

HISTORICAL DEVELOPMENT OF DRAGON RIDGE PATTERN IN ANCIENT CHINESE ARCHITECTURE AND RESEARCH ON RELATED CULTURAL INDUSTRIES

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ABSTRACT

The design of the dragon ridge pattern of ancient Chinese buildings evolved with the change of dynasties, from the simplicity of the Tang Dynasty to the smoothness of the Song Dynasty, and then to the exquisiteness and gorgeousness of the Ming and Qing Dynasties, showing the peak of craftsmanship. However, with the advancement of modernization and urbanization, the use of traditional decorative elements in the roof ridges has gradually decreased, and the dragon ridge decoration culture is at the risk of being lost. Through literature review, field survey, interviews and questionnaires, the historical development, cultural connotation and its potential in modern design were studied and analyzed. Dragon spine decoration is not only a reflection of traditional skills, but also profoundly reflects the relationship between man and nature. Its cultural value has an important influence on modern architecture and product design. Moreover, the development of the cultural industry has injected more vitality into the local economy. This research can provide important ideas and methods for the continuation and innovation of dragon ridge decoration in modern society.

Keywords: Dragon Ridge Culture, Pattern Design, Traditional Chinese Culture

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INTRODUCTION

Ancient Chinese architecture is not only the crystallization of Chinese people's technology and art, but also a display of the profound cultural heritage of Chinese civilization. From magnificent palaces to solemn temples, each building carries the memory of history and the inheritance of culture. In these buildings, the decoration of the roof is very eye-catching, especially the dragon ridge decoration on the roof, which has become a treasure of ancient Chinese architectural art with its unique shape and rich meaning. Dragon Ridge Decoration not only shows the superb skills of the craftsmen, but also contains profound cultural connotations such as auspiciousness and sacredness. The evolution of its design style reflects the aesthetic tastes of different historical periods, and also witnesses the progress of ancient Chinese craft technology and the enrichment of cultural connotations. For example, from the simplicity of the Tang Dynasty to the smoothness of the Song Dynasty, to the exquisiteness of the Ming and Qing Dynasties, every change in Longji is deeply imprinted with the characteristics of the times. This evolution not only reflects the continuous improvement of craftsmen's skills, but also reflects the changes in ancient China's society, culture and power.

However, in the process of accelerating modernization and urbanization, traditional architectural elements are gradually replaced by modern style, and the unique cultural symbol of dragon ridge decoration also faces the risk of being forgotten. Inheriting and innovating in the rapidly changing era has become something that needs urgent discussion today. Researchers selected the representative Jiangsu region of China as the research area. Jiangsu Province is located in eastern China with a total area of 100,000 square kilometers and a population of more than 80 million. It is one of China's central cities and economic centers. It has a unique geographical location and has important water resources such as the Yangtze River, Huaihe River, and the Grand Canal. As the capital city of Jiangsu Province, Nanjing is an ancient capital of the Six Dynasties, and has a rich historical and cultural heritage. Suzhou and Wuxi, Jiangsu are the birthplace of Wuyue culture. For example, the custom of dragon boat racing is popular in this generation. Therefore, in order to prevent the dragon spine decorative culture from being replaced and disappeared, the dragon spine pattern can be reintegrated into the modern cultural product design of Jiangsu, China through innovative redesign techniques. This will not only retain its historical value, but also make it closer to daily modern life and revitalize it.

Research Objectives

- 1) To examine the historical development and cultural significance of dragon ridges in ancient Chinese architecture across different dynastic periods.
- 2) To analyze and compare the artistic characteristics and symbolic meanings of dragon ridge designs in traditional Chinese culture, as well as their adaptation in contemporary cultural and creative industries.

LITERATURE REVIEWS

In ancient Chinese imperial palaces, temples and other places, you often see shocking giant dragon pattern sculptures, and dragon culture plays an important role in China's religious beliefs. Religion is an ideology of society. Although it is anti-science, it also plays a role in the human process (Long, 2001). Beijing Daily proposed: "The dragon raises its head" is the metaverse of the descendant of the dragon. Dragon culture is the national spirit and national self-confidence, representing the great achievements and national pride of the Chinese nation, and can unite people's hearts (Tian, 2017). The field of art anthropology in China has made rapid development in recent decades inspired by Western art anthropology. This discipline mainly covers three major sectors: basic theoretical research, discipline system construction and field case research. The study of intangible cultural heritage is an indispensable role in basic theoretical research and an important pillar of discipline development. (Fang, 2023). The

