

Research on the Design Path of Cultural and Creative Products Based on Regional Cultural Symbols

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Abstract: In the context of accelerated globalization and rapid development of the experience economy, the cultural creative industry has become an important carrier for regional cultural dissemination. Its commodity functional attributes and cultural intermediary attributes help to build an emotional connection bridge between the audience and regional culture. In order to comprehensively respond to the market demand for cultural creative products and improve the cultural communication level of product design, this paper combines the semiotics theory and user-centered design method, integrates the double-layer symbol framework, cultural hierarchy theory and cross-cultural design principles, and forms a three-stage structured design path. The first stage is the extraction and deconstruction of cultural symbols, completing the systematic sorting and semantic division of regional cultural elements; the second stage is the mapping of design carriers and concept generation, achieving effective adaptation of cultural elements and product forms; the third stage is user-centered evaluation and iteration, verifying the effectiveness of cultural transmission and user acceptance. The research results help designers to create creative products that trigger cross-cultural resonance on the premise of retaining the integrity of regional culture, take into account cultural authenticity and contemporary communication needs, and improve user experience.

Keywords: Regional cultural symbols; cultural and creative products; semiotics; design pathway; cultural heritage

1. Introduction

Cultural creative products are not merely commodities that consumers can purchase; they also play the role of cultural intermediaries. Integrating regional culture into the design of cultural creative products can enhance the emotional link between consumers and regional culture and enhance consumers' sense of cultural belonging^[1]. Currently, there is an increasing demand for the authenticity of cultural products in the market, but there is still a lack of systematic practical methods on how to specifically apply the theory of cultural symbols to highlight regional culture in the design field. Some designs of cultural products show superficial characteristics in integrating regional culture. Designers merely copy and paste traditional patterns onto the existing product packaging and appearance design, without truly highlighting the roots of regional culture or effectively carrying the deep cultural connotations behind it. This also restricts the improvement of the quality of cultural creative products and the high-quality development of the industry. Scholars at home and abroad pay high attention to the cultural communication function of cultural creative products. Some studies point out that the current cultural creative products have the problems of product homogeneity, lack of regional ethnic identity, and low overall aesthetic value of products, which also provides an important direction for this paper^[2]. Based on this, this paper combines the integration design of cultural products and regional culture, proposes practical strategies, and guides designers to fully extract the symbols of regional culture, ensure the essential attributes of regional culture, and transform them into product design elements with cultural attributes. It helps designers achieve a reasonable balance between cultural preservation and creative expression, develops a set of cultural product design paths based on regional culture symbols, and provides reference and inspiration for practitioners in the design of related products of regional cultural heritage.

2. Theoretical Framework

2.1. Semiotic Foundations: Roland Barthes' Theory

Roland Barthes' dual-layer symbol system is one of the most widely used cultural symbol analysis tools in the current field of creative product design. This framework divides cultural symbols into two interrelated components: "signifier" and "signified". "Signifier" is the external physical characteristics of the symbol such as shape, color and material that can be perceived, and "signified" is the conventional concept and meaning carried by the symbol. The combination of signifier and signified constitutes the complete expression of the symbol. On the basis of this basic division, Roland Barthes further divided the symbolic meaning into two levels of extension and connotation, and the extension level corresponds to the literal meaning of the symbol. That is, the objective information that can be directly recognized by audiences from different cultural backgrounds, such as the geometric shapes, traditional patterns, and material textures presented by a creative product, all belong to the extensional expression of the symbol^[3]. The intensional level corresponds to the extended meaning of the symbol, which is the common cognition formed by the audience in a specific cultural context, carrying the historical memory, value concepts, and emotional attachments of the group. These deep cultural contents are an important source of regional cultural recognition. Roland Barthes' symbol theory has clear guiding significance for the integration of cultural product design and regional culture. Based on this theory, designers should break free from the predicament of homogenized design and incorporate the two-level expression logic of the symbol's meaning into the process of product design, achieving the deep transmission of regional culture.

