

# Research Progress of Bronze Ware Ornamentation in the Shang Dynasty of China

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## Abstract:

Bronze ware is an important representative of ancient Chinese culture, and the Shang Dynasty is the peak of China's bronze casting technology. As an important symbol of ancient culture, the bronze ornaments of Shang Dynasty in China. Deeply reflect the religious belief, social structure and cultural value at that time. Through a systematic literature review of the origin, classification and evolution of the bronze ornament, this paper aims to deepen the understanding of the Shang Dynasty bronzes and their cultural connotation. Among the existing studies, the current research on Shang Dynasty bronze ornament mainly focuses on the categorization of ornament, its relationship with culture and the evolution rules. Specifically, the classification of bronze ornament is diverse and represents the different symbolic meanings. Shang Dynasty bronze ornaments are closely related to religious beliefs and social structures, and evolved over time. In general, these studies have enriched the cultural knowledge of Shang Dynasty bronzes, while some rare ornaments have been understudied and the research methods need to be further innovated. The significance of this study is clear: by examining Shang dynasty bronze ornament, it can increase people's understanding of ancient Chinese religious culture and feudal social structure, and also contribute to the identification and conservation of modern bronzes. Future research can apply modern scientific and technological tools to further reveal the deeper connotations and historical value of Shang culture.

**Keywords:** Shang Dynasty; bronzes; ornament; research progress; archaeology.

## 1. Introduction

Bronze ware is an important representative of ancient Chinese civilization, which not only has a high artistic value, but also carries profound historical significance. On the surface of the bronzes, decorated with a variety of exquisite patterns, patterns not only have decorative functions, but also an important embodiment of ancient religious beliefs and feudal social culture, as discussed by Li Huiping and He Huilu who highlighted the significance of bronze decorations in reflecting ancient religious beliefs and social structure [1]. As the peak of China's bronze casting technology, the Shang Dynasty left a large number of bronzes, which provides rich materials for the study of bronze ornament. Shang Dynasty bronzes are famous for their complex craftsmanship and diverse ornamentation. Typical artifacts, such as tripods and jujue, all show the highly developed bronze smelting technology and the social structure behind it. Bronze Ware Ornamentation, placed on the surface of bronzes, boasts various morphological characteristics and symbolic meaning and provides insight into the culture of religious belief and the feudal

society in ancient China. The various forms of bronze ornament have symbolic significance, from which researchers can glimpse the religious beliefs, political systems and cultural features of the society at that time. Therefore, the study of Shang Dynasty bronze ornament can not only deeply understand Shang Dynasty society, but also reveal its cultural value. A systematic study of Shang Dynasty bronzes can reveal the deep cultural connotation of ancient Chinese religious belief and social structure. This study not only helps to improve the theoretical system of ancient Chinese art history, but also provides an important reference for the identification and protection of modern bronzes. In addition, analyzing the regional differences and social background of bronze ornament can deepen the overall understanding of Shang culture.

In order to show the status quo of the researches of bronze ornament and explore the role and significance of bronze ornament in Shang Dynasty society, this study focuses on the existing classification, cultural relations and the evolution of the bronze ornament, presenting a literature review on the bronze ornament in Shang Dynasty. In the study,

the author discusses the origin, evolution and social significance of Shang Dynasty bronze ornament, systematic sorting and evaluation of the existing academic achievements, combined with modern technical means to carry out the classification and comparative study of decorative ornament. The objective of this paper is to summarize the progress of existing research, point out the shortcomings, and propose new ideas and directions for future research.

## **2. Chinese Ancient Bronzes and the Ornamentation**

### **2.1 The Ancient Chinese Bronzes**

The bronze culture of ancient China can be traced back to the late Neolithic Age. The Shang Dynasty was the heyday of the development of ancient Chinese bronzes, and the manufacturing technology of bronzes got unprecedented development, and the types of bronzes became various, including sacrificial vessels, weapons, living utensils and so on. Among them, the Shang Dynasty bronze sacrificial objects are the most abundant, including Ding, Zun, Jue, Gu, and so on. These bronzes with a high level of craftsmanship reflect the improvement of the social labor force at that time, indicating that the Shang rulers attached great importance to politics and religion, as further elaborated by Li Dongyu who explored the various roles of bronze vessels in Shang society [2].

