

Research on the design of local exhibition space of intangible cultural heritage skills from the perspective of cultural ecology

Shilong Li, Xi Guan, Han Jia*

School of Architectural Art, Guangxi Arts University, Nanning, Guangxi, China

**Corresponding author*

Abstract: *Based on the theory of cultural ecology, this paper analyzes the symbiosis and development relationship between intangible cultural heritage represented by contemporary intangible cultural heritage and local ecological environment. It is found that the existing intangible cultural heritage skills are out of touch with the local original ecological environment in the process of inheritance, resulting in the gradual loss of ecological cultural knowledge contained in them, and the skills have instead become a symbol of symbolic significance. In view of this situation, the paper designs and researches the thematic display space of the local culture, and improves the ecological inheritance sequence of intangible cultural heritage skills from the perspective of artistic design, including presentation, innovation and protection. The intangible cultural heritage technology can re-enter the public's vision in a more ecological, more vivid, more creative, visual impact and artistic beauty form.*

Keywords: *Cultural ecology; Intangible cultural heritage techniques; Localized design; Display space design*

1. Introduction

At present, most of the intangible cultural heritage represented by intangible cultural heritage skills in China are facing the problem of inheritance fault under the change of social environment. Under the influence of modern consumption concepts and changes in the market environment, the market demand for intangible cultural heritage products is gradually decreasing. At the same time, due to changes in the original ecological environment, the traditional ecological knowledge that is not dependent on genetic inheritance techniques is gradually lost. These knowledge include the understanding of the environment, the humanistic thinking of species protection and sustainable utilization since the inheritance of intangible cultural heritage techniques. The loss of these key contents will indirectly lead to the fault of ecological knowledge in the inheritance of intangible cultural heritage techniques. In view of this situation, this paper will analyze the interaction between existing environmental factors and intangible cultural heritage skills from the perspective of cultural ecology, and improve the display environment of intangible cultural heritage skills and the sequence of ecological knowledge in its inheritance process through the use of localized thematic exhibition space design strategies, so as to deepen the understanding of intangible cultural heritage skills and local culture and promote their inheritance and development.

2. Overview of cultural ecology

2.1. The concept of cultural ecology

Cultural ecology is an interdisciplinary subject which aims to study the interaction between culture and natural ecological environment system. It originated from the concept of ecology, which is the study of assessing the interaction factors between living organisms and their surroundings. Until the 1950s, with the continuous development of ecological theory, anthropologist Steward found the subordination between environment and culture through the observation and study of Indians. From another perspective, he explained in detail the process of the emergence of regional national culture, and gave a research definition of cultural ecology in his book *The Theory of Cultural Change*, that is, "Cultural ecology is a complex discipline in the process of society adapting to its environment, and studies and lists the new social changes and evolutionary changes that may be caused by the objects of adaptation in this development process".^[1] In view of this developable variable, relevant scholars divided the credits of

cultural ecology into two aspects: on the one hand, it takes the environment as an orientation, explores the material background of specific resources developed by specific technologies based on material culture, and evaluates them according to the existing local population, settlement pattern, land resources, and ecological resources. According to these evaluation results, the impact of ecological environment changes on the development of material culture inheritance is obtained. On the other hand, it is a culture-oriented study of the impact of cultural development and change on the environment. It mainly includes the impact of cultural change under the background of population transfer on the transferred environment, and the negative regional impact brought by the over-exploitation of the environment under the cultural development. For example, during the Ganges Bathing Festival in India, millions of people gather along the river to take a bath to wash away their SINS. This increasing number of large-scale sacrificial activities not only increased the pollution pressure on rivers, but also made it easier for diseases to spread during the activities. In general, the study of cultural ecology promotes the symbiotic development relationship between culture and ecological environment, and promotes the new model of sustainable development under the background of cultural ecology.^[2]

