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A Study of the Semantic Features and Digital Inheritance of Traditional Chinese Textile Cultural Terminology

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ABSTRACT

The modern textile industry, in the pursuit of sustainable development, is increasingly looking to historical practices for innovative solutions for fiber products. This study addresses the loss of critical knowledge embedded in the terminology of traditional Chinese textile technology. Focusing primarily on the rich lexicon of silk—the pinnacle of ancient Chinese textile craft—this study conducts a systematic semantic analysis of key terms related to materials, tools, and weaving structures. The study reveals how this specialized vocabulary forms a deeply integrated knowledge system, encoding technical processes and cultural values. This paper proposes a digital inheritance framework using a knowledge graph to model the complex relationships between materials, processing techniques, and the textile mills, machinery and equipment used. This materials-science-oriented approach transforms archaic terms into a structured database, providing a powerful tool for modern textile products and processes. The result is a novel methodology for reviving ancient wisdom to inspire future sustainable textile innovation.

KEYWORDS

textile technology, weaving, natural fibers, textile industry, sustainable development

INTRODUCTION

The history of Chinese textiles is a vibrant narrative woven over millennia, representing a cornerstone of the nation's material culture and technological ingenuity [1]. From the luxurious silk brocades (锦, *jǐn*) of the Han and Tang dynasties to the intricate gauze weaves (罗, *luó*) of the Song dynasty, traditional textiles were not merely commodities but carriers of social status, aesthetic values, and ritualistic significance [2]. This rich cultural practice engendered an equally rich and highly specialized terminological system. Terms in this terminological system precisely describe materials, tools, weaving structures, patterns, and dyeing processes,

forming a comprehensive knowledge system that encapsulates centuries of accumulated wisdom [3]. For the purpose of this study, traditional Chinese textile cultural terminology is defined not merely as a lexicon of words but as the linguistic embodiment of the entire textile knowledge system, encompassing the terms for materials, tools, techniques, and the cultural concepts they represent.

However, with the advent of modern industrial production and the decline of traditional craftsmanship, this terminological heritage is in peril [4,5]. Many terms are now considered archaic, understood only by a small number of scholars and aging artisans [6]. The meanings of these terms are often opaque to modern speakers, as they are deeply rooted in specific historical contexts, technical details and cultural symbolism that are no longer common knowledge [7]. This linguistic erosion signifies more than the loss of words; it represents the fragmentation of a knowledge system and the fading of cultural memory [8]. The challenge, therefore, is not simply to archive these terms but to preserve and transmit the complex web of knowledge they represent.

While previous scholarship has extensively documented the history of Chinese textiles and their artistic merits, a systematic investigation into the linguistic and semantic characteristics of its terminology remains an underexplored area [9,10]. Furthermore, although digital technologies have been increasingly applied to cultural heritage preservation, most efforts result in static, isolated databases or digital archives [11,12]. These platforms often function as digital cupboards, storing information without effectively revealing the intricate relationships and deep-seated meanings inherent in the data. There is a significant research gap in developing a structured methodology that integrates semantic analysis with advanced digital frameworks to facilitate a dynamic and meaningful inheritance of this specific domain of intangible cultural heritage [13,14]. To address this deficiency, this study undertakes a rigorous analysis of the semantic features of traditional Chinese textile terminology, proposing a robust framework for its digital preservation and transmission. The primary objectives of this research are to systematically deconstruct and categorize the semantic characteristics of the terminology, revealing its descriptive, technical, and cultural dimensions; to design and propose a conceptual model for digital inheritance based on knowledge graph technology, capable of representing the complex, nonlinear relationships within the textile knowledge system; and finally, to demonstrate the model's feasibility through a case study, illustrating how it can enhance the understanding and dissemination of this invaluable cultural heritage. While the proposed digital-inheritance framework is designed to be applicable to the broad spectrum of traditional Chinese textiles, including ramie, cotton, and wool, this study narrows its focus for the purpose of a detailed and manageable analysis. We therefore

concentrate on the rich and complex terminology of silk, which represents the pinnacle of ancient Chinese textile technology and offers a robust domain for the initial implementation and validation of our methodology. The principles and model established herein can be extended to other textile types in future research. This paper first reviews relevant literature, then details the methodology for semantic analysis and the design of the digital model, followed by the presentation of a case study and a discussion of the findings and their implications. Ultimately, this research contributes a novel, interdisciplinary approach to safeguarding and revitalizing an essential component of textile culture in the digital age.

