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Article

Women Who Know and Make It Happen: From Ancestral Female Knowledge to the Textile Industry

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Abstract

This study examines women's textile knowledge in Portugal as a fundamental element of cultural heritage, situating it within domestic, social, and industrial contexts, with a particular focus on Guimarães. Drawing on a multidisciplinary approach grounded in historical and documentary evidence, it analyses how female expertise in spinning, weaving, embroidery, and lacemaking contributed to the evolution of textile practices from the fifteenth century to the present day. The findings indicate that this knowledge was pivotal to the transformation of domestic textile activities into an emerging industrial sector, shaping both production methods and cultural identity. The study concludes that recognising the historical importance of women's textile labour is essential for understanding the development of the Portuguese industry. Furthermore, this research emphasises the urgency of preserving, transmitting, and legitimising the intangible cultural heritage inextricably linked to women's textile mastery. It argues that integrating this legacy into contemporary creative and industrial practices can foster cultural sustainability and unlock new possibilities for future innovation, ensuring that this ancestral expertise remains a living pillar of regional identity.

Keywords: female knowledge; intangible culture; textile industry

1. Introduction

This study is grounded in a multidisciplinary research approach aimed at investigating the connection between ancestral female textile knowledge in Northern Portugal and the development of the local textile industry. It builds upon doctoral-level research conducted by the author, which explores intangible cultural sustainability, fashion design education, and ancestral female textile knowledge within this geographic context. This research emphasises the necessity of preserving, transmitting, and recognising the intangible cultural heritage associated with women's textile knowledge.

Historical records indicate that, although women have always worked, their activities have not consistently been interpreted or recognised as professions [1]. In Portugal, rural sources dating back to the 16th century document women's involvement in agriculture, flour milling, laundry work, cooking trade and sale of fish and chestnuts in urban centres, as well as in all stages of linen production, from planting to weaving [2]. Given the historical significance of domestic, rural, and industrial labour contexts, it is crucial to elucidate how women's roles were perceived and how labour relations were structured. This entails analysing not only the activities performed but also the methods employed and how women's contributions were integrated into productive work [2].

Focusing on the intersection between ancestral female textile knowledge, cultural sustainability, and the textile industry, this study aims to highlight the transversal connections between these domains. It seeks to examine the past (ancestral female textile knowledge), understand the present (the relationship between this heritage and the identity of the textile industry). And contribute to the future by fostering dialogues between female textile cultural heritage and creative reinterpretations or innovations in the textile and fashion design sectors in Portugal. This aligns with Martin's [3] perspective on the relationship between memory and life, emphasising memory as a crucial factor in

understanding humanity and enabling creative capacity. Additionally, in the context of cultural sustainability, it is relevant to note that in 2003, UNESCO adopted the “Convention for the Safeguarding of Intangible Cultural Heritage”, highlighting traditions, oral expressions, places of memory, knowledge, and traditional manifestations [4]. Although craftsmanship is recognised as one of the five domains contributing to sustainable development, the Portuguese list of intangible cultural heritage [5], which includes seven assets, does not currently incorporate any traditional textile craftsmanship.

2. Materials and Methods

For the construction of this study, it is essential to emphasise that one of the methods employed involves analysing historical documentary sources and cross-referencing them with relevant academic publications, thereby facilitating the development of an applied ethnographic perspective. Together, these approaches provide a multidimensional view of the need to preserve, transmit, and recognise the intangible cultural heritage of ancestral female textile knowledge.

The historical documentary databases maintained by the Sociedade Martins Sarmento (SMS) [6] in Guimarães provide records on textile practices, techniques, cultures and women’s employment within the local textile industry. These archival materials are complemented by a photographic collection made available by Muralha – Guimarães Association for the Defence of Heritage [7]. Through this documentary and visual evidence, it is possible to reconstruct narratives illustrating how women historically adapted domestic and rural skills to meet the economic demands of the regional textile sector.

To further substantiate the connections between domestic and industrial textile practices, ancestral techniques were explored using ethnographic methodologies, applied within immersive and focused research contexts. Selected segments of this research are presented here to illustrate the documentary approaches and reinforce the links established throughout the study. Collectively, these methods enable the mapping of female textile craftsmanship in Northern Portugal, providing insights relevant to both contemporary discussions of cultural sustainability and the aesthetic, technical, and creative dimensions of the textile, clothing, and fashion design industries.

3. The Ancestral Female Textile Practices

The ancestral textile practices of women in northern Portugal, and across the country more broadly, form an integral part of Portuguese cultural, industrial, textile, familial and domestic history. Many authors discuss the feminisation of textile knowledge, making it possible to construct a historiography that situates women at the centre of textile production and transmission. In this context, the work of Pereira [8] for the National Museum of Ethnology is particularly significant, as it brings together historical narratives that explore the relationship between textiles and Portugal, modes of labour, symbolism, syncretism and the cultural meanings embedded in these practices.

Focusing on the symbolic relationships evident in the Minho and Douro regions¹, Pereira [8] demonstrates that many textile tools were incorporated into festivities and wedding processions. In contrast, textile activities themselves were often carried out collectively by women within the community. These moments created favourable conditions for the transmission of oral culture, including singing, dancing, ritual celebrations and communal meals [8]. Within this symbolic framework, tools such as the distaff and the loom illustrate both the socio-economic organisation of the household and the gendered division of domestic labour. Linen work, an emblematic practice of northern Portugal, further underscores the existence of differentiated activities organised along gender lines, with women occupying a central role in its production [8].

¹ Northern Portugal (3.6M inhabitants, 35% national population) spans 86 municipalities in 8 sub-regions: Minho area (Alto Minho, Cávado, Ave) and Douro area (Porto Metro, Tâmega e Sousa, Douro). Refer to map for details. CCDR Norte, <https://www.ccdr-n.pt/pagina/regiao-norte/apresentacao> (accessed 27 february 2025).

