





Research on the Contemporary Value and Innovative Transformation of Bronze Patterns in the Central Plains

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ABSTRACT

In order to explore the contemporary value of the Central Plains bronze patterns and the innovative transformation of the ware, this paper takes the bronzes of the Shang Dynasty (1600~1046 BC) as the research object and analyzes them. Collect data on pre-Qin bronzes through the Internet, and use a microscope to observe the patterns, materials, shapes, and ingredient content of bronzes. The thermal condition of the bronzes, as well as the overall mechanical equilibrium, are measured by infrared observation instruments. The results show that the material of pre-Qin bronzes is mainly bronze, containing a small amount of tin, lead and iron, and a large amount of oxide layer on the surface. The bronze shape is an outer opening, and the patterns are mainly dragon patterns, phoenix patterns and cloud patterns, which are mainly used for blessings, and are mainly square and round. Infrared tests have found that the thermal equilibrium of the bronze is related to the thickness of the bronze material. Therefore, the pattern of pre-Qin bronzes is single, but the meaning is clear, and it has the functions of praying for blessings and cooking, which has an enlightening effect on the innovative design of modern culture and creativity and enriches the connotation of culture and creativity.

Keywords: Central Plains, Bronze, Patterns, Contemporary Values, Innovative Transformation

INTRODUCTION

As the birthplace of ancient Chinese civilization, the Yellow River region has a long history of bronze manufacturing. During the Shang Dynasty and Western Zhou Dynasty (1600~771 BC), the manufacture of bronzes in the Central Plains in the Yellow River Valley had just reached a peak stage and became a symbol of recognition of social power and wealth. This symbolism gave impetus to the further development of bronzes. Then, with the continuous development of the times, bronze gradually became the most critical ritual weapon in early ancient Chinese society, and it was also a weapon, and it showed extraordinary artistic characteristics. In addition, the manufacturing process of bronzes has also aroused research interest. From the perspective of the Shang Dynasty (1600~1046 BC) culture, the manufacturing process of bronze ware included various complex processes, such as casting and pouring, and long-lasting polishing. Because bronze is an indispensable ritual vessel in ancient society, it can play many practical functions and carry a series of religious and sacrificial and ceremonial connotations. During the Shang Dynasty and the Western Zhou Dynasty (1600~771 BC), in order to make the artistic sense of bronzes stronger, enhance their cultural level and cultural diversity, various patterns would be added to the bronzes to better express some beautiful meanings and give the bronzes better etiquette. In the Central Plains bronzes, there are a variety of different patterns, each with its own merits, its own symbolic meaning and decorative role (Fang et al., 2023; J. Li et al., 2023). The more commonly used patterns are: dragon pattern, phoenix pattern, butterfly pattern, cloud pattern, etc. Each pattern has its own characteristics, and has a variety of different ways of display, the pattern can reflect the social culture and religious beliefs and aesthetic tastes of the time, and reflect the ancient Central Plains people's pursuit of harmonious natural, social and cosmic

order, and reflect the Central Plains people's expectations for a better life at that time (Halili et al., 2023; X. Li et al., 2023). Pre-Qin bronze patterns generally have their own characteristics and symbolic meanings. The bronze pattern attaches great importance to the expression of lines, and its lines are smooth and beautiful, and it has high artistic value and aesthetic feeling. The patterns also have an auspicious, mystical or sacred atmosphere, which can show the exquisite skills and high-level aesthetics of ancient craftsmen (Wei, Peng-Yu, & Na, 2023). The dragon lines of the Xia Dynasty bronzes were relatively thick, and until the late Shang Dynasty, the line depiction of the dragon pattern was more detailed, which could flexibly show the details of each part of the dragon body. The patterns of pre-Qin bronzes are very diverse, and the commonly used dragon and phoenix patterns, butterfly patterns, and cloud patterns are commonly used. At the same time, each bronze pattern has a characteristic and unique symbolic meaning. For example, the dragon patterns depicted on the bronzes are very varied, some of them will be displayed in a soaring posture, while others will appear sinuous and rectangular. In the Shang Dynasty (1600~1046 BC), the dragon pattern symbolized imperial power and power, representing auspiciousness and authority, and was the most symbolic totem of authority in ancient China. In the Shang Dynasty (1600~1046 BC), the phoenix pattern was used in various cultural relics to express the pursuit and yearning for a better life at that time. Moire has auspicious and auspicious meanings, representing infinite possibilities, and is often considered a beautiful bridge connecting the earth and the kingdom of heaven (Hunt et al., 2024; N. Liu et al., 2023). The butterfly pattern is also often used in various metal crafts and literary and artistic supplies, the butterfly pattern symbolizes the impermanence and reincarnation of life, and has the meaning of happiness and eternity. Then there's the cultural connotation. The pre-Qin bronze patterns can reflect the rich cultural heritage, cultural connotation and aesthetic concept of the pre-Qin culture, and reflect the society's awareness and understanding of the relationship between man and nature, the order of the universe and the meaning of life. The pre-Qin bronze patterns not only have a good decorative function, but also carry the symbols and spiritual connotations of the culture, and reflect the culture of the pre-Qin region in the continuous inheritance. Pre-Qin bronze patterns are part of the elements of Chinese culture, and have profound pre-Qin cultural heritage and artistic value. Based on this, this paper comprehensively judges the value and cultural connotation of pre-Qin bronze patterns, and classifies and analyzes the pattern literature based on a variety of cultural elements, so as to provide literature for the study of pre-Qin bronzes. In addition, digital technology and material innovation are used to identify the materials and shapes of pre-Qin bronzes, better excavate bronze patterns, and provide support for the research on the innovative value of bronzes. Finally, the pattern characteristics of the bronze ware are compared, and its innovative transformation conditions are analyzed.

