

Research on the Application of Shuangdun Culture in the Design of Cultural and Creative Products

Yihui Kang, Xiaoman Huang

Anhui University of Finance and Economics, Bengbu, 233000, China.

Abstract

Shuangdun culture is a regional culture in the Bengbu region of Anhui, with a long history and rich connotations. Shuangdun culture originated from the Neolithic in the Huaihe River basin of Bengbu, Anhui 7300 years ago. Experts explored and excavated around the site, and unearthed more than 600 pieces of pottery with carved symbols, as well as a Shuangdun carved pottery figurine figure and many other historical relics [1]. It has unique cultural connotation, carries the history of China's splendid culture, and has many values in history, art, science and folk customs; At present, there are still some deficiencies in the current development of cultural and creative product design in Bengbu. This study, through the combination of Shuangdun culture and cultural and creative product design, makes full use of Shuangdun Cultural resource management to design cultural and creative products, which can not only explore the unique cultural history of Shuangdun culture, but also protect and inherit Shuangdun culture by using modern creative product design techniques, giving it new vitality and new economic value.

Keywords

Huaihe River Culture; Shuangdun Culture; Cultural and creative products; Design.

1. Introduction

The design of intangible cultural heritage themed cultural and creative products is a measure of protecting traditional culture and a way of cultural inheritance, aiming to explore the derivative value of intangible cultural heritage in contemporary times[2]. Against the backdrop of the continuous development of the cultural industry, the design and development of cultural and creative products have gradually attracted the attention of many enterprises, becoming one of China's new cultural industries with good development prospects. The design and development models of related cultural and creative products are also gradually becoming mature[3]. With the advancement of traditional cultural inheritance work, cultural and creative products with traditional cultural elements are highly favored by many consumers. Therefore, the organic integration of modern design and traditional culture is an inevitable trend in today's social development, and it is also the main direction for future design development[4]. Shuangdun Culture is a Neolithic Archaeological culture in the middle reaches of the Huaihe River. It is located on the platform in the north of Shuangdun Village, Xiaobengbu Town, Huaishang District, Bengbu, Anhui Province. Many stone tools, pottery, bone horns and clam tools, as well as rich pottery symbols, have been excavated. Therefore, Shuangdun culture not only has cultural connotations, but also aesthetic attributes, which precisely makes the design of cultural and creative products of Shuangdun culture more aesthetic and meaningful.

2. Overview of Shuangdun Culture

Shuangdun Culture is a representative Intangible cultural heritage in the history of Bengbu, Anhui Province, and an important part of Chinese traditional culture. It is located on the

platform in the north of Shuangdun Village, Xiaobengbu Town, Huaishang District, Bengbu, Anhui Province. It is 5 kilometers away from the Huaihe River in the south. It is a cultural relic of the Neolithic that has been found in the middle reaches of the Huaihe River for about 7300 years[5].

Bengbu Museum was found in the second national cultural relics survey in 1985, and rescue archaeological excavation began in 1986. In November 2005, at the Academic conference of "Shuangdun Site and Shuangdun Culture in Bengbu", the seminar group named Shuangdun, a typical cultural relic, "Shuangdun Culture"[6]. At present, a large number of pottery, stone, jade, and bone artifacts have been unearthed at the Shuangdun Site in Bengbu. The rich cultural relics resources at the Shuangdun Site have important research value for the study of intangible cultural heritage.

3. The Application Value of Shuangdun Culture in Cultural and Creative Product Design

3.1. Theoretical value

Taking the design of cultural and creative products from Shuangdun Culture as an opportunity to enhance the cultural confidence of Shuangdun Culture; Through investigation and research, the research database on Shuangdun Culture in the Huai River Basin has been enriched, providing valuable theories for the study of the artistic form beauty and cultural connotation of Shuangdun Culture; Providing more digital protection for the research of Shuangdun culture; Combining Shuangdun culture with cultural and creative products not only explores the unique cultural history of Shuangdun culture, but also utilizes modern creative product design techniques to protect and inherit Shuangdun culture.

3.2. Practical value

On the basis of preserving the characteristics and culture of Shuangdun culture, traditional elements are combined with modern expression techniques to broaden cultural and creative products; Designing cultural and creative products for Shuangdun culture not only helps to promote the dissemination of Shuangdun culture, but also promotes the development of tourism in Bengbu; It enriches modern product design and has great significance for guiding the design method of Shuangdun culture.