Within rural family contexts, textile activities undertaken by women were typically performed alongside domestic and agricultural responsibilities. Practices such as spinning and weaving linen served not only to produce goods for household consumption, such as shirts and bed linen forming part of the *bragal*², but also to fulfil external commissions. In this way, women's textile labour functioned as a supplementary source of income and, in some cases, as a means of paying land rent [8]. Archival material from the historical archive of the SMS [6], namely a book record dated 1941 [9], further reinforces the association between the distaff and the female figure, highlighting its role in domestic and social education. In Guimarães, distaff makers produced these tools specifically for children, particularly girls, facilitating early learning in spinning. Symbolic narratives reinforced this practice, with young women being told that "even the saints spun", thus attributing moral values of virtue and merit to linen work [9]. Within this discourse, textile labour emerges at the intersection of domestic knowledge and religious symbolism.

Historical evidence confirms that linen work was also carried out within female religious institutions in northern Portugal, notably at the *Recolhimento do Anjo de S. Miguel* (1750), the *Convento das Carmelitas* (1751) and the *Convento de Santa Clara* (1759). In these contexts, the use of the distaff symbolised virtue, discipline and moral merit, reinforcing socially constructed ideals of femininity [8,9]. From a complementary perspective, the cultivation, spinning and weaving of linen constituted, for long periods, the primary form of education available to rural girls, reflecting both the economic importance of this work within the domestic sphere and its symbolic value [10].

This historical framework is further supported by the research of Sequeira and Melo [11], who examine women's ancestral knowledge within the Portuguese textile sector during the late medieval period. According to the authors, women's occupation in textile production was already firmly established in the Middle Ages, defining their social role and their intimate relationship with technical knowledge such as spinning and weaving, transmitted across generations [11]. They emphasise that spinning was a strictly female, domestic activity, accompanying women throughout their daily routines in both household and rural contexts. Documentary sources from the sixteenth century, cited by Cabreira and Macedo, further corroborate this perspective. José Gentil da Silva reports that linen cultivation was under women's care in regions such as the Algarve, Beira and Minho, highlighting the importance of female labour in ensuring local supply, particularly in the Minho area between Braga and Guimarães [2].

Historical accounts demonstrate the remarkable persistence of spinning, linen weaving and related domestic practices over several centuries, despite ongoing socio-economic transformations. In the seventeenth century, records indicate that women constituted approximately 52% of the workforce in the textile and clothing sector in the Coimbra region, underscoring their economic relevance [2]. The textile sector remained the principal source of employment in Portugal between 1850 and 1910, followed by ceramics, metallurgy and, from the mid-nineteenth century onwards, the canning and cork industries [12].

Despite this prominence, the intimate relationship between women and the distaff has often been overlooked by historians. Nevertheless, it is clearly visible in everyday life and in the visual culture of both rural and urban contexts. This connection is particularly evident in early twentieth-century photographs by the merchant and photographer Domingos Alves Machado of Guimarães, now part of the Muralha photographic collection [7]. One urban scene from the 1920s depicts the Church of São Miguel do Castelo, traditionally associated with the baptism of D. Afonso Henriques, while, in the foreground, women spinners from the Minho sit on the church steps, engaged in their traditional work. The juxtaposition of national historical symbols with women's textile labour reinforces the cultural significance of these practices (Figure 1).

² Bragal: As defined in the portuguese dictionaries, the term denotes a coarse fabric or a household linen collection. In Priberam Dictionary, https://dicionario.priberam.org/bragal#google_vignette (accessed 11 January 2025)



Figure 1. Church of São Miguel do Castelo. 1900s/1920s (before 1926). Sources: Muralha Photographic Collection.

Beyond their presence in the visual and everyday imagination, the distaff and its association with women also manifested in social, symbolic and technical domains. In 1885, the Linen Yarn Contest was established by the SMS, one year after the Industrial Exhibition of Guimarães [9]. The competition aimed to stimulate and valorise women's spinning skills, as well as the preparation and application of linen thread, thereby enhancing the ancestral knowledge associated with this practice. To this end, the SMS appointed eight rural master spinners, women recognised for their mastery of traditional techniques, to form the judging committee. Documentation of this initiative appears in "*Os Mestres de Guimarães II – Estudos Históricos e Etnográficos do Linho*" [9] (Figure 2), one of the few surviving records of the competition, preserved in the SMS archive [6].

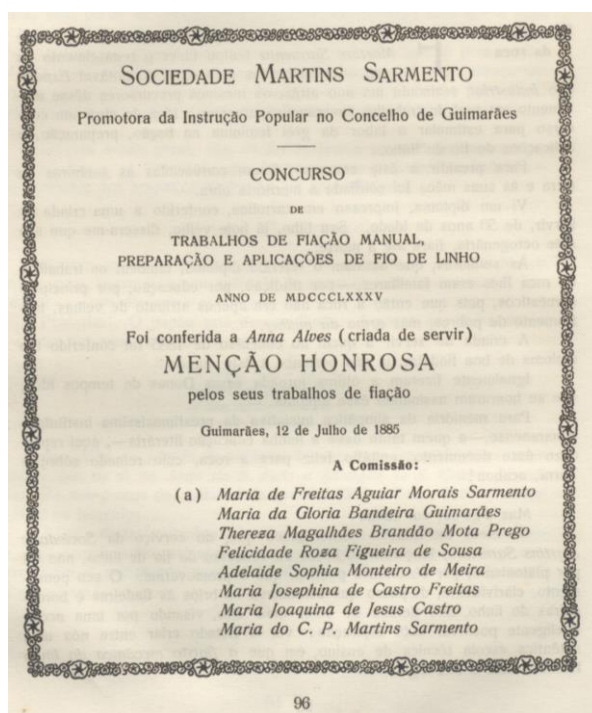


Figure 2. Certificate of Honourable Mention awarded in the “Linen Yarn Competition” promoted by the SMS in 1885. Source: book “Os Mestres de Guimarães II”, by Carvalho (1940).

The competition publicly acknowledged both the winning spinner and the group of master spinners (in Portuguese: *a comissão*), publicly affirming their skills. This initiative sought to preserve ancestral female knowledge, celebrating women's expertise in handling the distaff, looms, and linen embroidery, in contrast to the increasing mechanisation. References to the Francisco de Holanda Commercial and Industrial School in Guimarães, where mechanical linen spinning was already taking place, illustrate the broader transition from artisanal know-how to technical modernisation [9]. In this sense, the competition can be understood as a form of cultural resistance, developed by the SMS in response to the erosion of traditional practices under industrial transformation.