LITERATURE REVIEW

Research on Traditional Chinese Textile Culture and History

The study of Chinese textiles has a long and established academic tradition. Seminal works by scholars such as Schuyler Cammann and John E. Vollmer have laid the groundwork for understanding the chronological development, material usage, and symbolic meanings of Chinese textiles in the West [15,16]. In China, the foundational research by Shen Congwen and Zhao Feng has provided exhaustive documentation of historical artifacts, weaving techniques, and regional styles [17,18]. These studies offer an invaluable corpus of historical and technical information, identifying key artifacts, techniques (e.g., *kesi* tapestry; Jacquard weaving), and materials (silk, ramie, cotton) that form the basis of the textile terminology. However, these works are primarily historical, archaeological, or art-historical in their approach, with less focus on a systematic linguistic analysis of the terminology itself.

Terminology and Semantic Analysis

Terminology science is a discipline concerned with the study of specialized vocabularies used in specific domains. Semantic analysis, a core component of linguistics, investigates the meaning of words and the relationships between them. Key concepts from lexical semantics, such as semantic fields (grouping words with related meanings), polysemy (a single word with multiple related meanings), synonymy (different words with the same meaning), and hyponymy (a hierarchical relationship, e.g., brocade is a type of silk), provide powerful tools for structuring and understanding specialized vocabularies. In the field of cultural heritage, semantic analysis has been used to study terminology in domains like ancient architecture and traditional medicine, revealing how language encodes domain-specific knowledge [19]. Applying these linguistic

methodologies to Chinese textile terminology can systematically uncover the organizational principles and conceptual structures underlying this knowledge domain.

Digital Humanities and Cultural Heritage Preservation

The intersection of digital technology and the humanities, known as Digital Humanities, has revolutionized the preservation and study of cultural heritage. Early efforts focused on digitization and the creation of online databases and digital archives, such as the Dunhuang Project, which provides digital access to a vast collection of manuscripts [20]. While these projects are crucial for access and preservation, they often present information in a flat, siloed structure.

More recently, advanced computational methods have been employed to create more integrated and intelligent digital heritage systems. Ontology engineering and knowledge graphs have emerged as particularly promising technologies [13,14]. An ontology provides a formal, explicit specification of a shared conceptualization, defining classes, properties, and relationships within a domain. A knowledge graph is an implementation of an ontology, representing knowledge as a network of entities (nodes) and their relationships (edges). This structure is more effective than traditional relational databases for representing complex, heterogeneous, and interconnected information, such as that found in cultural heritage domains. Projects like the national-level Chinese intangible cultural heritage digital museum have begun to explore these technologies, but a dedicated, fine-grained knowledge graph for the specific domain of textile terminology has yet to be developed.

Research Gap

The existing literature reveals three distinct but related fields of study: Chinese textile history, linguistic semantics, and digital heritage preservation. While each is well-developed, there is a clear lack of interdisciplinary research that synthesizes these approaches. Historians have provided the what (the textiles and techniques), linguists offer the how (the methods to analyze the language), and computer scientists provide the tools (the digital platforms). This paper addresses this research gap by creating a methodological bridge between these fields. It applies rigorous semantic analysis to the specialized terminology documented by historians and leverages the insights gained to design a sophisticated knowledge graph framework, moving beyond simple digitization to achieve a meaningful and dynamic digital inheritance.

METHODOLOGY

To ensure a scientific and replicable approach, a three-stage methodology was designed to encompass corpus construction, semantic feature analysis, and the design of a digital inheritance model.

