

LETTER TO THE EDITOR

Aesthetic Layout of Garden Landscape from the Perspective of Ecosystem

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Landscape mainly includes soft natural things such as trees, water, drizzle, sunshine, and hard man-made things such as paving, railings and walls. Ecosystem landscape covers ecological factors, garden plants, ecological environment and so on. Landscape ecology considers the lithosphere, biosphere and sphere of wisdom in human living space as an organic part of the whole human ecosystem. In order to improve the quality of landscape planning, the aesthetic landscape layout is analyzed from the perspective of ecosystem. The concept and connotation of aesthetic landscape services are mainly analyzed. The landscape layout is analyzed from the five aesthetic angles, including flowers, trees, water, buildings, paths and mountains, in order to enhance the overall aesthetic sense of landscape and make it more in line with the aesthetic sense of modern people.

Landscape Architecture; Aesthetic Service; Layout

1 INTRODUCTION

Landscape aesthetics from the perspective of ecosystem is one of the important components of landscape art. Landscape aesthetics is a kind of landscape with artificial measures. It not only emerges as a design achievement, but also reflects the close relationship between landscape and human in the development of human society. The aesthetic study of landscape architecture not only reflects the consciousness and technology level of human beings in transforming nature, but also reflects the process of aesthetic change of human groups. Landscape plays an important role in urban ecosystem. It can release oxygen, control temperature, absorb toxic and harmful gases, conserve water and soil, and conserve water resources. The important materials of landscape beautification and urban beautification enrich people's visual appreciation requirements and change people's social aesthetic concept in a sense. Landscape itself also has certain economic value, and the value of surrounding land can be improved by the urban green space shaped by plant communities. Therefore, in today's historical environment, people's research on landscape aesthetics is no longer limited to the summary and prediction of the succession and development of natural communities, and the aesthetic layout of landscape from the perspective of ecosystem has become the focus of research.

Sheng Li, Zhonghua Peng, Zongsheng Huang, Jun Qin published an article entitled "Plants Spatial Planning Method of Urban Ecological Landscape Environment" in the journal *Ekoloji* (Issue 107, 2019) (Li et al. 2019). The article pointed out that in the past, the urban ecological garden environment was planned. When planting landscape

plants, they often only pay attention to the plants themselves, but ignore the macroscopic planning and design of the space of landscape plant, and the lack of practical experience of the urban ecological garden environment landscape, resulting in a sense of sparse space. Therefore, a new method for spatial planning of urban ecological landscape environment plants was proposed. Based on the detailed study of the characteristics of urban ecological landscape environment plant spatial planning, spatial layout planning of plants was carried out according to site conditions and functions, and physical scale and spatial perception scale were planned from spatial scale and proportion. Using macroscopic perspective to plan spatial sequence, theme plot, spatial physical scale and spatial perception scale, and complete urban ecological landscape in the form of points, lines and planes on the basis of plant selection principles, plant configuration principles and landscape design principles. Plants spatial planning for the environment was completed. Experiments showed that this method can scientifically and reasonably plan urban ecological landscape plants and has high planning performance.

Ma et al. (Ma 2017) pointed out that landscape is the most important measure of aesthetics in the identification and evaluation of aesthetics. Based on the analysis and relationship analysis of the concept of ecosystem services and landscape aesthetics services, this paper reviewed the categories and methods of landscape aesthetics service identification and evaluation research, discussed the shortcomings in current research in this field, and reviewed two kinds of considerations on aesthetic issues (Xu et al. 2018). The main approach emphasized the importance of bridging or improving the relationship between aesthetic values and ecological values. Ai et al. (Ai 2017) combined the principles of landscape layout, aiming at landscape planning, landscape ecological protection and restoration, from the perspective of urban sustainable development, to clarify the significance of building an ecological garden city. The need for ecological garden urban planning was indicated. Adhere to the important concept of people-oriented, especially in today's urbanization process, the ecological and human space in harmony between man and nature is in line with the sustainable development concept in landscape ecology (Bonn et al. 2018). Based on the previous research results, this paper analyzes the aesthetic layout of garden landscape from the perspective of ecosystem.

