

# Research on the Innovation Path of the Carved Symbols of Shuangdun from the Perspective of Cultural Semiotics

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**Abstract:** Shuangdun culture is the wisdom of the early civilization of the Huaihe River basin in the Neolithic era. In recent years, remarkable achievements have been made in the work of Shuangdun culture, historical archaeology, cultural relics protection and other aspects. However, at the same time, the dilemma of "limited understanding, no experience, and difficult promotion" of Shuangdun culture has become increasingly prominent. It is urgent to adopt a combination of new technology and visual design, Practice and explore the display, dissemination, and development of Shuangdun culture. By refining representative cultural symbols and redesigning them, we aim to explore the full application of design elements of Shuangdun Site engraving symbols in the design and development of innovative paths, reflecting the cultural and artistic value of Shuangdun engraving symbols, and at the same time providing products under innovative path research with high practical experience value.

**Keywords:** Semiotics, Shuangdun Culture, Carved symbols, Redesign, Cultural value, Innovation path

## 1. Introduction

In the 1980s, the carved symbols of the remaining pottery at the Shuangdun Neolithic site in Bengbu were officially announced to the public, and relevant scholars paid high attention to them. Through preliminary research, the academic community has identified the Shuangdun engraved symbol as an important research material for studying the development of early Chinese characters and early social civilization. According to the Excavation Report of Shuangdun Neolithic Site (2008), 633 pieces of pottery fragments with symbols have been found at Shuangdun Site [1]. Shuangdun Neolithic carved symbols are rich in content, complex in structure, and have an early independent symbol system. Scholars have divided the double pier carved symbols into three categories based on their shape characteristics: pictographic symbols, geometric symbols, and other types of symbols[2].

## 2. Interpretation of Visual Graphics for carved symbols

The academic community, through comparative research on imitations, rubbings, and color photographs of engraved symbols, has proposed the nature of the Shuangdun engraved symbol as follows: the Shuangdun engraved symbol in Bengbu is a symbolic form that expresses human intentions, and the connotation expressed by the symbol is the living and production conditions of the region at that time. At the same time, it also reflects the existence of a relatively independent early Neolithic culture in the northern Anhui region, named according to the principles of archaeological culture, We commonly refer to it as the "Shishanzi Culture"[3]. Due to the level of human understanding of society and nature in this area, the double pier engraved symbols have both narrative and ideographic functions.

The basis for discussing the narrative and ideographic functions of the double pier engraved symbols in Bengbu mainly includes: the first double pier engraved symbols have a large number of symbols and a high repetition rate of symbol shapes, indicating that the content expressed by the symbols is an event of the same nature. Secondly, the carved symbols on residual pottery have rich and expressive connotations. For example, the pictographic and geometric symbols of the engraved symbols on Shuangdun pottery can be further divided into 12 subcategories, indicating that the engraved symbols have rich expressive power. Thirdly, the double pier engraved symbols have a long history and a wide geographical distribution, possessing independent symbol system characteristics. The engraved symbols of this system have the characteristics of vivid shape, concise symbol structure, and concise and smooth lines, which are similar to the early writing forms of Chinese characters. Fourthly, there are two or more

combination symbols in the engraved symbols, indicating that the ideographic function of the double pier engraved symbols has a relatively complex meaning ability.

### **3. Visual communication function of engraved symbols**

Among the three classifications of Shuangdun carved symbols in the Excavation Report of Shuangdun Neolithic Sites, geometric symbols have a strong visual communication effect. Among them, the representative heavy line fish shaped symbols are heavy arc shaped symbols unearthed from Shuangdun Site between 1986 and 1992. Through research, scholars believe that these extremely abstract symbols are Pictogram in the shape of fish. Their shapes are mainly intersected by double arcs or multiple arcs, and the scene of fish swimming in the water is carved in simple lines. For example, the double pier "heavy line fish shaped" symbol is used to depict the water ripples, with the fish shaped symbol located in the middle and the surrounding arc representing the water ripples. From this, it can be seen that this "heavy line fish shape" depicts the abstract form of fish swimming in the sparkling water. Under the fish shaped symbol, a double arc is used to clearly represent the wavy shape of water. In addition, from the perspective of the emergence and development of Chinese characters, characters such as "water", "river", and "fish" are also modeled on the ripples of water in reality in oracle bone inscriptions.