LITERATURE REVIEW

The Archaeological Value of Bronze Patterns

Bronze ware is an objective reflection of China's social, political, economic, and cultural heritage, as well as an important carrier of cultural inheritance. Through the setting of cultural samples, traditional Chinese culture can be displayed, revealing the cultural history of the pre Qin period. Bronze culture has important value in ancient China, and its patterns have unique aesthetic characteristics, rich lines, shapes, and color constructions, which have important cultural connotations and can provide corresponding support for archaeological research. Like the Bronze Gate, the interpretation of cloud patterned dragon patterns is the main pattern, which has different meanings in different periods and has different representative meanings and functions in the overall. It is an important tool for military important sacrificial ceremonies. Bronze patterns have cultural inheritance, artistic aesthetics, and social value, and are of great importance for the study of ancient royal sacrificial rituals and other content. The, Therefore, bronze patterns play an important role in overall design and archaeological excavation.

The Role of Bronze Doors in the Study of Modern Art

Under the influence of modern art, the value of bronze doors can be observed and displayed through microscopes and necessary information can be obtained through infrared scanners to support the overall transformation and cultural creation significance of bronze patterns. Bronze door patterns can be applied to practical life in the design process, meeting people's normal needs. Therefore, bronze doors can enhance the added value of products and promote the dissemination of modern culture. In addition, integrating the bronzes pattern with modern design can promote the inheritance of ancient culture and the value of Chinese culture, achieve interdisciplinary cultural exchange, and promote cultural cooperation between China and foreign countries. Therefore, bronze doors have a guiding role in modern research, and can be easily excavated for archaeological purposes, similar to existing books. The Through literature review, it has been verified that the role of bronze patterns in archaeological value, such as cloud patterned dragon patterns and their evolution process,

has an impact on the inheritance of modern culture and artistic aesthetics. Therefore, the integration of bronze gates with archaeological excavation and modern design has research value and significance in multiple fields. It not only provides support for modern art, but also provides rich textual and case knowledge for archaeological excavation.

METHODOLOGY

In this paper, the shape and material of Shang Dynasty (1600-1046 BC) bronzes are analyzed. The archaeological value of bronzes was analyzed by high-definition microscope (Shandong HD 75 times 10*20). Infrared scanner (made in Guangdong, 20~80 °C) was used to observe the temperature distribution of bronzes, and its material structure was analyzed. Among them, the observation indicators are mainly material, shape, color and structure.

RESULTS

Materials of Bronze

Comparing the materials of pre-Qin bronzes, the results are shown in [Table 1](#).

[Table 1](#). Bronze Materials

Types of Bronze	Material	Function	Hardness	Tin and Lead Content
Ding, bell, gui, horn and yue	Bronze, brass, iron, tin, and lead	Practicality, cooking	150~170HB	1~2%
Coins, spoons, bowls, and wine vessels	Bronze, brass, tin	Auxiliary tools	140~160HB	2~5%

[Table 1](#) - The different levels of lead and tin in bronzes, as well as the low levels of iron, tin and lead in utensils such as coins, spoons and bowls, are mainly due to the low production of the metal. As an important heritage of the Shang Dynasty (1600~1046 BC), bronze ware has a deep accumulation of Chinese patterns and rich cultural connotations and cultural heritage. In the inheritance of traditional Chinese culture, bronze has a positive significance and is extremely important. Through the research of bronze materials, and the reproduction and application of pre-Qin bronze patterns, we can inherit the essence of ancient culture, and let modern people understand, recognize, and feel the true charm of ancient Chinese civilization, dig deep into the materials of bronzes, and understand and understand the related pre-Qin culture, so as to regain cultural self-confidence; Copper and other materials can represent the cultural symbols of the pre-Qin region, have a unique aesthetic concept, and can actively use the patterns of pre-Qin bronzes to create, so as to better promote the culture of the pre-Qin region and clarify the cultural connotation of bronzes (L. Liu et al., 2023; Pollard & Liu, 2023). Moreover, through the continuous excavation of pre-Qin bronze patterns, we can also re-understand the traditional culture of the pre-Qin region, and cultivate a sense of national pride and identity, which is of great significance to promote the further promotion of the spirit of the Chinese nation. The use of tin, lead and other materials in pre-Qin bronzes can make the patterns more complex and three-dimensional, as shown in [Figure 1](#).