In the Shang Dynasty, bronzes were mainly used for religious sacrifices, aristocratic life and war activities. Shang rulers consolidated their dominance through a complex ritual system, of which bronze ritual vessels were an important part. For example, Ding, as the most representative bronze vessel, symbolizes the legitimacy and authority of the royal power. In addition, there are bronze Musical Instruments such as chimes and chime, which symbolize the status of nobility, and bronze weapons such as swords, spears and swords for war and defense.

### **2.2 The Ornamentation of the Ancient Chinese Bronzes**

Bronze ornamentation refers to various decorative patterns cast on the surface of the ware, which not only has aesthetic value, but also contains rich cultural, religious and social significance. Zhang Yi contributed to this understanding by examining the aesthetic features and cultural meanings of these decorations [3]. In the Shang Dynasty, bronze ornaments were given special symbolic significance, reflecting people's understanding and worship of nature, religious beliefs and social order at that time. Therefore, the study of bronze ornamentation helps to reveal the cultural background, religious belief and ideology of the ruling class of the Shang Dynasty.

Shang Dynasty bronze ornamentation has various forms, complex structure, profound meaning and so on. In form, the bronzes of the Shang Dynasty are dominated by animal patterns and geometric patterns. Common ones include Taotie pattern, Kui dragon pattern, cloud thunder pattern and dragon pattern, as well as animal patterns such as snake iron, Kui dragon and phoenix bird and geometric patterns such as cloud thunder, wisdom and square. These patterns are arranged regularly to form a rigorous and orderly decorative style, reflecting people's understanding of the order of the universe and social hierarchy at the time. In terms of structure, the structure of the bronze ware ornamentation is usually composed of a combination of various elements, such as the Taotie pattern is often intertwined with the dragon pattern and the cloud thunder pattern to form a rich visual effect. These ornamentations not only have amazing aesthetic value, but also convey specific cultural and religious connotations.

## **3. Research Progress of Bronze Ware Ornamentation**

### **3.1 Researches of Classification of the Bronzes Ornamentations**

#### **3.1.1 Zoomorphic ornamentations**

Animal ornamentation occupies an important position in Shang Dynasty bronzes, commonly including Taotie pattern, Kui dragon pattern, dragon pattern, dragon pattern, snake pattern, bird pattern, phoenix pattern and other bronze patterns. These animal ornaments not only reflect the Shang people's observation and reverence for the natural world, but also show the way they expressed religious and social ideas through their ornaments. The Taotie pattern is regarded as a typical representative of Shang Dynasty bronzes. This kind of ornamentation usually appears as an exaggerated animal face image, which has a strong visual impact and mystery. The image of Taotie is believed by scholars to be closely related to the religious beliefs of the time, possibly symbolizing the face of ancestors or gods, and used to pray for shelter or display power. In addition, other animal patterns are also common on Shang bronzes, such as Kui dragon pattern and phoenix bird pattern. The dragon pattern represents a mysterious dragon-shaped creature often associated with natural forces such as thunder and lightning, symbolizing power and holiness. Phoenix-bird pattern reflects the ancient people's worship of birds, symbolizing auspiciousness and spirituality.

#### **3.1.2 Ornamentations related to nature**

Elements of nature such as thunder, clouds and waves

are also widely existed in Shang bronzes. These ornamentations often have symbolic significance and are used to express the reverence for the forces of nature and the worship of the gods. The ornamentals of these natural elements not only enhance the artistic expression of the bronzes visually, but also give them a symbolic meaning of holiness and authority at the spiritual level. For example, thunder patterns, as a common geometric ornamentation, showed the ancient people's concern and worship for the natural phenomenon of lightning, believing that lightning was a symbol of the power of the gods, and could protect or punish human beings. Cloud-like pattern is often used in combination with thunder, symbolizing the change of the heavens and the mystery of the universe. The study of this kind of ornamentation reveals the Shang people's deep understanding of nature and the worship of heaven in their religious belief.

