

Historical Origin and Symbolic Representation of Nantong Blue Calico: From the Perspective of Symbolic Interactionism

Baowei Wei

Faculty of Fine and Applied Arts, Khon Kaen University, Thailand

Kittisan Sriruksa

Faculty of Fine and Applied Arts, Khon Kaen University, Thailand

Arunee Sriruksa

Faculty of Fine and Applied Arts, Khon Kaen University, Thailand

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Corresponding Author:	Baowei Wei
E-mail Address :	baowei.w@kkumail.com

Abstract

Nantong blue calico, recognized as a national-level intangible cultural heritage item in China, represents a traditional resist-dyeing craft deeply rooted in the agrarian culture of the lower Yangtze River region. However, existing studies primarily focus on pattern restoration and technical preservation, often overlooking its dynamic symbolic transformation. Drawing upon Symbolic Interactionism, this study investigates the historical origins and symbolic representations of Nantong blue calico, examining how meanings have been constructed, negotiated, and transformed through social interaction. This qualitative research was conducted in Nantong, Jiangsu Province, between 2023 and 2025. Data were collected through semi-structured in-depth interviews with intangible cultural heritage inheritors, artisans, museum staff, and consumers, and non-participant observation at the Nantong Blue Calico Museum and Zhengxing Dyeing Workshop. The findings show that the formation of Nantong blue calico resulted from the long-term integration of resist-dyeing techniques and adaptation to environmental and socio-economic conditions. Its symbolic meanings have evolved from natural-pragmatic symbols rooted in indigo and cotton production, to ethical and social identity symbols, national resistance symbols, collectivist symbols, and, in contemporary contexts, to eco-fashion and intangible cultural heritage-based cultural capital symbols. These transformations demonstrate how technological innovation, migration, policy change, market forces, and environmental conditions collectively shaped its evolving symbolic system. The study confirms the central proposition of Symbolic Interactionism that meaning arises from social processes. By conceptualizing Nantong blue calico as a living symbolic system rather than a static artifact, this research contributes to

heritage studies and provides theoretical insights for understanding how traditional crafts sustain cultural relevance through continuous social interaction and symbolic reinterpretation.

Keywords : Nantong Blue Calico, Symbolic interactionism, Intangible cultural heritage, Symbolic representation, Indigo dyeing

Introduction

Nantong blue calico, officially recognized as a national-level intangible cultural heritage item in China in 2006, represents a traditional resist-dyeing craft rooted in the agrarian culture of the lower Yangtze River region (Wu, Y., 2009). Its historical formation can be traced back to the Song Dynasty (960–1279 CE), when the prototype known as Yaoban Cloth emerged (Jiang, P., 2008). Through successive dynasties, including the Ming Dynasty (1368–1644 CE) and Qing Dynasty (1644–1912 CE), the craft evolved in response to changes in resource availability, political regulation, migration, and commercial expansion (Wu, Y., 2009).

As a material artifact, blue calico embodies indigo dyeing, cotton weaving, and stencil carving techniques. As a cultural symbol, it encodes natural philosophy, social identity, ethical values, and later national consciousness (Adamson, G., 2007), (Dormer, P., 1997)

In the context of globalization and industrial modernization, traditional handicrafts face significant challenges. Mechanized production and chemical dyes have transformed textile consumption patterns, while heritage safeguarding practices frequently emphasize the static preservation of techniques rather than examining how symbolic meanings evolve across historical contexts (Smith, L., 2006). This imbalance raises a theoretical question concerning how traditional crafts maintain cultural relevance when their meanings are continuously renegotiated through social interaction. textile industries

Existing scholarship on Nantong blue calico has mainly concentrated on pattern classification, technological restoration, and craftsmanship transmission (Zheng, J., 2008), (Li, B. & Li, Q., 2016), (Liu, A. & Li, B., 2018). Researchers have examined the genealogy of resist-dyeing techniques and their relationship to wax-resist, clamp-resist, and tie-dyeing traditions (Dong, Z., 2025), (Wu, Y., Wu, L. & Peng, Y., 2013). Other studies have explored motif systems, folk aesthetics, and the role of blue calico within regional textile industries (Zheng, S., Yang, S. & Xu, X., 2025), (Tian, Y., 2023). Although these contributions provide valuable documentation of material techniques and visual forms, most approaches treat blue calico as a relatively stable cultural object. Limited attention has been given to the processes through which its symbolic meanings have been socially constructed, interpreted, and transformed across different historical periods. The dynamic interaction between technique, social structure, political change, and symbolic representation therefore remains insufficiently explored.