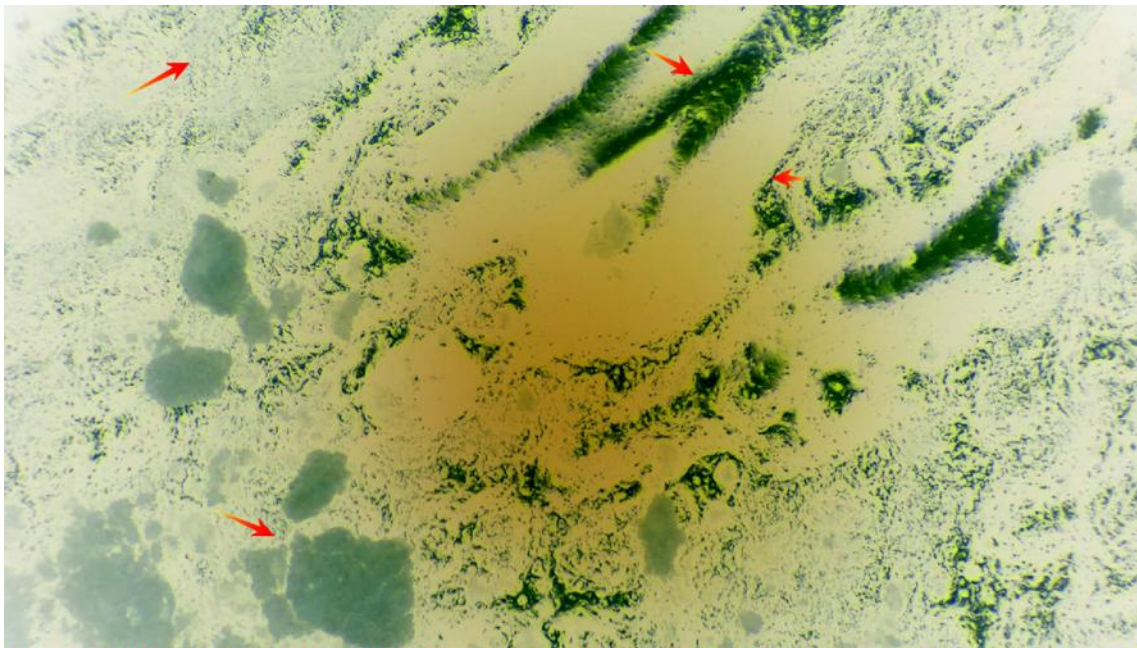
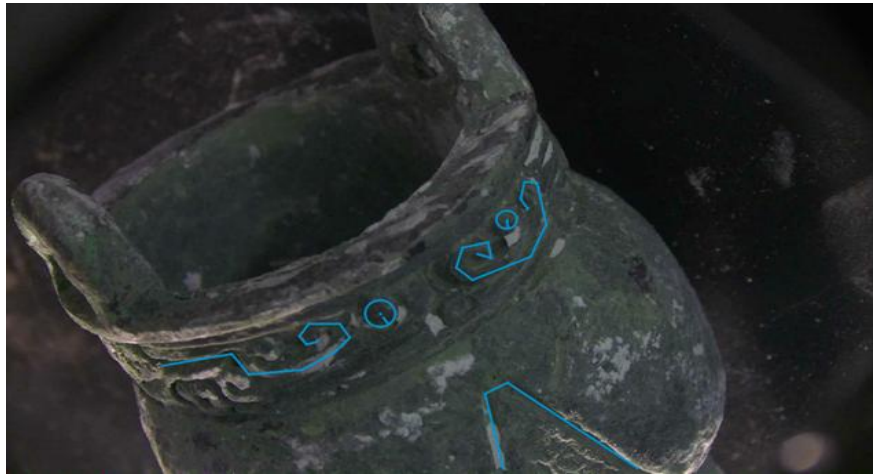


Figure 1. Reverse View of the Bronze Pattern

As can be seen from the content in Figure 1, the bronzes contain different metals, especially lead, tin and other materials, which can increase the three-dimensionality of the pattern and make the pattern more vivid. The integration of different materials in the bronzes promotes the continuous increase of art forms and style innovation in the pre-Qin period, and injects unique charm to promote the continuous integration and development of pre-Qin bronzes; the artistic beauty of the pre-Qin bronzes is very strong and has unique aesthetic value, and the different materials of the pre-Qin bronzes can form different oxides, such as lead oxide, iron oxide, etc., which increase the grace of the utensils, show the peak skills of the ancient craftsmen of the pre-Qin period, and show the unique aesthetic taste (Lu et al., 2023; N. Sun et al., 2023; Zhao et al., 2023). In the bronze, the integration of different elements can give the bronze a certain mysterious atmosphere, and show a unique beauty, so that it has both classical and elegant temperament, can produce a solemn momentum, and improve the role and effect of the bronze. Through the study of the patterns and materials of pre-Qin bronzes, a deep sense of cultural identity is generated, and the connotation of bronze culture is enhanced. Moreover, the integration of different patterns into the bronzes can not only show the traditional culture of the Western Zhou and Eastern Zhou dynasties, enhance the cultural connotation, but also enrich the expression of the pre-Qin culture, which is of great significance for promoting national cultural self-confidence and self-identity. During the Western Zhou Dynasty and the Eastern Zhou Dynasty (Peng, 2023; Tang et al., 2023; Wu et al., 2023), the variety of bronze patterns and in-depth excavation of the material characteristics of bronze ware can promote cross-cultural exchanges in the Central Plains, enhance the understanding of bronze culture, and show the unique beauty of pre-Qin culture.