Corpus Construction

The foundation of any terminological study is a comprehensive and representative corpus. The terminology for this study was collected from a diverse range of authoritative sources to ensure historical depth and technical accuracy:

- Classical Chinese Texts: Foundational texts on technology and rituals, such as the *Kao Gong Ji* (考工记, *The Record of Trades*) from the Warring States period and the *Tian Gong Kai Wu* (天工开物, *Exploitation of the Works of Nature*) from the Ming dynasty, were scoured for technical terms related to sericulture, tools, and weaving.
- Museum Artifact Descriptions: Catalogues and descriptive records from major museums, including the Palace Museum in Beijing and the China National Silk Museum in Hangzhou, provided a rich source of terms used to classify and describe extant historical textiles.
- Academic Monographs and Dictionaries: Modern scholarly works and specialized dictionaries on ancient Chinese costume, textiles, and archaeology were used to cross-reference and supplement the corpus, ensuring the inclusion of variant terms and scholarly interpretations.

The terminology extraction procedure and quality control are shown in Figure 1.

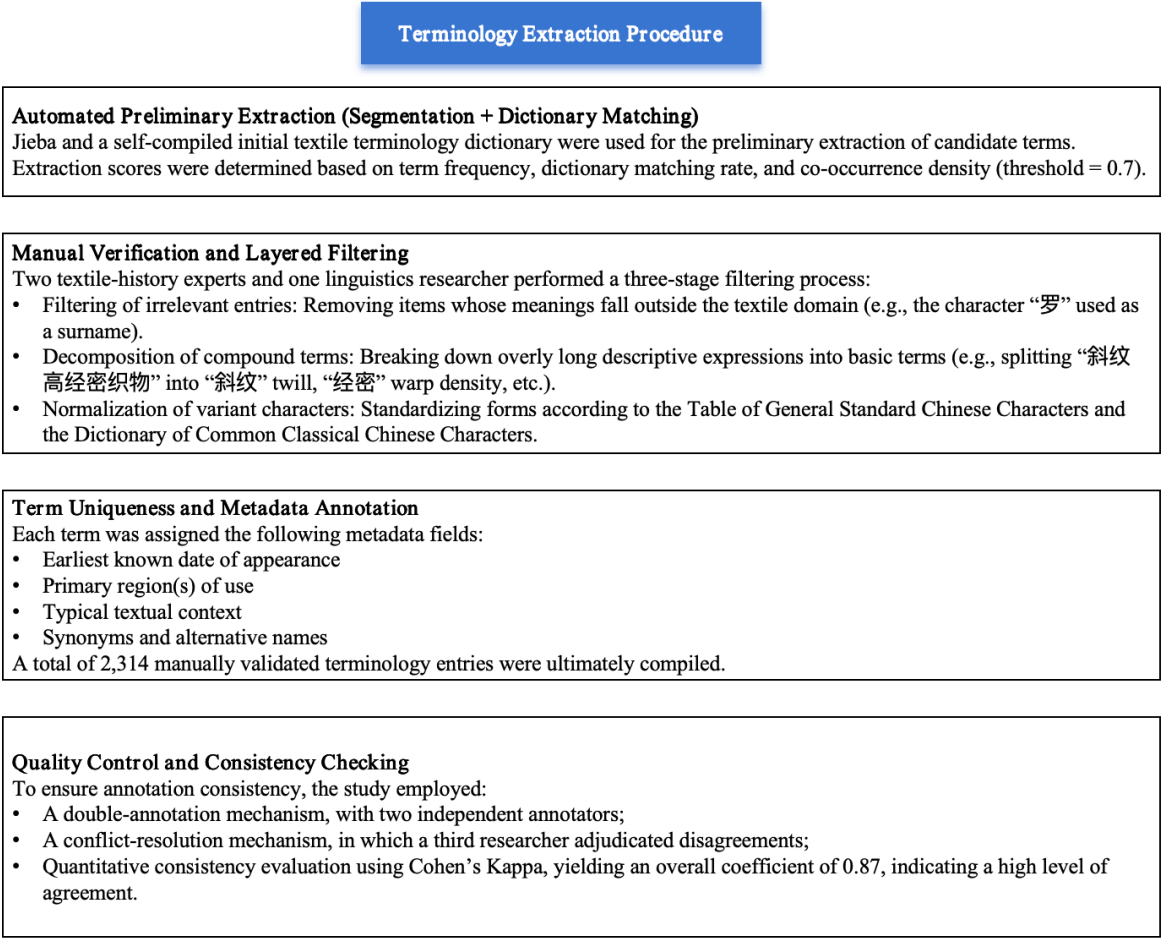


Figure 1. Terminology extraction procedure and quality control

Semantic Feature Analysis Framework

A multidimensional framework was established to systematically analyze the semantic features of the corpus. This framework integrates etymological, categorical, and relational analyses. In the context of this study, semantic features are defined as the distinct, characterizable components of a term’s meaning, encompassing its historical origins, its categorical function within the domain’s knowledge structure, and its network of relationships with other terms. Accordingly, our multidimensional framework deconstructs these features into three analytical layers: etymological, categorical, and relational.

- Etymological Analysis: This involves tracing the origins and evolution of the Chinese characters used in the terminology. Many characters in the textile lexicon contain specific radicals (semantic components) that provide clues to their meaning. For example, the silk radical (糸, *sī*) is present in a vast number of characters related to silk fibers, fabrics, and processes (e.g., 经 *jīng* [warp], 纬 *wěi* [weft], 织 *zhī*

[weave]). Analyzing the character structure provides a foundational understanding of the term's core concept.