### 3.1.3 Geometric ornamentations

Geometric ornamentation is famous for its abstract structure and regularity of arrangement, and is an important part of the bronze ornamentation in Shang Dynasty. Geometric patterns such as squares, paisleys, wavy patterns, etc., are often used to decorate the edges or blank areas of objects to balance the overall visual effect [4]. These geometric ornaments not only show the ancient artisans' pursuit of formal beauty and recognition of social order, but also express Shang people's understanding of the cosmic order and social hierarchy through their arrangement and symmetrical structure [5]. For example, the symmetrical arrangement of checkered patterns may symbolize social hierarchy and order, while the infinite extension of paisleys may represent an understanding of the infinite cycle of the universe. The wide application of these geometric patterns in Shang Dynasty bronzes.

### 3.1.4 Advanced methods of classification

With the development of archaeology, art history and computer technology, the classification of bronze ornamentation has made remarkable progress. A study presents a new framework for classifying Shang and Zhou bronze ornamentation using convolutional neural networks, demonstrating the application of modern techniques in this field [6]. Traditional classification methods mainly rely on the experience and intuitive observation of scholars, while modern research has gradually introduced more detailed and scientific classification tools, such as digital image analysis, 3D modeling and big data statistical analysis. The application of these new technologies makes the classification of bronze ornamentation more accurate and systematic, and can reveal the nuances and evolution rules of the ornamentation. For example, the digital image anal-

ysis technology allows scholars to find the difference in the ornamentation style in different regions and different time periods and better understand the making process of bronzes and the principles of decorative design.

## 3.2 Researches of Connections between Ornamentations and Culture

There is a close internal relationship between bronze culture and ornament, and ornament is an important part of bronze culture, reflecting the social, political and religious background of the time in which the bronze was made. It is found that the bronze ornamentation not only has a decorative function, but also carries a rich cultural connotation, showing the world view, religious belief and social structure of people in the Shang Dynasty. Shuyan provided insights into how the ritual system of the Western Zhou Dynasty influenced the development of bronze decorations [7]. Study shows that Chinese bronze culture includes many important themes, such as religious sacrifice, ancestor worship, and nature worship. The ornamentation of the bronzes is one of the crucial carriers of these themes. Which makes it a key clue to study Chinese bronzes.

In addition, the regional differences in bronze ornamentation also reflect the cultural exchanges and collisions between different regions at that time. For example, the bronze ornamentation style of the late Shang Dynasty showed obvious differences between the south and the north, which may help researchers understand the cultural characteristics of different regions of China during the Shang Dynasty and their interaction.

## 3.3 The Origin and Evolution of Ornamentations

The evolution of ornamentation is not only the result of technological and artistic development, but also the witness of social and historical changes. Studying the evolutionary law of bronze ornamentation is of great significance for revealing the complexity and diversity of ancient Chinese society.

The origin of bronze ornamentation can be traced back to the pottery ornamentation of the Neolithic Age. These early decorative motifs were dominated by simple lines and geometric figures on pottery. With the development of bronze smelting technology, these patterns gradually evolved into more complex and figurative patterns and became important decorative elements of bronzes.

In the Shang Dynasty, with the complexity of social structure and the development of religious beliefs, the design of bronze ornamentation was gradually refined and diversified. The early simple lines and geometric figures gradually developed into complex animal patterns, natural pat-

terns and geometric patterns and other forms. The changes of social structure, religious belief and political system in Shang Dynasty are directly reflected in the ornamentation style and content of bronzes. Meanwhile, the ornamentations on bronzes are associated with the authority and nobility of the rulers [8].

In the late Shang Dynasty, with the social turmoil and the change of dynasties, the ornaments of bronzes also changed significantly. On the one hand, bronze ornamentation has become more complex and exquisite, reflecting the artisans' technological innovation and artistic pursuit. On the other hand, some traditional patterns were gradually replaced by new patterns, reflecting changes in social thought and shifts in religious beliefs [9]. This feature can be seen in the sophisticated evolution of Taotie patterns in the middle and late Shang Dynasty [10].

## 4. Discussion

### 4.1 The Summary of Existing Researches on Shang Dynasty Bronzes

The existing study of Shang Dynasty bronze ornamentation has accumulated rich achievements. Up to now, scholars have made a lot of important progress in the classification research and cultural connection. Through the systematic classification of decorative types and the in-depth discussion of bronze culture, the researchers reveal the social function and religious symbolism of Shang bronzes, which provides a new perspective for understanding Shang society.