From the perspective of cultural and creative product design, research in the field of design has played a leading role in the development of intangible cultural heritage in China. A large number of "China-Chic style" cultural and creative products have poured into the market, making more people pay attention to the innovation and design application of Chinese traditional culture.

4. Investigation and Analysis of Shuangdun Cultural resource management

4.1. Artifact culture

(1) Production tools: Although there are not many unearthed stone tools, most of them are production tools, such as axes, shovels, stone mortars, balls, axes, hammers, chopping tools, round stone cakes, sharpeners, grinders, etc. Moreover, most of the stone tools have been reused, and there are few well preserved stone tools; The production tools inside the clam include knives, cutters, scrapers, spinning wheels, knives, and saws; Production tools in bone tools include clusters, darts, etc; The production tools on pottery mainly include net pendants and throwers, as well as a few spinning wheels, files, round cakes, etc.

(2) Household utensils and appliances: There are many household utensils and appliances in pottery, and the majority of them are cauldrons, steamers, supports, stove frames, tripods,

tripods, large mouth flat bottomed four pot shaped cauldrons, bowl shaped cauldrons, ancestral supports, short stove frames, pots, bowls, pots, pots, beans, vessel covers, vessel bases, Meng shaped vessels, northern shaped vessels, four flow vessels, etc; Clam utensils are used for daily life, such as clam spoons.

(3) Hand tools and artifacts: There are relatively few types of hand tools in the artifacts. There are hand tools such as cones and needles in the bone tools; There is a deer horn hook shaped implement in the horn, used to depict symbols.



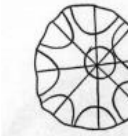


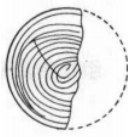

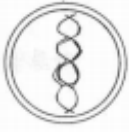
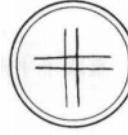
(4) Decorative items: Compared to production tools and household utensils, there are fewer decorative items in the Shuangdun Site. There are decorative objects such as bone tubes, bone hairpins, and bone decorations in bone vessels.

4.2. Engraving symbol culture

Symbol is an indispensable cultural language in human communication from ancient times to the present. Semiotics represents a science that human beings have studied the symbol theory in the long process. Its research object is the change and development of symbols of things and the various meanings behind them[7]. Engraved symbols occupy a certain position in Shuangdun culture, some people believe that this is related to the origin of characters, while others refer to them as the "mother of Chinese characters". From a large number of unearthed cultural relics from the Shuangdun culture, it has been found that many artifacts depict symbols, images, or combinations of symbols on the abdomen or inner walls.

In the cultural relics unearthed from the Shuangdun culture, a large number of image symbols have been excavated. They are visual symbols that can convey clear and effective information to the audience at a glance, and are not as difficult to understand as written symbols. The ancestors of Shuangdun used simple expressions and objects as media to convey their life scenes and emotions through the span of thousands of years. At the same time, there are also geometric symbols, other symbols, and other symbols engraved on the double piers of Bengbu. The discovery of over 600 double pier carved symbols has the following characteristics: (1) rich content and diverse forms, including building and construction carved symbols, fishing and hunting tool carved symbols, sericulture and weaving carved symbols, plant carved symbols, triangles, boxes, cross shaped circles, and other different forms; (2) Most of the double pier inscriptions are engraved on the outer bottom of the pottery bowl, with a small amount on the belly of the bowl, the cup base, the bottom of the pendant, and the upper part of the pottery fragments[8]. The carved parts are faintly visible. (3) Having the characteristics of early writing symbols, some of the engraved symbols at the Shuangdun site in Bengbu are almost identical or very similar to those of oracle bone inscriptions. (4) With profound cultural connotations, Shuangdun Culture is an ancient and mysterious ancient city with a long history, splendid culture, and rich connotations, possessing high humanistic and academic value. The ancestors of Shuangdun used artifacts as a medium to convey to us the life scenes and emotions of their era through simple expressions, spanning thousands of years.

Table 1: Bengbu Shuangdun engraved symbol

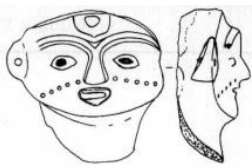
symbol type	scored symbols	symbol type	scored symbols	symbol type	scored symbols
Leaf vein shape		Monosomic pig shape		Astronomical category	
Fishing tool shape		House shape		Combining Circles	
Combined hook shape		Silk shaped		Heavy Line Cross	

4.3. Ceramic Sculpture Inscription Culture of Facial Human Head Portrait

The Shuangdun pottery figurine of a human head is the first carved portrait of a figure over 7000 years ago that has been discovered so far[9]. It is also one of the earliest figure statues excavated in China to this day. The head portrait of a person with a pottery sculpture inscription is 6.3 centimeters high and 6.5 centimeters wide. The overall shape is small, agile, and exquisite. The left ear is missing, and there is a round concave point on the right ear; The two sides of the facial nasal wings are presented in a unique downward obtuse angle shape, with five circular concave patterns on each side, and are engraved symmetrically with the nose; The eyebrows are shaped like sheep horns, connecting the bridge of the nose.