- **Categorical Analysis (Semantic Field Theory):** The terms were classified into distinct semantic fields based on the aspect of the textile production and culture they describe. This top-down categorization helps to structure the domain knowledge. The primary semantic fields identified are:

- **Materials:** Terms for fibers (e.g., 丝 *sī*—silk, 麻 *má*—ramie/hemp).
- **Tools & Equipment:** Terms for looms and their parts (e.g., 机 *jī*—loom, 杼 *zhù*—shuttle).
- **Techniques & Processes:** Terms for actions related to production (e.g., 织 *zhī*—weaving, 染 *rǎn*—dyeing, 绣 *xiù*—embroidery).
- **Fabric Structures & Products:** Terms for different types of finished textiles (e.g., 锦 *jǐn*—brocade, 罗 *luó*—gauze, 纱 *shā*—plain weave silk).
- **Patterns & Motifs:** Terms for decorative designs (e.g., 龙 *lóng*—dragon, 凤 *fèng*—phoenix, 团花 *tuánhuā*—roundel).
- **Cultural & Ritual Concepts:** Terms related to the use and symbolism of textiles (e.g., 朝服 *cháofú*—court robe).

The classification workflow consists of automatic clustering (word2vec pre-trained model, $k = 12$), cluster refinement based on domain knowledge, and “dual-domain annotation” for terms with fuzzy boundaries. The final classifications were reviewed by three experts, with a classification consistency Kappa of 0.82.

- **Relational Analysis (Lexical Semantics):** This analysis focuses on the network of relationships between terms:

- **Synonymy:** Identifying different terms used for the same or similar concepts, often varying by dynasty or region (e.g., different names for specific types of brocade).
- **Polysemy:** Analyzing single terms that possess multiple related meanings. A prime example is 经 (*jīng*), which can mean “warp threads” in a technical context, but also “to pass through” or “classic texts” in broader contexts, enriching its cultural connotation.
- **Hyponymy/Hypernymy:** Mapping the hierarchical relationships. For instance, 锦 (*jǐn*), 罗 (*luó*), and 纱 (*shā*) are all hyponyms (subtypes) of the hypernym 丝织品 (*sī zhī pǐn*) (silk products). Mapping these hierarchies is crucial for building a structured knowledge base.

All relationship determinations were made using the dual-text evidence method.

Digital Inheritance Model Design

Based on the rich, interconnected data revealed by the semantic analysis, a simple database structure is inadequate. We propose a digital inheritance model based on a knowledge graph.