The emergence of numerous and diverse Shuangdun cultural relics has enriched and developed the Huaihe River culture. After analysis and organization, the engraved symbols on the double piers of Bengbu can be divided into categories such as "silkworm and weaving", "animal patterns", "geometric patterns", "architectural patterns", "water patterns", "sun and phenology", "fish patterns", "fishing and hunting tools", "plants", "special symbols", and "other symbols". These engraved symbols are like pictures one by one, presenting a scroll depicting the daily life scenes of the primitive residents of the ancient Huai River basin for contemporary people. The diverse cultural relics of Shuangdun, as a representative of traditional culture in the region, can provide materials for contemporary design under related themes. The artistic innovation of double pier carving symbols and the formation of various cultural and creative products can realize the leading role of Creative industries in social development in the process of seeking local cultural development. When Shuangdun cultural and creative products are developed into a cultural and creative industry of a certain scale, they will form a local cultural brand effect, which is of great value for inheriting and carrying forward traditional culture and forming a new business form of Bengbu Creative industries. Contemporary design with the theme of Shuangdun culture, and cultural and creative product design with Shuangdun engraved symbols as the expression content, is an effective way to inherit and develop excellent traditional culture, and is a manifestation of cultural power and cultural confidence.

### **4. Promotion of cultural relics symbols**

The key to bringing cultural relics to life is to tell them stories well. Whether it is an exhibition or a social education activity, it is a combination of academic, intellectual, educational, and ornamental aspects. Make cultural relics deeply ingrained in people's hearts in a form that everyone enjoys[4]. As a themed exhibition hall with engraved symbols, this exhibition takes individual cultural relics as the narrative starting point, spreads out layer by layer, supplemented by scene decoration, and tells the picture of human life, aesthetic concepts, ideological expression, and self cognition in the Bengbu area during the Neolithic period. It dig deeper into the cultural heritage connotation, understand the spiritual world of the ancestors of Shuangdun, showcase the cultural characteristics of Shuangdun, and present the early civilization of the Huai River Basin to the audience in a more intuitive form. Let citizens understand their own history, stimulate cultural confidence, search for beauty and discover beauty in cultural relics and history, accompany tradition, and pursue a better life. The symbol of Shuangdun is a representative cultural relic of the early civilization of the Huaihe River Basin. Combining its own characteristics and connotation, Bengbu Museum can further study and publicize it.

In order to deeply explore the connotation of cultural relics, understand the spiritual world of the ancestors of Shuangdun, showcase the cultural characteristics of Shuangdun, and present the early civilization of the Huai River Basin to the audience in a more intuitive and understandable form.

#### **4.1 Offline activities**

In terms of community services, actively organize cultural relics promotion activities. Bengbu Museum can hold the activity of "museum into community" to let cultural relics and experts go out of

the museum, into the community and get closer to the people. As one of the characteristics of the Shuangdun culture in Bengbu, we can set up dedicated exhibition boards, place cultural relics replicas, and equip interpreters for specialized explanations. Through this activity, people will understand the history and culture of Bengbu and get closer to the museum. In addition, the museum actively contacts various communities and sends cultural relics exhibition boards to them, allowing residents to have a better understanding of the museum. Community residents can learn about cultural relics thematic exhibitions and themed exhibitions through exhibition board knowledge.

In terms of academic research, in order to deeply understand and study the symbols of double pier carving in Bengbu, the Department of Culture and Tourism of Anhui Province and the People's Government of Bengbu City can jointly host the "Huaihe Ancient Civilization Research - Academic conference of Double pier Marking in Bengbu". The seminar can conduct in-depth discussions from different perspectives, focusing on the study of engraved symbols, the connotation and characteristics of the Shuangdun culture in Bengbu, as well as the comparative study of related regional archaeology, the status and influence of the ancient civilization of the Huai River in Chinese civilization, and the ideas and measures for cultural heritage protection. This has increased the visibility of the Shuangdun culture, while also attracting more attention to the Shuangdun cultural site and the historical and cultural heritage of Bengbu and the Huai River basin.

In terms of youth education, Shuangdun Culture has become a popular urban image among the public. According to the connotation of cultural relics, the cultural department and local schools jointly launched a series of youth research activities. In a cultural atmosphere, learn about cultural relics and history, and combine them with videos to vividly explain the engraved symbols of Shuangdun Culture to children. This type of social education activity is a new attempt and exploration, moving traditional knowledge classrooms into exhibition halls and utilizing multimedia equipment to popularize cultural relics resources to teenagers and children from multiple perspectives[5].