Ancestral textile practices, including embroidery, knitting, crochet, sewing, spinning and weaving, have traditionally belonged to the female and domestic sphere. Their continuity across generations is evident not only in material production but also in symbolic and cultural expressions. This persistence is documented by journalist Maria António Fiadeiro [13], in a collection of interviews, which brings together testimonies from female artisans, artists and pioneers in Portugal who have preserved textile knowledge through their ancestral heritage. Among the examples presented are the embroidered linen handkerchiefs of the Vila Verde region, where girls and women historically practised cross-stitch embroidery from an early age, passing the skill down through successive generations [13].

The work also includes a conversation between Fiadeiro and fashion designer Helena Cardoso, recognised for her efforts to revitalise and preserve female knowledge associated with wool, *burel*³ and linen. In this dialogue, Cardoso emphasises that, despite the transformations brought about by development, female artisans remain deeply connected to rural life. She describes scenes of linen weaving during family gatherings, where mothers and daughters worked collectively to produce essential domestic goods, reinforcing a model of communal labour shaped by necessity and tradition. According to Cardoso, these artisans played a crucial role in safeguarding Portugal's cultural heritage and rural memory [13]. Beyond the reproduction of ancient practices, such women contributed to

³ Burel: a tradicional Portuguese woollen fabric.

broader social transformations by mobilising ancestral knowledge to reshape individual lives and community structures.

A further visual testament to these rural female practices is found in additional photographic records by Domingos Alves Machado from the early 20th century, which offer valuable insights into the rural past of the Minho region [7](Figure 3). These images depict women engaged in linen preparation, capturing both the material reality of rural life and the fundamental role of women in sustaining this artisanal craft. Much like the Linen Yarn Contest promoted by the SMS in 1885 [6,9] these visual records underscore the historical significance of women's work in spinning and weaving, standing in contrast to the advance of mechanisation and the socio-cultural changes that accompanied the transition to modernity and shaped the evolution of the textile industry in the Minho region.



Figure 3. Women in the act of line preparation. Reproduction photograph, early 20th century. Sources: Muralha Photographic Collection.

Finally, documentation produced by the *Centro de Interpretação – Museu do Linho* [14] concerning the community of Cerva e Limões highlights the widespread presence of linen looms in local households, where it was rare to find a home without at least one loom. Initially symbolising a domestic obligation, this practice gradually evolved into a recognised profession, formalised with the founding of the *Cooperativa Grupo de Tecelagem de Limões* in 1986 [14]. This case, alongside the examples presented by Fiadeiro [13], illustrates a broader historical transformation throughout the Minho region. Women spinners, weavers and embroiderers, traditionally trained within family or community contexts, progressively entered new working environments, where ancestral knowledge was translated into professional trajectories. What was once confined to the domestic sphere expanded into cooperatives, workshops and local industries, becoming both a pillar of the regional economy and a key mechanism for cultural preservation.

4. Women's Contribution to Northern Portugal's Textile Industry: A Historical Perspective

Ancestral women's textile knowledge, traditionally transmitted through oral and embodied practices within domestic and communal contexts, played a decisive role in the development of the

textile industry in northern Portugal. This intergenerational transmission enabled women to occupy central positions across multiple stages of textile production and garment manufacture, particularly before the mechanisation processes introduced in the late 19th and early 20th centuries [10], which initiated a profound territorial and socio-economic reconfiguration, progressively distancing production from predominantly rural settings.

As noted by Nogueira [10], women historically accumulated multiple social and productive roles, acting simultaneously as wives, mothers, caregivers, agricultural labourers and factory workers. Before the advent of the Industrial Revolution and the introduction of steam-powered machinery, the textile sector was largely characterised by artisanal modes of production sustained by extensive networks of weavers, many of whom were rural women, frequently illiterate and earning low wages [10]. As noted by the same author, the feminisation of the textile industry accompanied the growth and proliferation of factories, reinforcing women's numerical predominance within the sector.

In the context of the Vale do Ave⁴, particularly in Guimarães, three interrelated factors underpinned the feminisation of textile factories: the perception of women as more compliant and manageable workers; the lower wages paid to women in comparison with men, which reduced production costs; and the recognition that women possessed superior technical knowledge of spinning and weaving, acquired through long-standing domestic and rural practice [10]. Industrialisation nevertheless produced significant social transformations, including the depopulation of rural areas [10] and the progressive masculinisation of industrial weaving roles that required greater physical strength, a shift already noted by Benjamin [8].

Within the textile industry of Guimarães, one of the most prominent industrial centres in northern Portugal, with a history extending over a century and a half, the participation of entire families is well documented, with women's labour constituting an essential component of domestic production systems [15]. Numerous authors corroborate the deep-rooted association between linen production and rural family economies in northern Portugal, where inherited wooden looms were widely used to produce goods for local industries and to supplement household income [8–11,14].

Despite its economic relevance, much of this domestic and informal labour remained undocumented. Textile work carried out within households was rarely recorded in accounting books, contracts or commercial documentation. As Sequeira and Melo observe, "women's labour constitutes a phenomenon that consistently eludes historical record, contributing to the persistent underrepresentation of women's contributions within the textile sector" [11]. Even when regulatory mechanisms such as the *Carta de Exame* (now the artisan's licence) were enforced, property, looms, and professional recognition were almost exclusively attributed to male household heads, effectively erasing women's labour from official records [9].

Vaquinhas [16] has similarly emphasised the extent to which institutional archives contributed to this erasure, producing forms of historical amnesia through absent or opaque documentation. Nevertheless, traces of women's presence occasionally emerge in fiscal and legal documents, particularly in cases involving widows. Carvalho [9] documents several examples drawn from the surety books of the *Câmara da Vila de Guimarães* (city hall) in 1715, which reveal the centrality of men in property ownership and family leadership, while simultaneously recording exceptional authorisations granted to widows through *Cartas de Exame*. These documents permitted women to continue spinning and weaving in place of deceased husbands, sons or daughters, illustrating the conditional visibility of women's labour within legal frameworks [9]. A notable example appears in royal provisions issued by D. Maria I, granting Thereza Maria da Silva and her son Manuel José Teixeira the right to operate multiple looms formerly owned by the deceased Domingos Teixeira [9].

