

Application of Computer Multimedia Technology in Landscape Design and Art Analysis of Southwest Ethnic Towns

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Abstract

With the development of multimedia technology, the computer simulation drawing is widely used in landscape planning and design. 3DS Max is the most popular three-dimensional production software in the computer graphics industry, it has a powerful function to create the fine landscape model. In this paper, the author research on the application of computer multimedia technology in landscape design and art analysis of southwest ethnic towns. The southwestern ethnic towns have their own unique landscape features, which can embody the historical culture, the traditional style, the social life and the folk customs of the historical period. On the other hand, as a kind of cultural landscape, the national towns also include intangible cultural connotation which Embody the cultural concept and social relationship of the residents in the corresponding cities and towns.

Keywords: *Multimedia technology, 3d max, Landscape design, Art value*

1. Introduction

At present, the world is in the information age from the industrialization era, from the industrial society to the postindustrial society, from the process of urbanization to the urban century [1]. With the development and the impact of economic globalization and information technology, and culture, the history of our country town in southwest mountain are facing material damage to the environment, the traditional construction ideas cannot continue, practical problems such as loss of regional context [2]. As the enrichment area of historical environment, the traditional town in southwest China to the local conditions, the mountain building and diversified cultural customs, and has very distinct characteristics and vitality [3-4]. However, in the process of the whole process of urbanization, if blindly imitate, blindly copying the development model and spatial form of other regions, will make the city's style is similar, urban planning and design lack of local characteristics [5]. The globalization of civilization in which people and the traditional separation of the geographical space, cultural diversity and geographical features gradually decline and extinction; and city building standard commercial and architectural features gradually retreat; architectural culture and city culture appeared the trend phenomenon and crisis

Along with the renewal and development of demand increasing, many historic towns and buildings enclosed street space is rapidly disappearing, interdependence and the cultural connotation is also facing elimination of the crisis is really sad. The perspective of cultural landscape breaks through the traditional concept of historical heritage protection [6]. As a kind of cultural landscape heritage, both natural heritage and cultural heritage protection requirements and characteristics of these objects together, including landscape, historical space, cultural sites and other category types of heritage [7-8]. As the interaction between man and nature, and the product continued evolution has been

preserved, the perfect interpretation of the ancient historical town Chinese sustainable development, harmony between man and nature connotation elements, but also describes the formation of different types of environment of distinctive cultural landscape. The historic town of southwest Street space is viewed as a kind of cultural landscape, and through the research on the dynamic mechanism of the evolution of the summary, will extract the protection method of the protection and development of unified coordination, help to strengthen the concept of sustainable development and guiding the mountainous urban development road of harmonious and healthy.

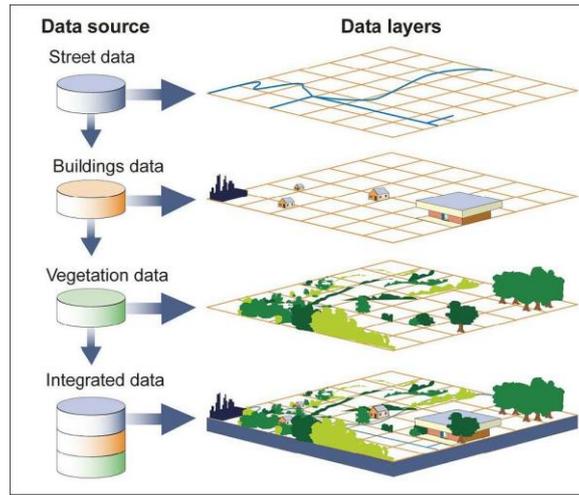


Figure 1. National urban landscape simulation

2. Multimedia 3D Urban Landscape Design

2.1. Multimedia simulation

In today's information age, digital multimedia has become the latest information carrier after the language, text and electronic technology. Information processing technology, computer technology and communication technology, and information related to the integration of the technology, it has produced a digital multimedia technology. Digital multimedia technology is the use of modern computer and communication method, text, images, sounds, graphics and other information for centralized processing, make the abstract information become able to perceive, interact and be a technical management. City 3D landscape system also known as the city of three-dimensional geographic information system refers to the GIS system can be used to describe and analyze the real 3D spatial objects in city, is a system of visual reality and virtual reality integration. It can be widely used in urban planning, residential district comprehensive management, municipal management, public transportation, environmental protection, resource investigation, regional development planning, tourism and other fields. In recent years, with the digital city, put forward the research and development of digital city, digital city landscape model as the foundation, referred to as digital city, in the city planning, facilities management, telecommunications and tourism application advantages of concern for people. On the other hand, with the development of the realistic computer graphics display technology and the rapid development of hardware, it provides a great convenience and possibility for people to describe the three-dimensional world.



