

The Modern Interpretation of Shang Dynasty Bronze Patterns Driven by AIGC and Their Application in Packaging Design

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Abstract:

AIGC helps to organise, create and spread traditional visual materials. Shang bronze patterns generally have ritualistic and decorative functions, including animal-face, Kui dragon, phoenix and cloud-thunder. This paper studies the AIGC-assisted use of packaging and proposes strategies for resources, translation, IP, interaction and review.

Keywords:

AIGC, Shang Dynasty Bronze Motifs, Cultural Translation, Packaging Design, Visual Innovation

1. Introduction

Artificial intelligence, digital media and intelligent design tools have moved the focus of visual creation from experience-based works to data analysis, [1] generation and human optimisation. AIGC is used to design packaging and create culturally rich visual symbols based on Shang bronze motifs [2][3].

2. Theoretical Overview

2.1. Overview of Shang Dynasty Bronze Patterns



Figure 1. Shang Dynasty bronze square tripod (source: internet).

Shang Dynasty bronze patterns were used to create a system of ritual vessels, worship gods and other gods, etc. Bronze vessels had multiple functions, such as serving as ritual tools and symbols, and were generally symmetrical and mysterious.

Motifs such as taotie, kui dragon, phoenix and cloud-and-thunder patterns all carried meanings of power (i.e., Figure 1), movement, good fortune and order. At present, they are to be considered cultural symbols rather than mere decorations for the packaging [1].

2.2. Overview of AIGC Technology Applications

AIGC is based on deep learning and generative models to create text and images from keywords or references. Cultural Design reduces complexity by using familiar icons in daily life. Studies have shown that AIGC speeds up the translation of cultural symbols [3], and AI visual recognition and knowledge graphs support symbol extraction and modern interpretation [4]. Learn the structure, colour and environment of a culture, and then generate cultural graphics in a specific style. The output should be suitable for communication and understandable by the public, so artificial intelligence mainly serves as a tool [5,6].

3. The Application Value of Shang Dynasty Bronze Patterns in Packaging Design

3.1. Cultural Identification Value: Reinforcing Brand Spirit and Traditional Identity

The First Contact Between Consumers and Brands is Packaging. Bronze patterns of the Shang Dynasty can convey the culture and spirit of times and places, as well as national ideals. Link to product features and regional memory and consumption context to strengthen packaging communication [7,8].

3.2. Visual Aesthetic Value: Reconstructing Pattern Order and Packaging Layers

The organisation of patterns in Shang Dynasty bronzes is symmetrical, continuous, repetitive and layered (i.e., Figure 2); thus, they are suitable for the modern layout of packaging, borders and backgrounds. Reduce the complexity of the shape and material in the Yunlei, Kuilong, and Taotie patterns, and create a new visual effect with a bronze-like quality [1,2].



Figure 2. Shang Dynasty bronze vessel (source: internet).

3.3. Market Communication Value: Enhancing Product Differentiation and Consumer Recall

Packaging now inspires people by telling stories and having good looks. Serialised cultural resources can raise people's consciousness of the brand and induce emotions in consumers, fostering a sense of cultural identity among them [9,10].

3.4. Emotional Experience Value: Constructing Cultural Narratives and a Sense of Ritual

Emotional Packaging Should Link Patterns with Stories, Scenes, and Interactions. Shang bronze patterns can reveal the origin of the objects, their meanings, etc., and offer people a chance to experience them [11,12,13].

4. Case Studies of Bronze Pattern Applications in AIGC Technology

4.1. Case Study 1: AI-Driven Bronze Pattern Cultural and Creative Initiatives through Collaboration between the Beijing Museum of Archaeological Sites and Schools

A Fangshan case is that the Beijing Museum of Archaeological Sites used a bronze-pattern database and AI tools in a student design competition. Students turned bronze patterns into new design lines and showed that AIGC is based on databases, prompts, human editing and product adaptation [14].

4.2. Case Study 2: Sanxingdui: Apocalypse Now - AIGC Micro-Series Reimagining the Visual Heritage of Bronze Civilisation

Sanxingdui: Apocalypse of the Future used AIGC in 2024 to create a science-fiction story about bronze masks and a Sacred Tree. Although not part of the Shang Bronze System, it can also tell stories and inspire packaging design by using bronze visual heritage in a new way [15].

5. Future Development Pathways for Shang Dynasty Bronze Patterns

5.1. Building a Digital Resource Repository for Shang Dynasty Bronze Patterns

In the future, AI-generated content of Shang Dynasty patterns will need a digital repository to store images, artefact data, motif names, compositions, cultural meanings, product recommendations, colours and craft instructions. Symbol classification, AI recognition and knowledge graphs can all support design translation. (i.e., Figure 3)



Figure 3. Shang Dynasty bronze tripod (source: internet).

5.2. Refining the AIGC-Assisted Visual Translation Process

Shang Bronze patterns can enter packaging through the five links of cultural interpretation, graphic extraction, AIGC generation, design reconstruction and technical implementation. Designers specify the meaning and taboos, extract lines and

rhythm, generate options with prompts, and then refine layout, colour and materials; the AI results need to be checked [16].

