

Modern Landscape Design and Spatial Visual Occlusion

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Abstract: With the development of modern urbanization, the transformation of old districts, the upgrade of new models of modern urbanization, the exploration of harmony between man and nature, the integration of urban and rural areas, there are more and more landscape design in cities. In landscape design works, most of them learn from the western rural landscape model, and force nature to accept the law of symmetry by order and geometric regularity. Many landscape designs are visually unobstructed, and have no spatial visual occlusion, which makes many landscapes lack layers and changes.

Problems in Modern Landscape Design

Insufficient Knowledge of Spatial Visual Occlusion. Many cities lack spatial knowledge in landscape planning and design. They only regard the landscape as the architectural decoration, ignore the role of space in urban environment and living space, and neglect the relationship between the internal space of landscape. Influenced by the western garden art, these cities simply emphasize the visual geometry and plant collocation. However, they ignore the design requirements of visual occlusion on the spatial environment, and will not combine the natural environment and terrain characteristics of the plot to design unique landscape artistic works^[1]. The western landscape art completely rejects nature and tries to reflect rigorous rationality. This "law of forcing nature to accept symmetry" has become the basic creed of western landscape art, which stresses integrity, visual unobstructed, and does not block the spatial vision.

Western classical landscape design focuses on the beauty of confrontation between man and nature, while traditional Chinese landscape art is based on the beauty of "harmony" between man and nature. There are a lot of excellent design works in Chinese traditional landscapes, including Hangzhou West Lake, Suzhou gardens and so on. This kind of design has appeared in the form of enclosed parks since the beginning of the emperor, but the urban landscape with spatial design is still minimal. With large-scale urban landscape construction, short-term design, many landscapes have the problem of lack of overall spatial visual planning^[2].

According to the survey on the importance of spatial visual occlusion in landscape design, it is found that 83% of urban landscape planning and design are based on western landscape geometry. 75% of the surveyed designers are lack of spatial design ability in planning and design. In terms of the importance of spatial visual occlusion in landscape design, only 16% of designers consider it important, 82% unimportant, and 2% focus on other visual elements.

From most of the current landscape design cases, most of the planning does not have the concept of spatial design, not in accordance with the visual law. Some designs copy the western design patterns or composition, not in harmony with the specific environment of China, which produces some strange landscapes, and lacks spatial visual planning.

Weak Spatial Design Ability. Landscape design involves a wide scope. It includes all tangible and intangible materials that compose the landscape space and even the human culture. Landscape designers should not only have rich relevant professional knowledge, but also learn about spatial composition. However, there are very few designers who can plan and design the overall space. Spatial design plays an important role in obtaining a richer sense of hierarchy for limited garden space. In modern landscape design, the spatial pattern, the necessary connection and interaction between closed space and open space are all important issues that must be considered in the design. Designers can not simply consider the plane layout and plant configuration, but take into account

the changes in the overall environment. Even if it is a small garden, designers should also consider the unity and change of space.

Spatial design is of great value to the construction of the whole landscape space. Modern garden landscape space is usually divided into areas according to the functional relationship, which contains several spatial layers and main landscapes. The main elements are rocks, water, plants, corridors, walls and so on. The extension and penetration of space, unity and change, and sense of spatial hierarchy are particularly important in modern urban landscape design^[3]. It makes the space colorful and meets different behavioral and psychological requirements, which requires a high level of spatial design to handle the spatial separation.

Lack of Respect for Traditional Landscape Space. The splendid traditional culture of the ancient civilization of 5,000 years has produced many ancient cities in history, such as the ancient capital Nanjing, the capital Beijing, Hangzhou and so on. These ancient cities naturally have many classical landscapes. Our traditional garden space used to be so splendid, but now many ancient cities have disappeared. In large-scale urban reconstruction and modernization, many ancient buildings and traditional landscapes have been destroyed. In recent years, the issue of intangible heritage protection has been repeatedly raised by experts and scholars, and also received attention. However, the research of classical landscape and space is still a subject that needs a lot of manpower and material resources.

Chinese traditional culture has a long history, and its influence on spatial design is even longer-lasting. When it comes to the concept of Chinese space, it can start with a famous saying of Lao Zi. "Mix clay utensils, because the middle is empty, so we implement effect. Carved doors and windows cover into a house, because the middle is empty, have the function of the house". It is mentioned that the visible wall is the edge of the space, and the invisible space in the middle is the part we need to use. The two opposites of visible and invisible are dialectically united, which are interdependent, interactive, promoting and transforming each other. Understanding this idea is of great practical significance to the design of landscape space.

For the lack of traditional culture and the influence of single western education, many designs have been reduced to rootless designs, and more difficult to create landscape spatial design which integrates traditional culture and modernity. However, according to the concept of landscape architecture in the south of the Yangtze River, the design of the new Suzhou Museum takes into account both traditional and modern elements. It continuously extracts the essence of traditional landscape spatial design and points out the direction for its future design in China.

Principles to Be Followed in Modern Landscape Spatial Design

Spatial Layout of Landscape Design. In general, the shape of the space has been determined by the plot itself. They often lack some elements needed for landscape space, such as high and low scattered, twists and turns. The spatial layout is to improve the sense of hierarchy of this kind of space. Thus, the ancient landscape architects have used the vision occlusion to carefully deal with the existing site space, such as the basic walls, corridors, rocks, plants, etc. Moreover, through these treatments, both the layers of the landscape itself can be enriched and the entire space can be improved. The separation of space itself can also be formed by the barrier formed by visual occlusion, and the barrier itself becomes a part of the landscape. Meanwhile, the barrier and landscape space have become the relationship between seeing and being seen.