- **Ontology Design:** The first step is to design an ontology that formally defines the structure of our knowledge domain. The semantic fields identified in the categorical analysis form the basis for the main classes (or concepts) in our ontology, such as Term, Material, Technique, Artifact, and Motif. The relationships identified in the relational analysis inform the properties (or predicates) that link these classes, such as *isMadeOf* (linking Artifact to Material), *usesTechnique* (linking Artifact to Technique), *isSynonymOf* (linking two Term nodes), and *hasMotif* (linking Artifact to Motif). To explicitly demonstrate the mapping of our semantic analysis onto the knowledge graph structure, specific linguistic findings are systematically translated into concrete properties and relationships. For example, a finding of synonymy between two terms (e.g., different regional names for the same brocade) results in the creation of two distinct Term nodes linked by an *isSynonymOf* property. A finding of polysemy, where a single term like 经 (*jīng*) has multiple meanings, is handled by creating a central Term node for *jīng*, which is then linked via distinct, context-specific properties (e.g., *hasTechnicalMeaning* pointing to warp threads and *hasCulturalMeaning* pointing to classic texts) to different conceptual nodes. This ensures that the nuanced findings of the semantic analysis are formally encoded into the graph's relational architecture. For the practical implementation of this framework, we propose a standards-based technology stack to ensure interoperability and scalability. The ontology would be formally defined using the Web Ontology Language (OWL), which provides a rich vocabulary for expressing classes, properties, and complex relationships. The knowledge graph itself would be built using the Resource Description Framework (RDF) as the data model, representing knowledge as a series of triples (subject-predicate-object). To store and query this graph data, a dedicated graph database such as Neo4j or a triplestore (e.g., Apache Jena) would be employed. Initially, relationships would be manually curated and added by domain experts based on the semantic analysis; however, future work could explore machine learning techniques for semi-automated relationship inference from textual corpora.
- **Multimodal Data Integration:** The knowledge graph is designed to be a multimodal network. Each terminological node will not only contain its definition but will also be linked to a variety of data formats:
 - **Text:** Definitions, historical context, literary quotations.

- Images: High-resolution photographs of corresponding textile artifacts, historical paintings depicting the textiles in use, and images of tools.
- 3D Models: Interactive 3D reconstructions of weaving looms, tools, or fabric structures.
- Videos: Demonstrations of historical weaving or embroidery techniques.

To handle these disparate data types technically, the knowledge graph follows a standard and efficient practice by not embedding large binary files (such as high-resolution images or videos) directly into the graph database. Instead, these assets are stored in an external, stable digital asset repository. The knowledge graph then integrates this multimodal information by creating dedicated nodes for each digital asset. An artifact node, for instance, would be linked via a property such as `hasDigitalRepresentation` to an Image node. This Image node would store both the Uniform Resource Identifier (URI) pointing to the externally stored file and a rich set of metadata, including file type, resolution, copyright information, and a descriptive caption. This approach ensures the graph remains lightweight and scalable while robustly linking to and describing a vast and varied corpus of multimodal cultural heritage data.

- Application Layer: The model supports various applications for different user groups. This includes an interactive, semantically-linked dictionary for researchers; a virtual museum where users can explore artifacts and their related terminology; and a curriculum-support tool for design students seeking inspiration from traditional techniques and patterns.

CASE STUDY AND RESULTS: SILK FABRIC TERMINOLOGY

To validate the proposed methodology, a case study was conducted on a core sub-domain: the terminology of plain and patterned silk fabrics. We focus on four representative terms: 纱 (*shā*), 罗 (*luó*), 绮 (*qǐ*), and 锦 (*jǐn*).

Semantic Analysis of Key Terms

- 纱 (*shā*):
 - Etymology: The character features the silk radical (糸) and the phonetic component 少 (*shǎo*, meaning “few” or “sparse”), vividly suggesting a fabric with a low thread density.
 - Technical Semantics: Refers to the simplest type of silk fabric, produced with a plain-weave structure (tabby). It is lightweight, sheer, and relatively simple to produce.