Chinese government vigorously promotes books on the history, repair and maintenance of ancient buildings, including "Twenty Lectures on Ancient Chinese Architecture" (Lou, 2004), "Chinese Architectural Art Gallery" (Liang, 1999), "Protection and Maintenance of Ancient Chinese Architecture" (Qi, 1986). The protection of intangible cultural heritage can awaken the cultural pride of the community, respond to the people's pursuit of high-quality life, and explore its and the national macro. The basic principles, implementation methods and practical models that are in line with strategies have become a new trend in the field of intangible cultural heritage protection research. This trend not only focuses on the preservation and inheritance of intangible cultural heritage, but also demonstrates the far-reaching significance of intangible cultural heritage in contemporary society, especially in enhancing community cultural identity, maintaining cultural diversity, and helping society lasting progress. (Song & Wu, 2024). In recent years, China's cultural and creative industry has become China's economic growth New hot spots. Promote the development of diversified and multi-level emerging service industries such as cultural creativity and design services, and deeply integrate them with the economic field to achieve coordinated development and promote a new round of social and economic growth. This trend will help the transformation and innovation of the economic structure, promote the continuous upgrading of products and services, create more employment opportunities, and form a new industrial chain to meet the growing material and spiritual needs of the public and improve the quality of life of the public. (Mirguli, 2018). For example, through the technology of digital virtual humans, China's intangible cultural heritage is active in contemporary online platforms and offline consumption scenarios, providing more possibilities for the digital transformation of China's traditional cultural field. (Chang Hong, 2024)

RESEARCH METHODOLOGY

On-site investigation

Confirm the scope of the research content, conduct field inspections in Jiangsu, China, conduct direct observation and understanding of architectural dragon spine decorations, obtain first-hand information, and the information data are real and reliable. Field investigations help strengthen the intuitive understanding of the research objects, discover possible problems, and provide strong support for subsequent research.

Data collection

1) Literature collection

Data is obtained through online literature search, including academic journals, conference papers, etc., library-related architectural dragon ridge decoration historical data search, etc., and these data are screened, systematically organized, summarized and analyzed.

2) Questionnaire

The method of field interviews and questionnaire collection was adopted in this study. According to the questionnaire survey, guided by the goals of this study, a question was constructed on three dimensions of the practicality, appearance design and cultural heritage of Longji cultural and creative products, including citizens of Jiangsu and cultural and creative shop owners. Learn about their views, attitudes and experiences through in-depth interviews with traditional craftsmen in architectural ridge decoration in Jiangsu, China. Adopt a one-on-one interview method to prepare related questions, and the interview content is mainly divided into four parts. The first part is the basic information of the interviewees, the second part is the current situation of dragon ridge decoration, the third part is the Chinese government's investment in the protection and development of traditional roof decoration techniques, and the fourth part is the development prospects of dragon ridge decoration. Obtain real and effective information from it, and the interview results will provide credible and effective data for the research content.

Data Analysis

This study comprehensively collected and organized various materials related to dragon culture through systematic literature research, field investigation and in-depth interviews. During the research process, the literature data was strictly screened and classified to ensure the academic value of the information obtained and the practicality of the research. Based on the first-hand information obtained from field research and interviews, we can deeply explore the core value and development potential of the dragon culture elements.

Conclusions and suggestions

Through the collection and analysis of Longji data in Jiangsu, China, corresponding countermeasures and suggestions for Longji decoration in contemporary innovative design are obtained.

RESEARCH RESULTS

The cultural connotation of dragon totem

As a traditional cultural symbol of China, the dragon totem has rich and colorful connotations and is reflected in many fields such as history and culture, religious beliefs, philosophical thoughts, folk legends, etc. It has profound cultural heritage and unique cultural value. It is a mysterious and noble symbolic image in Chinese culture.

