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# IL FILO D'ORO. THE PREMISES FOR THE DEVELOPMENT OF SILK TEXTILES PRODUCTION IN ITALY

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**Rezumat.** Studiul prezintă momentele incipiente ale dezvoltării producției de *tessuti d'arte* în Italia Evului Mediu, accentuând condițiile organizării primelor ateliere de țesut și culminând cu reglementarea propusă de regulamentele breslelor la începutul secolului al XIV-lea. Cercetarea vizează interacțiunile culturale, de complexă relevanță care au constituit baza industriei serice italiene precum și dinamica narațiunii între centru și periferie care a creat condițiile difuziunii *know-how*-ului în întreagă Europă. Această dinamică se construiește în jurul creșterii sau diminuării cererii de materie primă și de forță de muncă, în jurul piețelor și a rutelor comerciale, un organism fragil care în spațiul Italian a fost supus provocărilor cauzate de epidemii, instabilitatea socio-politică, legislație economică în formare sau piețe instabile. Drumul de la *seta greggia* până la prețioasele catifele, brocarturi și tapiserii, format atât din actanți cât și din relațiile economice, politice și sociale implicate definește cultura materială.

Perspectiva elaborată în acest articol, punctată și prin piese istorice valoroase, va demonstra rolul jucat de regiunile septentrionale și Sicilia în difuziunea de tehnică, în instituirea tradiției și formarea repertoriului colectiv. Un alt fenomen dezbătut va fi acela al mobilității comunităților de artizani văzut drept creuzet al inovației și dezvoltării producției de mătase în Italia.

**Cuvinte cheie:** Drumul Mătăsii, difuziune, know-how, cultură materială, tradiție.

## 1. The knowledge transmission framework

In the context of the current migration crises our paper demonstrates, through a historic account, developed within the interdisciplinary framework of the technological culture, the importance of the dynamics of population for the knowledge and know-how transmission, enhancing creativity and innovation processes. On the road from periphery to center and back, throughout the Italian Peninsula the historical parcours follows the development of the silk textiles workshops, the systemic interaction that shaped their dynamic, the actors of the community of practice<sup>1</sup> which, through their personal experience build and transmitted knowledge and know-how.

The most important “devices” carried within both migratory and commercial routes, throughout the centuries, were not only of a factual nature, knowledge and know-

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<sup>1</sup> The concept was first proposed by cognitive anthropologist Jean LAVE and educational theorist Etienne WENGER in their 1991 book *Situated Learning* (Lave-Wenger, 1991). Wenger then significantly expanded on the concept in his 1998 book *Communities of Practice* (Wenger, 1998).

how were as important for the social, economic and political transformation of communities, redefining identity and accounting for the development of some of the most important traditions of humanity, like the textile tradition.

When referring to migrating know-how we are considering the actual migration of artisans from one center of production to another, the transmission of knowledge (either expressed or tacit<sup>2</sup>) from generation to generation and its diffusion through circulating artefacts, techniques and technologies.

Our study is of interest for the heritage preservation and revitalization practices of today because is centered on the shaping power of know-how, from agents to communities. By defining the mechanism of know how transmission and observing its characteristics and variations within the Italian Silk Road case we are able to draw conclusions that could help traditional communities revitalize their practices. Also, in depicting the bidirectional vital route that constructed both periphery and centers, and dictated the lifespan of communities of artisans, important workshops and courtly wealth, through the eyes of the agent of diffusion we also credit the migration phenomenon with a creative potential.

The textile historiography, although accurately pointing out the moments of knowledge transmission focuses more on the factual and stylistic development within the domain and often disregards a more systemic approach, in which the role of the agents as well as the cultural subsystems could be extensively covered.

## 2. The case of the Italian Silk Road

The cultural network described by the Italian Silk Road is founded on a set of political and economical decisions that brought the Oriental tradition of silkworm production and silk weaving within the confines of the Roman Empire, and supported by the social consensus of the material and symbolic value of the fiber itself. Nevertheless the local production is tributary to the dynamic of population and artifacts on the *Seidenstrassen* (Silk Road)<sup>3</sup>, which can also be associated with a know-how migratory route.

