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REVIEW

Research on the Application and Public Experience of Green Landscape Color Art in Fuzhou

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ABSTRACT

In the landscape design, the green landscape is an indispensable landscape element, and the plant color is an important factor affecting the green landscape. The color matching and layout are inseparable from the research on color art. Color art not only affects our vision, but also influences people's psychology and behavior through vision. In the following, Fuzhou will be used as an example to analyze the application of color art in the green landscape and the public experience.

1. The Current Situation of the Application of Color Art in Urban Green Landscape

1.1 The Research Situation of Overseas Urban Color Art

verseas research on urban color issues began in the 1970s, and the purpose of the research was to protect and restore old cities. Due to the consideration of the coordination between the old city and the new district, the research on the exterior color of the building is not related to the research on color art of the entire city. However, with the development of science and technology and the trend of global integration, the traditional culture of the region is seriously deficient, and people have begun to pay attention to the research on urban characteristics in

various aspects, also includes the research on urban color art, but still focuses on buildings and public facilities, and there is little color art research on urban green landscape^[1]

1.2 The Current Situation of Color Art in China

Color art can play a leading role. With the development of Chinese society, culture and economy, people's perception and demand for color have also undergone unprecedented changes. Especially in the fields of decoration, clothing, construction, etc., it has been widely used. In recent years, some large cities in China have gradually begun to pay attention to color issues in planning and construction, and have carried out different levels of color planning. The color industry is also developing in the direction of industrialization, diversification and innovation. However, these applications and research on color are limited to designers

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and researchers. The lack of public participation and lack of knowledge about color art have affected their ability to appreciate color landscapes.

1.3 The Main Existing Problems in the Application of Color Art in Green Landscape

In the landscape architecture, the green landscape is the most popular, and color is more important as a feature of the plant's most ornamental value. How to give full play to the charm of the color of the plant itself and how to coordinate the color of the plant with the surrounding environment and urban color is something we need to pay special attention to now. At present, the description of plant color is mostly focused on qualitative language description, and because each person's understanding of color is different, the description of the same color will produce a big difference. The difference in color in brightness and saturation is easily overlooked by people, so that the color cannot be accurately expressed, so that the plant color of the design and the actual color effect of the plant are greatly deviated. Plant color lacks specific color language and special color scheme, which greatly affects the development of plant landscape color art. Therefore, it is necessary to carry out quantitative research plant color.

Fuzhou is located on the southeastern edge of Eurasia, southeast of China and east of the Pacific Ocean. It is a typical subtropical monsoon climate. The temperature is appropriate, warm and humid, the rainfall is abundant, little frost and snowless, and most plants are evergreen. Therefore, Fuzhou's green landscape is more than green and lacks color, and the plant landscape also lacks seasonal changes. In the "Fuzhou City Master Plan (1995-2010)", the implementation of the "Showing Landscape" project has significantly improved the indicators of urban green in Fuzhou. However, it ignores the importance of colorization, resulting in a monotonous green landscape. On April 23, 2018, the first Digital China Construction Summit New Smart City Forum, co-sponsored by the National Development and Reform Commission and the National Internet Information Office, was held in Fuzhou. whereby the forum, Fuzhou vigorously carried out the greening and upgrading work of Huahua Caihua, such as Cangshan District, focusing on the improvement of green landscape in the following areas: Exhibition Island, Nanjiang Binxi Avenue, Canggian Road, Third Ring Road, Yongnan Road, Jiefang Bridge and Linpu Road—"One Point and Six Line" green landscapes, which made the original dull and monotonous street and node green space fresh and pleasant, and won the praise of the public. The green landscape occupies an important position in the urban color, and the main body of the city is the people living in it. The public experience is the most intuitive. Therefore, the application and research of color art in green landscape is inseparable from the research and analysis of public experience^[2]

2. The Significance of Color Art in Urban Green Landscape Design

2.1 Carry out the Research on Color Art as an Important Part in Green Landscape Design

75% of a person's initial impression comes from color, and then other elements such as form. Color not only affects our vision, but also changes people's experience through people's visual experience, affecting people's psychology and behavior. However, in today's park planning and construction, often only emphasize the landscape space, physical features, etc., while ignoring the importance of landscape color. In the color of the landscape, the color of the green landscape occupies a large part. The color matching is unreasonable. As a whole, there is no good plant color environment, and it is impossible to play an excellent color landscape to stabilize the nervous system and mental state of people, improve people's sense of safety and comfort, and reduce accidents. Therefore, putting color art as an important part in the design of green landscape, analyzing people's understanding of plant color landscape, and people's tendency to plant color landscape, is of great significance in theory and practice^[3].