To address this gap, the present study adopts Symbolic Interactionism as its analytical framework. Symbolic Interactionism originated from the social psychology of Mead, G. H., (1934) and was later formally conceptualized by Blumer, H., (1969). Subsequent sociological studies further expanded this interactional

perspective in the analysis of everyday social practices (Goffman, E., 1959). This perspective proposes that meaning arises from social interaction and is continuously modified through interpretive processes. Such a framework is particularly appropriate for examining Nantong blue calico because the craft has never functioned solely as a utilitarian textile. Its patterns, colors, and techniques have repeatedly acquired new meanings across historical contexts. During the Song period, it symbolized agrarian pragmatism. In the Ming and Qing dynasties, it became associated with ethical values and social identity. In the Republican era (1912–1949), it was linked to narratives of national consciousness and resistance. In contemporary society, it has been reinterpreted as a symbol of cultural heritage and ecological fashion. These transformations cannot be fully explained through technological diffusion alone. Rather, they reflect ongoing processes of symbolic negotiation among artisans, users, policymakers, designers, and consumers.

Accordingly, this study aims to explore the historical origins and symbolic representations of Nantong blue calico through the lens of Symbolic Interactionism. By situating blue calico within its historical and social contexts, the research seeks to explain how technical practices, cultural meanings, and social interactions collectively shaped its transformation from a practical textile into a culturally significant symbolic system. The research pursues three interrelated objectives. First, it examines the historical origins and early formation of Nantong blue calico, focusing on how ecological conditions, local production systems, and social interactions influenced its initial technical development and material practice. Second, it analyzes how the symbolic meanings of blue calico were negotiated, translated, and reconstructed across different historical contexts, including agrarian society, national crisis, socialist collectivism, and contemporary cultural consumption. Third, it conceptualizes Nantong blue calico as a dynamic symbolic system, thereby contributing to broader theoretical discussions on how traditional crafts maintain cultural continuity through ongoing processes of symbolic reinterpretation.

This study aims to fill the research gap by examining both the historical evolution and symbolic meanings of Nantong blue calico from the perspective of symbolic interactionism (Blumer, H., 1969). By shifting the analytical focus from material conservation to meaning construction, this study proposes a new interpretive framework for understanding how traditional crafts sustain vitality through continuous social interaction and symbolic adaptation. As shown in Figure 1, this conceptual framework illustrates how Nantong blue calico developed as a dynamic cultural system through the interaction between historical context, material craft practices, and symbolic meaning construction. Drawing on Symbolic Interactionism, the framework highlights how meanings are attributed, negotiated, and interpreted through social interactions, shaping both the technical evolution and symbolic representation of blue calico across different historical periods.

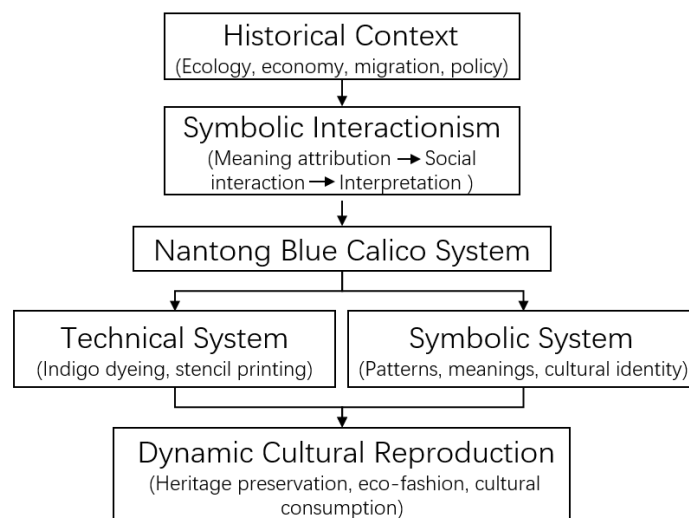


Figure 1 Conceptual framework based on Symbolic Interactionism

Research Methodology

This study adopts a qualitative research design grounded in the theoretical framework of Symbolic Interactionism. The overall research design is illustrated in Figure 1, which presents the conceptual framework guiding the analysis. The research aims to understand how symbolic meanings of Nantong blue calico have been constructed, interpreted, and transformed through social interaction across different historical contexts. Qualitative methods were selected because they enable in-depth exploration of meaning-making processes, interpretive practices, and lived experiences (Denzin, N.K. & Lincoln, Y.S., 2011). The collected qualitative data were analyzed through thematic analysis informed by the theoretical perspective of Symbolic Interactionism, enabling the study to interpret how meanings are constructed, negotiated, and transformed through social interaction. Interview transcripts were coded through thematic analysis, and recurring themes were identified through iterative comparison.