2.2. Current research methods in cultural ecology

The research methods of cultural ecology can be divided into two categories, including ecosystem ecology research method and ethnic ecology research method. Among them, the research method of ecosystem ecology has not only taken the biological environment as the theme, but also the human society as the group. Its purpose is to transform the protection of a single ecosystem into the sustainable development of human ecology, and to build a circular network between society and nature by analyzing the complete local ecological activities and social structure and taking the ecological environment as the core. The interaction between human activities and natural ecology in the whole circulation system is explored through the observation of the whole and individual variables.^[3] Ethnoecological research methods are based on ecosystem ecological methods to study the relationship between specific ethnic or cultural groups and the natural environment, and mainly focus on how specific human groups understand, adapt to and influence their living environment. Its main research objects include how a particular culture of specific ethnic groups use and manage natural resources, the perception of environmental change of ethnic groups, and the understanding system of traditional environmental knowledge of ethnic groups. These studies provide insights into human interaction with the environment and provide valuable insights into environmental protection and sustainable development.^[4]

3. Analysis on the present situation of the local exhibition space design of intangible cultural heritage techniques

3.1. The cognitive status of intangible cultural heritage skills in modern inheritance display and development

At present, the traditional cultural ecological knowledge contained in intangible cultural heritage technology is not proportional to the development of modern ecological environment. There is cognitive bias at the environmental perception level in the connection between the inherent intangible cultural heritage skills and the external environment, which leads to a significant reduction in the transmission and experience functions of the intangible cultural heritage skills in the process of inheritance, as well as a significant reduction in its display attributes and acceptability. According to the theory of cultural ecology, various cultures created by human beings correspond to different ecosystems. Cultural development and ecological evolution have certain commonalities, and their emergence, evolution, development and change have similar backgrounds. Culture is not isolated, but is inextricably linked to various elements of its ecosystem. The development of cultural ecology is a process of dynamic evolution, and the changes of human social activities and ecological environment will affect the change of cultural development.^[5] The discussion plan on the inheritance of traditional intangible cultural heritage skills has always focused on adaptation and innovation. However, the original cultural attributes of intangible cultural heritage have been impacted to varying degrees in terms of both the concept of cultural ecology and the actual situation, and the inherent intangible cultural heritage skills cannot adapt to the development of the modern social ecological environment by themselves.^[6] Take the handicraft weaving techniques represented by reed weaving, bamboo weaving and brown weaving as an example. These techniques were originally part of folk daily life, but with the popularization of industrial products, the demand for these handicrafts gradually decreased. Especially in the local thematic exhibition space, the attributes of intangible cultural heritage techniques have not been fully developed, and their restricted

factors and people's cognitive level are constantly affecting the inheritance and display environment of intangible cultural heritage techniques. Therefore, for the inheritance and display of these intangible cultural heritage skills, we need to pay attention to their ecological spiritual civilization and humanistic social and historical role is the focus of inheritance.

3.2. Design status of intangible cultural heritage techniques in the local thematic exhibition space

Intangible cultural heritage skills often have distinct regional characteristics and play an irreplaceable role in shaping and inheriting regional culture, enhancing local characteristics and forming cultural brands.^[7] Intangible cultural heritage techniques are closely related to specific communities or ethnic groups and are an important element in building a sense of social identity. Therefore, the thematic exhibition space design of intangible cultural heritage techniques is integrated into local culture, which can make it more in line with local cultural customs and aesthetic concepts. Take the Cantonese Opera Art Museum in Guangdong Province as an example. The museum is a building with Lingnan garden style, the overall space is divided into north and south banks, the south bank has gardens, exhibition halls, stage, theater and other areas, mainly for exhibitions, Cantonese opera performances, education, research, public activities.^[8] Among them, the antique building complex of Lingnan garden is a major feature of the Cantonese Opera Art Museum, which adopts the traditional Lingnan craft of "three carvings and two sculptures", the "three carvings" are wood carving, brick carving and stone carving; The "two sculptures" are gray and pottery; These sculptures, which are located on the roof of the museum, vividly present characters from different plays, thus greatly strengthening the sense of space construction and cultural experience. In addition, the most distinctive feature of the whole garden is the Guangfu Stage. It is a waterfront stage, typical pure wood carving building, copper tile roof, wood veneer gold display stage style. The stage was built by Master He Shiliang, a non-genetic inheritor from Guangdong Province. From a distance, the stage looks like floating on the water, while the audience tastes tea and watches the opera across the bank, which to a great extent restores the story scene of Cantonese opera culture in the local scene, retains the connotation attribute of its local Cantonese opera thematic display, and promotes the dissemination and experience of Cantonese opera intangible cultural heritage in a certain sense.