2.2. Cultural Levels and User Experience

Cultural hierarchy theory divides cultural structure into three progressive dimensions, with the outermost layer being the material structure of culture. The outermost layer is the physical structure of culture, which can be directly perceived by the audience, including visual elements, physical carriers, and craftsmanship results. The middle layer corresponds to specific cultural behaviors, such as the traditional customs of a particular community, production rituals, and social interaction patterns. The innermost layer represents the spiritual and cultural layer, which is manifested as the common value orientation, aesthetic preference and spiritual belief of a certain group. The three dimensions of material behavior, spirit, and culture mutually permeate and jointly constitute the complete system of regional culture. The level of material behavior and spirit also correspond to different user perception paths. The concrete elements of the material layer often correspond to the user's first visual impression, and these elements affect the user's usage experience^[4]. The elements of the spiritual layer determine the cultural appeal of the product, and the cultural hierarchy theory has clear guiding value for this research. In the design of cultural creative products, designers should apply traditional patterns to all aspects of the appearance, shape, and production process of the product. On the basis of transmitting the external form of cultural symbols, based on behavioral cultural elements, the interaction logic and usage scenarios of the product should be fully combined with the user's process perception, and through sufficient detail design, the spiritual traits of regional culture should be conveyed to trigger the user's emotional identification. The designer's product design three levels of elements should be integrated in full, build the complete form of narrative culture.

2.3. Transcultural Design Considerations

The process of globalization has expanded the dissemination boundaries of cultural creative products. The international dissemination of various cultural products requires adaptation to local audiences and consideration of the cognitive needs of cross-cultural audiences. Regional cultural symbols usually have clear community attributes and are based on the common cultural memories and life practices of a specific group. Audiences lacking relevant cultural background often find it difficult to directly understand the deep meaning of cultural symbols. Therefore, designers need to conduct thorough cross-cultural design considerations in the regional cultural expression of cultural products, retaining the basis of cultural recognition while lowering the cognitive threshold for cross-cultural communication. The approach moderately retains extant features such as shape and color, highlights the cultural recognition of the symbols, and completes cultural translation through explicit narration, while preserving the unique attributes of regional culture. The key to design lies in adding cultural resonances that can evoke widespread empathy, fully demonstrating the relationship between humans and nature, the emotional connection between communities, and the wisdom of traditional

craftsmanship. On the premise of retaining cultural uniqueness, the product value that can be perceived by audiences of different cultural backgrounds is constructed. This requires designers to incorporate the assessment dimension of cross-cultural communication in the symbol extraction stage, ensuring that the final cultural creative products can adapt to the needs of diverse audiences.

3. A Systematic Design Pathway for Regional Cultural Symbols

Building upon the theoretical foundations established in the preceding discussion, this study proposes a three-stage design pathway for transforming regional cultural symbols into cultural and creative products. The pathway integrates three key components: semiotic analysis, design carrier mapping, and user-centred evaluation—all situated within a structured yet adaptable framework. The intention is not to prescribe a rigid sequence, but rather to offer systematic guidance that remains responsive to diverse design contexts. In essence, the approach seeks to strike a balance between methodological rigour and practical flexibility, allowing designers to navigate the translation of cultural meanings without being constrained by overly deterministic procedures.