1. Research Sites and Scope

The geographical scope of the study is limited to Nantong in Jiangsu Province, China, which has maintained continuous transmission of blue calico craftsmanship. Historically located at the intersection of riverine and maritime trade routes, Nantong developed a relatively complete industrial chain for blue calico production and maintained continuous transmission of blue calico craftsmanship. Its regional continuity provides an appropriate context for analyzing long-term symbolic evolution within a localized socio-cultural environment. Although several dye workshops operate in the region, this research focuses on two primary field sites: the Nantong Blue Calico Museum and the Zhengxing Dyeing Workshop. These sites were selected because they represent two distinct yet interconnected modes of heritage transmission. The museum emphasizes cultural display, education, and public engagement, while the workshop maintains traditional

production and commercial practices. Concentrating on these two sites ensures consistency between the introduction and methodology sections. Fieldwork was conducted between March 2023 and January 2025.

2. Sampling Strategy and Participants

Purposive sampling was employed to select participants who are directly involved in the production, transmission, or consumption of Nantong blue calico. The target groups include intangible cultural heritage inheritors, workshop practitioners, and consumers.

A total of 18 participants were involved in semi-structured interviews. These included 6 recognized inheritors or senior artisans, 4 workshop staff members engaged in production or sales, and 8 consumers who had experience purchasing or using blue calico products. Participants were selected based on their knowledge of the craft, length of involvement, and willingness to share their perspectives.

In addition, questionnaire surveys were distributed to 60 consumers at the Nantong Blue Calico Museum to obtain supplementary data on consumer interpretation, purchasing motivations, and symbolic perception of blue calico products.

3. Data Collection Methods

Three primary data collection methods were employed: semi-structured interviews, questionnaire surveys, non-participant observation.

Semi-structured interviews were conducted to explore participants' interpretations of the historical origin, technical evolution, symbolic meaning, and contemporary challenges of Nantong blue calico. The interview guide included questions designed to capture how participants interpret patterns, materials, and production techniques, and how they understand the social and cultural significance of the craft. Each interview lasted between 45 and 90 minutes and was audio-recorded with consent. Interview transcripts were transcribed and analyzed using thematic analysis. Initial codes were generated inductively from interview transcripts and field notes. These codes were then compared and grouped into broader thematic categories that reflect patterns of meaning construction, social interaction, and symbolic interpretation associated with Nantong blue calico.

Non-participant observation was carried out at the Nantong Blue Calico Museum and the Zhengxing Dyeing Workshop. Observation focused on interactions among artisans, staff, and consumers, including demonstrations of dyeing processes, explanations of pattern meanings, and purchasing behavior. Field notes documented how symbolic meanings were communicated, negotiated, and displayed in real contexts.

Questionnaire surveys were used to collect structured information regarding consumers' aesthetic preferences, cultural attitudes, and understanding of symbolic meanings associated with blue calico. The survey data serve as supportive evidence to contextualize qualitative findings rather than as a basis for statistical generalization.

4. Operationalization of Symbolic Interactionism

Symbolic Interactionism emphasizes that meaning arises from social interaction and is continuously modified through interpretive processes. In this study, the research design operationalizes this theoretical perspective in three ways.

First, interviews focus on how artisans and consumers interpret technical practices and symbolic motifs. This captures the interpretive process through which meaning is constructed.

Second, observation documents real-time interaction between producers and users. Particular attention is given to how explanations, demonstrations, and purchasing decisions reflect negotiated understandings of value and identity.

Third, historical analysis examines how shifts in political, economic, and social conditions correspond to changes in symbolic representation. This connects micro-level interaction with macro-level structural transformation.

Through this multi-layered design, the study captures both individual meaning-making processes and broader patterns of symbolic translation across time.

5. Research Ethics

All participants were informed of the purpose of the study prior to data collection. Informed consent was obtained before conducting interviews and observations. Participants were assured that their identities would remain confidential and that data would be used solely for academic research purposes. Pseudonyms are used where necessary.

6. Researcher Positionality

Researcher positionality is acknowledged as an important factor in qualitative research. The researcher has an academic background in fashion and cultural studies and approaches Nantong blue calico both as a cultural researcher and as a practitioner interested in design innovation. This dual perspective provides interpretive sensitivity to symbolic meaning while also requiring reflexivity to avoid over-romanticization of heritage narratives.

Results

1. Historical Formation of Nantong Blue Calico

The emergence of Nantong blue calico was closely related to the long-term development of plant-based dyeing technology in China (Li, B., Li, Q. & Yang, X., 2013), which provided the material and technological foundation for the later formation of regional blue calico traditions. As early as the Western Zhou period, as recorded in the Rites of Zhou (Zhou Li), specialized institutions were responsible for dye management. During the Qin and Han dynasties, the cultivation and classification of dye plants expanded significantly. The Analytical Dictionary of Characters (Shuowen Jiezi) of the Eastern Han recorded thirty-nine textile color terms derived from plant sources, indicating a mature vocabulary of dyeing knowledge.