In general, no matter starting from the cognition status of the local thematic exhibition space of intangible cultural heritage skills or its design status, its expression forms and expression concepts all adopt art forms that are more in line with modern aesthetics and contemporary art, and spiritually place traditional skills or culture in a new space unexpected by the audience. In addition to the observable artistic expression, it also integrates the interest, emotion, evolution and development into the spatial display, and gives the intangible cultural heritage a new vocabulary and value, and improves the acceptable inheritance sequence of the intangible cultural heritage in the new era.

4. Consideration on the design of local exhibition space of intangible cultural heritage skills from the perspective of cultural ecology

4.1. To supplement and improve the intangible cultural heritage skills in the original environment

The production of intangible cultural heritage represented by traditional skills cannot be separated from the influence of its native environment, and the richness of its geographical and natural environment will have a huge impact on the production of intangible cultural heritage skills. People tend to choose the most suitable mode of production and lifestyle according to the local natural conditions, and then develop unique skills. And form a unique culture.^[9] As the carrier of the whole memory of intangible cultural heritage, the original environment space has strong symbolic value, which more complements and improves the transmission of theme exhibits and information.^[10] Therefore, the design and utilization of the original environmental space in the protection and dissemination of intangible cultural heritage can not only bring more spatial level experience, but also achieve the best cultural dissemination effect.

4.2. To promote the symbiotic development of intangible cultural heritage skills and natural ecology

As the result of long-term interaction between human beings and nature, intangible cultural heritage technology profoundly reflects the characteristics and changes of natural ecology. Whether it is oral tradition, performing arts, social customs, or festival activities, intangible cultural heritage culture contains people's understanding and perception of the natural environment.^[11] These cultural expressions often convey people's awe and respect for the natural ecology in a unique way, and at the same time reveal the interdependence between human beings and nature. The design of local thematic exhibition

space establishes a new concept of symbiotic development between intangible cultural heritage and primitive ecological environment. On the one hand, many intangible cultural heritage projects need to be carried out in a specific natural environment, such as the production of traditional handicrafts and the holding of festival activities. The localized thematic display can create an exclusive natural ecological space for intangible cultural heritage, and provide a complete material display background and new creative inspiration for intangible cultural heritage. On the other hand, the unique intangible cultural heritage reflects a nation's long-term derivation of ecological creativity and localization of ecological knowledge. On this basis, the design of local thematic exhibition space can provide a reference for the sound development of local ecological environment in terms of cultural and economic development.

5. Design practice of local exhibition space of intangible cultural heritage skills from the perspective of cultural ecology

5.1. Project Background

5.1.1. Ecological environment background of flower bamboo hat intangible cultural heritage technique

The design practice project takes Maonan ethnic flower and bamboo hat intangible cultural heritage in Guangxi Zhuang Autonomous Region as an example. The Maonan ethnic gathering area is located in the northwest of Guangxi, at the eastern foot of the Yunnan-Guizhou Plateau, with mountain soluble landform, also known as karst landform. The area is 200 to 1000 meters above sea level, with more mountains and less land, and underdeveloped surface water resources. It is rainy from May to August every year, and dry the rest of the time. The local main economic crops are not developed, and the mountain resources are relatively rich.^[12] Therefore, bamboo utensils, represented by weaving flowers and bamboo hats, have become the main economic source of local residents in addition to their own use, and with the continuous improvement of skills, it has gradually developed into a unique cultural heritage of this nation.