Source: GAO.

Figure 2. Geographic Information System

Each garden production units and design units in the process of city gardening work, much of the application of network information retrieval and query, publish, including landscape information program collection, network program evaluation *etc.* In addition, the geographic information system (GIS) for landscape architecture professionals provides intuitive and rational spatial analysis tools, extract the various areas of the global information through GIS, a spatial database required in landscape assessment and planning, can extract the required data for each kind of landscape if statistical information, and edit output. The landscape includes landscape planning and design and landscape real operation, practical work, usually need a large number of data and graph information to express the intention of landscape design, in the hope of not built before you can see the design effect, timely according to functional needs, artistic requirements, environmental conditions and other factors to modify relevant personnel put forward the proposal and the design scheme of decision making.

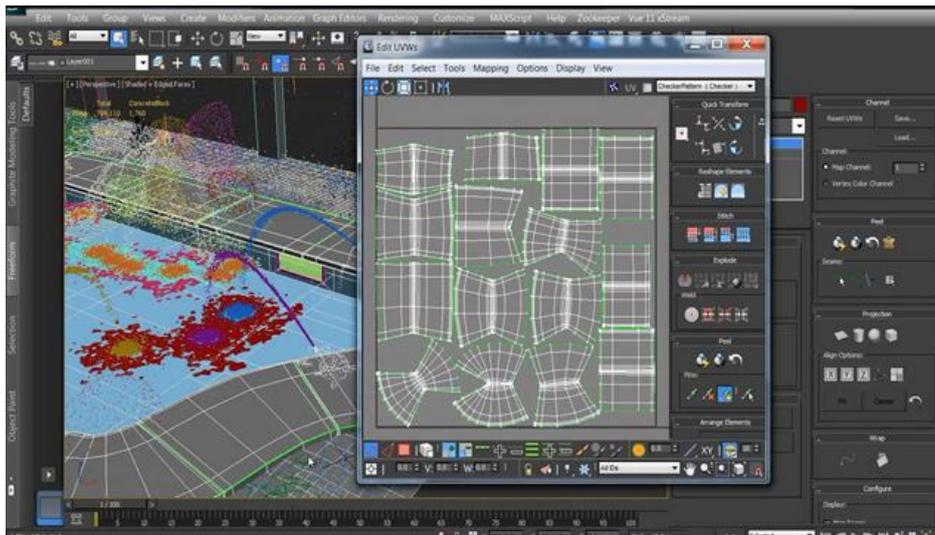


Figure 3. 3DMax software modeling

In this way, it is a good solution to the previous drawings to modify the difficulties, the expression is not intuitive, but also left a lot of regret after the

completion of the problem. In addition, the three-dimensional model can also be established to display the three-dimensional effect. The 3D model of landscape architecture is a kind of image and graphic expression, it should be combined with the global positioning system technology, geographic information system, the complex natural landscape pattern, through integration with Internet, Web, voice link and photos, browse and enjoy the various attractions multi-level comprehensive users dynamic and multi angle in the three-dimensional virtual landscape architecture, to feel personally on the scene.



Figure 4. Virtual landscape architecture

2.2. Urban landscape design computer software

In order to meet the increasing needs of the people, in the architectural design of digital multimedia technology has a higher requirement. In practical work, we need to combine the environmental problems and the rational use of space to form an environment for people to use, live and watch. Real estate vendors have begun to use three-dimensional graphics to display and promote the advantages of the project before the house has begun to build. This shows that all sectors of the community have expressed concern and support for the application of digital multimedia technology in this project. For a long time, we can according to customer needs, the function of art needs, environmental conditions and other factors in this field, outlines the general design intent, then the digital production personnel according to the design intent, the two-dimensional graphic design of the CAD format, into the standard data file format to the 3D modeling software, 3D drawing on reasonable distribution for the environment and space, to determine the rationality of the design.

- **AutoCAD:** AutoCAD is interactive drawing software developed by Autodesk for microcomputers. It is very powerful, can draw any two-dimensional graphics W, the drawing speed, accuracy and modifiability, are traditional manual mapping can not be compared, it is to draw building construction drawings and modeling the ideal software. AutoCAD plays a very important role, because it draws the two-dimensional building block diagram is the basis for two-dimensional rendering. We use AutoCAD's own powerful graphics capabilities, designers can accurately design intent expressed for the accuracy of the two-dimensional dyeing to make a strong guarantee, can be

said to use AutoCAD to draw the plan is to carry out this two-dimensional The basis of a dye, a two-dimensional rendering of the success or failure of the works at this time already can be reflected.