#### **4.2 Online promotion**

Actively explore digital display. With the development of science and technology, more and more digital systems are used in museum exhibitions. For this reason, Bengbu Museum actively introduces various high-tech means, such as cloud exhibition, 3D magic wall, etc., in the process of exhibition, to present Shuangdun cultural relics more clearly and stereoscopically in front of the audience, increase the interest and participation of the audience, so that the audience can fully understand and appreciate precious cultural relics "without leaving home".

Do not ignore the traditional Propaganda model. The museum should adhere to information development and information sharing, actively seek cooperation with the news media, and actively publicize the museum's exhibition trends to the public through radio, television, newspapers, WeChat, microblog, Tiktok and other information platforms, so as to attract more people to visit the museum's Shuangdun culture. At the same time, it can broadcast live to the general public in the Tencent platform cloud tour exhibition hall, and make short videos of double pier carving cultural relics in the form of Tiktok, which can be spread on mobile phone clients. In addition, we also invited prehistoric archaeologists to attend the Cultural and Museum Lecture Hall, discussing the prehistoric civilization in the middle and lower reaches of the Huai River, and explaining the connotation of cultural relics from a more professional and macro perspective.

### **5. The Inheritance and Development of the Carved Symbols of Shuangdun Culture**

Symbols have various forms of expression in ancient China, and written totems are treasures of Chinese civilization. Totem is also the foundation of primitive culture, and the symbols unearthed from Shuangdun culture embody the love and worship of Shuangdun ancestors for their hometown's ethnic culture[6]. And in today's rapidly developing symbol networking, what are the similarities and differences between Shuangdun Culture's carved symbols and modern visual design? How should we inherit and develop the splendid treasures of Shuangdun culture in modern design?

During the excavation of Shuangdun cultural relics, archaeologists discovered many irregular quadrilateral and water pattern shapes. At the bottom of a pottery bowl unearthed, there is a carved square shape resembling an open large net, while inside the net, there is a concise fish shape, which overlaps to form a combination symbol. Why do such symbols appear frequently? According to semiotic experts' analysis, during the Neolithic period, aquatic products were abundant on both sides of the Huai River.

At that time, people's lives were inseparable from water, and fishing and hunting activities occupied a large part of their production and life. The ancestors of Shuangdun have also accumulated a lot of experience in fishing and hunting through long-term practice, and they urgently need to communicate and record. So, they carved the visual image of "water patterns" that simulate nature into objects for communication and maintenance. Over time, some of the symbolic meanings in the carved symbols solidified in form and meaning, becoming a conventional symbol that can be used and understood together in a certain area.

And this behavior, although the media and forms of expression used in the process are very different from the current visual symbols. But from a semiotic perspective, the purpose and meaning expressed by the Shuangdun ancestors in depicting symbols on objects are not fundamentally different from the visual symbol design we are currently doing. Like the commonly used logo design in modern visual design, its symbolic composition also inherits and develops the connotation of the Shuangdun cultural symbol.

In many modern designs, designers often use many elements from nature or life to abstract and summarize, forming a concise and concise visual language. In many logo designs, the logo is designed as a symbol with symbolic significance, which is highly summarized in form and profound in meaning. For example, the design of the 2008 Olympic emblem exaggerates the character "jing" in Beijing into a moving human body, showcasing the spirit of Chinese people's hard work in sports and the beautiful wish of 1.3 billion Chinese people to host the Olympics together. This symbol adopts the form of ancient Chinese seals, symbolizing the cultural connotations of China's long history. At the same time, it adopts the style of Han Dynasty bamboo slips, combining Chinese calligraphy art and traditional seals with the spirit of sports. The multiple meanings are condensed and refined through artistic techniques to form a concise and abstract symbol. This visual symbol language is not fundamentally different from the purpose and meaning expressed by visual symbols in Shuangdun culture. The essence of combining popular visual symbols on the internet with traditional writing to express complex cultural connotations through abstract and concise visual symbols is also very similar to the meaning of Shuangdun cultural symbols.

## 6. Conclusions

Culture has endowed shuangdun with energy, making it a shining star. As a feature of Bengbu Museum, the double pier carving symbol is an important witness and carrier of the history of Bengbu city and the ancient civilization of the Huaihe River Basin, and has attracted the attention of many researchers at home and abroad. Through these precious cultural relics, the interpretation of Urban culture's urban culture and the demonstration of Urban culture characteristics are one of the important ways to help the city brand construction. Taking the double pier carving symbols as the starting point, through the research of archaeology and history, the planning and design of exhibitions, and the development and interaction of social education activities, we can deeply tap the advantages of Cultural resource management contained in the double pier carving symbols in Bengbu and play a role in promoting and inheriting local traditional culture.

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