During the Tang Dynasty (618–907 CE), resist-dyeing technologies such as wax-resist and clamp-resist flourished (Wu, Y., 2009). However, indigo extracted from *Polygonum tinctorium* was not widely used until the Song Dynasty (960–1279 CE) (Zheng, J., 2008). Before the mid-Ming period, historical documents such as the *Annals of Tongzhou* during the Jiajing reign (1522–1566) indicate that *Isatis tinctoria* remained the primary source of indigo in the Nantong region (Jiang, P., 2008).

From the late Ming Dynasty onward, large-scale migration into Nantong and the expansion of *Polygonum tinctorium* cultivation gradually transformed local dye production. The shift from tribute-based dye supply to localized dye cultivation strengthened Nantong's technological autonomy and commercial role within the regional textile economy (Jiang, P., 2008).

This historical transformation illustrates that the material foundation of blue calico production was shaped by long-term environmental adaptation and demographic change. This historical context provides the material and social foundation within which the symbolic system of Nantong blue calico gradually emerged, as illustrated in the conceptual framework presented in Figure 1.

2. Technical Evolution of Resist-Dyeing Practices

2.1 Integration of resist-Dyeing techniques

Nantong blue calico primarily employs paste-resist dyeing. This technique developed through the integration and reinterpretation of earlier resist methods (Li, B., Li, Q. & Yang, X., 2013).

Wax-resist dyeing provided the conceptual principle of isolating pattern areas during dyeing (Dong, Z. 2025). Clamp-resist dyeing introduced the idea of symmetrical pattern reproduction using carved boards. Tie-dyeing contributed flexible compositional logic (Li, B., Li, Q. & Yang, X., 2013).

During the Song Dynasty (960–1279 CE), shortages of beeswax and government restrictions on clamp-resist boards encouraged artisans to explore alternative solutions. Wax was gradually replaced by bean-lime paste, and carved boards were substituted with paper stencils (Liu, A. and Li, B., 2018). These modifications significantly reduced production costs while increasing flexibility in pattern design.

This transformation demonstrates that the technical system of blue calico emerged through adaptive innovation rather than direct technical inheritance.

Table 1 Comparison of major resist-dyeing techniques

Type	Core Technique	Materials	Procedure	Characteristics
Tie-dyeing	Fabric is folded, twisted, or bound with threads to create areas that resist dye penetration	Cotton cloth, binding threads, natural dyes (often indigo)	<ol style="list-style-type: none"> 1. Fold or twist fabric 2. Bind tightly with threads 3. Dye the fabric 4. Remove bindings after dyeing 	Produces organic and irregular patterns; each piece is unique

Type	Core Technique	Materials	Procedure	Characteristics
Wax-resist dyeing	Melted wax is applied to fabric to block dye penetration in selected areas	Beeswax, cotton cloth, natural indigo dye	<ol style="list-style-type: none"> 1. Melt wax 2. Draw patterns with wax 3. Dye the cloth 4. Boil fabric to remove wax 	Enables detailed freehand designs but requires careful temperature control
Clamp-resist dyeing	Fabric is folded and clamped between carved wooden boards to prevent dye from reaching certain areas	Wooden clamps or carved boards, cotton cloth, indigo dye	<ol style="list-style-type: none"> 1. Fold fabric 2. Place between carved boards 3. Clamp firmly 4. Dye the fabric 	Produces symmetrical geometric motifs; relatively efficient for repeating patterns
Paste-resist dyeing (Nantong Blue Calico)	A mixture of soybean flour and lime powder is applied through carved stencil patterns to resist dye	A mixture of soybean flour and lime powder, stencil paper, cotton cloth, natural indigo dye	<ol style="list-style-type: none"> 1. Carve stencil patterns 2. Apply paste through stencil 3. Dry the fabric 4. Indigo dyeing 5. Wash off the paste 	High reproducibility and precision of patterns; suitable for large-scale production

The comparison highlights the technological diversity of resist-dyeing traditions and clarifies why stencil-based paste-resist dyeing eventually became the dominant production technique of Nantong blue calico.

2.2 Development of stencil paper and its relationship to paper-cutting

Stencil production in Nantong blue calico shows clear genealogical connections to Chinese paper-cutting traditions. Both forms employ positive and negative pattern structures and rely on paper as the primary medium for visual design (Zhou, X. Sriruksa, K. & Sriruksa, A., 2024).