- **Photoshop:** In the use of computer graphics rendering process, post-processing plays a decisive role. Adobe Photoshop is a common post-processing software used in the field, Photoshop is Adobe's development of graphic design software, computer art as a nuclear post-processing software, is a flat image processing industry's authority and standards to support a variety of file format input Output. In the landscape planning and design, Photoshop is mainly used for plane renderings and perspective rendering of the post-production, in 3dmax, AutoCAD and SketchUp generated in the line drawing can be further processed in Photoshop. Color and brightness adjustment, filter processing and other functions, the delicate color, material performance, and add trees, shrubs, lawns, people and vehicles and other background
- **3d max:** Landscape performance map with the corresponding production tools commonly used to be completed, and the landscape performance map production tools with the computer technology and software technology is also evolving. 3ds max is the most popular 3D production software in the computer graphics industry. It has the powerful ability to create fine landscape models. It is widely used in architectural design, advertising, film and television, industrial design, landscape design, multimedia production, games, auxiliary teaching and engineering visualization. With regard to the computer hardware configuration, as the computer hardware industry with the rapid development of the general type of home computer with 3ds max can produce a perfect three-dimensional effect. In order to be able to more quickly, more beautifully landscaping after the completion of the production map

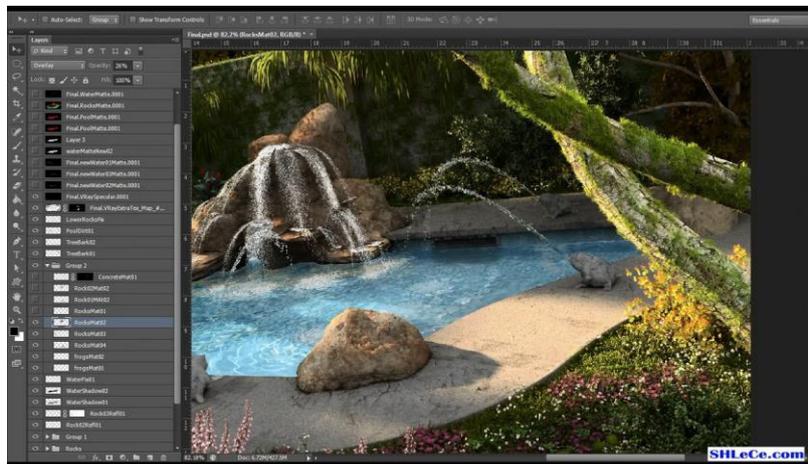


Figure 5. 3DMAX landscape design

3. The Cultural Value and Artistic Analysis of the Landscape in the Minority Towns

3.1. Cultural landscape

Cultural landscape is derived from the concept of the Western cultural geography, in the cultural geography, landscape ecology, human ecology and other disciplines have a

long history of research. The essence of cultural landscape is to analyze and interpret the meaning of landscape creation and development from the perspective of comprehensive and dynamic culture. In a certain sense, the cultural landscape is not a new type of heritage. Or, more precisely, it emphasizes the value of nature, respect for history, and the concept of human values. From the literal meaning of understanding, culture is the expression of human values and practice, and the landscape for people who know how to read it is a record of history. The cultural landscape is a kind of natural and cultural fusion relationship of heritage type, it is rich time levels of human history, embodies the human value of true transfer places, it reflects the human and the relationship between the environment, and this relationship is the foundation of human intelligence and culture". The object is a kind of interaction between man and nature, embodied in the human living space and the daily activities of each link and the continuous evolution of the cultural landscape, is a living heritage, is also a kind of civilization, thinking of the record. It is impossible to define the definition of some fuzzy region and the previous heritage protection work is not fully aware of the field of the development between the traditional types of heritage, it emphasizes, between a man and nature and the living environment, continuous, cannot give up the spirit of contact. It reflects the cultural characteristics of different regions and different regional culture in common sustainable development concept, which helps to protect the diversity of human culture, as well as in modern technology to strengthen the maintenance of the value of the concept of nature.