However, there are still some shortcomings in the existing research. First of all, many studies focus on common patterns such as Taotie pattern and thundercloud pattern, and pay less attention to some rare or regional patterns, resulting in an incomplete understanding of these patterns. Secondly, the research methods are relatively traditional. Although modern techniques such as digital analysis and 3D modeling have begun to be applied, they have not been fully used in the studies of bronze ornamentation. In addition, there are some limitations in the interdisciplinary cooperation in the study of bronze ornamentation. Although the integration of archaeology, history and art history has achieved some success, interdisciplinary studies with other disciplines such as anthropology, sociology and religious studies need to be further strengthened. These shortcomings indicate that there is still a broad space for the development of bronze ornamentation research in the future.

### 4.2 Some Assumptions about the Bronze Pattern

Based on the existing research results, some new hypoth-

eses and research directions on bronze ornamentation can be proposed. One hypothesis is that some ornamentation not only has a decorative function, but also may reflect the astronomical or geographical phenomena of the time, such as cloud thunder patterns may be related to changes in the sky, and geometric patterns may symbolize the ancient people's understanding of the structure of the universe. This hypothesis provides a new perspective to study bronze ornamentation and needs to be confirmed by future interdisciplinary studies.

Based on cultural communication theory, the other hypothesis worth exploring is that regional differences in bronze ornamentation may not only reflect the uniqueness of local cultures, but may also be related to cultural exchanges, trade activities and even military conflicts between different regions at the time. If this hypothesis is true, it will provide important clues for researchers to reveal the ways and means of cultural transmission in the Shang Dynasty.

### 4.3 Future Research Direction

The future research of bronze ornamentation can be expanded and deepened from the following aspects. First of all, the study of rare and regional patterns should be strengthened, and the origin, evolution and cultural background of these patterns should be revealed through more extensive archaeological discoveries and cultural relic studies. Secondly, research methods need to be further innovative, especially the wider application of modern scientific and technological means such as artificial intelligence, big data analysis and 3D modeling.

In addition, interdisciplinary research will be an important development direction in the future. Through the close combination with astronomy, geography, sociology and religion, researchers can conduct comprehensive research on the social, cultural and religious background of the time, and deeply understand the complexity and diversity of the Shang society.

Finally, the international academic exchanges and cooperation are necessary. By cross-country and cross-cultural comparative studies, researchers can reveal more about the uniqueness and universality of ancient Chinese bronze culture. This will help push the study of bronzes to new heights and contribute to the study of the Bronze Age on a global scale.

## 5. Conclusion

Shang bronzes and their ornaments demonstrate the high level of craftsmanship in ancient China and deeply reflect the social structure, religious beliefs and cultural values of the time. In order to gain a deeper understanding of

Shang Dynasty bronze culture and its ornaments, this study systematically describes the origin and evolution of Shang Dynasty bronze culture. Next, the author conducts a systematic literature review of the relevant studies on Shang Dynasty bronze culture, sorting out the existing studies in aspects of ornamentation types, its relationship with the society, and its evolutionary features. Existing studies show that the classification of Shang Dynasty bronze decoration is diverse, and each type of decoration has rich forms and cultural significance. Bronze decoration reflected the needs of religion and social structure. With the change of the era, the connotation and form of the decoration also evolved. By further analysis, it is found that these decorations combine aesthetic value as pieces of art and tools for the Shang rulers to consolidate their power and sanctity, reflecting the understanding and reverence for natural and supernatural forces at that time. Although research results are abundant, there are still some limitations in the existing research, especially in the attention to rare ornaments and the innovation of research methods. Future research should pay more attention to interdisciplinary cooperation and make use of modern scientific and technological means for more systematic and detailed analysis of bronze ware ornament. To conclude, Shang Dynasty bronze decoration is both an important way to understand the Chinese ancient culture and a key to revealing the developmental features of early human civilization. In the future, with the increase of archaeological evidence and the continued advancement of research methods, the study of bronze ornaments will continue to reveal the mysteries of ancient Chinese civilization.

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