

Regional Study of Urban Landscape in Guanzhong Area Based on the Background of the Belt and Road

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Abstract: Guanzhong region is located in the middle of Shaanxi province. It is a city cluster area with good economic foundation, profound cultural history, superior natural conditions and great development potential in northwest China. It is also a key area for the development of the western region. Each city should have its own landscape form and cultural texture structure to distinguish it from other cities due to its regional differences. How to protect, inherit and develop regional architectural culture has become the historical mission of contemporary architects. The “the belt and road initiative” strategy is a strategic plan put forward by the Chinese government in the face of the new economic and political situation. An important condition for its conception and implementation is to continue the deep foundation of the blending of history and culture in our country for thousands of years. Based on the background of the belt and road initiative, this paper starts from the concepts of urban landscape and regionality in Guanzhong area, sums up the regional characteristics of traditional landscape in Guanzhong area, and then makes a preliminary exploration on the inheritance and development of traditional architectural culture.

1. Introduction

The “the belt and road initiative” strategy is a strategic plan put forward by the Chinese government in the face of the new economic and political situation. In order to build an engine of economic development with win-win cooperation, an important condition for its conception and implementation is to continue the deep foundation of the blending of history and culture in our country for thousands of years [1]. Each city should have its own landscape form and cultural texture structure to distinguish it from other cities due to its regional differences [2]. Guanzhong region is located in the central part of Shaanxi province. It is a city cluster area with good economic foundation, profound cultural history, superior natural conditions and great development potential in the northwest region. It is also a key area for the development of the western region [3]. How to design a city landscape with the combination of the characteristics of the times and its own cultural background under the strategic background of “the belt and road initiative” to make Guanzhong region more competitive, more distinctive and more sustainable has become a brand-new topic.

With the acceleration of urbanization and the great impact of western culture on Chinese culture and tradition, many cities in China are losing their urban individuality formed over thousands of years [4]. Because the cultural characteristics and climatic conditions are different between different regions, their respective landscape forms are unique and colorful. The formation and development of landscapes generally have independent characteristics and laws in the period of rural society, and their regional characteristics are also presented in a diversified attitude [5]. As a city and architectural personality, the regional culture is facing the danger of gradual decline and extinction. How to protect, inherit and develop regional architectural culture has become the historical mission of contemporary architects [6]. Based on the background of the Belt and Road, this paper takes Guanzhong traditional landscape as the research object, summarizes the regional characteristics of Guanzhong traditional landscape, and makes preliminary explorations on the inheritance and development of traditional architectural culture.

2. The Role of Urban Landscape Design in Shaping Guanzhong Culture

Urban landscape is the morphological characteristics observed by people through their senses on the various structures of the city, the various components of the city and the external morphology of the city, which together constitute the layout and fragments of a city. Regional differentiation law of environmental landscape is the most basic law that leads to different characteristics of environmental landscape. Due to geographical differentiation, the architectural landscape, urban landscape, rural landscape, market town landscape and folk customs of human habitation are different from each other. Historical and social factors also play an important role in the formation of a residential form and its transmission from generation to generation as an inherent mode of traditional residential culture [7]. Landscape evaluation is to find out the aesthetic feeling of the landscape, to rank the landscape according to the visual quality, to express the preference for the landscape, or to evaluate the influence caused by changes in different planning schemes. As garden plants are vital elements, the landscape they form has rich diversity and dynamic changes, and the evaluation index system should reflect these characteristics. The shaping and spreading of Guanzhong cultural landscape determines the cultural taste of Guanzhong region and even directly affects the survival and development of Guanzhong region.

Each region has its own unique culture, but not all cultures can become the driving force for economic and social development. From the field of architecture, globalization has brought not only advanced architectural technology and new materials to developing countries, but also its avant-garde design concept and so-called modern style have continuously impacted the local regional architectural culture. Regional architectural creation is regarded as a highly positive architectural genre, which transcends the dependence on characterization technology and seeks direction from the inherent wisdom of human beings, thus opening up more epoch-making architectural achievements [8]. Since qualitative indicators only reflect the differences and changes in people's subjective understanding, the connotation and extension of the differences and changes are ambiguous. There is no systematic and clear cultural image orientation suitable for the development strategy of Guanzhong region in urban landscape design, which restricts the sustainable development of Guanzhong region to a great extent [9]. People's recognition of the environment is based on familiarity, while the contents, forms and methods used in regional landscape design are familiar to people living in this environment. People and scenery can resonate more and are more conducive to communication.