Figure 6. Southwest National Cultural Landscape

3.2. Cultural landscape and national towns

From the concept of cultural landscape in the formation process and the theory of the subject can be seen in the protection of World Heritage circles: the cultural landscape is not a new type of world heritage, it is proposed not to construct a new heritage, but in a comprehensive and dynamic framework of value from the perspective of the original system of heritage protection is a supplement and amendment. Historical heritage is a complex and complex concept, and has significant regional characteristics, and the classification of historical heritage is not the same. Overall, the understanding of the heritage of the world can be divided into two categories of natural heritage and cultural heritage, and cultural heritage is divided into tangible and intangible cultural heritage and intangible cultural heritage. Landscape is a kind of cultural construction, whose character is the result of the interaction and influence between human and the surrounding environment. If this process is structured, and lasts long enough, breed characteristics and new customs, people can witness the cultural landscape, which can describe and classify them in the cultural level. Similarly, in the historical towns, the urban landscape also includes the elements of nature, material. Establish a variety of temporal and spatial

relations, to meet the needs of the times in the work, life, transportation and recreation environment, *etc.* In this process, it has gradually changed the appearance of the town, while leaving the mark of the times, so that the city has become a regional feature of the organic evolution of the landscape object. Thus, as far as the heritage object ontology is concerned, the historical cities and towns in the cultural landscape heritage system is an organic evolution of the regional local landscape". It is not only a city, District, cultural protection units and other material objects, there are inherent cultural characteristics. This paper takes the southwest mountainous region as a regional perspective. In this area, the composite characteristics of artificial and natural history are more obvious and prominent. The town is in the long historical evolution process created by the people in the natural environment, living environment, they are not only historical change and their close contact with the surrounding natural habitats are closely related, is a combination of the relationship between nature and human living landscape, characteristic of cultural landscape heritage.



Figure 7. National urban landscape

The cultural landscape heritage is not an out of existing heritage classification system of heritage type, introducing its concept to all opposing elements of integration of traditional heritage and protection of objects in the process is to culture from the perspective of comprehensive and dynamic analysis, to interpret the meaning of landscape formation and development, so as to bridge the existing heritage protection method with the system of thought. In this new perspective, the historic building groups, building and the surrounding natural environment together constitute the historical towns, can reflect a certain historical period of regional history and culture, traditional style, social life and folk characteristics, gradually formed in the long process of evolution and development, not only carrying the regional culture again, the continuation of the real social life, can be regarded as a kind of typical cultural landscape heritage objects.

4. The Dynamic Evolution Characteristics of the Cultural Landscape of the National Cities and Towns

4.1. Characteristics of urban cultural landscape

Historic buildings, structures and related physical sites, monuments and historical sites, which are the most basic elements of urban landscape elements, they reflect the architectural culture of the urban areas, the relevant social functions or historical events and figures related to the history of the past, is an important information carrier of urban cultural connotation. As a kind of physical objects, buildings and structures can not only through the rich geographical characteristics of architectural form, structure proportion,

color and a variety of decorative details directly related to show humanistic spirit connotation and aesthetic preference; and can transmit information corresponding to the social function through the combination of the relationship between each other, is one of the most important elements of urban landscape expression in.

- **Integration of substance and culture:** National urban cultural landscape is "material" and "culture" and a correlation. In historical towns, the landscape is a kind of relationship between the urban material elements and the cultural dynamics. The material form is the external expression of the cultural connotation, and the mechanism of the culture connotation is the internal power to promote the form of the material space. Specifically, the material system of historic cities and towns can be composed of buildings, space, environment and population behavior of four elements and the culture system is composed of human culture, the function of culture, history culture and spiritual culture of different cultural elements
- **Dynamic evolution:** From the dynamic point of view, the national urban landscape form is adapting to the development of urban function and social culture changes, experiencing the birth, development, maturity, decline and regeneration of different stages of development, showing the characteristics of dynamic evolution. In this process, if the objective background of the development of the urban environment changes, the dominant power of the subjective and cultural factors will be the corresponding changes and adjustments, resulting in urban landscape chain changes and updates. Therefore, once the historical towns and cities have been replaced by the later landscape dynamic mechanism, then the original spatial order and the elements of the town will gradually lose its meaning and practical value. And architecture, environment, space is either abandoned or decline, or in the new cultural dynamic mechanism of the occurrence of landscape reconstruction.
- **Value connotation:** As a historic town cultural landscape has its own special value connotation, and this value is also required by the space carrier and the historical process of the media in the social reality, inheritance, evolution. As human culture through literature, music, architecture, painting, film and other different forms in the history of the inheritance, alternate history town, cultural landscape in general is a "multi attribute of cultural space time" to form a feature. It is not only a kind of entity landscape object, but also has the corresponding cultural connotation, and in the process of development and change in the process of continuous evolution. Therefore, it is necessary to study the characteristics of urban landscape from three aspects of space, culture and time in the study of the cultural landscape of the southwest historic towns.

