

## Study on the Garden Style and Its Planning Form in the Garden Planning and Design Based on the Coupling Principle

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**Abstract:** in recent years, a series of major breakthroughs have been made in the domestic garden planning industry, which has become an indispensable important industry for domestic national economic construction, and has played a huge role in promoting it. Landscape garden planning is the product of the fusion of multiple cultures and a carrier that reflects the traditional culture of a particular period. In the long-term development of garden planning and design, various styles and regional characteristics have been formed. According to local conditions, scientific planning is the focus of garden design. . Landscape architecture is a discipline that takes both design and art into consideration. The principle of coupling and reduction can maximize the rationality of the whole garden. At the same time, the effective control of each link can realize the design purpose of reduction, and then make the creation of landscape more in line with the relevant requirements of ecology and aesthetic art. This paper starts from the style and characteristics of landscape architecture, and analyzes how to use coupling method in landscape planning and design. The purpose of this paper is to provide reference for the relevant personnel of landscape design.

### 1. Introduction

In the process of garden planning and design, how to embody the art and beauty of gardens is a problem to be discussed and studied in the course of garden planning and design-garden style and its planning form [1]. People usually prefer to use “adjust measures to local conditions” to describe the wisdom of environmental cognition and utilization. For different disciplines, their presentation methods are different, and the corresponding design methods and strategies also have their own characteristics. As far as landscape architecture is concerned, the so-called “design” is to integrate the resources of the place to the greatest extent, to achieve the expected design goal with the least human intervention, and to emphasize the maximum use of environmental resources and natural “power” in the design. Landscape architecture planning is a way of cultural inheritance, but also a process of multi-cultural integration and exchange [2]. At present, all successful landscape architecture projects undoubtedly fully combine traditional landscape design with local landscape or regional culture, and at the same time introduce modern culture or foreign culture. Landscape gardening is a discipline that takes into account both design and art [3]. Using the principle of coupling and reduction in design can maximize the rationality of the entire garden. At the same time, effective control of each link allows the design purpose of reduction to be achieved. To make the garden landscape more in line with the requirements of ecology and aesthetic art [4]. The “coupling method” has important practical significance for contemporary landscape architecture design. It can not only achieve reduced design, but also throughout the entire process from design thinking, method and construction. Through effective control of various links, it can achieve reduced design. The purpose is to achieve the effect of the so-called “four or two pounds”.

In recent years, the standards of landscape planning and management in china have been gradually improved. Landscape planning management departments and relevant personnel must correct their attitudes, strengthen their ideas, improve the management ability of rural landscape design through scientific measures, and promote the rapid and stable development of landscape planning [5]. The relevant departments should take planning and design management as the key content, not only consider planning and design issues, but also pay attention to the requirements of sustainable development. The design unit should enhance its own quality level in many aspects,

absorb and train professional management personnel, so as to establish a professional management team and improve the management effect to the greatest extent. As for garden planning, we must continuously increase capital investment to avoid affecting the whole development process. In order to do a good job of archiving relevant data and prevent data information from being lost and leaked, it is necessary to accurately collect, analyze and sort out the data, earnestly complete the archiving, and lay an important foundation for design technology management.

## 2. Garden Style and Characteristics

### 2.1 Garden Style

Garden style refers to the characteristics of the garden art and the characteristics of the times that reflect local characteristics, nationalities, cultural traditions, customs and customs. Garden style can reflect the style characteristics of different countries in different times; its style is different in different periods. Classical gardens, for example, have regular garden styles represented by France and Italy; natural landscape styles dominated by plants, represented by the United Kingdom; freehand landscape-style Chinese gardens [6]. Garden style can reflect local characteristics. Both are regular gardens with different styles. Chinese classical gardens focus on the combination of architecture and landscape. Chinese modern gardens use modern science and technology, and modern materials show a modern idea. Coupling method is a full-scale planning and design method, which has strong guiding significance and is easy to use in practice. As a common phenomenon, coupling is characterized by inlay, accompaniment and dynamic [7]. With the changes of the times and the changes of people's living habits, the current landscape design work is no longer so simple as the traditional beautification of the city, but gradually changed from beautification of the city and improvement of the environment to the aesthetic Road, forming a systematic and perfect unified planning process. This planning and design standard is carried out on the basis of the overall layout of the city, and it has an impact on the whole urban ecology and space , culture, environment and other aspects of the analysis, so that the landscape engineering and the whole city ecology become an interdependent, symbiotic relationship, and do not affect their respective forms, to achieve the goal of ecological landscape city together. The coupling method includes the content shown in Figure. 1.