Our research describes not only the historical trajectory of silk as part of the commercial routes but it reveals valuable information about the production of silk textiles, innovation and the main agents of knowledge transmission.

The Italian part of the Silk Road does not only coincide with the geographical area but with a network of economic, politic, social and religious links forming a multi-dimensional space. For example a silk textile produced in the late Middle Ages Italy is the expression of a quantum world, its multitude of characteristics and the knowledge comprised having exponentially ramifications.

Silk has always fascinated the Occident, being repeatedly, throughout the history one of the most expensive product traded in the Mediterranean region. *Il filo d'oro* (golden thread) or the Silk Road brought in the Roman Empire *metaxa* (raw silk), *vestis serica vel subserica* (silk clothes or mixed thread clothes), *vela tinctoria* (dyed silk clothes) and *nema sericum* (silk thread)<sup>4</sup>.

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<sup>2</sup> Polanyi, 1966.

<sup>3</sup> Florenzi, 2004, p. 41-48.

<sup>4</sup> Bussagli, 1986, p. 31.

Sassanid Persia and other centers along the Silk Road (today's Iran area) left an important legacy in the Byzantine textile production, especially in the decorative repertory: roundels or wheels (compositions with various motifs in roundels), semurv (fantastic animal), facing or opposing knights in roundels, the tree of life, winged horses, elephants, hunting scenes (the cult of the emperor Bahram V Gur 420–438 A.D.). Complementary to the diffusion of Oriental silk textiles in the Byzantine world intense economical relations formed between the Southern part of Italy (Napoli, Amalfi, and Gaeta) and the Muslim world. This is the reason why it is today so difficult to geographically place the fragments found in church treasuries, the inventory names raising even more questions: Tiro silks, Antiochia *diaspro*<sup>5</sup>, *pannum Alexandrium (cloth from Alexandria)*<sup>6</sup>.

Localizing the fragments becomes even harder when we recall that cities like Lucca had, in the 13<sup>th</sup> century, commercial and production centers in the Orient (e.g. Akkon)<sup>7</sup>. But the event that will forever change the history of the Italian textile production will be the conquest of Sicily in the 9<sup>th</sup> century by the Arabs; it will mark the beginning of the local silk weaving workshops<sup>8</sup>.

### 2.1 Synthesis and diffusion of know-how. Sicily and Calabria

Since ancient time valuable materials had the power to dramatically change society, building empires, empowering or impoverishing communities. The viral spread of knowledge, embodied by these materials, had largely economic motivations, better expressed in the Byzantine Empire.

Although under Byzantine rule from 535–536 to 827 Sicily did not benefit immediately from the introduction of sericulture in the 6<sup>th</sup> century Byzantium<sup>9</sup> (some sources incline for 5<sup>th</sup> century Syria<sup>10</sup>), which suggests a period of adjustment and assimilation of techniques and know-how.

The conquest of the Oriental regions of the Byzantine Empire by the Arabs, led to the spread of sericulture knowledge in the Mediterranean region and consequently in Europe.

Arab Sicily benefited first from the know-how transfer from Ifrīqiya (7<sup>th</sup> cen-

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<sup>5</sup> Bussagli, 1986, p. 69. *Diaspro* s. m. [from lat. mediev. *diasprum*, lat. class. *iaspis -īdis*, gr. ἰασπίς]. In mineralogy it refers to a variety of compact silica, opaque or of different colors, solid or with a glass-like appearance, found in the areas of Tuscany, Sardinia and Sicily. The name was given to a textile from the same category as the lampas, with a more fluid structure, with birds, zoomorphic and fantastic animal inspired motifs. In use mostly in the 12<sup>th</sup>–13<sup>th</sup> centuries, with 2 or more wefts, brilliant and opaque effects, that seem inspired by certain types of ceramic. At the beginning the fabric was monochrome, white on white, the motifs and backgrounds being distinguished by the effect of using divers wefts and warps. Used mainly for religious textiles: “*unum diasprum lucanum endicum ad aves rubeas in rotis cum capitibus et pedibus ad aurum*” a.1295, Inv. di Bonifacio, VIII, 45.