2.2 Carry out the Quantitative Analysis of Plant and Leaf Color in Fuzhou to Provide a Basis for Green Landscape Color Scheme

The quantitative analysis of plant color and leaf color in Fuzhou is aimed at accurately expressing plant color by quantifying plant color, which provides the designer with effective plant color information, allowing the plant's color to be accurately and efficiently applied and maximized in the plant landscape.

At present, the plant landscape in Fuzhou is monotonous, and the color is monotonous and has no features and highlights. Through the quantitative analysis of the plant colors of several important green land types in Fuzhou, combined with the theory of color matching, the effect of the greening configuration is analyzed. At the same time, based on the existing color and leaf color resources, some suggestions for plant color combination can be proposed, so that more plant color types can be fully utilized^[4].

2.3 Make the Research More Practical through an In-Depth Investigation of the Public Experience

Through the investigation and analysis of the public experience, the influence of color art on people's psychology and behavior is studied. Different types of green spaces, people

feel different in them, which also includes color feelings, which requires that our survey not only needs to target different age groups, but also conduct separate surveys and statistical analysis for different types of green spaces, making this study more operative in practical applications.

3. The Application of Color Art in Green Landscape of Fuzhou City

Based on the theory of color science and landscape design, this project is based on the basic theory of chromatics. It mainly studies the application of color art in Fuzhou green landscape with the experience of people in the landscape environment as the starting point. The aim is to improve the influence of color art application in landscaping landscape and enhance the practical applicability of color art in urban green landscape design^[5].

3.1 Analysis of the Relationship between Color Planning and Green Landscape Color Research in Downtown Area of Fuzhou City

The scope of color planning in the downtown area of Fuzhou city mainly includes 5 Districts (except Mount Shou, Rixi Village and Huanxi Town in Jin'an District), and Jingxi Town, Nanyu Town, Nantong Town, Shanggan Town, Xiangqian Town, Qingkou Town, Shangjie Town in Minhou County and Guantou Town in Lianjiang County, which are consistent with the downtown area planned in the overall planning of Fuzhou City, with a construction land of 378 km2. The color planning goal of Fuzhou City is based on the new ecological landscape pattern of "Building a Scenic City" in accordance with the overall planning pattern of Fuzhou City. Create a city color landscape of "Warm Two rivers with Colors, Make Rongcheng (the elegant name of Fuzhou) Charming", the main color of the future is warm white, warm gray tone (concentrate on the color range of different brightness and saturation of the hue 5YR~10YR). The color research of the green landscape should be based on the overall color planning of Fuzhou, and targeted research should be conducted according to different types of green space^[6].

3.2 Investigation and Research on the Flower and Leaf Color in Fuzhou City

3.2.1 Quantitative Analysis Research on Plant and Leaf Color in Fuzhou City

The research mainly investigates the current situation of the color art of Chinese plants in green areas such as park green space, road greening and residential area greening, and some functionally prominent land use such as hospitals, nursing homes, and children's parks. Using NCS color card to take

color, according to the collected plant color and leaf color information, using the principle of chromatics, from the color distribution of flower color, leaf color, flower color, leaf color brightness and saturation status and plant species distribution, etc., the plant color and leaf color used in the above types of land use were statistically and quantitatively analyzed, and the current status of flower color and leaf color resources in the land was grasped, so as to facilitate targeted plant color application in such green areas in the future^[7].

3.2.2 Research on the Use Frequency and Application Distribution of Plant Flower and Leaf Color in Fuzhou City

Count the actual use frequency of each plant, select the plants with higher application frequency, and match the color and leaf color information of the collected plants with the specific plant color and leaf color. The color distribution of flower color and leaf color commonly used in several types of land in Fuzhou City was obtained. According to the statistical results, the current situation of flower color and leaf color was analyzed, and corresponding suggestions were given [8].

3.2.3 The Configuration Application and Discussion of Plant Flower and Leaf Color in Fuzhou City

According to the quantitative analysis results of the plant color and leaf color of the above-mentioned types of land use, and the use of color and leaf color, the relevant application of color and leaf color is discussed by using the color matching principle, and corresponding suggestions are put forward.

3.3 Research on Public Experience

Questionnaires were conducted on different groups of people, such as the elderly, children, and young people, mainly from the perspective of people's psychological feelings, analyze the color propensity of the color art of the plant in the green space of the park, the greening of the road and the greening of the residential area, and some functionally prominent land, such as hospitals, nursing homes, children's parks, etc, mainly from the following aspects^[9]

3.3.1 Public Understanding of the Color in the Green Landscape

It is not difficult to find that most of the public lacks a basic understanding of the basic knowledge of color landscapes and color and color. Therefore, neither the landscape designer nor the ordinary tourists and users have given the attention to the landscape color, which is also one of the purposes of studying the garden color landscape, because only by letting the public know what color landscape is, and they

can better appreciate and identify the color landscape.