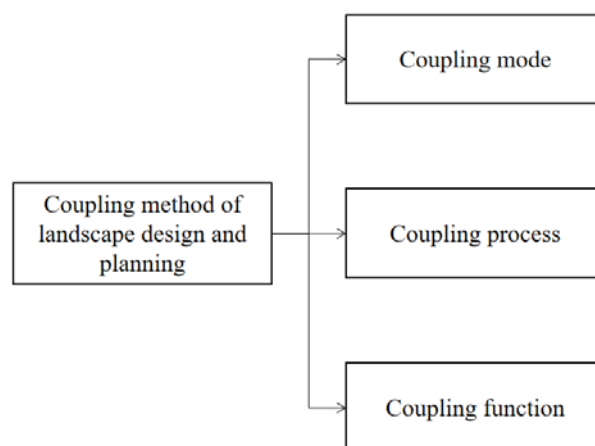


Fig.1 Content Map of Coupled Planning

### 2.2 Garden Characteristics

The basic concept of adjusting measures to local conditions in landscape architecture design at home and abroad mainly includes two aspects. On the one hand, it refers to maximizing the value of the use of the site, allowing the resources that can be used in the scene to be used more professionally, and maximizing its efficiency [8]. On the other hand, the content is to make the design goals come true in the landscape building, reflecting the ecological and economical concept of landscape design. Characteristics of Western Gardens: Medieval European Gardens all started

with practical gardens. On the one hand, it is the product of self-sufficiency of temple life. On the other hand, it promoted the development of horticulture in medieval Europe. Characteristics of Chinese Garden: the Eastern garden is represented by the northern royal garden and the Chinese Soviet style garden. The Soviet style garden conforms to the nature, has scattered mountains and winding waters, and connects the elegant and simple scenic spot buildings decorated in the garden with winding paths [9]. The main scenic area is composed of rockery and forest buildings around the small lake, forming a landscape garden linked by a circular route, without a central axis Lines, interspersed with the elements of landscape architecture, are arranged in a geometric irregular way. In fact, the garden of any country should reflect the personal style. It is formed under certain historical conditions, so it has the flavor of the times.

### **3. Landscape Planning Based on Coupling Principle**

#### **3.1 Coupling of Project and Site**

Garden planning can be divided into three categories: natural, regular and mixed. In the garden, if the proportion of regular garden and natural garden is similar, it can be called mixed garden. It is characterized by both natural and regular beauty. In general, the Mixed Garden adopts regular style in the main part of the center and natural style in the place far away from the main body. Mixed gardens are common in gardens. Almost all of them are mixed gardens. However, the proportion of mixed gardens depends on whether they are regular or natural. “Mutual adaptability” is the core value of coupling method. After the project planning, planning, design and other aspects are directly added to the construction of landscape architecture, the resources in the landscape architecture can be used to the maximum extent. At the same time, the coupling method has the smallest impact on the scene and the best display of the landscape effect. The application of coupling principle makes landscape architecture design more scientific. The coupling between the project and the site “enables the construction project to be established in the most suitable position in the scene under the precise planning of the designer. In the design of landscape environmental projects, the staff need to focus on the upper level planning and government policies. Tourism factors are also a more important link. This level includes the demand of the tourism market, the number of tourists, the target population, etc. At the same time, the culture contained in the site is the basis for the establishment of the project. Landscape projects cover a lot of contents. Therefore, reasonable and sustainable consideration should be given to the project planning of the scene in the design.

#### **3.2 Coupling at Design Level**

In the past 30 years, the changes in the planning and design of landscape gardens lie in “changing from focusing on results to design that emphasizes process”, that is, design and control that emphasize the design process. The new design method realizes “generating design” by grasping the dynamic design process, combining regulation and optimization, and embodies the characteristics of “bottom-up”. The parametric design of landscape gardens emphasizes control over process rather than results, and “bottom-up” can achieve appropriate design with minimal human intervention. “Space, ecology, function, and culture” are the four basic components of a modern landscape garden environment. The service object of the landscape garden environment is people and needs to satisfy people's demands. Contemporary landscape architecture planning and design is to graft and implant human needs on the basis of meeting the existence and development laws of natural systems, to achieve the integration between the designed artificial system and the place's native system. For the landscape environment, the form that is easy to change is not the essential feature of the system: the natural process and law in the place are not transferred by human will. Therefore, the design should not only pay attention to “form”, but also focus on “ecology”. Based on the study of the landscape architecture system and its changing process and law, the design should be carried out to dynamically adjust the four basic elements, so that the landscape environment can self sustainable development. The design of “form” and “ecology” has become the demand of landscape planning and design. It is a parameterized landscape planning and design

method. From the perspective of design itself, the designer's subjective initiative is more important, but it needs to be noted that the subjective initiative is realized on the basis of various conditions as the support of movement, so the landscape design in the garden cannot Like abstract art creation, it is directly free from the constraints of the environment, which is also the embodiment of the different values of landscape architecture art and other related arts. Using the principle of coupling in the design scheme can make the choice between different schemes and the idea in the place get the maximum fit. When people evaluate the advantages and disadvantages of the design scheme, the basic coupling degree of the site is the basic reference for evaluation. The coupling here is the degree of correlation between the design scheme and the places, and is mainly used to express the numerical range of the degree of adaptation between the places. The basic principles of landscape architecture mainly cover four aspects, namely origin, ecology, space and function, so as to embody the multi-objective nature of landscape architecture design.