Table 1 Overview of Dragon Totem Culture Dimensions

Cultural dimension	Core connotation	Specific performance
1) Worship culture	The dragon symbolizes power, majesty and national identity. It is the spiritual totem of emperors and nobles, and has the function of condensing clan emotions.	In the Han Dynasty, the "true dragon emperor" was used to deify the imperial power; the dragon totem was used to consolidate political authority.
2) Religious beliefs	The dragon integrates into religious systems such as Taoism and Buddhism, becoming a symbol of gods, reflecting people's worship of supernatural powers.	The dragon pillars of temples (Hualin Temple in Guangzhou), palace dragon decorations (Nanjing Ming Forbidden City) and other architectural arts express faith.
3) Identity	The dragon has a diverse image, which has a rich mythological story and folk activities, both entertaining and spiritual sustenance.	Five-clawed dragon-level legend, dragon boat racing and other folk cultures.
4) Philosophical Thoughts		
Divine Thought	The dragon symbolizes the power of nature and the order of the universe and is regarded as the incarnation of the gods.	"A gentleman is like a dragon" reflects potential and opportunity; Zhuangzi uses dragon to describe the infinite way.
National Spiritual Thoughts	The dragon is a symbol of the Chinese nation, condensing cultural identity and pride.	The concept of "the successor of the dragon" strengthens national cohesion.
Well-being thought	The dragon represents good luck and good luck, and is regarded as a harbinger of a happy life.	Customs such as dragon dancing during the Spring Festival, dragon pattern decoration and praying for blessings.

Cultural dimension	Core connotation	Specific performance
Justice Thought	The dragon symbolizes natural harmony and righteousness, opposes evil, and embodies the doctrine of the mean.	Zhuangzi uses dragons to describe justice; dragon images are used to promote moral order.

Changes in the decoration of dragon ridges in China

The evolution of dragon ridge decoration in China can be traced back to 4000 BC. From the Warring States Period to the Qin Dynasty, it mainly used bird-shaped decoration, and its shape was simple. Since the Han Dynasty, roof decoration has gradually been valued, and phoenixes are still dominated by phoenixes, but rough dragon-shaped patterns have begun to appear. The tail of the twill evolved into the twill kiss and the dragon kiss in the Tang Dynasty, and the details gradually became more detailed. The dragon ridge in the Song Dynasty was tall and strong, and the craftsmanship was mature during the Yuan, Ming and Qing dynasties. The shapes of the dragon ridge in the Qing Dynasty were particularly rich and diverse. After the reform and opening up, Longji decoration was briefly revived, but since the 1990s, modern high-rise buildings and standardized commercial housing have become popular, and traditional handmade tile houses and Longji decoration have gradually weakened, and this characteristic craft has decreased accordingly.

Table 2 Evolution of Dragon Ridge Decoration in China

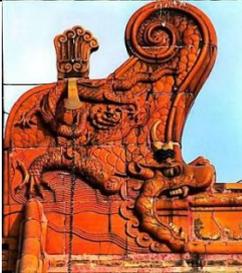
Picture	Evolution of Dragon Ridge Decoration in China		
	Time	Place	Features
	About 4000 BC	No. 45, Xishuipo, Puyang County, Henan Province	The skeleton of a middle-aged man, on both sides are dragon and tiger patterns carefully arranged with clam shells. The dragon's body is 178 cm long and 67 cm high. He bows his head and makes a soaring shape. Behind the dragon is a person
	Warring States Period	Unearthed in Potang Village, Jianhu Town, Shaoxing, Zhejiang Province, it is now in the collection of the Zhejiang Provincial Museum Zhijiang New Museum	The bird-shaped pillar above the roof, also known as the tail dove, is simple in shape
	Han Dynasty	Suzhou Dinghui Temple	The ridge is in the center, forming a round dragon
	Tang Dynasty	Wutai County, Shanxi Province	The symmetrical ridge tail has a relatively simple shape, with a raised tail and no carvings.

Picture	Evolution of Dragon Ridge Decoration in China		
	Time	Place	Features
	Song Dynasty	Dacheng Hall of Deqing Academy in Guangdong	Tornado Dragon, body circling
	Yuan Dynasty	Chunyang Palace of Yongle Palace is now housed in Yongle Palace Mural Protection Research Institute of Shanxi Province	220 cm high and 216 cm wide, mainly green, open with large mouth, ridge-shaped, and slightly upturned at the tail
	Ming Dynasty	Shanghai Yuyuan Garden Dianchun Hall	The dragon head is domineering and shaped with clay, while the dragon body is made of tiles to make scales
	Qing Dynasty	Beihai Park, Beijing	The flame pattern on the lips, the muscles on the cheeks are tight, and the little dragon entrenches strongly and vigorously on the big dragon. Detailed and vivid portrayed
	Mid-20th century	Yuanzhu Town, Taizhou, Jiangsu	A type of dragon ridge, which is shaped like a turtle fish, with crescent tail, with tooth-shaped structure above and decorated with fish scales