The excavation of pottery sculpture with inscriptions and human heads at the Shuangdun Site in Bengbu is a treasure in the history of sculpture art, carrying a strong national spirit and providing valuable material information for the study of prehistoric civilization in the Huai River Basin.

Table 2: Pottery sculpture with inscriptions and facial portraits of people

Name of artifact	Tool shape	Outline design diagram of objects
Pottery sculpture with inscriptions and facial portraits of people		

5. The Integration and Development of Bengbu Shuangdun Culture and Cultural and Creative Product Design

5.1. Current Development Status of Shuangdun Cultural and Creative Products

Among China's traditional cultures, Bengbu Shuangdun Culture is famous for its long history and rich cultural heritage, and has accumulated many valuable Intangible cultural heritage in

the process of development. These Intangible cultural heritage have played a huge role in the historical development and social progress of Bengbu City, Anhui Province, and promoted the development of local economy and the inheritance and promotion of excellent traditional culture.

The cultural and creative products in the Shuangdun cultural and creative product market mainly focus on historical relics. These products are designed by refining Shuangdun culture and combining modern design language. Although these designs have their regional characteristics, they do not grasp the essence of Shuangdun culture. Through research on the market of Shuangdun cultural and creative products, it has been found that there are currently the following problems in Shuangdun cultural and creative products: (1) inadequate promotion of Shuangdun culture, with a small number of people understanding Shuangdun culture; (2) Most Shuangdun cultural and creative products have a single form, lack creativity and interest, and weak product functions. They only apply Shuangdun culture and art to the products, and the entire product is not endowed with cultural characteristics; (3) Solve the problem of a single dimension and content of Shuangdun cultural and creative products; (4) Shuangdun cultural products lack local characteristic resources and cultural connotations, as well as innovation in form and content. (5) Lack of regional characteristics and market targeting, and failure to adjust according to market demand.

5.2. The Application Strategy of Shuangdun Culture in Cultural and Creative Products

The application of Shuangdun culture in cultural and creative product design involves multiple aspects such as material and styling design, spiritual culture, and new media art. Therefore, the application strategy of Shuangdun culture in cultural and creative product design is discussed from two parts: engraved symbols and ceramic sculpture inscriptions, which preserve iconic visual features and use modern design techniques such as simplification, reconstruction, and abstraction for re creation.

The application strategies in the design of Shuangdun cultural and creative products: (1) deepen the brand culture construction of Shuangdun cultural and creative products, enhance the brand influence, and make more people understand Shuangdun culture; (2) innovate the design concept of Shuangdun cultural and creative products, and improve the user experience of Shuangdun cultural and creative products; (3) expand the Pathogen transmission of Shuangdun cultural and creative products, and maximize the value of cultural and creative products; (4) pay attention to the practicality and interest of cultural and creative products, Meeting the needs of users at different levels (5) Emphasizing the market positioning and promotion of Shuangdun cultural and creative products, and creating Shuangdun cultural IP.

6. Investigation and Analysis of Shuangdun Cultural resource management

6.1. The Design Application of Shuangdun Culture in Cultural and Creative Product Design-Shuangdun Carving Symbol Series

Image symbols have a significant component in visual symbols, as they are visual symbols that can convey clear and effective information to the audience at a glance. In the long development stage of human history, in the early stages of the new era before the emergence of writing, people were accustomed to using simple images to record and communicate, just like children debating things. Human cognition of images is innate. Before the formation of systematic language and writing, people instinctively expressed a physical object with highly simplified lines and shapes, thus achieving the function of recording and communication. The vast majority of the unearthed symbols at the Shuangdun Site are engraved on the outer circle foot

of the pottery bowl, with only a few symbols engraved on the outer abdomen of the bowl, bean circle foot, inner cylinder bottom or bowl bottom[9], etc. Any bowl with engraved symbols on the bottom has four radial grooves on its outer abdomen. The Shuangdun symbols are mainly depicted in hidden positions such as the outer bottom of practical pottery, and their function is not to decorate, but to be endowed with specific functions of recording events and expressing concepts; Characterized symbols are numerous, rich in connotation and complex in structure. In addition to the realistic types such as sun and moon, mountains and rivers, animals and plants, houses, etc., there are also production and living types such as hunting, fishing, bird netting, planting, sericulture, weaving, and livestock raising; This enables people to have a more comprehensive view of the cultural landscape and characteristics reflected by the double pier symbol; The Shuangdun engraved symbol is a type of engraved symbol with textual properties and functions, which may serve as a reference and influence for the formation and development of Chinese characters.