5.3. Promoting the IP-Based Dissemination and Cross-Media Operation of Bronze Patterns

The development of IP should establish a recognizable Shang Dynasty visual system, rather than just cartoon figures. Motif-based characters can enhance the memorability and supporting functions of education and interaction through series packaging, derivatives, exhibition links, etc. [12]

5.4. Establishing Human-Machine Collaboration and Cultural Review Mechanisms

AIGC can shorten the design cycle, but it is also prone to cultural errors, a lack of newness in style, copyright infringement, etc. Shang bronze applications therefore require human-machine cooperation and cultural evaluation. Check for cultural appropriateness and other problems in the AI's output; have it reviewed by experts and put into practice.

6. Conclusions

Shang Bronze Patterns have symmetry, rhythm and mystery, and can be used in modern packaging design. AIGC is used to speed up pattern collection, creation and optimisation, but it should also be informed by cultural awareness, human-machine collaboration and the demands of consumers.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

Author Contributions

Conceptualization: Y.H.; Methodology: Y.H.; Software: Y.H.; Validation: X.C.; Formal analysis: Y.H.; Investigation: Y.H.; Resources: Y.H.; Data Curation: Y.H.; Writing – original draft preparation: Y.H.; Writing – review and editing: Y.H. and X.C.; Visualization: Y.H.; Supervision: X.C.; Project administration: Y.H.

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References

- [1] Cong, Y.X. Cultural Translation and Visual Innovation of Bronze Patterns in Packaging Design. *Footwear Technology and Design*, 2026, 6(02), 21-23.

- [2] Feng, Y.L.; Zhang, X.P. A Study on the Application of Shang and Zhou Dynasty Bronze Vessel Patterns in Packaging Design. *Green Packaging*, 2024, 08, 140-143. DOI: 10.19362/j.cnki.cn10-1400/tb.2024.08.031.
- [3] Li, M.Y. The Translation of Regional Cultural Symbols under AIGC Technology and Their Application in Packaging Design. *China Packaging*, 2026, 46(04), 31-36.
- [4] Shang, X.D.; Sun, Y.S. A Study on the Extraction and Translation of Intangible Cultural Heritage Symbols in the Design of Changzhou Combs Driven by AIGC. *Footwear Technology and Design*, 2026, 6(02), 63-65.
- [5] Li, S.X.; Xing, R. A Study on the Digital Translation Pathways of Manchu Attire Based on Cultural Genes. *Western Leather*, 2026, 48(07), 83-85. DOI: 10.20143/j.1671-1602.2026.07.083.
- [6] Fu, H.J. Mechanisms of Cultural Symbol Translation of the Yellow River in the Context of Digital Art. *Yanhuang Geography*, 2025, 11, 58-60.
- [7] Chen, X.M. A Study on the Application of Chu Cultural Graphic Symbols in the Packaging Design of Cultural and Creative Products at the Hubei Provincial Museum. Guangxi Normal University, 2018.
- [8] Jiang, Y.M. On the Application of Chu Cultural Symbols in the Packaging Design of Xinyang Local Specialities. Henan University, 2015.
- [9] Qiu, Z.R.; Wang, Q.M. A Study on the Application of IP-Based Yellow River Cultural Symbols in Agricultural Product Packaging Design: Taking Elements of Zhoukou Woodblock New Year Paintings as an Example. *China Packaging*, 2026, 46(04), 62-65.
- [10] Cao, J.Y.; Fu, H. A Study on the Packaging Design of Miao Ethnic Agricultural Specialities Based on the Translation of Cultural Genes. *Green Packaging*, 2025, 11, 134-138. DOI: 10.19362/j.cnki.cn10-1400/tb.2025.11.027.
- [11] Xue, J.L.; Zhang Lijun. An Exploration of Visual Translation Pathways for Miao Folk Culture and the Twenty-Four Solar Terms from a Narratological Perspective. *Masterpieces*, 2026, 06, 61-64.
- [12] Liu, M.X. The Translation and Regeneration of Cultural Symbols: Visual Innovation in Tourism Cultural and Creative Design within the Context of Generation Z. *Toy World*, 2026, 01, 135-137.
- [13] Wang, Y. From Symbol to Image: The Visual Translation and Value Reconstruction of Qinling Cultural Symbols in Contemporary Art Creation [C]//Shaanxi Provincial Federation of Social Sciences, Shannan Development Research Institute. Proceedings of the 11th Annual Conference of the Shannan Development Research Institute. School of Educational Sciences, Shangluo University, 2025: 249–263. DOI:10.26914/c.cnkihy.2025.100598.
- [14] People's Government of Fangshan District, Beijing. When AI Meets Bronze Patterns! This Secondary School Takes Cultural Relics to New Heights [EB/OL]. 20 February 2025.
- [15] Guangming Online. Sanxingdui in AIGC micro-dramas: A fresh interpretation blending cultural flair, technological sophistication and vitality [EB/OL]. 2 July 2024.

- [16]Jia, H.S. The Design, Translation and Expression of Henan Opera Cultural Symbols from a Regional Cultural Perspective. *Footwear Craft and Design*, 2026, 6(04), 76-78.



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