Bronze Patterns and Shapes

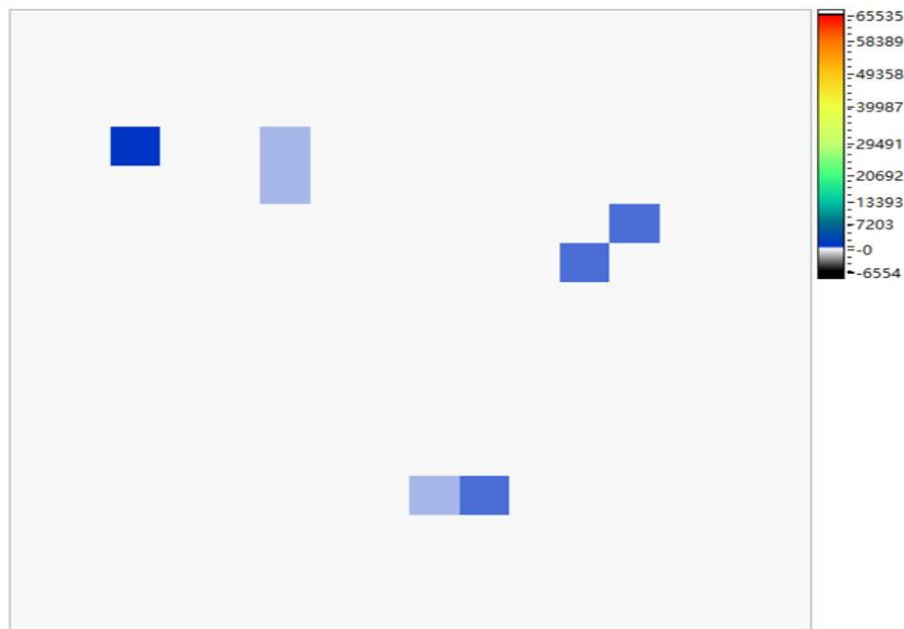
A study of the patterns and shapes of the Shang Dynasty (1600~1046 BC) shows that the patterns of bronzes are mainly streamlined, and the shapes are rough, forming a strong contrast between the inside and the outside, as shown in Figure 2.