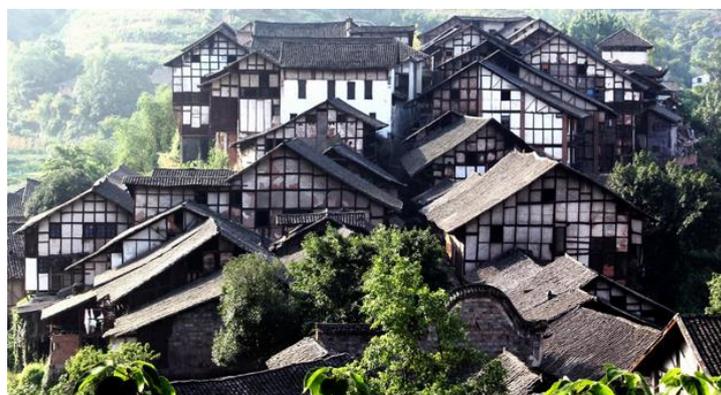


Figure 8. Harmonious landscape of ethnic towns

4.2. Cultural connotation and artistic value

In addition to the visible material landscape elements, the historical town in the southwest mountain area is also included as a cultural landscape, which is also included in the intangible cultural connotation of the observation and the spiritual world. This reflects the cultural connotation of the corresponding urban inhabitant cultural values and social relations, is a particular cultural group in the long process of evolution of civilization in the development of artificial creation and utilization, transformation the spiritual foundation of nature, including the production of life style and social relations, religious belief, political history, aesthetic aspects of the content of culture in. Culture itself is a very broad and complicated concept. In a broad sense, culture is involved in the complex. It includes knowledge, belief, art, and intelligence, aesthetic related content, but also with the moral, legal, customs and social relations and other related content. In the mountain historical towns in Southwest China, human culture is the urban landscape material characterization on artificial and natural environment harmonious symbiotic relationship between the spirit of the kernel, is the comprehensive influence of regional ancestors in the mountains and geography, climate and other natural factors and historical factors, a cultural trait that has gradually formed a harmonious coexistence with nature in the process since ancient times in. It consists of ancient days like law, conform to the natural conditions of the classic materialist philosophy evolved, experienced a long time of development in the urban characteristic pattern, landscape environment built environment space and monomer are embodied in the vernacular architecture.

- **Traditional settlements:** In the traditional historical town of Southwest Mountainous ancestors in complex geographical conditions and environmental factors under the influence of the form and continues the live habits and ideas in the family, it is the cultural core regional cluster landscape typical of the southwest region.
- **Landscape feelings:** For the feelings of landscape mountain historical towns in the southwest of residents in the unique environment and long-term exposure to a deep complex formed the life experience of landscape and the "benevolent Leshan, the living environment selection criteria in water".
- **Natural harmony view:** The harmonious concept of heaven and man is a kind of artificial and natural balance of human living environment, which is formed by the ancient people in the history of the southwest mountainous area in the process of active and passive adaptation to the natural environment. Thus, in ancient times, the natural environment, with the idea of taking power has always been, and gradually formed a theory system of urban construction geomancy theory method. In the aspect of material system, the natural harmony with urban landscape pattern, modality of humanized nature harmonious corresponding visual landscape.

5. Conclusions

The tide of rapid development in the city, in Southwest China, a lot of mountainous historic towns are large-scale urban and rural construction has disrupted the pace of development of their own step by step, in space and cultural aspects of different level have a strong impact. On the one hand, the natural and cultural heritage of the historic cities and towns in the southwest mountainous areas are constantly destroyed, and the historical context of the urban space and the inheritance of regional cultural characteristics are threatened. On the other hand, the quick development of the traditional ideological leap according to local conditions, with the trend of the construction of excellent tradition gradually neglected, resulting in parts of regional architecture planning and design of similar style, lack of local characteristics, which affect the sustainable development of human settlements in the western region. The introduction of multimedia

technology into the landscape design, the landscape produces new features, new experiences and new design way of thinking, to promote the change of landscape design Ever found development, through this combination of technology and art to explore a more positive way of landscape design to meet human needs in landscape design, based on this to explore the development landscape and new communication mode, provides new design ideas for modern landscape, helps to promote the landscape further to the direction of diversification.

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