The study of labour organisation during this period is further complicated by the emergence of craft guilds from the late 15th century onwards, which became firmly established throughout the 16th

⁴ Vale do Ave: an important sub-region of Northern Portugal, centered on the identity of the Ave River, characterized by its strong industrial sector (textiles, footwear).

century [1]. Within this system, the *Carta de Exame* functioned as a key regulatory instrument, invariably administered by male figures within the family unit. Over time, these regulatory practices were gradually incorporated into industrial structures, contributing to new models of labour organisation that only partially replaced earlier systems. The transition from domestic to industrial production was neither linear nor complete, with manual looms and home-based production remaining prevalent in Portugal until the 1960s [10].

The Industrial Inquiry – Factory Visits [17], commissioned by government decree in 1881, further illuminates this transitional context. Although the inquiry omitted specific data on the linen and cotton industries in Guimarães, it reinforced the rural and domestic character of textile production, drawing attention to technological backwardness and precarious working conditions. In response to these omissions, reports prepared by Alberto Sampaio and Joaquim José de Meira for the Industrial Exhibition of Guimarães in 1884 offer a more detailed overview of the municipality's industrial landscape [18].

These reports emphasise women's central role within the textile sector, which remained predominantly domestic during this period [10,18]. Linen spinning, for instance, is described as a home-based and overwhelmingly female activity. Rural women transformed this practice into a form of professional labour, gathering in collective evening sessions to process flax commissioned by industrial enterprises. Census data from 1878 indicate that approximately 1,559 women in the Minho region relied on this occupation, producing an average of 56 kilograms of thread per year and earning around 253 réis⁵ per kilogram [18].

Gradually, the production of twisted cotton threads began to replace traditional linen, altering the structure of the textile industry. Home-based production continued to rely heavily on women's labour, with Dominican nuns also participating in thread preparation, bleaching and market distribution. Although precise employment figures remain unclear, available records suggest that around 100 women were engaged in this manual labour, earning approximately 150 réis, supplemented by allowances for materials such as ashes and coal [18].

Export-oriented textile production, including damask tablecloths, linen sheets and cloths, was supported by 692 looms operating across domestic workshops. Within this sector, women were primarily responsible for auxiliary tasks such as bobbin filling and dyeing. Of the 912 workers registered, 220 were women, earning average wages of 280 réis, with remuneration varying according to skill and workshop conditions [18]. These data point to an imminent structural shift in Portugal's export textile industry, as production increasingly moved from domestic workshops to mechanised industrial spaces. In both contexts, however, large-scale loom operation was dominated by men, reinforcing a gendered division of labour that progressively marginalised women's traditional expertise, a process described by Nogueira [10] as central to the construction of 'women's work'.

Sewing and embroidery remained overwhelmingly female-dominated activities, encompassing the production of white garments, stockings, crocheted bedspreads, tablecloths, multicoloured embroidery, metallic threadwork and artificial flowers. According to the 1878 census, approximately half of the female population of Guimarães between the ages of 16 and 60 was engaged in such activities. Many worked on commission for shops, merchants and industries, earning between 90 and 200 réis depending on the complexity of the work [18]. The garment sector employed predominantly women, accounting for 94% of its workforce across six workshops, with wages ranging from 90 to 180 réis. Literacy was directly associated with higher earnings, as seamstresses who could read and write received better remuneration [18].

The Industrial Exhibition of 1884 prominently showcased women's labour in embroidery and ornamental textile production, recognising its exclusively female and domestically rooted character within the Guimarães region. Classified under Class 22, the exhibition featured 39 female exhibitors

⁵ Réis: Plural of real, Portugal's decimal currency (1580-1910) until replaced by the escudo. One conto de réis equals ≈€0.005 (half a euro cent) today. Maia, Marta, Réis, escudos, euros: 5 séculos de Moedas em Portugla, in Ekononista.pt (2024) <https://www.e-konomista.pt/reis-escudos-euros/> (accessed 30 january 2025).

and received extensive press coverage. Newspapers such as *Commercio do Porto*, *Commercio Portuguez* and *Folha Nova* praised the exceptional quality of the embroidery, frequently comparing it favourably with foreign examples and stressing the urgency of safeguarding this artisanal knowledge in the face of mechanisation and declining intergenerational transmission [18].

Press accounts highlighted embroiderers' technical mastery, patience and dedication, presenting Guimarães embroidery⁶ as a symbol of local cultural and economic identity. Contemporary articles described embroidery as *"an auxiliary industry to the linen industry, as many hand towels, sheets, and pillows produced on the looms of the municipality are richly adorned with embroidery of rare perfection..."*⁷ [18]. Statistical data included in the exhibition report indicate that embroidery-related activities employed approximately 747 women aged between 16 and 60, generating an annual value of 45 réis, while simultaneously calling for enhanced education and training to maintain competitiveness [18].

Overall, the 1884 Industrial Exhibition report documents women's numerical predominance within the textile sector, recording 2,292 female workers and 120 girls across domestic and industrial settings, compared to 1,250 men and 165 boys [18]. Despite this dominance, a persistent gender wage gap consistently favoured male workers, even in unskilled positions, a pattern widely documented by several authors [8,10,18].

Alves [19] provides further statistical evidence regarding the cotton industry in the Vale do Ave between 1942 and 1951, highlighting the continued feminisation of the workforce. In 1941, the sector employed 28,232 women, including 1,730 minors, compared to 15,107 men across 250 factories. By 1951, female employment had risen to 38,068 workers, maintaining numerical dominance despite increases in male employment [19]. Photographic records from Guimarães' factory complexes visually corroborate this pattern (Figure 4).