5.1.2. Cultural and historical background of flower bamboo hat intangible cultural heritage technique

The flower bamboo hat is also known as the "top flower card" by Maonan residents, which comes from a beautiful legend of the ethnic group, and is used as a symbol of love in the early inheritance. Its production process and its exquisite, preparation materials selected from the local rich golden bamboo and ink bamboo. The hat has two layers inside and outside, about 2 feet in diameter; The top of the hat is conical, and the top is interwoven with 15-19 pieces of golden bamboo less than 1 centimeter wide and about thin paper, and the two ends of each piece are torn into 24-32 wires, a total of hundreds to thousands of thin as hair threads are spread down as warp. As the weft line of the silk is also very thin, even in the diameter of 2 feet on the cone of weaving nearly a hundred smooth and fine circle; The outer edge of the hat is interwoven into a lace with black fine proverbs, and the inner layer of the hat is interwoven into a flower belt of about three or four inches wide with two kinds of gold and black slits, and a variety of decorative patterns are woven on the flower belt, such as heart knot, auspicious birds, flowers, four seasons, fish jumping longmen and other beautiful meaning patterns to give their favorite partner.^[13]

5.2. Design Ideas

From the perspective of cultural ecology, the combination and development of art design and intangible cultural heritage skills is the most effective way to rejuvenate contemporary intangible cultural heritage. With the in-depth study of human cultural ecological knowledge, the internal contradiction between urbanization development and cultural heritage inheritance is gradually alleviated due to the improvement of public awareness. Based on the rich original ecological environment behind the intangible cultural heritage, its perfect ecological cultural background is a good interpretation of the production process and practical context of bamboo weaving technology represented by the flower bamboo hat. At the same time, according to the survey of Maonan residents in Huanjiang, it is found that the improvement of living standards and the change of life concepts of residents in this area have gradually weakened the symbolic meaning and cultural connotation of Maonan bamboo hats. Therefore, the inheritance of skills should not be independent of their own historical and cultural traditions. Based on this, by referring to the weaving techniques of bamboo hats and the construction techniques of modern bamboo weaving artists, the author combined the local ecological environment to design a local thematic display space, as shown in Figure 1 and Figure 2 below.



Figure 1: Local Exhibition Space Themed on Flower Bamboo Hat Technique (1)



Figure 2: Local Exhibition Space Themed on Flower Bamboo Hat Technique (2)

Firstly, in terms of technology, bamboo weaving technology is extremely malleable, in the fabrication technology can refer to the technical characteristics of local bamboo hat weaving, through the method of making bamboo slices curve treatment. In this way, it can not only give its overall shape a sense of lightness, but also make the light and shadow throughout the entire structure, so that the ecological environment and art can be organically combined.

Secondly, as a popular organic material, bamboo is favored by domestic and foreign artists for its unique texture and plasticity. At present, a large number of traditional bamboo weaving techniques are not simply satisfied with the original traditional commodities and structures. The existing third and fourth generation of bamboo weaving artists have applied the development of bamboo weaving techniques to miniature sculptures, architectural structures, art installations and other fields through the plasticity and reorganization of bamboo. Based on this, it is precisely because the regional environment where Maonan people live is rich in high-quality weaving materials such as bamboo and ink, and the perfect local preparation skills and anticorrosive shaping methods can enrich the creation of diverse shapes and patterns.

Finally, the design practice is based on the local ecological structure shape and cultural background, through observing and studying the production and living scenes of the ethnic area, creatively extracting the rice farming scene, architectural structure, generating tools and other shapes, and using the mature flower weaving skills of the bamboo hat to create a series of new bamboo weaving artistic shapes. Form and space are enclosed by a continuous and homogeneous expression interface, which continuously improves the artistic expression ability and ecological inheritance knowledge of the craft.