<sup>6</sup> Bussagli, 1986, p. 69. Lat. *pannum*. Cloth, garment.

<sup>7</sup> Chiappini di Sorio, 1989, p.14.

<sup>8</sup> Chiappini di Sorio, 1989, p. 8.

<sup>9</sup> Jacoby, 2006, p. 133-143.

<sup>10</sup> Muthesius, 2004.

tury Tunis)<sup>11</sup>, testified also by the term used until the 12<sup>th</sup> century for silk weavers (*careri*-Arab etymology)<sup>12</sup>. Until the 10<sup>th</sup> century we don't have irrefutable evidence of the sericulture and silk textiles production in Sicily. Historic documents, chronicles, inventories, commercial letters imply the existence of a court workshop under the Arab rule (*hāṣṣa firāz*)<sup>13</sup> but we don't know whether the raw silk used was produced locally or imported. Commercial and diplomatic letters of the 10<sup>th</sup> century certify the existence of both sericulture and silk textile production (including tapestry with gold and silver thread) in the island<sup>14</sup>, although not of the best quality. The Norman Conquest found in Catania area 14 weavers and 1 dyer<sup>15</sup>. After the Norman incursion in the central part of Greece (1147), local weavers in Sicily were complemented by the Greek masters of Thebes and Corinth that brought with them the techniques and technologies for weaving the most precious *sciamiti* or *examita*<sup>16</sup>.

The synthesis of motifs will connect the local background with the Byzantine, Persian, Arab and Central Asian influences: from highly decorative Sassanid motifs, mostly inscribed in roundels to more naturalistic ones, until the final dissolution of geometrical contours. The textiles (not only silk fabrics) will also be decorated with calligraphy writings<sup>17</sup> (kufic, naskhi, pseudokufic) and arabesques. As examples we have Roger II mantle or the Imperial Mantle of Nuremberg from 1133, made from purple satin brocaded with gold thread, embroidered with pearls and adorned with a kufic text border, inscription that wished happiness, honour, luck, perfection, a long life and profit to whom should wear it and also the tunic of William II (1181), a violet silk with gold embroidered edges with pearls, enamels and the auspicious writings. The decorative power of calligraphy and the exotic characters will generate an intensely debated phenomenon of assimilation. Koran writings will appear on Christian liturgical clothes (10<sup>th</sup>-13<sup>th</sup>), best portrayed by the Sienese painters Duccio and Paolo Veneziano. The inspiration was bidirectional, the master weavers using naturalistic motifs and compositions represented in paintings for their textile projects. Amongst the most precious fabrics there were: "*sciamito rosso con ruote d'oro, grifoni ed aquile d'oro; drappo rosso con grifoni a ruote d'oro; diaspro violaceo con uccelli dal capo inorato...*"<sup>18</sup>.

From the 13<sup>th</sup> century Arab workshops of Palermo we can still admire the silk weavers craftsmanship in 2 dossals of red and yellow silk adorned with embroidered

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<sup>11</sup> Jacoby, 2006, p. 133.

<sup>12</sup> Jacoby, 2006, p. 133.

<sup>13</sup> Jacoby, 2006, p. 134.

<sup>14</sup> Jacoby, 2006, p. 134.

<sup>15</sup> Jacoby, 2006, p. 135.

<sup>16</sup> Gr. *Examitos* - 6 heddle frames. Textile of a Greek origin, found also in Liban and Syria; one of the most precious textiles of the medieval world. The most prized were those from Constantinople, Asia Minor and Palermo. Its use was diverse: from religious textiles to cushion fabric, book covers, funeral clothes or high rank clothes. The warp was from flax or hemp and the weft from silk or gold threads, sometimes even embroidered.

<sup>17</sup> Bussagli, 1986, p. 87.