Because of the different degree of occlusion, different types of space are formed:

(1) Enclosed space -- it is the basic spatial type formed by the enclosure of buildings or plants in the landscape, and also the type that completely blocks the vision.

(2) Semi-open space - the semi enclosed space of buildings or plants is used to form an appropriate space, whose one or more sides are blocked and limits the penetration of sight.

(3) Open space -- it is a space enclosed by a low building or plant, with only a low gallery and ground cover as the limiting factors, with almost no space to block the vision.

We can also block the visual space from the horizontal and vertical directions of the space. For example, we can increase the height of steps or slopes in the horizontal direction, and widen the

number of buildings or plants in the vertical direction to block the visual space. The construction technique of occluding vision can create a landscape of "seeing the big from the small" and "rich in layers". The smart combination of occlusion visual space is the key to its success^[4]. For example, in the main entrance part of the space, either enclosing, twisting, or occluding vision to form many small spaces, and place big spatial scenic areas behind, can strongly generate spatial contrast, and highlight the artistic effect of "seeing the big from the small". The entrance space is narrow and long, with strong twists and locks, and a high degree of visual occlusion causes depression. However, just after this depressing space, there is enchanting sight in spring time. When removing the visual occlusion, the big space behind is suddenly enlightening. The transition of a string of small spaces in front makes people a great illusion. If this kind of occlusion visual space technique is used properly, it will achieve a step-by-step scene, rich in changing spatial effect.

Traditional Culture and Modern Landscape Spatial Design. The Confucian stresses the golden mean, and if one behaves "too strong, it is easily broken, and the thing turns into its opposite if pushed too far". Being virtual and real, hidden and revealed is the art of dealing with people, using it properly will make the value reflected. Being hidden and revealed should await the proper moment, might as well hide, when no one may as well expose. Hide when you can, and reveal when no one cares. For example, Zhu Geliang is full of wisdom with great ambition. Although he lived in the deep mountain, he went out when Liu Bei visited the cottage 3 times, and finally achieved a great history. Thus, the grasp of being hidden and revealed is very important.

The ancient temple is hidden in the deep mountains. Being hidden and revealed, guidance and hint are two methods of classical landscape spatial design. Brilliant visual design always avoid a glance, so the entrance to the classical landscape often sets up a barrier, to block the vision. In the spatial design, hiding is another form of revealing, in order to shake people's hearts, and achieve greater satisfaction in the design when revealing. Therefore, hiding more is a kind of guidance and hint, arouse the audience's interest to explore step by step. This technique captures people's curiosity, seduces layers upon layers, and deepens the sense of layers in space. This is of great significance to the design of small landscape space.

One Yin and one Yang are Tao, and Taoism focuses on Yin and Yang. From the perspective of Yin and Yang, the two are not two separate parts, but interact with each other. The virtual space and real space in landscape design are based on the principles of Yin and Yang, and then to open and closed spaces. From the perspective of the spatial design techniques that block the vision, closed space is hidden, while open space is another form of revealing^[5].

People-oriented, Introducing Human Experience into Landscape Spatial Design (Spatial Sequence). The landscape space is accessible and viewed. Landscape spatial design is people-oriented, and people are the center of its planning and design. Human experience, psychology and behavior should be introduced into its design to reflect the relationship between human behavior and environment.

The spatial sequence organization of landscape design refers to the content of its space should not be clear at a glance. Instead, it is necessary to control the audiences' sight by designing the space to block the sight and designing a sequence of spatial changes. As audiences pass through this spatial sequence, vision is constantly changing. By blocking the sight, hiding and revealing, guiding and hinting, fully brewing and progressing, and finally reaching the visual climax, the purpose of occluding the sight in the landscape design is also achieved.

The organization of landscape spatial sequence generally consists of the following four stages:

- 1)The "prologue" or "initial stage" should be based on hiding and fully occlude the sight.
- 2)The "unfold" or "transition stage" should be conducted alternately with hiding and revealing, the guidance, hint, and brew before the visual climax, and half occlude the sight.
- 3)The "climax" or "climax stage" should mainly reveal, with the peak of visual satisfaction and landscape. At this time, the vision occlusion is completely removed.
- 4)The "end" or "end stage" should be alternated with hiding and revealing. The vision returns from climax to a calm state, and half occlude the sight so as to re-taste the climax.

A complete landscape spatial design sequence should have a clear hierarchical relationship and visual occlusion to achieve the effect of highlighting the center and rich layers. However, in the actual design, because of the limitation of the designers' ability, and the lack of understanding of visual occlusion and spatial sequence, many designs fail to achieve satisfactory effects. Since the adoption of visual occlusion and the organization design of the spatial sequence, the landscape can have a sense of hierarchy and rhythm.

Conclusion

Modern landscape design continues to advance in the process of economic development. When the pace is too fast, should we go back and consider whether these designs are what we need? Do they meet the needs of our culture? Do they contribute to our heritage and the spirit of the place? We should learn from the excellent design techniques and thoughts in traditional Chinese landscapes, and integrate the content of spatial design so as to obtain a better landscape experience.

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