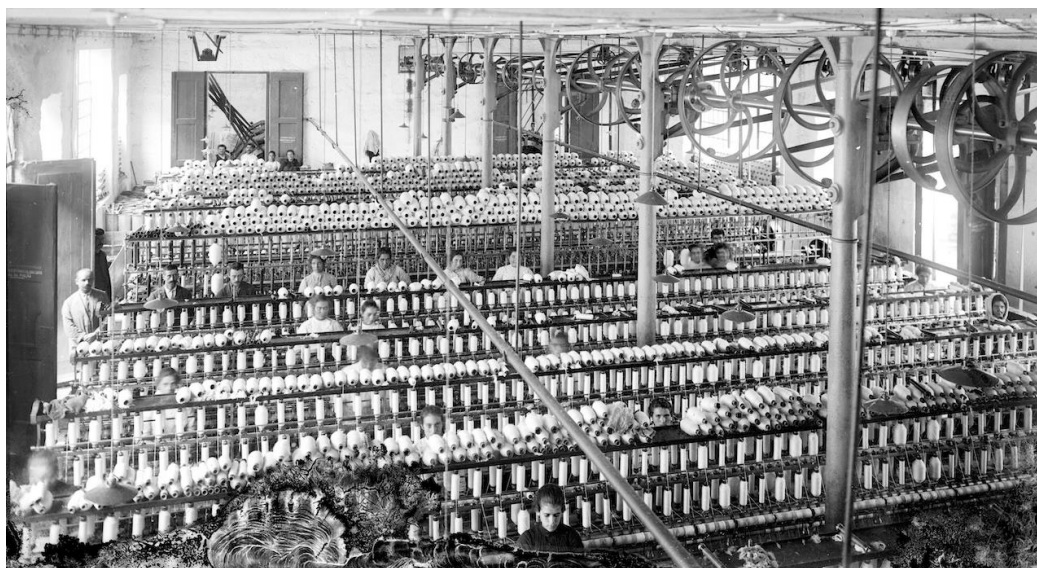


Figure 4. Textile industry, spinning mill workers. 1920s/1930s. Sources: Muralha Photographic Collection.

While linen remained strongly associated with Minho's regional identity, colonial cotton increasingly supplemented or replaced it, reshaping the industry through technological innovation and expanded production capacity. Alves notes that crises affecting the Vale do Ave textile sector in the late 19th and early 20th centuries were exacerbated by national economic instability, trade

⁶ Guimarães embroidery: Traditional embroidery representing Guimarães' textile heritage, now certified by CEARTE. For details, see the technical specifications booklet: https://www.cearte.pt/gpaos/show.html?id=188_show&alias=gpaos_ptc (accessed 19 march 2025)

⁷ Original text: *"uma indústria auxiliar da indústria do linho, pois muitas toalhas de mão, lençóis e travesseiros fabricados nos teares do conselho, são ricamente ornamentados com bordaduras de rara perfeição."* Sampaio, A., & Meira, J. J. de., 'Relatório Da Exposição Industrial', p.197.

imbalances and labour disputes over wages [19]. Nevertheless, domestic loom production persisted across Guimarães' parishes until the early 1970s, operating from homes, garages, workshops and small factories.

This historical panorama underscores the centrality of women's labour to the development of Portugal's textile industry, particularly in the Guimarães region, while also revealing the structural challenges in documenting and valuing this work. The historical invisibility of women's contributions, often relegated to marginal press references or fragmentary records, stands in stark contrast to the decisive role played by ancestral female knowledge in shaping domestic economies, regional identities and industrial trajectories. As Nogueira [10] has argued, the textile industry has long been feminised and continues to be so today, despite shifts in leadership structures and employment conditions. Nevertheless, a significant gap remains in the recognition and visibility of women's ancestral contributions to the historical construction of the Portuguese textile industry.

5. Ancestral Women's Knowledge and Industry: A Legacy of Cultural Sustainability – Challenges and Opportunities

The transmission of ancestral female textile knowledge has played a crucial role in shaping both the cultural identity and the industrial development of northern Portugal. Nevertheless, the persistent invisibility of women's contributions, resulting from the scarcity of historical documentation and the systematic erasure of women's roles, continues to hinder the preservation, transmission and valorisation of these practices. This invisibility affects not only their recognition within historical and cultural narratives, but also their integration into contemporary creative identities associated with Portuguese textile, fashion and design industries.

Ancestral textile techniques, including those examined in this study and the broader spectrum of Portuguese textile traditions, were fundamental to the construction and consolidation of the national textile industry, particularly in the northern regions of the country. Their incorporation into contemporary production systems presents significant challenges, as it requires a careful balance between innovation and cultural preservation. Within this framework, it becomes necessary to critically reflect on the revaluation and reinterpretation of ancestral female textile knowledge, as well as on the transition from manual practices to automated or technologically mediated processes, while ensuring that these practices retain their cultural relevance. Although manual textile knowledge has been preserved through informal transmission across generations, its effective integration into modern fashion, textile and design industries depends on targeted initiatives capable of responding to evolving social and industrial demands.

The valorisation of ancestral female textile practices is therefore closely linked to the principle of cultural sustainability, understood as a mechanism that fosters meaningful connections between past and present. In this context, UNESCO identifies culture as a strategic dimension of the 2030 [20] Agenda, particularly in relation to creative development. The UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage [21] recognises traditional craftsmanship as one of the domains requiring protection through preservation, valorisation and knowledge transmission, both in formal educational contexts and through the recognition of diverse cultural actors. This framework highlights women's dual role as innovators and transmitters of textile knowledge systems, operating across both pre-industrial and mechanised modes of production. As UNESCO emphasises, women's stewardship of intangible heritage contributes not only to cultural continuity but also to gender equity and cross-scale economic sustainability [21].

The complexity of the concept of culture may be understood through its historical and contemporary dimensions. Following Morin, culture can be interpreted as a system of norms, symbols, myths and images intrinsically connected to multiple aspects of human life, transmitted, preserved and learned across generations [22]. Within this perspective, the preservation of intangible cultural heritage, particularly knowledge, plays a fundamental role in the construction of individual and collective identities, whether of a people, an artist or a designer. This process is deeply connected to traditions, language and the geographical contexts in which such knowledge is embedded [4].

Traditional craftsmanship, in this sense, is inseparable from the notion of territory, understood not merely as a geographical space but as a cultural construct shaped by social practices, knowledge transmission and historical adaptation [23]. In the case of ancestral female textile practices in northern Portugal, this notion extends to encompass cultural heritage, popular cultures, identities and cultural diversity [4]. This approach resonates with the theories of John Ruskin, a pioneer of heritage conservation, who defended the dialectical relationship between craftsmanship and industrialisation and emphasised the importance of sensory perception, manual skill and artistic mastery in preserving traditional techniques within modern production systems [24]. Marques reinforces this understanding by addressing cultural heritage as comprising both material and immaterial dimensions [25], while Martins conceptualises intangible heritage as a dynamic and evolving phenomenon, rooted in collective memory and continuously reshaped by the human condition [3].