As shown in Figure 1, the design is based on the engraved symbols of Bengbu Shuangdun Culture, combining Paper clip and engraved symbols, taking the simple and colorful design style as the main theme, meeting the aesthetic and practical needs of user groups, and decorating Paper clip with smooth lines, which is practical, beautiful and functional, and better displays the characteristics of the engraved symbols of Shuangdun.



Figure 1: Double pier engraved symbol Paper clip

6.2. The Design Application of Shuangdun Culture in the Design of Cultural and Creative Products - Bengbu Ceramic Sculpture Inscription Facial Figure Series

In the Shuangdun Cultural Site, unearthed cultural relics include pottery figurines of human heads, which are their representatives. The pottery figurine of a human head has a history of over 7300 years and is one of the earliest human face sculptures unearthed in China, with significant research value.

As shown in Figure 2, based on the characteristics of the pottery figurine head, the IP image of the pottery figurine head is designed. The unique facial pattern characteristics of the pottery figurine head are adopted for visual image design. The two sides of the nose wing of the pottery face are presented in a unique downward obtuse angle shape, with a pattern of five circular concave points on each side, which is engraved symmetrically with the nose head; The eyebrows are shaped like sheep horns, connecting the bridge of the nose; Full of fun, to better promote Bengbu Shuangdun culture.



Figure 2: IP image

7. Conclusion

The soul of cultural and creative products is culture, and the vitality of cultural and creative products is innovation. The biggest beneficiaries of cultural development are the public, and all design is ultimately implemented in the real experience of people, creating a cultural atmosphere of life and use, which is applied to the "experiential design" between products and people, meeting the public's joyful life and spiritual and cultural experience of products, and achieving true cultural exchange and interaction.

The extensive emergence of symbols depicted at the Shuangdun Site has provided a wealth of information for exploring the social, economic, and cultural lives of primitive ancestors, as well as the origin of ancient Chinese characters, highlighting important historical, artistic, and scientific research values. therefore □ A comprehensive and in-depth study and interpretation of Shuangdun's depiction symbols is the best material for analyzing the structure of ancient society and the origin of civilization[10].

References

- [1] Liu Jue ru, Xing Rui, Li Hongyao. Application of the Law of Form Beauty in the Design of Shuangdun Cultural and Creative Works in the Huai River Basin [J]. Packaging and Design, 2021, No.224 (01): 130-131.
- [2] Wang Jiachun, Cao Lei. Research on the Design Strategy and Method of Cultural and Creative Products Based on the Theme of Intangible Cultural Heritage [J]. Packaging Engineering, 2022,43 (12): 324-331.
- [3] Li Zhen, A Lamusi. Cultural and creative product design based on garment embroidery process [J]. Printing and Dyeing, 2022,48 (03): 87-88.
- [4] Li Yongwen. Cultural and Creative Product Design Based on Han and Tang Cultural Elements [J]. Packaging Engineering, 2022,43 (10): 407-413.
- [5] Information on: <http://ah.anhuinews.com>.
- [6] Li Haiyan: Neolithic Culture along the Huaihe River and the Yangtze Huaihe River (MS., Anhui University, 2007.
- [7] Zhao Xin, Xu Dangui. The inheritance and influence of Shuangdun Site in Bengbu on visual symbols [J]. Journal of Hubei Correspondence University, 2016,29 (14): 190-191.
- [8] Kan Xuhang, Zhou Qun. Excavation of Shuangdun Neolithic Site in Bengbu, Anhui [J]. Journal of Archaeology, 2007 (01): 97-138.
- [9] Wang Yunzhi. Cultural Characteristics and Nature of Double Pier Symbols [J]. Journal of Ocean University of China (Social Science Edition), 2011 (05): 67-69.

- [10] Xu Dali. Brief Description of the Characterized Symbols at the Shuangdun Site in Bengbu []. Zhongyuan Cultural Relics, 2008 (03): 75-79.