Glenoid



Fu

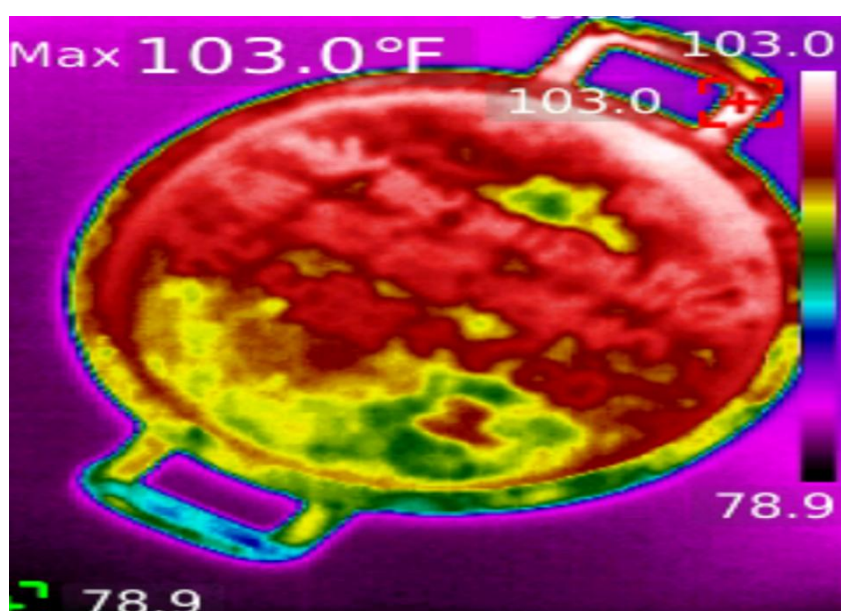


Mechanical Balance

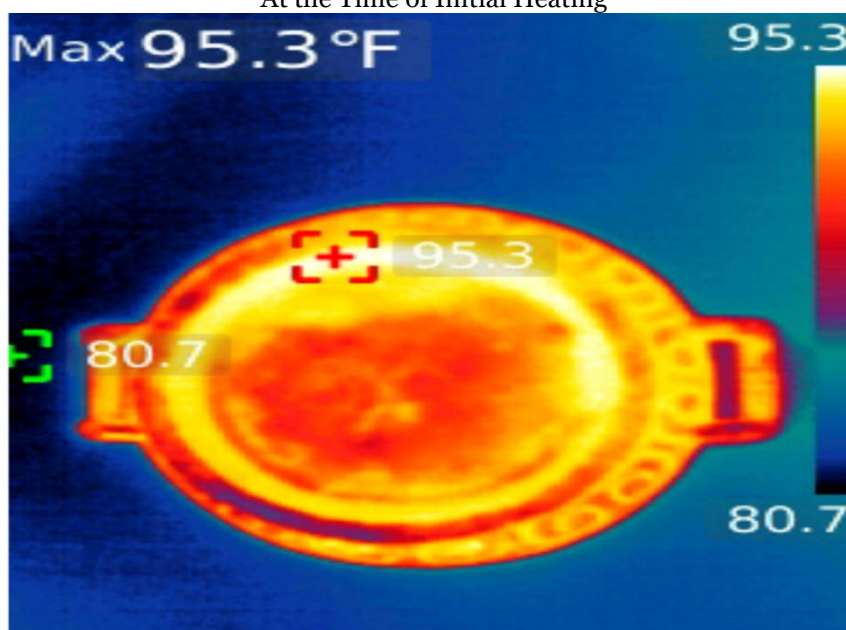
Figure 2. Patterns of Bronze

Through the test software, it is found that the pre-Qin bronze patterns are mainly streamlined, combined with direct, so that the profound pre-Qin cultural heritage and cultural tradition contained in the ancient

civilization can be displayed, so that contemporary people can better appreciate the skills and aesthetic pursuit of ancient craftsmen, and praise and awe for this. From the perspective of aesthetic resonance, the reproduction of pre-Qin bronze patterns can make contemporary audiences have a certain aesthetic resonance, and let them feel the artistic charm of pre-Qin ancient culture, and then produce cultural identity. From the perspective of artistic expression, through the reproduction of the patterns of pre-Qin bronzes, bronzes can truly present the aesthetic value and spiritual connotation of traditional culture in contemporary bronzes, and show their artistic vitality and energy, so as to better combine modernity and tradition, and realize the collision and leapfrogging of Chinese and Western cultures. From the perspective of cultural inheritance, the reproduction of pre-Qin bronze patterns can allow people to maintain respect and appreciation for traditional Chinese culture, and provide support for the protection, inheritance and promotion of excellent traditional Chinese culture, so as to continue and develop the excellent Chinese cultural heritage, so as to go to the world and promote the protection and inheritance of cultural heritage. For the study of the pattern of the bronze, it can be tested by infrared scanning to determine whether there is a change in the thermal conductivity of the bronze after the pattern increases, as shown in Figure 3.



At the Time of Initial Heating



Static 2 Minute

Figure 3. Bronze Patterns and Heating Results of Bronzes

As can be seen from the contents of Figure 3, the bronze pattern does not affect the heating effect of the bronze ware, and plays a role in balancing the heat, and its value can be shown and its actual function can be

played by applying the pre-Qin bronze pattern to artistic creation. At the same time, the pre-Qin pattern exerts the practical value of cooking. This proves that the patterns of pre-Qin bronzes are not simply decorative, but also have the effect of balancing heat conduction. In the Shang Dynasty (1600~1046 BC), bronze patterns, such as dragon and phoenix patterns, cloud patterns, lotus patterns, etc., although they are decorative patterns, have their own structure, strong balance, and practicality, for example, the dragon pattern presents a symmetrical and elliptical shape, as shown in [Figure 4](#).



Dragon Pattern

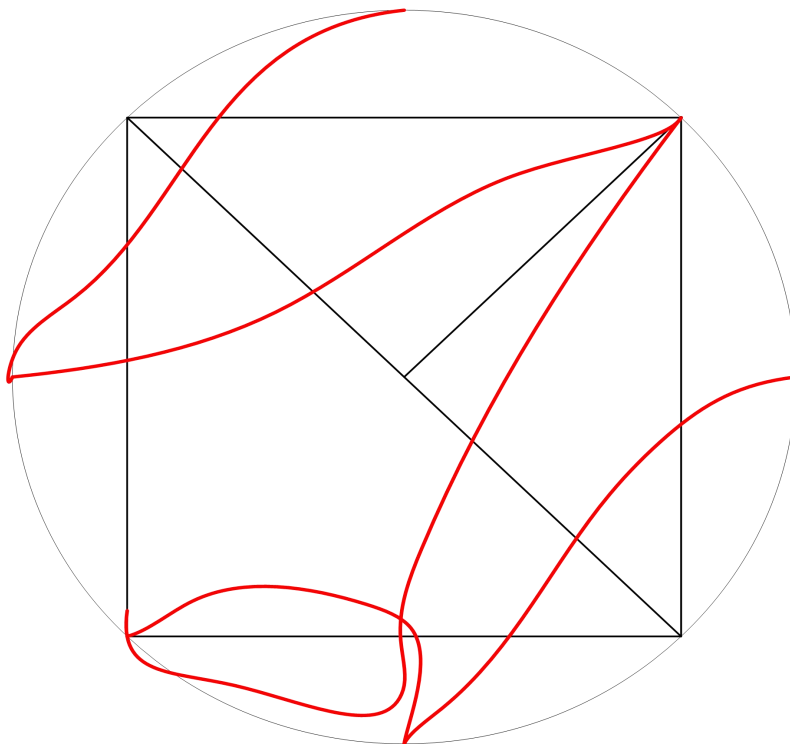


Diagram of Dragon Pattern
[Figure 4](#). Dragon Structure

As can be seen from the content in [Figure 4](#), the dragon pattern structure is relatively balanced, and presents a streamlined and symmetrical form, which is more reasonable in terms of composition structure and balance.