However, blue calico stencils underwent important technological modifications. Multiple layers of paper were mounted together and treated with tung oil to create waterproof and durable stencil sheets (Li, B. & Li, Q., 2016). This composite process transformed decorative paper-cutting into a practical production tool capable of repeated use in textile dyeing.

The technical evolution of stencil paper therefore illustrates the evolution of existing artistic traditions into functional craft technologies.

2.3 Fieldwork insights on technical continuity

Field interviews with contemporary inheritors reveal that traditional plant-based dyeing practices continue to be consciously maintained despite higher production costs.

One inheritor explained: “*Natural indigo dyeing requires more time, but it preserves the authenticity of blue calico craftsmanship.*”

Another inheritor explained that natural indigo dyeing preserves the authenticity of blue calico, maintaining not only color quality but also cultural integrity. And another workshop staff member noted that although synthetic dyes can increase efficiency, they weaken the perception of authenticity among consumers.

These statements suggest that technical continuity today involves negotiation between market efficiency and symbolic legitimacy. Decisions regarding materials and techniques are shaped by ongoing interaction among artisans, consumers, and cultural institutions. These contemporary interpretations demonstrate how historical craft practices continue to acquire new symbolic meanings through present-day social interaction. This process reflects the central idea of Symbolic Interactionism that meanings are not fixed but are continuously constructed and reinterpreted through interaction among social actors (Blumer, H., 1969).

2.4 Historical interpretation of technical transformation

The historical origin of Nantong blue calico is characterized by stratified technical accumulation shaped by environmental conditions, migration, policy constraints, and local innovation (Jiang, P., 2008), (Wu, Y., 2009). Rather than emerging from a single lineage, the craft developed through continuous reinterpretation of materials and techniques. These historical transformations suggest that technological change in blue calico production was closely linked to shifting social and economic conditions. These historical shifts illustrate how symbolic meanings were repeatedly reconstructed through changing social contexts.

3. Symbolic representation of Nantong blue calico

3.1 Natural and pragmatic symbolism in the Song period

In the Song Dynasty (960–1279 CE), blue calico functioned primarily as everyday cloth for common households. Indigo dye and cotton durability symbolized frugality and harmony with nature within agrarian life (Jiang, P., 2008).

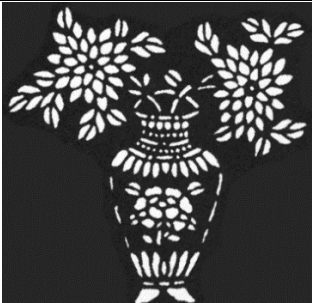
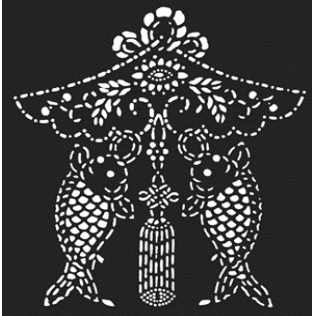

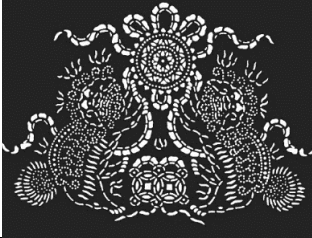

Field interviews indicate that older consumers still associate blue calico with simplicity and rural authenticity. One museum visitor described it as “the color of earth and sky,” suggesting the persistence of ecological interpretations.


3.2 Auspicious patterns and social identity in the Ming and Qing dynasties

During the Ming and Qing periods, the pattern system of blue calico expanded significantly. Motifs such as bats symbolized blessings, fish represented abundance, and lotus flowers conveyed purity (Wu, Y., Wu, L. & Peng, Y., 2013).

Pattern selection also reflected social identity and aesthetic preference among different social groups. Ordinary households often preferred auspicious imagery associated with prosperity and family continuity, while literati families selected motifs linked to refined aesthetic ideals (Wu, Y., Wu, L. & Peng, Y., 2013).

Table 2 Representative auspicious patterns and their meanings

Type	Pattern	Symbolic Meanings
Wealth and Peace		Peonies represent wealth and riches, while a vase symbolizes peace and safety. It signifies a prosperous and secure life.
Auspicious celebration and abundance		Using homophones for "luck," "celebration," and "abundance," it conveys wishes for good fortune, joyous occasions, and surplus wealth.
Kylin presenting the heir		A celestial being (Kilin) brings a child, symbolizing the wish for a noble son who will be intelligent, virtuous, and achieve great things.
Double lions playing with a ball		Two lions playing with a brocade ball symbolize warding off evil, attracting good fortune, and wishing for all matters to go smoothly. It also represents family vitality and harmony.
Annual abundance		"Lotus" is a homophone for "continuous," and "fish" for "surplus." It signifies a continuous surplus year after year, representing abundance and prosperity.