3.1. Stage One: Cultural Symbol Extraction and Deconstruction

Based on the symbolic theory, the designers of cultural creative products need to systematically analyze the symbolic characteristics of regional cultural heritage, identify and extract the true cultural symbols. According to Barthes' symbolic framework, they should conduct scientific extraction from the perspective of the relationship between signifier and signified, as well as the distinction between extension and connotation. Taking the symbol extraction of cultural creative products related to Su embroidery as an example, designers need to make a list of candidate elements, fully considering the cultural recognition, cultural representability and cultural transformation of various cultural elements. For instance, the flat gold embroidery technique and the three-blue color scheme system in Suzhou embroidery are representative cultural symbols widely recognized by the cultural community in Suzhou and Hangzhou regions, rather than niche or local-used cultural symbols. They have good cultural recognition and can be included in the cultural element list. The theme of "Three friends in the age of cold" in Su embroidery patterns corresponds to the aesthetic pursuit of Jiangnan literature culture, fully carries the regional cultural characteristics of Jiangnan region, has considerable cultural representation, and can be included in the list. The designer also needs to consider the correlation between Suzhou embroidery-related products and modern product design forms and usage scenarios to ensure that cultural elements can be fully transformed in product usage. Based on the cultural stratification theory, after constructing the cultural element list, the designer needs to classify the cultural elements based on the cultural level theory framework. At the material level, the visual and craftsmanship features of the original cultural elements should be retained, such as the fine texture formed by the splitting thread technique in Suzhou embroidery, the composition rule of "waterway" blank space, and the typical shapes of animal and plant patterns. This enables cultural creative products to have considerable material-level characteristics corresponding to clear cultural origins. At the behavioral level, the designer should pay attention to the specific generation of cultural symbols and the final usage scenarios of the product. For example, the creative thought of "incorporating paintings into embroidery" in Suzhou embroidery creation, and the usage norms corresponding to different themes of patterns, should all be consistent with the creative thought and usage norms of cultural creative products, avoiding confusion in cultural tone. At the spiritual element level, the designer needs to convey emotional value based on the summary of material and behavioral elements. For instance, the cultural traits of "fine and elegant" of Jiangnan culture and the traditional aesthetic pursuit of "harmony between heaven and man" carried by Suzhou embroidery should be fully reflected in the design concept of cultural creative products. On the basis of extraction and classification, designers also need to build a transformation system of cultural elements based on the denotation layer and connotation layer of cultural symbols. The visual morphology of the corresponding symbols in the epitaxial layer, such as the gradual color matching rules of the blue series in Su embroidery, belongs to the objective characteristics that can be directly recognized by cross-cultural audiences and can be directly applied to the appearance design of products. The connotation layer corresponds to the cultural meaning of the symbol, such as the cultural symbol of "green surpassing blue" carried by the three-blue embroidery and the spiritual metaphor of integrity, which requires thorough design and translation to be perceived by the audience. The designer should avoid direct use here but should conduct effective visual element transformation to ensure the application effect and reduce subjective bias. Based on Roland Barthes' semiotic double-layer structure and cultural hierarchy theory, this study has constructed a systematic

deconstruction framework for regional cultural symbols, as shown in Figure 1. It has clearly defined the complete analytical path of symbols from visual characteristics extraction to cultural connotation translation^[5].

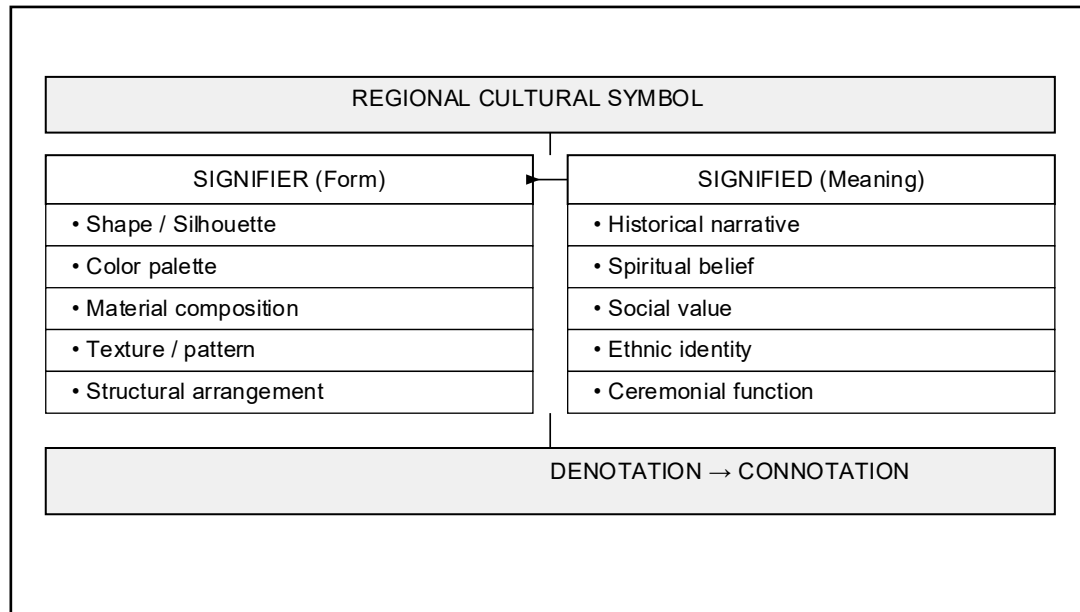


Figure 1: Semiotic Deconstruction of Regional Cultural Symbols

For each symbol on the candidate list, the designer needs to examine its visual characteristics, delve deeply into its cultural symbol function, understand the values embodied by the stories behind the cultural symbols, as well as the emotional responses that can be triggered in the cultural community. Through the dual analysis of visual characteristics and cultural functions, the designer can provide sufficient support for the effective transformation of cultural symbols. Designers can also adopt quantitative analysis methods to reduce the subjective deviation of pure intuition, achieve the balance of all factors, and fully reflect the cultural connotation behind the symbol while ensuring the function of the cultural system^[6].