### 3.3 Structural and Functional Coupling

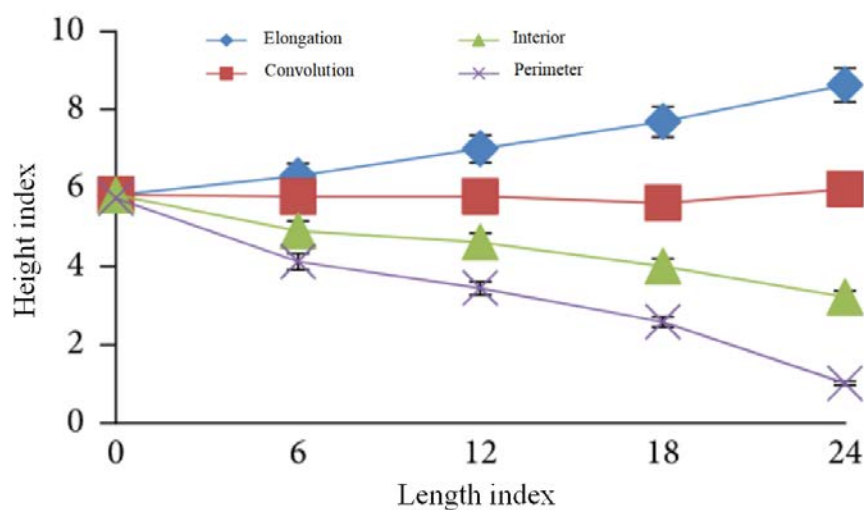


Fig.2 Coupling of Spatial Morphological Patterns and Indicator Composition Changes

In landscape design, a variety of concepts, concepts and concepts emerge at the historic moment. These design ideas mainly focus on the premise of environmental cognition, so that the value of landscape design can be more profound and broad. The development structure of landscape architecture defines the future development direction of the city from the strategic level, and the spatial structure of urban green space should also be reflected and considered in the strategic level. Urban spatial framework includes urban road framework, urban water system framework and urban green space system framework. They are important infrastructure for the future development of the city, and their change speed is far less than the change of land property in the future development process of the city. The coupling of green space skeleton, road skeleton, water skeleton and the layout of green space should be considered as the main factors to enhance the coupling function. Landscape planning structure should be able to meet the needs of urban spatial structure expansion, but also to ensure the improvement of its ecological service function and social function. Landscape planning and the improvement of the spatial relevance of these urban land plays an important role in promoting the corresponding coupling function. For the highly extroverted world exchange and cooperation, “seeking common ground while reserving differences” has not been a means and policy of political diplomacy for a long time. In terms of cultural exchange and absorption, we must also maintain our own “personality” and build urban green space according to our own cultural characteristics and historical accumulation. For example, Suzhou has taken into consideration the local culture when creating various kinds of gardens and greenbelts. The canal culture, the water network pattern, the characteristics of private gardens, Suzhou's “black, white, gray”, “light, plain, elegant” and other cultural elements are either simplified, transformed or sublimated. The spatial form of coupling is most easily perceived by people. Elongation, convolution, interior and perimeter

of plaque have important effects on the ecological function of plaque. At the same time, they also affect the coupled social and economic functions. The coupling morphological characteristics reflected by these indexes are shown in figure 2.

#### **4. Conclusion**

In summary, the garden construction project is an inevitable development trend of the urbanization process, and the garden construction technology is a prerequisite to ensure the overall effect of the garden and the quality of the garden construction. From this, it can be seen that optimizing the garden construction process is crucial. During the construction of the garden project, the new garden construction technology can not only maintain the normal growth of plants and the overall effect of the garden landscape, save water, soil and biological resources, but also promote the continuous process of coupling urban garden construction projects. The design of the garden landscape uses a coupling method, which covers many principles, and can even be said to be a genetic reorganization. Designing according to the entire principle is a process of precise adaptation between design elements and the place. When designing the core and premise of the coupling, it is necessary to have a deeper understanding of the place first, and then the adopted scheme Selection and optimization have improved the efficiency of scientific evaluation of the landscape environment and promoted the continuous improvement of the level of garden landscape design.

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