Classification of decorative shapes of dragon ridges in China in history

The primary forms of dragon ridge ornaments throughout Chinese dynastic history can be categorized into Chiwei, Aoyu, Chiwen, and Longwen. The Chiwei was extremely prevalent during the Tang Dynasty. The Aoyu ridge ornament evolved from the Chiwei, distinguished by the addition of a large, open-mouthed beast head, typically depicted in the act of swallowing the ridge (tunji). Later, influenced by the Indian Makara motif, its form gradually blended characteristics of both "fish" and "dragon," evolving into what became known as the "Aoyu pattern." By the Ming and Qing dynasties, phoenix (Fengniao) motifs had gradually faded from prominence. Concurrently, the distinctly fish-like body features of the Aoyu began to diminish, ultimately transforming into a sinuous, dragon-like form. This marked the evolution of the Aoyu into the Chiwen. Subsequently, the Longwen (Dragon-head ridge ornament) emerged. The Longwen featured more standardized and precise craftsmanship specifications, resulting in an overall form of grand and majestic scale.

Table 3 Classification of decorative shapes of dragon ridges in China in history

Classification of dragon spine decorations	Image	Period	Features
Chiwei		Tang Dynasty	Line carving, slim, straight and flat, without excessive decorations
Aoyu		Song Dynasty	Chiwen is very spectacular, about 4.5 meters high, the largest glazed Chiwen in China, yellow and green intertwined
Chiwen		Ming Dynasty	Glazed Chiwu, with a big dragon carrying small dragon cubs on top
Longwen		Qing Dynasty	Yellow, tail curled up, with a hilt, majestic and imposing

Case study on the application of traditional cultural patterns in modern cultural industries

Among modern design works, such as "The "Aoyu Tenghai" series of cultural and creative design works", as shown in Figure 1, a combination of scarves and scarves tied knots, using the traditional Chinese pattern of Aoyu, and a modern series of scarves designed with Aoyu jumping over the sea as the theme. The colors are fashionable and bright, and have decorative characteristics. It is integrated into the scarves pattern design by color block splicing, which not only retains the classic Chinese elements of Aoyu, but also inherits the Chinese agricultural culture spirit. Currently, the very popular cultural and creative products of the Forbidden City in China are also very popular among the younger generation. As shown in Figure 2, the Chinese Palace Museum of Forbidden City, extracts the elements of the golden osmanthus moon hanging on the screen of the Qing Dynasty and the jade rabbit that comes down from the sky, which means happiness and fulfillment. These are successful cases of traditional patterns in the application of modern cultural industries and have promoted the development of local economy.



Figure 1 Combination diagram of scarf and scarf tie knot



Figure 2 Chinese Palace Museum Jingui Fuyue Cultural and Creative Mug

DISCUSSION & CONCLUSION

Based on the study of the historical evolution and cultural connotation of Longji architectural decoration, through analyzing the application of cultural design theory in cultural creative product design and the role of cultural industry in promoting local economy, the following conclusions are drawn based on relevant literature and field investigations:

1) Cultural Value and Inheritance of Dragon Ridge Decoration

Longji architectural decoration is not only a reflection of traditional architectural skills, but also a profound reflection of the relationship between man and nature and the universe. The evolution process from the thorn tail and turtle fish pattern to the dragon kiss symbolizes the different characteristics of the times in each period, and also shows the wisdom and creativity of the Chinese people. The dragon spine decoration is a symbol of the continuation of life, and its profound cultural connotation has an important influence on modern architecture and product design.

2) Cultural theory support for related cultural and creative product design

The innovative application of traditional cultural elements in modern design not only reflects the contemporary transformation and reconstruction of traditional cultural symbols, but also becomes an important link connecting history and the future. Through the integration of cultural symbol redesign, cultural protection theory and sustainable practice, traditional cultural elements can be reborn in modern cultural and creative products, which not only retains cultural genes, but also gives them new functions and aesthetic values, and promotes the living inheritance of Chinese traditional culture.

3) The role of cultural industry in promoting local economy

The cultural industry's position in the economy is increasing, and through the exploration and re-creation of local traditional culture, cultural and creative products can be entered into the national and even international markets. At the same time, creating cultural and creative products with local characteristics, such as Jiangsu's regional characteristics such as water lanes, arch bridges, gardens, ancient buildings, etc., and integrating dragon ridge elements can

form unique regional cultural and creative products in Jiangsu, providing strong support and vitality for the local economy.

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