2 IDEA DESCRIPTIO

2.1 The concept and connotation of aesthetic services in garden landscape

Eco-gardening system services are the benefits that human beings obtain from the ecosystem, including supply services, regulation services, cultural services and support services. Many decision-making frameworks based on ecosystem services basically follow four major principles: restoring damaged ecosystems, preventing ecosystem degradation, alleviating tension between human and ecosystem, and optimizing the sustainable supply of ecosystems to human development (Duarte et al. 2018). Among them, the cultural service of ecological garden system, as the most closely related category with human beings, means the intangible benefits that human beings receive from the ecological system through the development and promotion of cognitive perception ability, the satisfaction and dissemination of spiritual aesthetic needs, as well as entertainment, reflection and aesthetic experience. From the background of the concept, the explanation of the definition to the intersection of the two contents, aesthetic sensory experience, aesthetic ethics and aesthetic objective entities are all the important contents covered by the eco-gardening system services.

The term "landscape" is a controversial and pluralistic concept. For example, landscape may be objectively defined as the form and style of human-nature coupling system or coupling area, or subjectively defined as the appearance of land and its landscape characteristics, or defined as the construction and shaping of daily outdoor space from the perspective of pragmatism. Whatever the definition, it contains the process of judging and reflecting on the primitive phenomena of aesthetics based on objective material space - the formation of aesthetic knowledge system

and the adjustment - the construction and dissemination of aesthetic ethics and morality. In 2009, Jolande W. Termorshuizen and Paul Opdam, scholars of Wageningen University in the Netherlands, proposed the term “landscape services” after summarizing the relationship between the concepts of landscape and ecosystem services. Compared with the “all-inclusive” meaning of ecosystem services, landscape services focus on spatial, historical clues and situational, human impact, practicability and human participation in landscape planning. Landscape services are designed to clearly link ecosystem services to specific environments where people can perceive feedback and interact. That is to say, landscape scale is the most important yardstick to determine human aesthetic experience and land use decision-making. The ecosystem services that are most closely related to human beings are the characteristics and functions that can provide or facilitate these experiences in the landscape. Landscape aesthetic experience is the benefits that people receive through the interaction between their own senses and landscape (Yang Chen 2018).

2.2 Aesthetic Layout of Garden Landscape

Landscape layout should conform to the principle of comprehensiveness, and the form of gardens is determined by the content of gardens. The main function of gardens is to create a beautiful place for rest and play and to improve the ecological environment. Landscape layout should be carried out from the aspects of economic basis, gardening art and use function, so as to comprehensively solve the problems encountered in landscape layout. It is necessary to conform to the principle of unity. Landscape layout includes topography and landform, water body, animals and plants, architecture and so on. In order to achieve a standard landscape layout, it is necessary to integrate landscape into nature. Urban gardening is a natural space, which plays a very good role in regulating the city’s ecology. It is also an artistic and cultural space, reflecting the city’s humanistic spirit.

This paper makes an analysis from five aspects: flowers and trees, water, buildings, paths and mountains.

2.2.1 Flowers and trees

In a more straightforward way, there is a choice of location and variety in the planting of flowers and trees. Spring, summer, autumn and winter have timely flowers, peony, spoon medicine, plum painting, lotus, and orchid. Some of them featured on leaves, some on flowers, and some of them are not prominent in shape, but the smell is better. Although simplicity is the main feature of Chinese classical gardens, the lively colors is not excluded to appear in gray, such as plum blossoms blooming in the snow, spring greeting in the cold, a peony or spoon medicine beside a strange stone, and several water lilies in the marsh, which can stimulate the inner vitality in the simple, which is not in conflict with the aesthetic of classical gardens.

Planting of trees should take into account regional factors, evergreen and deciduous leaves, trees and shrubs, as well as color changes brought about by seasonal changes, and cultural implications. But a general principle is to achieve a “clear” effect through the matching of trees. The ups and downs, scattered, rich layers and rhythmic space bring the feeling of “the time of endless heaven and earth” to the heart during the observation (Liu 2018).

2.2.2 Water

The most important natural element of Chinese gardens is “water”. It can be said that everything revolves around water. An ideal hydrophilic environment is also the high-priced selling point of some high-end residential districts nowadays. The inheritance of this tradition is not only for aesthetic considerations, but also for practical needs of life, fire prevention, irrigation, and microclimate regulation. Therefore, it is a reasonable choice to analyze the distribution of water. Water paths and paths should not be parallel. If they are separated from each other, they should be intermittent to cause visual and auditory changes.

2.2.3 Buildings

Buildings in gardens are different from dwellings and palaces, they neither seek regularity nor shelter nor defense

functions. Buildings in gardens are “open” rather than closed. They must be connected with the outer space, and their facades are as rich and varied as possible.