3.2. Stage Two: Design Carrier Mapping and Concept Generation

The focus of the second stage is to establish a connection between the extracted cultural elements and the actual product carrier. Designers need to fully analyze which part of the cultural symbols has a high mapping relationship with the product, forming a systematic combination of cultural symbols and products, thereby finding the design entry point. The specific mapping relationship is shown in the following Table 1.

Table 1 Mapping Cultural Elements to Design Carriers

Cultural Element Type	Example	Appropriate Design Carrier
Tangible Visual	Traditional pattern	Surface decoration, color scheme, texture
Tangible Structural	Architectural feature	Form generation, silhouette, proportion
Behavioral	Ritual practice	Interaction design, user sequence
Behavioral	Craft technique	Material selection, making process
Spiritual	Origin myth	Narrative embedding, symbolic reference
Spiritual	Cultural value	Product meaning, user experience framing

The designer will apply the deconstructed symbolic features to the appropriate design carrier. Based on the hierarchical attributes of culture, they will select the appropriate transformation path and directly apply the visual elements of the material layer, such as shape, texture, and color, to the appearance design of the product. The logic of product interaction is applied to the perception scene of the product, and the core of regional culture is integrated into the functional positioning and experience of the product. This correspondence of mapping relationships can be achieved through an abstract refinement method, preserving the essential characteristics of cultural symbols. For cultural content with strong narrative nature, the designer can use the method of scenario-based design to transform the carrier of cultural symbols and embed cultural stories into the usage process of the product. Or with the help of

morphological analysis method, the specific schemes of scene landing can be matched to screen out more mapping combinations that meet both cultural expression requirements and product functional requirements. After establishing the mapping set, the designer should associate all concepts generated with the mapping set, ensuring the traceability of all decision designs and making each design creativity correspond to a specific cultural element, so as to fully utilize the creativity. The design should achieve a balance between the practicality of the product and the accuracy of its cultural expression, and ensure that the product is subsequently evaluated.

3.3. Stage Three: User-Centered Evaluation and Iteration

After the initial product design is completed, the designer needs to test the cultural attributes of the product based on the user-centered perspective to ensure the effective transmission of the solution.(as shown in Figure 2) Based on the analysis framework of semiotics and cultural hierarchy, the evaluation system formed in this paper is divided into three dimensions: product function, cultural understandability and cultural recognition. Among them, product function refers to the basic usage attributes of the product, mainly including the selection of the product's shape, structure, and material, whether it is in line with the user's daily usage scenarios, the integration of cultural elements, whether it has an enhancing effect on the practicality of the product, and whether it causes interference with the practicality. All design schemes that do not meet the functional requirements should be returned to the stage of concept generation for adjustment, so as to ensure that cultural creative products have solid functional attributes and guarantee the basic use value. The cultural understanding dimension assesses the cultural cognition of local audiences, that is, whether the cultural symbols conveyed by the cultural creative product cause misinterpretation and distortion of the original cultural symbols, and whether local audiences recognize them. For cross-cultural audiences, cultural understanding examines the extensibility characteristics of the product's symbols, whether there is sufficient recognition, whether it conforms to the general cognition of the audience, and whether the cultural communication threshold meets the audience's expectations.