Type	Pattern	Symbolic Meanings
Phoenix playing with peonies		The phoenix, symbolizing nobility, playing amidst peonies, symbolizing riches, represents supreme wealth and honor. It also often signifies a happy and harmonious marriage.

Interviews with contemporary museum visitors show that pattern selection continues to function as a form of cultural expression. Consumers often choose specific motifs to communicate cultural taste or family values.

3.3 National identity and resistance in the republican era

In the late Qing and Republican periods, blue calico acquired additional nationalist symbolism. Industrialist Zhang Jian promoted domestic textile production as part of economic self-strengthening efforts (Zheng, J., 2008).

During the War of Resistance against Japan (1937–1945), blue calico clothing frequently appeared in visual representations of rural resistance. The fabric became associated with perseverance and national unity (Zheng, J., 2008).

Current inheritors interpret this historical phase as evidence that blue calico symbolizes resilience rather than mere decoration.

3.4 Collectivist meaning in the early PRC period

Between 1949 and 1978, blue calico was aligned with socialist aesthetics emphasizing simplicity and labor. It symbolized working-class identity and collective values (Tian, Y., 2023).

Interviewees noted that older generations perceive blue calico as a reminder of shared struggle and community solidarity.

3.5 Cultural heritage and eco-fashion in the twenty-first century

Since its inscription as national intangible cultural heritage in 2006, blue calico has been reinterpreted as both cultural memory and ecological design resource (Wu, Y., 2009).

Younger consumers frequently associate plant-based dyeing with sustainability and slow fashion. Designers increasingly incorporate traditional motifs into contemporary products, transforming symbolic heritage into forms of cultural capital (Fletcher, K., 2014).

Survey responses from museum visitors also indicate that consumers often associate blue calico with cultural authenticity and traditional aesthetics. A young visitor noted that blue calico products "feel more authentic than industrial textiles."

Field observations indicate that purchasing decisions often involve narratives about authenticity, environmental responsibility, and identity expression. These interpretations demonstrate that the symbolic meaning of blue calico continues to evolve through contemporary social interaction.

3.6 Summary of symbolic evolution

Table 3 *Evolution of symbolic meaning across historical periods*

Historical Period	Material Basis	Dominant Symbolic Meaning	Social Context
Song Dynasty	Indigo and cotton	Pragmatism and harmony with nature	Agrarian society
Ming–Qing	Pattern expansion	Auspiciousness and social identity	Textile prosperity
Republican Era	Domestic production	National resistance	Anti-colonial context
1949–1978	Folk textile	Collectivist identity	Socialist ideology
2006–Present	Intangible heritage and eco-design	Cultural capital and sustainability	Global consumption culture

In summary, the symbolic meanings of blue calico have evolved across different historical contexts. The craft has carried associations with ecological adaptation, social identity, national resilience, collectivist values, and contemporary eco-fashion.

These findings indicate that blue calico functions as a dynamic symbolic system in which meanings emerge through ongoing social interaction. In this sense, the evolution of blue calico patterns and cultural interpretations illustrates how symbolic meanings are continuously negotiated, reinterpreted, and reproduced across different historical contexts.

Discussion

This study interprets the historical origin and symbolic representation of Nantong blue calico through the theoretical perspective of Symbolic Interactionism. By combining historical analysis with fieldwork data, the findings demonstrate that Nantong blue calico should not be understood merely as a traditional textile technique but as a dynamic symbolic system that has continuously evolved through changing social contexts and interactions among artisans, consumers, and cultural institutions.

1. Multiple interactions and the stratified formation of Nantong blue calico

The findings suggest that the historical development of Nantong blue calico cannot be interpreted as a linear process of technological inheritance. Instead, the craft emerged through multiple layers of interaction among environmental conditions, migration patterns, political regulation, commercial exchange, and artisanal innovation (Adamson, G., 2007), (Ingold, T., 2013).

The formation of Nantong blue calico also involved the gradual integration and reinterpretation of several resist-dyeing traditions, including wax-resist dyeing, clamp-resist dyeing, and tie-dye techniques (Li, B., Li, Q. & Yang, X., 2013). Over time, these earlier techniques were selectively adapted to local production conditions and eventually evolved into the stencil-based paste resist method that characterizes Nantong blue calico today (Jiang, P., 2008).

Technological transitions within the craft were closely connected to broader socio-economic circumstances. For instance, the shift from beeswax resist to soybean–lime paste significantly reduced production costs while increasing the reproducibility of patterns. Similarly, the historical transition from *Isatis tinctoria* to *Polygonum tinctorium* as a dye source reflects agricultural adaptation and resource availability in the Jiangnan region from the late Ming period onward.