3. Regional Design of Urban Landscape in Guanzhong Region

3.1. Respect Regional, Natural and Geographical Features

Urban landscape design should respect the characteristics of region, nature and geography, adapt to the natural process of the site, and try to avoid damage to the terrain structure and surface texture. Although landscape evaluation research has not attracted enough attention in China at present, it does belong to a valuable research field of landscape ecology and has not only aesthetic significance. Urban landscape design should pay attention to the protection of urban historical and cultural sites and ruins, and let the newly-built urban landscape and historical landscape coexist harmoniously. Physical attributes of objects are taken into account in urban landscape architecture modeling. Fractal technology and particle system are typical physical modeling methods. Fractal technology can describe data sets with self-similar characteristics. Figure 1 shows the comparison results of algorithm performance before and after storage optimization.

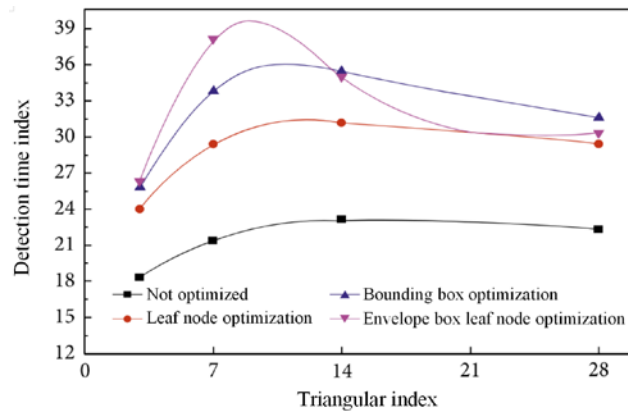


Fig.1. Comparison of algorithm performance before and after storage optimization

The urban landscape building model created based on the parameterized design work task can advance the design problems and quality problems that may occur in the project in the form of collision detection. The performance parameters of residential layout optimization before and after optimization are shown in Table 1.

Table 1 Performance parameters of residential layout optimization topology before and after optimization

	Before optimization	After optimization
Rows	31	35
Number of columns	13	22
Monitoring points	403	770

To establish a good Guanzhong cultural landscape image, we must base on improving the visibility of Guanzhong area, and improve the Guanzhong culture level from many aspects of urban landscape design. When evaluating the urban street greening landscape, the weights are calculated by the method of each factor to the green landscape tribute rate, that is, the more relevant the factor is to the greening landscape, the greater the weight [10]. As far as the landscaping landscape is concerned, it is a problem with ambiguity. It is ideal to use fuzzy mathematics theory to conduct comprehensive evaluation. The level of infrastructure construction in Guanzhong area is an external manifestation of Guanzhong cultural landscape and an important factor influencing people's perception of Guanzhong cultural landscape.

3.2. Excavating Local Cultural Traditions

Urban landscape design should fully tap the local cultural traditions, study their customs and habits, and protect the historical and cultural style of the city. Based on the maturity of people's concept of historical and cultural heritage protection and accumulation of practical experience, large cities in many countries not only protect the urban cultural heritage that should be protected, but also make new buildings innovative and developed. In the development and competition of Guanzhong city, Guanzhong cultural image is not only the capital of competition, but also the target of competition. In modern landscape design, regionality is not equal to the antique and retro-old of local traditional architecture, and regionality is still an integral part of modern architecture. In order to create a high-quality cultural landscape in Guanzhong region, it is necessary to make clear the excellent urban landscape design cases owned by Guanzhong region that can be used to form cultural landscape. The rich historical, cultural and social significance contained in the city's historical culture has an important influence and effect on the formation of human nature, the cultivation of human quality and character, and the cultivation of different national characters and spirits. The construction of the city's landscape environment continues to develop in depth and breadth, studying people's activities and environmental behaviors, and meticulously designing rich and diverse urban public spaces.

4. Conclusions

The belt and road initiative's development strategy is a major strategic innovation that relies on the enhancement of economic strength, promotes the promotion of cultural soft power and promotes common prosperity under the background of economic globalization. We are facing an increasingly complex social structure, increasing functional requirements, changing lifestyles and increasingly advanced technological means. Regionality plays an important role in the landscape. Every landscape that can make people happy is because they have different regions. In order to create high quality Guanzhong cultural landscape, it is necessary to make clear what Guanzhong area possesses and can be used to form excellent cases of urban landscape design of cultural landscape. The traditional landscape in Guanzhong was bred on the Weihe Plain. It developed gradually from prehistoric civilization through Qin, Han, Sui and Tang Dynasties, and finally matured and finalized in the Ming and Qing Dynasties. Architects should have a profound study and understanding of the inherited objects, including their historical evolution, cultural context, construction techniques, external characteristics and internal genes. Urban landscape design should pay attention to the protection of urban historical and cultural sites and sites, and let the new urban landscape and historical landscape coexist in harmony.

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