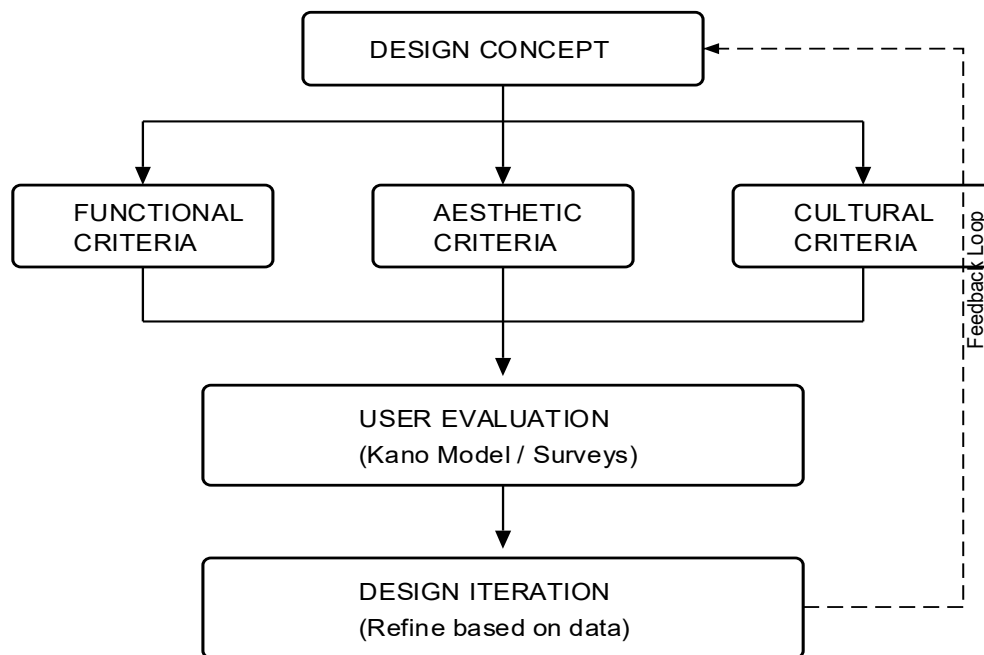


Figure 2: User-Centered Evaluation Framework

The evaluation of cultural understanding should carry out differentiated tests for groups with different cultural backgrounds, and timely find the ambiguity points in the design scheme. Cultural identity mainly focuses on users' emotional perception, and examines whether a product can arouse the audience's emotional connection to a specific regional culture and whether it can effectively convey the spiritual characteristics of regional culture. The assessment results of this dimension are also the main indicators for cultural creative product design, and products that do not meet the cultural identification expectations should be returned to the symbol extraction stage, re-organize cultural elements, re-select and transform elements, until the product design solution achieves the preset goals in all three dimensions of function, cultural comprehensibility, and cultural identification.

4. Discussion: From Theory to Practice

4.1. Integrating Systematic Methods into Design Practice

Designers should change their cognition of regional culture and incorporate the process of symbol extraction and deconstruction, design mapping and user evaluation in the symbol theory into the regular design process of cultural creative products. During the project initiation stage, designers should systematically categorize the regional cultural symbols corresponding to the product, incorporate the visual characteristics, behavioral scenarios, and value connotations of regional culture into the integrated analysis framework, and provide effective support for the design, avoiding the subsequent design getting stuck in the simple collage of visual elements^[7]. In the symbol extraction stage, designers should establish a cross-disciplinary collaboration mechanism, actively communicate with cultural researchers, intangible cultural heritage inheritors, and local residents, evaluate the historical context, cultural semantics, and contemporary value of the candidate cultural symbols, reduce the misinterpretation of regional culture due to individual cognitive biases, and improve the accuracy of subsequent value transformation. In terms of the sharing and transformation of cultural symbols, designers should categorize regional cultural elements according to material carriers, behavioral customs, and spiritual values, mark the applicable scenarios and design transformation suggestions for each symbol, and mark the cross-cultural communication precautions in each scenario, reducing the cultural research costs of the design team during the design process, and improving the efficiency and standardization of cultural symbol application. This can effectively balance the relationship between cultural inheritance and creative expression, and promote the enhancement of the cultural value of cultural and creative products.

4.2. Balancing Cultural Authenticity and Market Viability

Designers should achieve the balance between authenticity and marketability in the process of cultural creative product design through dynamic evaluation and differentiated adaptation mechanism. On one hand, designers should strictly distinguish the connotation and extension of cultural symbols. The complete preservation of the symbolic connotation at the spiritual level should be maintained, and it should not be arbitrarily modified. For the extension at the visual expression and craftsmanship realization levels, innovative approaches should be adopted to achieve orthodox innovation. Taking the "three friends in cold season" in Su embroidery as an example, the narrative of gentleman's character in Su embroidery works should be completely preserved in product design. Correspondingly, the traditional and complicated plain gold embroidery process can be properly simplified. On the basis of the original three-blue color system, the saturation of color can be adjusted to better suit the aesthetic of contemporary consumers.