6. Conclusions

This study is a design practice exploration based on the existing symbiotic relationship between ecology and culture, which is of great significance for protecting local cultural characteristics, promoting national cultural spirit, and promoting the inheritance and development of intangible cultural heritage skills. In view of the current problems such as cultural loss, changes in ecological environment and non-circulation of products in the inheritance of existing intangible cultural heritage skills, this paper creates a thematic exhibition space of localization through an interdisciplinary research perspective, the highlight of localization characteristics and modern design methods, so that the original skills can be combined with new artistic expression, and a more complete ecological history of intangible cultural heritage can be displayed.

But at the same time, although the localization of intangible cultural heritage techniques has distinct regional characteristics, its universality and extensibility have certain limitations. Especially in the exhibition space design, how to more balance regional characteristics and universal aesthetic needs, ensure the uniqueness and acceptability of its design, but also highlight its unique cultural charm, so that it can better integrate into the modern development, is the focus of our future actual deepening research.

Acknowledgements

This paper is an innovative project of the integration of production and Education in Human Living Environment for graduate students in 2023 of Guangxi University of the Arts. Project name: Research on the design of local exhibition space of intangible cultural heritage Skills from the perspective of Cultural Ecology. Project number: 2023CJ009.

References

- [1] Julian H. Stewart, Pan Yan, Chen Hongbo.(2007). *Cultural Ecology*. *Southern Cultural Relics* (02),107-112+106.
- [2] Cui Mingkun. (2012). *The method of cultural ecology theory and research*. *Journal of Yunnan Normal University (Philosophy and Social Sciences Edition)*(05),58-64.
- [3] Xue Shan, Liu Zhimin. (2022). *Three dimensions of the development strategy planning of world-class universities from the perspective of ecology*. *Jiangsu Higher Education* (06),45-53
- [4] Luo Kangong.(2004). *On the relationship between national livelihood mode and living environment*. *Journal of Minzu University of China* (05),44-51.
- [5] Zhu Qingxiang, Liu Xiaobin.(2022). *Research on the design of non-legacy creative products based on cultural ecology*. *Packaging Engineering* (20),373-382.
- [6] Fang Lili. (2001). *The issue of cultural ecological imbalance*. *Journal of Peking University (Philosophical and Social Sciences Edition)*(03),105-113.
- [7] Dong Wenzhe, Ma Ping, Yang Hexu.(2023). *Research on curriculum reform of "Cultural Creative Product Design" based on regional culture*. *Industrial Design* (11),84-87.
- [8] Zeng Yanwen.(2020). *A Comparative study on the dissemination of non-material culture between Sichuan and Guangdong -- "Shu Style and graceful Charm" and "Yue style and graceful beauty"*. *Journal of Foshan University of Science and Technology (Social Science Edition)*(04),33-37.
- [9] Liu Jiaxing, Zhu Yingchao. (2021). *Study on the role of native space in the protection and dissemination of intangible cultural heritage*. *Furniture and Interior Decoration* (11),97-101.
- [10] Zhai Yujia, Li Mei.(2023). *Research on cultural and creative industries and their social impact from the perspective of art sociology*. *Industrial Design* (12),38-41.
- [11] Fu Yanxiang, Luo Xia.(2023). *Ecological research and practice of cultural innovation of intangible cultural heritage handicraft under industrialization*. *Packaging Engineering* (16),330-339.
- [12] Gao Chen.(2023). *Research on the value evaluation of intangible cultural heritage tourism resources in Huanjiang County*. *Published master's thesis, Guangxi Minzu University, Nanning, Guangxi.*
- [13] Lv Jie.(2008). *Investigation and research on textile technology and cultural function of bamboo hat of Maonan ethnic group*. *Published master's thesis, Guangxi Minzu University, Nanning, Guangxi.*