- Relational Semantics: It is a hyponym of 丝织品 and acts as a base category, often contrasted with more complex weaves.
- 罗 (*luó*):
 - Etymology: The character combines the silk radical (糸) with 罗 (*luó*), which depicts a net for catching birds. This etymology brilliantly hints at the fabric's openwork, net-like structure.
 - Technical Semantics: Refers to a category of gauze fabrics created with a leno (gauze) weave, where pairs of warp threads are twisted around each other between weft insertions. This creates a stable, porous, and lightweight structure. There are many subtypes, such as four-end complex gauze (*sī jīng luó*).
 - Relational Semantics: It is also a hyponym of 丝织品, but represents a significant technical advance over 纱 (*shā*).
- 绮 (*qǐ*):
 - Etymology: The character combines the silk radical (糸) and the component 奇 (*qí*, meaning "strange" or "wonderful"), implying a patterned and unusual silk.
 - Technical Semantics: Refers to a patterned silk with a twill weave structure, creating diagonal lines on the fabric surface. The patterns are typically monochrome and created by floats in the warp or weft.
 - Relational Semantics: Represents a patterned fabric, making it more complex than 纱 (*shā*) but generally less complex and colorful than 锦 (*jǐn*).
- 锦 (*jǐn*):
 - Etymology: The character is composed of the silk radical (糸) and the gold radical (金, *jīn*). This powerful combination directly signifies a fabric as precious and valuable as gold.
 - Technical Semantics: This is a hypernym for a wide range of heavy, multi-colored, warp-faced or weft-faced compound woven brocades. Its production required a highly complex pattern loom from that historical period, known as a drawloom (花楼机, *huālóu jī*), to create intricate, polychrome patterns. For example, Han dynasty brocades were produced on these ancient drawlooms, while modern reproductions of such historical textiles often utilize computer-controlled Jacquard looms to achieve similar complexity. It was the most prized and technically demanding type of silk fabric in ancient China.

- Cultural Semantics: Due to its value and beauty, 锦 became a powerful metaphor in the Chinese language, associated with glory, splendor, and success (e.g., 锦绣前程, *jǐn xiù qián chéng*—a glorious future). This cultural layer is an essential part of its meaning.

Knowledge Graph Representation

Based on this analysis, a fragment of the knowledge graph can be conceptualized (Figure 2).