Within this conceptual framework, female textile knowledge, including spinning, weaving, embroidery and lacemaking, operates simultaneously as an economic livelihood strategy and as a vehicle for intergenerational cultural continuity. Portugal encompasses a wide range of intangible traditional expressions across the mainland and island territories. Historically, oral culture predominated until the 13th century, when notarial practices emerged, and the first written records in the Portuguese language were produced [25]. Despite the expansion of written documentation, artisanal knowledge continued to be transmitted predominantly through oral and embodied practices, frequently relegated to historical oblivion due to cultural, economic and technological transformations, as well as its strong association with women's work [26].

Examining the role of women in the historical, cultural, economic and technical development of the textile industry in northern Portugal allows for an understanding of the relationship between clothing, design and craftsmanship as a pathway for reintegrating cultural and symbolic values into contemporary society and fashion production [26]. The invisibility of this knowledge not only compromises cultural memory but also marginalises women's historical contributions to industrial development. During the nineteenth century, under increasingly rigid social norms, ancestral female knowledge was progressively redefined as domestic labour, in contrast to the prestige attributed to male knowledge associated with industrial production [26].

By the 20th century, with the emergence of art and design institutions such as the Bauhaus, which profoundly reshaped global design methodologies, women were systematically channelled towards textile disciplines. The persistence of domestic connotations inherited from the previous century reinforced gendered discourses associating textile practices with attributes such as patience, obedience, delicacy and submissiveness. These narratives contributed both to the feminisation of textile education at the Bauhaus and to the continued feminisation of the textile industry in the Vale do Ave, as previously discussed [10,26].

Despite enduring gaps in recognition, several initiatives have sought to address the historical, cultural and social marginalisation of women's textile knowledge. Collaborative efforts involving governmental institutions, museums and artisan centres have played a significant role in this process. Among these initiatives is the Professional Training Centre for Craftsmanship and Heritage (CEARTE), established in 2017, which classifies, recognises and promotes various forms of craftsmanship, including spinning, weaving, embroidery and lacemaking, through training and cultural programmes [27]. Complementary initiatives include the *Programa Nacional Saber Fazer Portugal* [28], dedicated to safeguarding and sustaining artisanal production and the *Rota Saber Fazer* [29], which focuses on techniques specific to the Terra Quente Transmontana region⁸.

⁸ *Terra Quente Trasmontana* ('Hot Land') is a northeastern Trás-os-Monte's region, distinct from *Terra Fria* ('Cold Land'). It includes Alfândega da Fé, Carrazeda de Ansiães, Macedo de Cavaleiros, Mirandela, and Vila Flor. Located between Alto Trás-os-Montes and Douro, it's defined by the Sabor, Tua, and Douro rivers, giving it unique cultural and geographical traits. For details, see the *Associação de Municípios da Terra Quente Transmontana*: <https://www.amtqt.pt/pages/273> (accessed 20 march 2025).

The preservation of ancestral textile knowledge is also sustained by communities and municipal cultural centres. The community of Cerva e Limões, in Ribeira da Pena, for example, independently develops museum activities dedicated to the preservation and dissemination of knowledge related to the linen cycle through the *Centro de Interpretação Museu do Linho* [14]. Similar concerns are shared by cultural associations such as the Corredoura Folk Group, based in São Torcato, Guimarães, which documents and performs practices related to the linen cycle through initiatives such as the annual Linhal da Corredoura Festival [30].

Beyond community-based initiatives, certain industrial practices have incorporated principles of intangible cultural sustainability into their production models. The Burel Factory [31], founded in 1947 in Serra da Estrela, exemplifies the integration of craftsmanship, textile innovation and heritage preservation. By combining 19th-century looms with contemporary design and technological innovation, the company revitalises ancestral textile patterns while ensuring their transmission to new generations through master artisans [31].

Another illustrative case is Terra de Sousa embroidery, a technique that emerged in the 19th century and was initially practised by noblewomen before being progressively disseminated among rural women. Transmitted primarily within village contexts to women who were often illiterate, this knowledge contributed to the consolidation of a domestic embroidery industry that remains active to this day. According to a census conducted in 2005, approximately 83% of the women in the region were involved in this activity [32]. Closely connected to this technique, the establishment of Casa do Risco in Airães in 1997 marked the beginning of a systematic process aimed at refining the designs and patterns of Terra de Sousa embroidery [32]. At the same time, efforts were undertaken to secure institutional recognition for the technique through CEARTE, supported by extensive historical research. Casa do Risco invested in developing technical solutions to ensure the accurate transfer of designs onto fabric. With the implementation of a plotter and the conversion of designs into DXF files, it became possible to digitise, create and restore historical patterns using digital drawing technologies [32]. This technological innovation not only improved the precision and quality of embroidery designs but also enabled the recovery and long-term preservation of this heritage through the creation of a computerised archive. Furthermore, it facilitated the development of standardised designs for industrial and heritage institutions specialising in embroidery conservation. This case exemplifies how traditional female textile craftsmanship extends beyond its aesthetic and cultural value, incorporating technical, practical and oral knowledge systems that both safeguard heritage and adapt to evolving socio-industrial contexts.

Within the framework of cultural sustainability and the growing demand for ethical and sustainable products, ancestral female textile knowledge has increasingly been mobilised within contemporary design practices. The Portuguese brand Marita Moreno, specialising in slow-fashion footwear and accessories, exemplifies this approach through a production model grounded in ethical principles, transparency and social responsibility [33]. In addition to prioritising nationally sourced raw materials, the brand incorporates traditional artisanal textiles from the Azores, produced by small cooperatives and family-run workshops. A distinctive feature of this practice is the explicit recognition of artisans and weavers certified by the Craft and Design Centre of the Azores (Centro de Artesanato e Design dos Açores – CADA), whose names are associated with the woven components used in each product, thereby reinforcing the visibility and value of individual craftsmanship [34]. Beyond the safeguarding and reinterpretation of traditional practices, the brand aligns its activities with the United Nations Sustainable Development Goals, contributing in particular to SDG 8 (decent work and economic growth) and SDG 12 (responsible consumption and production) [35].

