space such as culture, customs and images. It can be seen that the material space environment derives from human landscape, which in turn has an important impact on the material space.

4. Summary

This paper points out that there are three main types of research on the construction of landscape system, namely, the research from the macro background, the research from the specific elements and the research from the perspective of selection, and explains the representative scholars and research contents of these three types of research. Finally, according to the previous research, the framework and elements of landscape system construction are sorted out, including natural elements, artificial elements, and elements combined with nature and artificial elements, and each element is discussed respectively.

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