4.3. Implications for Design Education and Professional Practice

Designers should form a more perfect design evaluation process, in the product concept generation stage, citing the user's market research data to support product design. Regional culture scholars and traditional craftsmanship inheritors should be organized to participate in the design review of cultural and creative products. Centering on users' feelings, the evaluation should assess the degree of integration between the product's functionality and the authenticity of regional culture, so as to avoid the situation where excessive product innovation leads to the loss of regional cultural characteristics, thereby affecting the product's market competitiveness. Designers should also design differentiated product matrix based on the same cultural symbol, and introduce handmade intangible cultural heritage products with high reduction degree to meet cultural collection consumers. Lightweight creative products should be launched to highlight the recognition of visual symbols and their practical functions, so as to meet the needs of mass consumers. A product stratification strategy should be adopted to take into account both cultural heritage and market benefits.

5. Conclusion

This study proposes a design pathway for cultural and creative products that is grounded in regional cultural symbols, integrating semiotic theory with user-centered design principles. The pathway consists of three core stages: extraction and deconstruction of cultural symbols, mapping of design carriers and concept generation, and user-oriented evaluation and iterative refinement. Although

presented as a linear sequence, in practice these stages tend to operate in a circular, feedback-driven manner, accommodating the dynamic nature of real-world design processes.

Theoretically, the main contribution lies in the systematic integration of Barthes' semiotic framework—particularly the distinction between denotative and connotative levels of meaning—into contemporary design methodologies. This integration provides a rigorous analytical lens for translating cultural symbols into product attributes while preserving their essential cultural connotations, thereby mitigating the risk of semantic distortion or loss that often accompanies purely intuitive approaches.

Practically, the proposed pathway offers a structured yet adaptable guideline that can be tailored to diverse regional contexts and product categories. Unlike methods that rely heavily on designer intuition, this pathway provides explicit operational guidance at each stage, while still allowing sufficient room for creative interpretation. It thus strikes a balance between normative clarity and design flexibility.

It should be noted, however, that the current framework remains exploratory; its effectiveness requires empirical validation. Future research should prioritise multi-case studies across different cultural settings and product types to assess the pathway's generalisability and limitations. Moreover, the rapid evolution of digital technologies—particularly augmented reality and interactive storytelling—offers promising avenues for enhancing user engagement with cultural content. This also poses new challenges for designers in seamlessly blending physical products with digital interactive experiences.

In summary, this study establishes a theoretically grounded and practically oriented foundation for cultural and creative design. While certain gaps remain—as is typical of exploratory research—the proposed framework provides a useful reference for both subsequent scholarly inquiry and applied design practice, contributing to a more systematic and user-responsive approach in this field.

References

- [1] *Industrial Design Journal*. (2024). *Research on regional cultural creative product design based on Roland Barthes semiotics*. *Industrial Design*, 2024(01), 141-146.
- [2] Han, D., Tan, S. K., & Tan, B. C. (2025). *Culture, art, technology, and perception: A creative generation model for museum cultural and creative product design*. *International Journal of Innovative Research and Scientific Studies*.
- [3] Iddrisu, Y., & Lopes, R. O. (2025). *A conceptual hybrid model for transcultural product design innovation*. *Wacana Seni Journal of Arts Discourse*, 24, 133-149.
- [4] Zhang, R., Jiang, L., Zhang, Z., & Sung, M. (2025). *Extensive semantic design approach for cultural and creative products of traditional patterns in China: A case study of Panhu pattern in She Nationality*. *SAGE Open*, 2025(7).
- [5] Li, Y., Xie, H., Yin, H., & Zou, S. (2025). *Design of flower-pressing products with Huayao cross-stitch patterns based on the Kano model*. *ACM Digital Library*.
- [6] Feng, D., et al. (2024). *Research on narrative design of handicraft intangible cultural heritage creative products based on AHP-TOPSIS method*. *Heliyon*, 10(12), e33027.
- [7] Chen, Y. (2025). *Digital technology in cultural and creative products: An experimental study on cultural identity and emotional resonance*. *MRes Thesis, University of Nottingham Ningbo China*.