The systematic documentation of textile techniques in northern Portugal provides a critical foundation for sustainable innovation in fashion and textile design, while simultaneously addressing historical gaps in the recognition of women's expertise. In this context, training initiatives and collaborations between artisans and designers offer viable pathways for empowering women to safeguard intangible heritage while fostering innovation [26]. Notable examples include Helena

Cardoso's collaborations with rural cooperatives such as *Cooperativa Capuchinhas*, and initiatives like *Casa da Lã das Terras de Basto*, where female artisans transform local wool into contemporary textiles using manual looms [36,37]. These initiatives demonstrate how strategic partnerships can bridge heritage preservation and renewal of textile and cultural heritage.

To deepen knowledge of female textile ancestry in northern Portugal, a territorial mapping project is currently underway as part of the doctoral research "Design in the Feminine: Knowledge, Textile and Fashion Design". Combining ethnographic methodologies with community engagement, this project enables a more nuanced understanding of techniques that remain in practice and are increasingly subject to cultural recognition by institutions such as CEARTE.

By contrasting historical data with contemporary evidence, it is possible to construct a broader understanding of female textile ancestries in northern Portugal. Figure 6 presents a comparative reading of 15th- and 16th-century maps (Maps 1 and 2), which document textile commercial transactions in mainland Portugal [38], alongside the ongoing territorial mapping developed within the doctoral project (Map 3). This comparative approach highlights not only the geographical persistence of ancestral techniques but also the cultural and historical relationships that have shaped the distribution of textile knowledge over time. The juxtaposition of these maps suggests a continuity grounded in artisanal labour, processes of modernisation and the symbolic dimensions embedded in textile practices. Moreover, the analysis of historical records (Maps 1 and 2) demonstrates that textile regionalisation extends beyond strictly industrial or commercial frameworks, reflecting instead the circulation of rural and ancestral knowledge associated with production systems and socio-cultural modes of life. The 16th century emerges as a particularly significant period for the development of textile practices, notably through the consolidation of the silk industry in Bragança, which, supported by governmental incentives and the establishment of the Royal Silk Filatures between the 15th and 18th centuries [38], forged a labour and cultural identity that persists to the present day.

The analysis of Map 3 further reveals both the historical persistence and the contemporary transformation of women's textile knowledge in northern Portugal. It draws attention to two interrelated phenomena: the endurance of regional textile production techniques and the close relationship between women's artisanal practices and gendered craft specialisations, especially embroidery and lacemaking, which constitute tangible expressions of ancestral female expertise. This multifaceted panorama, encompassing both commercial techniques linked to looms, weaving and decorative textile practices, provides a basis for articulating three central critical questions: 1. it underscores the persistent lack of historical documentation concerning female ancestral textile knowledge related to textile production, a gap frequently identified by numerous authors; 2. it reveals the systematic undervaluation and limited recognition of this knowledge, particularly decorative textile techniques, which nevertheless form an integral part of Portugal's economic textile landscape; and 3. it highlights the erasure of the role of northern Portuguese women in the historical construction of the national textile industry, which has long served as a reference point both nationally and internationally. Taken together, an integrated reading of the three maps reinforces the notion of continuity in the transmission of knowledge, while simultaneously exposing enduring gaps in the recognition of female ancestral textile expertise and emphasising the need to safeguard this intangible cultural heritage of Portuguese textile traditions.

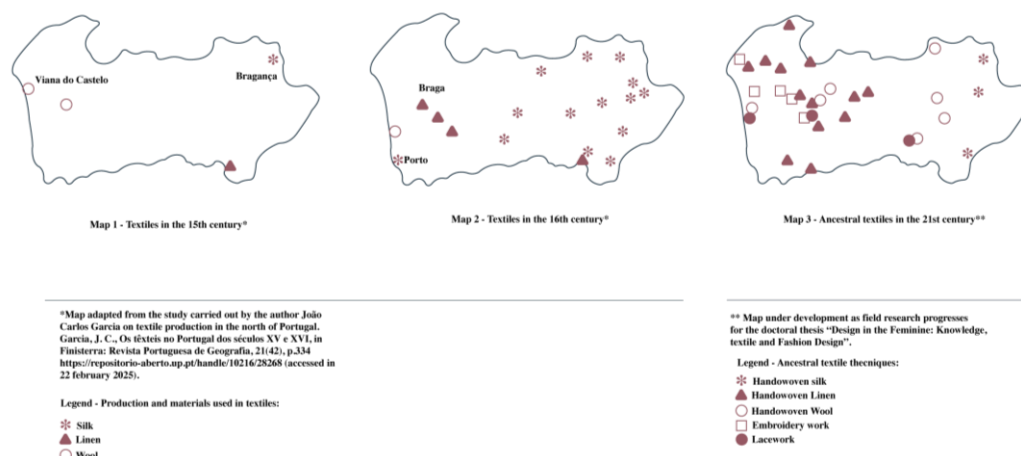


Figure 6. Textiles production in northern Portugal in the 15th and 16th centuries and ancestral textile techniques today. Source: map developed by SCHULZ, F.E., adapted from the work carried out by the author Garcia, J.C.

Considering the historical and cultural significance of ancestral female textile knowledge in northern Portugal, the development of effective preservation and valorisation strategies becomes imperative. The continuity of these practices depends on approaches that reconcile tradition and innovation, integrating ancestral techniques into contemporary design and sustainable production chains without compromising their authenticity. Collaboration between artisans, designers, cultural institutions and educational bodies emerges as a critical mechanism for ensuring the transmission of this knowledge to future generations. By acknowledging women's contributions to the historical construction and ongoing evolution of the textile industry, the centrality of cultural sustainability is reinforced, alongside the need to broaden institutional and academic spaces dedicated to the recognition and valorisation of this knowledge. Such recognition reaffirms the relevance of ancestral female textile expertise within the global contexts of fashion, design, the textile industry and cultural heritage. Moreover, the consolidation of this recognition contributes to strengthening the identity of Portuguese design and textiles on an international scale, restoring their historical, cultural and symbolic value and positioning them as distinctive references within the global landscape.