2.2.4 Paths

The curved bridge in the garden can be seen as a form of road change. The path and the curved bridge must be connected with pavilions or water pavilions. The delayed road and the extended bridge are slow boards, while the pavilions or water pavilions form a short rest. Visually, these points are also the center of some “closure” or “divergence”. In gardens, due to the proper layout of roads, infinite changes can occur in the limited space.

2.2.5 Mountains

There must be mountains for gardening, which can be either natural or man-made when digging a pond. Mountain should not be too small, and stacked stone should not be too large, and the positioning should be carefully considered. However, the principle of "natural" should be followed in mountain-building and stone-stacking, and the most taboo is geometry and rules, and the traces of "man-made" should be left behind. In addition to rocks used in rockery, there are stone tables, stone piers, stone cases, stone screens, stone basins, and stone lanterns and so on.

3 DISCUSSION

Plant landscaping is the eternal theme in gardens, and garden plant landscape is also the most dazzling pearl in gardens. It has to be admitted that the art of plant landscaping is one of the most outstanding arts in the world today. It organically links the techniques with the intrinsic characteristics of the objects, opens up a comprehensive grasp of the macro, and delicately and deeply considers the micro. It plays an important role in enriching urban life and improving urban ecology. Because of the complexity of today’s garden art and the endless emergence of forms, the vitality of plants with various design methods increases their dynamic changes. At the same time, the social aesthetic concept is also changing dramatically. People are no longer satisfied with the simple greening around them, and the public’s requirements for the landscape effect of garden plants are becoming higher and higher. Therefore, it is becoming more and more difficult for designers to understand and grasp plant landscaping, and the combination of garden plant landscaping and other elements in the garden makes plant landscaping more mysterious with the continuous expansion of its functions. Therefore, it is necessary to explore some new ways of plant landscaping, from the internal relationship between plant landscaping and aesthetics, as well as the overall interpretation.

4 CONCLUSION

From the perspective of environmental aesthetics, garden landscape is not only an objective material world, but also an integral space for the interaction between man and nature. At present, the landscape construction aiming at tourism does not attach importance to its naturalness, culture and integrity, and therefore lacks aesthetic value. In this context, the characteristics of landscape itself are difficult to reflect, or even cannot be well integrated with the development of landscape, and become meaningless landscape. Because it cannot better interpret the aesthetic significance brought by landscape architecture from the perspective of traditional aesthetics. Therefore, this paper analyzed the layout of landscape aesthetics from the perspective of ecosystem, and reconsiders the planning of landscape from the perspective of environmental aesthetics, so as to create a landscape more suitable for human aesthetics.

References

- Ai YG (2017) Analysis of Landscape Layout and Landscape Ecology. *Agriculture & Technology* 37 (20):203-204.
- Bonn B, von Schneidmesser E, Butler T, Churkina G, Ehlers C, Grote R, Klemp D, Nothard R, Schaefer K, von Stuelpnagel A, Kerschbaumer A, Yousefpour R, Fountoukis C, Lawrence MG (2018) Impact of vegetative

- emissions on urban ozone and biogenic secondary organic aerosol: Box model study for Berlin, Germany. *Journal of Cleaner Production* 176:827-841.
- Duarte GT, Santos PM, Cornelissen TG, et al. (2018) The effects of landscape patterns on ecosystem services: meta-analyses of landscape services. *Landscape Ecology* 33 (8):1247-1257.
- Li S, Peng Z, Huang Z, Qin J (2019) Plants spatial planning method of urban ecological landscape environment. *Ekoloji* 28 (UNSP e107325107):2905-2916.
- Liu N (2018) Urban road landscape design based on three-dimensional visualization. *Automation & Instrumentation* 18 (8):45-50.
- Ma YH, Yuan Q, Leng H (2017) Review and Enlightenment of Landscape Aesthetics Service Evaluation from the Perspective of Ecosystem Service. *Chinese Landscape Architecture* 33 (6):99-103.
- Xu A, Zheng Q, Zhao R, Wu J, Zheng M (2018) A Study on Leisure Participation and Environmental Perception of Ecotourism towards Well-Being. *Ekoloji* 27 (UNSP e106007106):71-77.
- Yang H, Chen J (2018) Integrating landscape system and meta-ecosystem frameworks to advance the understanding of ecosystem function in heterogeneous landscapes: An analysis on the carbon fluxes in the Northern Highlands Lake District (NHLD) of Wisconsin and Michigan. *Plos One* 13 (2):e0192569.