Therefore, the structure of the pre-Qin dragon pattern is strong and mechanically reasonable. Through the reinterpretation of the ornaments in the bronzes, and the innovative transformation, the pre-Qin culture is deepened, and new forms of artistic expression are continuously injected, so as to realize the integration of traditional culture and contemporary aesthetics; in the design of contemporary cultural and creative products, the integration of pre-Qin bronze patterns, such as lotus pattern and cloud pattern, can inherit the pre-Qin culture, stimulate the inspiration of artistic creativity, and better improve the aesthetic level and design level. Using the patterns of pre-Qin bronzes, decorations with pre-Qin cultural characteristics can also be designed, so as to improve the diversity of design expressions of cultural and creative products, and stimulate the love of traditional culture, so as to better open up the market (Z. Sun et al., 2023; Wang et al., 2023; Yang et al., 2024).

DISCUSSION

Innovative Transformation of Pre-Qin Bronze Patterns

Sublimation and Integration into the Shang Dynasty-Western Zhou Culture

Contemporary bronzes can reproduce the patterns of pre-Qin bronzes, which can show the profound pre-Qin cultural heritage and cultural traditions contained in ancient civilizations, so that contemporary people can better appreciate the skills and aesthetic pursuits of ancient craftsmen, and praise and awe for this. From the perspective of aesthetic resonance, the reproduction of pre-Qin bronze patterns can make contemporary audiences have a certain aesthetic resonance, and let them feel the artistic charm of pre-Qin ancient culture, and then produce cultural identity. From the perspective of artistic expression, through the reproduction of the patterns of pre-Qin bronzes, bronzes can truly present the aesthetic value and spiritual connotation of traditional culture in contemporary bronzes, and show their artistic vitality and energy, so as to better combine modernity and tradition, and realize the collision and leapfrogging of Chinese and Western cultures. From the perspective of cultural inheritance, the reproduction of pre-Qin bronze patterns can allow people to maintain respect and appreciation for traditional Chinese culture, and provide support for the protection, inheritance and promotion of excellent traditional Chinese culture, so that the excellent Chinese cultural heritage can be continued and developed, so as to go to the world and promote the protection and inheritance of cultural heritage. For example, modern materials can be used to reinterpret bronze patterns, such as pre-Qin bronze patterns on glass, ceramics and plastic materials, so as to make the bronze more textured and full of light and shadow effects. For example, bronzes can also be abstract interpretations of pre-Qin bronze patterns, such as simplifying and deforming some traditional pre-Qin bronze patterns, so as to create abstract bronzes with bronze texture (Yang et al., 2023; Zhang et al., 2023). For example, bronzes can also combine pre-Qin bronze patterns with contemporary new cultural themes to create new interpretations. For example, the integration of some scientific and technological elements and environmental protection concepts, etc., make the bronze more in line with the mainstream values of the contemporary era, and make it more connotative and expressive; The interpretation of pre-Qin bronze patterns should not only be copied in the form of the pattern, but also through the use of modern materials and technology to achieve innovative transformation. In addition, it is necessary to show the characteristics of the new era in the selection of materials and the production of processes. For the innovative transformation of materials and processes, it can be used to make the pre-Qin bronze patterns gain a certain sense of modernity. For example, 3D printing technology can be used to transform pre-Qin bronze patterns into three-dimensional bronzes made of modern materials, so that complex bronze patterns can show a more refined texture and achieve personalized customization characteristics. Alternatively, the bronze can also use laser engraving technology to show the innovative texture of the pre-Qin bronze pattern on different materials, so as to achieve a new design, and finally, cross-border integration. Bronzes can reinterpret the patterns of pre-Qin bronzes, so as to achieve cross-border integration of different cultural fields, and show the surprise of diverse cultural exchanges and collisions in the fields of design, fashion, architecture, etc. Through this multicultural exchange and integration, the pre-Qin bronze patterns can be interpreted into different phoenixes. For example, in the field of fashion design, it is possible to reinterpret the patterns of pre-Qin bronzes. For example, if it is applied to some exquisite clothing and accessories, the modern fashion bronzes will be more rich in oriental charm, more traditional-modern fusion, and present the unique charm after the collision of multiple cultures, so as to better enhance the diversity and innovation of fashion bronzes (Yu et al., 2023; Zou et al., 2023). For example, the application of pre-Qin bronze patterns in architectural decoration can also bring new vitality to the architectural field, and combine traditional and modern architectural phoenixes to better show the multiple aesthetic elements in architecture. Finally, the idea is enlightened. When interpreting the patterns of pre-Qin bronzes, it can also stimulate the rethinking and exploration of aesthetics, and stimulate their innovative thinking, so that they have a stronger interest in deepening artistic exploration. Based on this, we can promote the continuous change and development of styles and forms in the field of contemporary art.