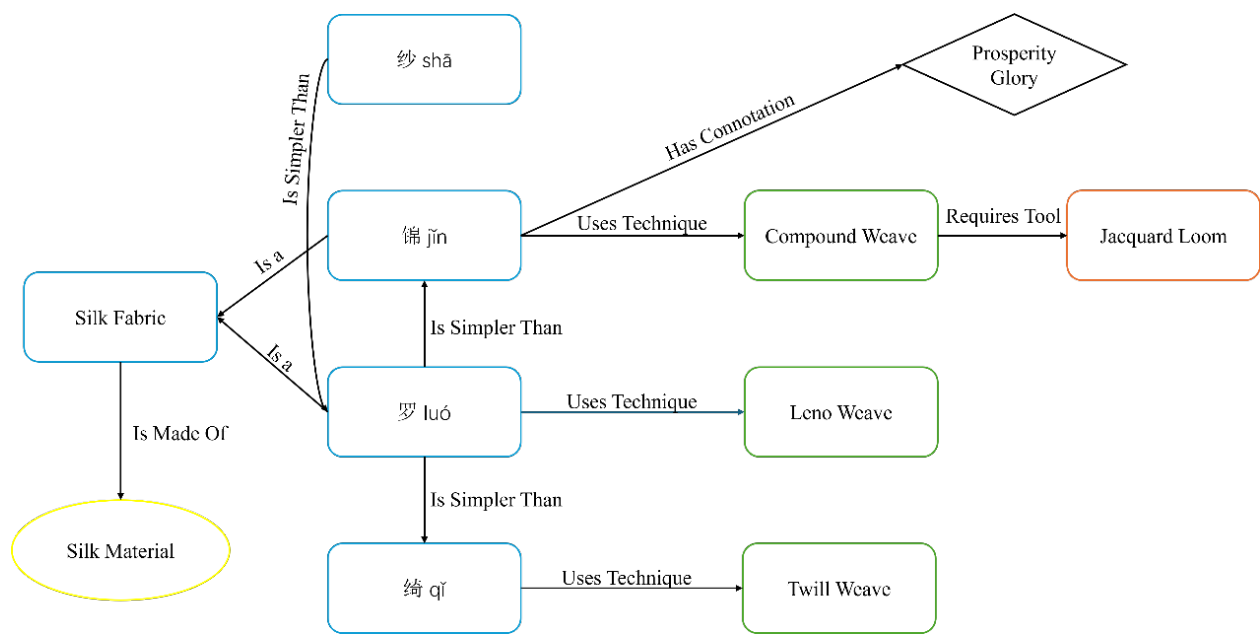


Figure 2. Schematic Diagram of the Knowledge Graph for Silk Terminology

This network structure visually and logically connects the term to its technical definition, its material composition, the tools required for its creation, and its abstract cultural meaning. To demonstrate how the knowledge graph is populated with specific, multimodal data points, we use the artifact *Longevity and Prosperity for Descendants* brocade as a concrete example. The following table (Table 1) details the attributes of this artifact’s node within the graph. It shows how the system is designed to handle and integrate not just conceptual links but also rich metadata for various digital resources, thereby transforming abstract terms into a structured, data-rich network.

Table 1. Example of a Populated Node for a Han Dynasty Brocade Artifact

Property	Linked Entity / Value	Data Type	Description / Metadata
isA	锦 (<i>jǐn</i>)	Class	Links to the terminological class for Brocade.
wasCreatedIn	Han Dynasty	Class	Links to the historical period class Han Dynasty.
hasMotif	Chinese Characters	Class	Links to the motif class for Chinese Characters.
usesTechnique	Warp-faced Compound Weave	Class	Links to the technique class.
primaryMaterial	Silk	Literal	String value for the main material.
artifactID	CNSM-001234	Literal	Unique identifier from the China National Silk Museum.
imageRep	[Pointer to Image Resource]	URI	Example path: /digital_assets/images/CNSM001234.jpg. Metadata includes resolution, copyright, shooting date, etc.
videoRep	[Pointer to Image Resource]	URI	Example path: /digital_assets/videos/weaving_demo_01.mp4. Metadata includes duration, producer, encoding format, etc.
modelRep	[Pointer to Image Resource]	URI	Example path: /digital_assets/models/han_loom.obj. Metadata: includes polygon count, renderer information, etc.

By linking the node to a high-resolution image of a Han dynasty brocade artifact, a 3D model of a Han dynasty drawloom (花楼机), and textual sources describing its cultural significance, the knowledge graph provides a rich, multidimensional, and context-aware representation that far surpasses a simple dictionary entry.

DISCUSSION

The analysis demonstrates that traditional Chinese textile terminology is not an arbitrary collection of labels but rather a highly structured and descriptive system where semantics are deeply intertwined with materiality, technology, and culture. The terms often function as miniature blueprints, with their very characters encoding information about material, density, structure, or value. This logographic transparency represents a significant characteristic of the Chinese writing system, offering a direct visual-semantic link that is arguably more

pervasive and systematic in this domain than the etymological roots found in many alphabetic languages. Furthermore, the progression from simple weaves like 纱 (*shā*) to complex brocades like 锦 (*jǐn*) reflects a clear hierarchy of technical complexity and social value, which is systematically embedded in the lexicon. Understanding these features is critical for an authentic interpretation and preservation of the knowledge. While knowledge graphs are increasingly used in other cultural heritage domains, the unique characteristics of traditional Chinese textile terminology present distinct challenges that differentiate this study's methodological novelty. Unlike architectural or art terminology, which often deals with discrete components or styles, textile terminology embodies a deeply integrated process-material continuum, linking agricultural methods to the final product in a complex chain of transformations. Furthermore, the logographic transparency of the Chinese script means that the terms themselves often contain semantic radicals (e.g., the silk radical 糸) that encode material properties—a feature not present in alphabetic languages. Our model is novel in its specific design to capture these unique dimensions: modeling the granular, sequential dependencies from raw material to finished fabric and creating explicit relationships based on etymological components, which provides a richer, more contextually authentic representation than a generic cultural heritage knowledge graph.