3.3.2 The Public's Satisfaction with the Color of the Green Landscape

Through the satisfaction survey of the green landscape color of several different land types, we can find out which plant colors are more likely to attract the attention of the public. People pay more attention to the richness of color and the coordination of colors. According to the investigation and analysis of different types of land use, the targeted color selection requirements are proposed to guide the green landscape design work of this type of land in the future, and to make features to avoid monotony and similarity^[10]

3.3.3 The Evaluation of the Influence of Green Landscape Color on Public Mood and Behavior

Investigate the extent to which the public believes that the color of the green landscape in the park influences their mood and behavior during the tour, whether it is very influential or has some influence, and compare the effects of other landscape elements, such as buildings, landscape amenities, garden paving materials, on public psychology, it is concluded that the degree of psychological impact of the green landscape on people in the landscape is large, and the importance of it in the landscape design is understood^[11].

3.3.4 The Comparison of Factors Affecting the Color of Green Landscape

The seven factors of geographical conditions, seasonal transformation, traditional aesthetic habits, weather and light and shadow effects, plant selection, color psychological influence and economic and technological conditions were selected. It is concluded that the public believes that the color of the green landscape is the most important, and the problems in the application of green landscape color are solved in many aspects.

3.3.5 Create an Intention of the Color of Green Landscape

Mainly for different types of land use for separate statistics, study the requirements and expectations of the public in the various colors of the green landscape. Through this survey, specific analysis of specific issues in each survey site can be carried out in a more targeted manner, making survey statistics more practical^[12]

4. Conclusion

In the color application of landscape design, the color of the green landscape is the most abundant. The color matching and layout of plants profoundly affect the overall effect of garden landscape design. Whether the color matching of plants is perfect or not is the key to determining whether the landscape design is vivid. Therefore, we should scientifically use color psychology and related research activities to create a green landscape color image with Fuzhou characteristics, which is not only the responsibility of the landscape architect, but also should be upgraded to the government level, such as the formulation of the overall color planning of Fuzhou City and the sub-planning according to different types of green space, clear theme color; detailed regulations on plant color orientation; conduct regular surveys of plant color public experiences, etc. in order to make the color art fully integrated into the green landscape design, people can enjoy the visual enjoyment better, and make the green landscape present a more unique beauty^[13].

References

- [1] Jieming Cheng, Xiajie Chen, Kai Gu. Color Science [M]. Beijing: Science Press, 2006:1-9. (in Chinese)
- [2] Lianfu Guo, Jihua Zhang. Color Aesthetics[M]. Xi'an: Shaanxi People's Fine Arts Publishing House, 1992. (in Chinese)
- [3] Yuhong Guo, Yunnan Cai. Planning strategies and approaches for urban color[M]. Beijing: China Building Industry Press, 2010. (in Chinese)
- [4] Wei Cui. Urban Environment Color Planning and Design[M]. Beijing: China Building Industry Press, 2006:2-5, 4-18. (in Chinese)
- [5] Can Liu, Qixiang Zhang. Color Harmonic Theory and Plant Landscape Design[J]. Landscape Architecture, 2005(02):29-30. (in Chinese)
- [6] Lvtai Gao. Improvement of Urban Color[J]. Huazhong Architecture, 2002, 31-32. (in Chinese)
- [7] Li Ni. Research on color application of urban garden plant landscape design[D]. Central South University of Forestry and Technology, 2007. (in Chinese)
- [8] Dequan Kong. The application of plant color in urban gardens[D]. Northwest A&F University, 2011. (in Chinese)
- [9] Baining Sun. Applied research on numerical methods based on landscape garden color[D]. Northeast Forestry University, 2010. (in Chinese)
- [10] Gruffydd B. Tree Form, Size and Colour[M]. Spon Press, 1944, 4.
- [11] Wang Siqi. Study on the color and application of garden plants in Taiziwan Park, Hangzhou[D]. Zhejiang Agriculture and Forestry University, 2013. (in Chinese)
- [12] Birren, Fader. History of Colour in Painting[M]. New York: Van No strand Reinhold, 1965.
- [13] Jun Wang, Yingqi Li. Application of Color in Landscape Design[J]. Development Guide to Building Materials: Volume 2, 2015(09). (in Chinese)