Pay Attention to the Balance between Bronze Ornamentation and Materials

Metal materials or composite materials can be selected to innovatively transform the bronze patterns of the Shang Dynasty (1600~1046 BC). First, metal materials. Bronzes can use metal materials, such as stainless steel and aluminum alloys, to innovatively transform pre-Qin bronze patterns. For example, in this process of innovation and transformation, the bronze ware should retain the lines and ornamental characteristics of the pre-Qin bronze pattern samples, so as to make the bronze full of a sense of fusion of tradition and modernity, and have durability. For example, in the design of modern sculpture bronzes, the bronzes can use stainless steel materials to create sculpture bronzes with characteristic pre-Qin bronze patterns (such as dragon and phoenix patterns or flower and grass patterns). In addition to retaining the lines and ornamentation of the original pattern, stainless steel has a high gloss and strong corrosion resistance to achieve an extraordinary sense of modernity. This is because the stainless steel material has a strong sense of modernity, and the combination of pre-Qin bronze patterns and stainless steel materials will improve the gloss of the bronze and the light charm of the surface, so that the sculpture bronze can show an extraordinary metallic texture under sufficient light conditions, and show a sense of modernity and fashion. In addition, stainless steel is inherently corrosion and weather resistant, allowing it to remain in excellent condition even outdoors. If the bronze uses stainless steel materials to create sculptures with pre-Qin bronze patterns, then the life of the sculpture bronze will be guaranteed and the cost will be reduced. It is worth mentioning that because stainless steel materials are still relatively easy to process and form, bronzes can also better maintain the clarity of the patterns in the creative process, so that their lines and details are more perfect, so that the artistic sense and beauty of the bronzes can be improved, so as to show stronger vitality; Three-dimensional, full of fashion. Moreover, the use of composite materials to innovate and transform the patterns of pre-Qin bronzes can also be combined with science and technology, so as to better show the sense of modernity, innovation and artistic charm. In addition, the use of composite materials to create innovative transformations of bronze patterns can achieve some unique effects. First, make the design lighter. For example, bronze can use the advantages of carbon fiber composite materials (high strength, lightness) to make a decorative wall that meets the aesthetics of modern people, so as to show a certain sense of lightness and technology, and secondly, three-dimensionality. Because the carbon fiber material itself is relatively easy to process and form, it can be made with a unique three-dimensional effect, with the pre-Qin bronze pattern of the art bronze (such as sculpture bronzes, art walls, etc.), so as to better show the richness and diversity of the design, three-dimensionality, and then, the sense of fashion and technology. When combining pre-Qin bronze patterns and carbon fiber composite materials to produce various bronzes with aesthetic sense, bronzes can better promote traditional culture and combine them with modern science and technology, so as to create a unique artistic atmosphere. For example, bronze can present a unique sense of art by creating storage cabinets and art walls with pre-Qin bronze patterns and modern intelligent control functions, and show the charm of fashion and technology, and finally, durability. The advantages of carbon fiber composites, such as abrasion resistance, corrosion resistance, durability, etc., can be combined to create traditional artworks for use in the home environment. For example, in the field of home decoration, the beauty of various new home furnishing products (luxury dressers, smart bars, etc.) with pre-Qin bronze patterns is displayed through innovative transformation, so as to integrate traditional and modern technology to better reflect the cultural and artistic vitality of pre-Qin bronze patterns.

Enhancing the Depth of Archaeology with the Help of Modern Technology

CNC machining technology can be applied to complete precision engraving and polishing, so as to better express the details of pre-Qin bronze patterns, such as the carving of some animal face patterns and patterns, so as to enhance the texture and delicacy of bronzes and enhance their artistic value. Through the application of CNC machining technology, better efficiency can be achieved when precision engraving and grinding are completed. For example, in the design stage, you can first select a pre-Qin bronze pattern as the design pattern, and complete the digital processing of the pre-Qin bronze pattern, and at the same time, according to the shape and size of the carving, to do a reasonable layout and adjustment. Then, according to the design drawing, the relevant CNC machining program can also be written, so as to determine the specific carving path and depth, speed, etc., so as to ensure the accuracy of the detailed carving, and then realize the exquisite carving of the pre-Qin bronze pattern in the art bronzes. For example, after completing the CNC engraving, grinding and polishing, etc., it is necessary to carefully deal with the details on the decorative ornaments to ensure the accuracy of each pre-Qin bronze pattern. After a series of operations, it can be found that the pre-Qin bronze patterns on the art ornaments are very textured and rich in artistic value, which can not only reflect the beauty of China's excellent traditional culture, but also show the novelty brought by modern technology, exquisite craftsmanship and excellent quality. In addition, laser cutting technology can also be used to achieve exquisite engraving and tailoring of different materials, so that the pre-Qin bronze patterns can be applied to the surface of different materials, showing excellent results. For example, laser cutting technology can be applied to make decorative lamps with pre-Qin bronzes with animal face patterns. First, the design phase. We should choose a pre-Qin bronze pattern that is

more in line with the aesthetics of modern people, such as the animal face pattern, as the lamp pattern, and digitize the pre-Qin bronze animal face pattern, and then according to the shape and size of the lamp, the animal face pattern is well arranged on a certain part of the lamp. Processed using laser cutting technology. After setting the relevant parameters, a laser cutting machine can be used to complete the cutting of the animal face pattern, and then assemble it. Specifically, it is to assemble various parts processed by laser cutting reasonably, so that lamp components, parts with animal face patterns, lamp holders, wires, etc., are all combined. Finally, decorative lamps with animal face patterns can be made. When the decorative lamps are lit, you can see the very exquisite and clear pre-Qin bronze animal face patterns, and feel its clear effect. In this way, every line and pattern of the pre-Qin bronze animal face pattern can be accurately expressed, thus showing a gorgeous sense of art. In this way, the pre-Qin bronze patterns can be directly applied to the field of home decoration or other fields, so that you can witness the combination of traditional culture and modern technology and technology, and understand its aesthetic value.