Building on these rich semantic features, the proposed digital inheritance model based on a knowledge graph offers significant advantages over traditional digital archives. It excels at contextualization, allowing a user exploring a single term to seamlessly navigate to the types of looms required, the dynasties in which it flourished, the specific motifs it employed, and even other terms that are technically related but culturally distinct. The relational structure also facilitates knowledge discovery by revealing latent connections, allowing a researcher to identify all fabrics that use a specific motif during a certain dynasty or to trace the evolution of loom technology. This transforms the digital tool from a passive repository into an active research instrument. Moreover, the ontological framework is inherently extensible and scalable, allowing new terms and relationships to be added without requiring a complete system overhaul. Finally, by integrating multimodal data, the model provides an enhanced user experience that caters to diverse learning styles, enabling a user to visually inspect a 3D fabric structure, read related classical texts, or watch a video of the weaving process within a single, interconnected environment.

Despite these advantages, several challenges must be acknowledged. The construction of this knowledge graph faces challenges that are highly specific to the domain of ancient Chinese textiles. The primary difficulty

lies in the inherent ambiguity of classical Chinese texts, where a single term can have shifting meanings across different dynasties or even within the same document. Furthermore, there are significant regional and dialectal variations in terminology, where different names were used for similar weaving techniques or fabric types, making standardization for the ontology difficult. Finally, the process of translating nuanced technical and cultural concepts—such as the tactile quality implied by a term or its ritualistic significance—into the rigid, formal logic of an ontological structure is a profound challenge that goes beyond simple data entry. The development of a detailed ontology and the population of the knowledge graph are also resource-intensive processes. This endeavor necessitates deep interdisciplinary collaboration between textile historians, linguists, and computer scientists, which can be difficult to coordinate. Therefore, future work should focus on leveraging Artificial Intelligence (AI) and Natural Language Processing (NLP) to partially automate the process of term extraction and relationship identification. Specifically, Named Entity Recognition (NER) models could be trained on a manually annotated corpus to automatically identify textile-related terms, artifacts, and techniques from large bodies of digitized historical texts. Following this, Relation Extraction (RE) techniques, potentially using transformer-based models like BERT, could be employed to identify and classify the semantic relationships between these recognized entities (e.g., identifying that a specific ancient brocade *wasMadeOn* a drawloom), thereby significantly accelerating the population of the knowledge graph. Developing intuitive user interfaces and immersive experiences, such as augmented or virtual reality applications powered by the knowledge graph, would be a promising direction for public engagement and education. Linking this domain-specific knowledge graph to other cultural heritage graphs could also create a vast, interconnected network of cultural knowledge.

CONCLUSION

This study addresses the critical issue of preserving and transmitting the rich terminological system of traditional Chinese textile culture. By conducting a systematic semantic analysis, we have demonstrated that this terminology is a highly structured knowledge system characterized by descriptiveness, technical precision, and cultural depth. We have moved beyond proposing a simple digital archive by designing a robust digital inheritance framework centered on knowledge graph technology. This model is uniquely capable of capturing the complex, multidimensional relationships between terms, techniques, artifacts, and cultural concepts. This research contributes a novel, structured, and replicable methodology for the semantic analysis and digital

preservation of specialized cultural terminology. The proposed framework not only serves as a powerful tool for safeguarding this endangered intangible cultural heritage but also transforms it into a dynamic, accessible, and interactive resource for a global audience of researchers, educators, designers, and cultural enthusiasts. By bridging the past with the future, this work aims to ensure that the intricate language of Chinese textiles continues to inspire and inform generations to come.

Author Contributions

All work in this study was independently completed by Xin LIU.

Conflicts of Interest

The author declares no conflict of interest.

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