6. Future Perspectives and Concluding Remarks

The valorisation of ancestral female textile knowledge in Portugal faces significant challenges while also presenting concrete opportunities for its preservation, celebration and reinterpretation. In this context, several future directions may be identified to ensure the continuity and relevance of this intangible cultural heritage.

One particularly promising pathway lies in the integration of ancestral knowledge into fashion and textile design education. The inclusion of these techniques within academic curricula would not only safeguard and promote their legacy but also facilitate their adaptation to contemporary industrial demands. Promoting the teaching and practice of female textile techniques and ancestral knowledge may contribute to the consolidation of a design approach in which tradition engages in dialogue with modernity. This cross-disciplinary interaction between design and culture enables the construction of cultural and historical narratives that broaden students' understanding of sustainability, beyond its environmental dimension, and of innovation within the design, textile and clothing sectors. The development of partnerships between artisans, designers and educational institutions constitutes an effective strategy for linking empirical knowledge with innovation. The case studies presented in this article, such as collaborations that combine the traditional expertise of female artisans with the contemporary design approaches of practitioners such as Helena Cardoso

and Marita Moreno, illustrate how such alliances can strengthen the textile industry without compromising cultural authenticity. Building upon this foundation, these collaborations foster the cultural valorisation of women's ancestral textile knowledge, reinforcing its role within the sector's identity. This dynamic not only shapes the aesthetic evolution of textile design but also advances sustainable alternatives, both culturally and environmentally. Considering these impacts, it becomes essential to examine how such practices may be systematically integrated into contemporary production chains, ensuring that tradition and innovation coexist. The integration of ancestral knowledge within the modern textile industry and emerging technologies, therefore, requires further investigation. At present, there remains a lack of in-depth studies addressing the impact of this knowledge on production chains and its potential application to contemporary challenges such as sustainability and ethical production. In addition, there is a need for more detailed analyses of educational methodologies and preservation programmes that incorporate these techniques into modern curricula in fashion, design and textiles.

About the strengthening of women's roles, gender equity within the textile and fashion design sectors, and the historical recognition of women's labour in the textile industry, it is essential that processes of valorisation be reinforced, particularly through public initiatives. The United Nations, in emphasising the importance of intangible heritage through the Convention for the Safeguarding of the Intangible Cultural Heritage (UNESCO, 2003), underscores the need for measures that ensure the recognition and valorisation of knowledge transmitted by women throughout history. Although culture is not explicitly listed among the 17 Sustainable Development Goals (SDGs) (UNESCO, 2025), it is addressed indirectly within several of their targets. The 2030 Agenda positions culture as a central dimension of sustainability, with UNESCO advocating for locally adapted cultural frameworks. These recommendations stem from the recognition that sustainable development strategies must be people-centred, drawing upon cultural approaches which, due to their humanistic and anthropological foundations, naturally foster a sense of belonging, individual and collective creativity, and the participation of diverse actors in support of sustainability. Aligning such strategies with the SDGs, particularly SDG 4 (Quality Education), SDG 5 (Gender Equality) and SDG 10 (Reduced Inequalities), can enhance the visibility of these practices, promote the recognition of ancestral female knowledge and facilitate its integration into contemporary textile and clothing markets.

The institutional and cultural valorisation of ancestral female textile knowledge, viewed through the lens of intangible cultural heritage, must be strengthened through policies that recognise it as a fundamental component of Portuguese identity. Although UNESCO has established guidelines for the promotion of intangible heritage, the absence of textile knowledge from the official list of Portuguese intangible cultural assets reveals a significant gap that remains to be addressed. As noted at the outset of this article, no textile practice is currently included in the national inventory of intangible cultural heritage to be safeguarded. Programmes such as Saber Fazer Portugal, initiatives aimed at the certification of artisanal techniques promoted by CEARTE, and the work carried out by various conservation centres and municipal museums nevertheless represent important steps towards addressing this omission.

Finally, this research demonstrates that female textile knowledge in Northern Portugal has played an essential role in the construction of the national textile industry and continues to represent a valuable resource for cultural sustainability and innovation within the textile and design sectors. However, the historical invisibility of these contributions, long confined to the domestic sphere and inadequately documented in formal records, remains a significant obstacle to their full recognition. Within this context, the integration of ancestral knowledge into contemporary industry must be approached with care, ensuring that the modernisation of production processes does not lead to the erasure of traditional practices or the symbolic meanings embedded within local cultures. As emphasised by d'Oliveira Martins [3], practices such as spinning, weaving and embroidery, transmitted across generations, do not merely constitute a set of techniques but rather embody a

complex system of knowledge, culture and identity that must be remembered, celebrated and safeguarded.

The mapping of ancestral female textile techniques currently underway within this investigation reveals the persistence of historical cultural patterns and underscores the need to expand knowledge of Portuguese design and textiles. In this light, this research emphasises the necessity of preserving, transmitting, and recognising the intangible cultural heritage associated with women's textile knowledge as a fundamental act of historical and cultural justice. By consolidating this knowledge as a strategic element within the textile and fashion sectors, opportunities emerge to deepen cultural and creative connections, promoting a distinctive identity grounded in cultural sustainability and artisanal innovation.

The valorisation of ancestral female textile knowledge therefore extends beyond the preservation of historical memory, the recognition of women's expertise, or the acknowledgement of their foundational role in the establishment and consolidation of the textile industry. Crucially, it emerges as a holistic paradigm of sustainable development, cultural, social and environmental, that strengthens local economies, advances gender equity and forges a distinctive textile identity capable of bridging tradition and innovation. In reaffirming the significance of this knowledge system, the present study not only honours historical legacies but also actively delineates future trajectories for their continuity, celebration and creative reinterpretation.

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Abbreviations

The following abbreviations are used in this manuscript:

CADA	Centro de Artesanato e Design dos Açores
CEARTE	Professional Training Centre for Craftsmanship and Heritage
DXF	Drawing Exchange Format
SDG's	Sustainable Development Goals
SMS	Sociedade Martins Sarmento

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