Enhance the Pre-Qin Cultural Connotation of Bronzes

The integration of pre-Qin bronze patterns and modern elements can reflect the unique charm of bronzes and handicrafts, and integrate traditional aesthetics and modern aesthetics. For example, the traditional lion pattern in the pre-Qin bronzes can be applied to the design of modern handicrafts and geometrically treated, so as to make its lines and forms more simple and conform to the aesthetics of modern people. For example, the body parts of a lion are broken down into geometric shapes and reconstructed into simple line combinations. At the same time, you can also use modern color matching schemes to achieve a wonderful color matching, for example, using a vivid black, white and gray color scheme to make the lion pattern full of modern fashion design. At the same time, you can also consider using metallic colors to highlight the domineering sense of the lion print image. As for material innovation, you can consider using this design on a variety of materials. For example, on metal or glass, a modern lion pattern is displayed to better highlight the finished texture and make it more artistic. With functionality in mind, the design can also be applied to some home décor or fashion accessories to highlight the modern and personal character of the lion pattern. For another example, the lion pattern of pre-Qin bronzes can also be abstracted. For example, to highlight the overall shape or line beauty, the use of abstraction processing, so that the lion pattern more modern. In the application process, it can also be improved through color matching to improve the visual sense. For example, the traditional pre-Qin bronze lion pattern can be visually impacted by using vivid contrasting colors or gradient colors, and the use of bright color combinations can highlight the sense of modernity. In addition, bold innovations can be made in the choice of materials. For example, different materials, such as metal plates and glass, can be used to better display the abstract lion pattern. In addition, based on the characteristics of different materials, you can choose the matching process and treatment method. Considering the customer's demand for functionality, this design can also be applied to some home decoration items or clothing, so as to display the abstract lion print to better highlight the fashion and personality. Moreover, it can also be combined with digital technology to design and produce such images, and optimize and adjust the abstract lion pattern. For example, in some modern art installations, the lion pattern can be abstracted and applied. In addition, the abstract lion pattern can be displayed on canvas and metal plate based on vivid color contrast, so that people can feel the simplicity and power of the pattern. Generally speaking, after being processed by digital technology, the lion print image will be richer with light and shadow effects, and highlight the majesty of traditional cultural elements, and at the same time, integrate the characteristics of modern abstract art to highlight fashion, avant-garde and personality. Pre-Qin bronze patterns, such as dragon patterns, phoenix patterns, flower patterns, lion patterns, etc., can be applied to different fashion fields such as clothing and accessories. Modern design techniques can be used to reinterpret the patterns of pre-Qin bronzes and make them glow with different charms in the new era. For example, the pre-Qin bronze patterns can be integrated into high-quality bags and T-shirts, so that they can retain the original cultural characteristics and meet the aesthetic needs of modern people. In product design, it can also be integrated into pre-Qin bronze patterns in electronic products, furniture, and handicrafts, and combined with new materials and new process technologies to create commercial products with a sense of fashion and cultural value. Secondly, it can also be considered to combine innovative technology to recreate it, to reconstruct the patterns of pre-Qin bronzes, and to present them in a three-dimensional way. This method allows the pre-Qin bronzes to be accurately reproduced and shows more freedom of transformation and design. In addition, interactive experience technologies, such as VR technology and AR technology, can also be integrated to show the pre-Qin bronze patterns and the pre-Qin cultural background and cultural connotation behind them to the public through interactive methods, and display related products with innovative designs to the public. This kind of display will allow the audience to know and understand the traditional culture more deeply, and improve their understanding of the contemporary value of pre-Qin bronze patterns.

CONCLUSION

To sum up, as one of the treasures in the pre-Qin culture, the bronze patterns of the Shang Dynasty have unique and rich pre-Qin cultural connotations and artistic values, and have certain aesthetic value. The results of this paper show that the pre-Qin bronzes are mainly linear, moire and dragon in terms of modeling, and present a symmetrical and balanced structure. Bronze ware not only has a blessing function, but also has a practical cooking effect, and plays a corresponding role through the adjustment of the ratio of copper, iron and tin. Bronze ornamentation plays an important role in the balance of thermal conductivity and mechanics, and can enhance the practical effect of bronze. In addition, the ornamentation itself also has the characteristics of symmetry and balance, which shows that the pre-Qin bronzes have very important archaeological value, and provide support and inspiration for the design of modern bronzes-related products. There are some shortcomings in the research in this paper, that is, the application rate of 3D and simulation is low, and the relevant content will be further analyzed in the future.

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- 2.The innovative research and practice of the cultural and creative talents training model of “The integration of industry and education, multi-synergy”, Project on integration of 2023 education and industry in Henan Province

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