These findings indicate that technological knowledge in blue calico production developed through social negotiation rather than isolated craftsmanship. Artisans continuously responded to changing environmental and economic conditions, adapting materials and techniques to local needs. This perspective expands previous studies that primarily focused on pattern genealogy or technical conservation by highlighting the historical interaction between craft practice and social structure.

2. Social negotiation and technical adaptation in craft evolution

The evolution of blue calico dyeing techniques further illustrates how traditional craftsmanship adapts to social and material constraints. The transformation from wax-resist and clamp-resist methods to stencil-based paste resist dyeing reflects a process of localized experimentation and innovation.

Resource scarcity, production efficiency, and regulatory restrictions all influenced this transformation. Artisans did not simply inherit technical knowledge from earlier traditions; rather, they actively modified and reinterpreted inherited techniques in order to adapt them to local conditions. Through repeated cycles of experimentation, transmission, and reinterpretation, these practices gradually stabilized into a distinctive regional craft system.

From the perspective of Symbolic Interactionism, this process illustrates how social actors continuously reinterpret practical activities within changing contexts. Craft techniques are therefore not static technical procedures but socially embedded practices that evolve through interaction within communities of artisans, traders, and consumers. The development of Nantong blue calico demonstrates that technical change in traditional crafts often results from collective adaptation rather than individual invention.

3. Fluidity and interactive construction of symbolic meaning

Beyond technological development, the symbolic meanings associated with Nantong blue calico have also undergone continuous transformation across historical periods. In the Song period, blue calico functioned primarily as a practical textile closely associated with everyday life in agrarian communities. Its indigo color and durable cotton fabric symbolized pragmatic adaptation to local environmental conditions.

During the Ming and Qing dynasties, the expansion of decorative motifs introduced a more complex symbolic vocabulary. Auspicious patterns such as bats, fish, and lotus flowers became widely used to convey cultural beliefs related to prosperity, longevity, and family continuity (Zheng, J., 2008). In this context, patterns served not only decorative purposes but also communicated social identity and moral values.

In the Republican era, blue calico increasingly became associated with domestic industry and national resilience (Wu, L., et al, 2022). During the early decades of the People's Republic of China, the craft was often interpreted as representing collective labor and socialist ideals. In contemporary society, Nantong blue calico has once again been reinterpreted, this time within the frameworks of intangible cultural heritage, sustainable fashion, and cultural creativity.

These shifts demonstrate that symbolic meaning is not inherent in the material object itself but emerges through interpretive interaction among social actors across historical contexts (Blumer, H., 1969). Meanings are continuously negotiated by artisans, consumers, scholars, and policymakers who reinterpret the craft in response to changing cultural values. Fieldwork evidence further supports this conclusion. Contemporary inheritors frequently emphasize plant-based indigo dyeing and manual stencil carving as markers of authenticity, while consumers often associate blue calico with sustainability and cultural taste. As one artisan explained during fieldwork, "the color of indigo carries the memory of our ancestors." A visitor to the Nantong Blue Calico Museum similarly described the fabric as "a color that connects the past with the present," highlighting how contemporary audiences reinterpret the traditional textile as a symbol of cultural continuity.

These observations empirically support the proposition advanced by Herbert Blumer that symbolic meaning is continuously created and modified through social interaction.

4. Theoretical contribution and practical implications for heritage preservation

The application of Symbolic Interactionism provides a useful analytical framework for understanding Nantong blue calico as a living symbolic system. Rather than treating heritage as a fixed cultural artifact, this perspective conceptualizes traditional crafts as interpretive processes shaped by ongoing social interaction. As argued by Adamson, G. (2007), traditional crafts should be understood not merely as technical practices but as cultural systems shaped by historical and social interaction

This interpretation contributes to broader discussions within heritage studies concerning authenticity and cultural reinterpretation. While commercialization is often perceived as a threat to authenticity, the findings of this study suggest that market circulation does not necessarily undermine cultural value. When artisans and designers reinterpret symbolic elements while preserving core techniques, commercialization can function as a form of cultural translation that enables traditional crafts to remain socially relevant (Smith, L., 2006).

Nevertheless, maintaining a balance between symbolic integrity and commercial viability remains a critical challenge. Sustainable preservation of Nantong blue calico therefore requires coordinated participation among artisans, designers, policymakers, and local communities.

This perspective extends the application of Symbolic Interactionism to the study of traditional craft heritage. Several practical implications emerge from this study. First, preservation strategies should prioritize core technical processes, particularly plant-based indigo dyeing and traditional stencil carving, which constitute the structural foundation of the craft's symbolic authenticity. Second, non-core stages of production may incorporate appropriate technological innovation in order to improve efficiency and economic sustainability. Finally, integrating traditional blue calico patterns into contemporary fashion, home textiles, and cultural creative industries can expand the craft's social visibility and cultural relevance (Fletcher, K., 2014).

Taken together, these findings suggest that the historical development of Nantong blue calico should be understood not as the preservation of a static tradition but as an ongoing process of symbolic negotiation shaped by social interaction.

Conclusion

This study examined the historical development and symbolic representation of Nantong blue calico through the theoretical perspective of Symbolic Interactionism. By combining historical analysis with qualitative fieldwork conducted at the Nantong Blue Calico Museum and the Zhengxing Dyeing Workshop, the research traced the transformation of blue calico from its early technological formation to its contemporary cultural reinterpretation. The findings demonstrate that Nantong blue calico did not emerge through a single linear process of technological transmission. Rather, the craft developed through long-term interactions among environmental resources, migration patterns, policy regulation, economic change, and artisanal creativity. Over time, these interactions shaped both the technical system of blue calico production and the symbolic meanings embedded in its visual motifs.

Historically, the craft evolved from a practical textile widely used in agrarian communities into a culturally significant symbolic system. In earlier periods, blue calico primarily functioned as durable everyday clothing adapted to the ecological conditions of rural life. As pattern motifs gradually expanded and diversified, the textile began to carry symbolic meanings related to prosperity, longevity, and social identity. In later historical contexts, particularly during the twentieth century, blue calico was reinterpreted through narratives of national resilience, collective labor, and local cultural identity. In contemporary society, the craft has once again been reframed within new cultural frameworks, including intangible cultural heritage preservation, sustainable fashion, and cultural creative industries. These transformations demonstrate that the meanings associated with Nantong blue calico have continuously evolved in response to changing historical and social contexts.

This study contributes to existing scholarship in two principal ways. First, it provides a historically grounded interpretation of the technological formation of Nantong blue calico by situating the craft within broader social and economic transformations in the Jiangnan region. By examining the integration and adaptation of different resist-dyeing traditions, the research highlights how craft techniques developed through processes of local experimentation and collective knowledge transmission. This historical perspective helps clarify the relationship between environmental conditions, resource availability, and the development of regional craft systems.

Second, by applying the theoretical perspective of Symbolic Interactionism, the study demonstrates that the meanings associated with blue calico are not fixed cultural attributes but dynamic symbolic constructions produced through social interaction. Artisans, consumers, cultural institutions, and policymakers all participate in the ongoing interpretation of the craft. In this sense, Nantong blue calico functions not only as a textile product but also as a medium through which cultural values, historical memory, and aesthetic preferences are communicated and renegotiated. This interpretation supports the proposition proposed by Herbert Blumer that symbolic meaning emerges and evolves through continuous interaction among social actors.

The findings also offer several practical implications for the preservation and revitalization of traditional crafts. The case of Nantong blue calico suggests that safeguarding intangible cultural heritage requires more than the preservation of technical skills alone. Equally important is the continued reinterpretation of symbolic meanings that allow traditional crafts to remain relevant within contemporary cultural and economic environments. Heritage preservation strategies should therefore move beyond purely technical conservation and support platforms where artisans, designers, educators, and consumers can participate in the reinterpretation of cultural symbols.

In practical terms, preservation efforts should prioritize the protection of core craft techniques that define the structural identity of the tradition, particularly plant-based indigo dyeing and traditional stencil carving. At the same time, non-core stages of production may incorporate appropriate technological innovation to improve efficiency and economic sustainability. Encouraging collaboration between traditional artisans and contemporary designers can also facilitate the integration of blue calico motifs into modern cultural industries such as sustainable fashion, home textiles, and cultural creative products. In addition, public education and museum interpretation programs should emphasize the historical evolution of the craft rather than presenting it as a static cultural relic, thereby helping audiences understand the dynamic nature of heritage traditions.

Despite these contributions, several limitations should be acknowledged. The empirical data in this study were collected from a limited number of field sites in Nantong, primarily the Nantong Blue Calico Museum and the Zhengxing Dyeing Workshop. Although these sites represent important centers of craft transmission, additional workshops and communities may reveal further regional variations in production techniques and symbolic interpretation. Furthermore, the qualitative nature of the research provides rich

contextual insights but does not allow for statistical generalization. Future studies could expand the scope of investigation by conducting comparative research across different regions or by employing quantitative approaches to examine consumer perception and symbolic interpretation in greater detail. Interdisciplinary research integrating design studies, anthropology, and heritage management may also further illuminate the relationship between traditional craft heritage and contemporary creative practices.

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