<sup>18</sup> "*red sciamito with golden roundels, golden griffins and eagles; red fabric with griffins in golden roundels; purple diaspro with crowned birds ...*" (Podreider, 1928, p. 27).

griffins and flowers, both kept today in the Treasure Museum of the Basilica of Saint Francis, in Assisi.

Although an important landmark of the Italian silk production Sicily is not the only area of diffusion. From the Islamic period we have information about the mulberry tree plantation in the Southern part of the Italian Peninsula, at Catanzaro, an ancient Greek-Byzantine colony<sup>19</sup>.

Calabria region is extremely important in the Italian Silk Road history for its specializing in mulberry tree plantation, the producing of silk worms and the raw material processing and distribution. The political context did not favor the developing of a strong silk weaving tradition; although at the beginning of the 14<sup>th</sup> century cities like Catanzaro were recognized for the luxurious brocade. Different policies were led by the interests of politicians and merchants (mostly Spanish and Genovese), the various attempts to develop silk workshops in the area colliding with Genoa's interest in cheaper raw silk production. Sericulture was a constant source of income for Calabrese families and the solid tradition (ongoing until the 20<sup>th</sup> century<sup>20</sup>) can be explained by the compliance it had with the agro-pastoral rhythm of life.

## **2.2. Lucca. The authentic creation**

One of the most important moments in the history of the European silk textiles production is the migration of Sicilian weavers in Lucca, in the 13<sup>th</sup> century<sup>21</sup> (1282). The weavers took with them the knowledge diffused in the island in the Islamic period and developed during the Norman rule (weaving, dyeing and processing techniques). The Sicilian know-how was overlaid on a well-defined Lucchese background of silk processing and silk trade<sup>22</sup> infused with Byzantine knowledge (*produzioni nostrane-local production*<sup>23</sup>). Silk weaving techniques were used in Lucca since the first crusade and silk trade routes (from Paris and Bruges to the Orient<sup>24</sup>) were followed by Lucchese tradesmen since the 11<sup>th</sup> century<sup>25</sup>, sometimes developing communities in those cities. If in the 13<sup>th</sup> century both satin and velvet were imported from the Orient, in the 14<sup>th</sup> century they were locally produced, being mentioned in guild regulations<sup>26</sup>. Starting as a generic denomination the famous *zendalo*<sup>27</sup> (silk fabrics: *taffeta, torsanelle, saracinati, occhiellati, alluciolati, racamati d'oro, diaspini, velluti a scacchetto*), highly prized by the English court was complemented by no more than 26 types of silk textiles, among which: *lampasi* (compound weaves with gold and silver thread), *velluti* (velvet), *zetani* or *rasi* (satin weave textiles)<sup>28</sup>. The expansion of typologies was a natural con-

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<sup>19</sup> Bussagli, 1986, p. 69; Ciuci, 1930, p. 18.

<sup>20</sup> Capalbo, 2004, p. 49-60.

<sup>21</sup> Podreider, 1928, p. 27.

<sup>22</sup> Ciuci, 1930, p.17.

<sup>23</sup> Rosati, 2016, p. 55-72.

<sup>24</sup> Rosati, 2016, p. 55-72.

<sup>25</sup> Ciuci, 1930, p. 19.

<sup>26</sup> Monas, 2008, p. 14.

<sup>27</sup> *Zendalo* or *zendado* - silk textiles made from very fine and thin threads used also for the Genovese veils. The name is already documented in 9<sup>th</sup> century Padua.

<sup>28</sup> Ciuci, 1930, p. 20.

sequence of the technological developments<sup>29</sup>.

The democratization of silk fabric production was a long process in which guarding precious knowledge (mostly technological but also about the practice of the trade) was the first step in the process of the preservation of tradition.

Lucca became an alchemical crucible, a perfect combination between a powerful legislation, a flourishing trade and production competitiveness, assuring its reign in Duecento Italy. Lucchese weavers are also responsible for introducing silk weaving in other Italian and European cities and we can definitely state that the history of European textiles would have looked very different if the 300 Lucchese weavers had not emigrated during the Pisan conflict. The weavers reached Florence, Venice, Milan, Bologna but also towns in Germany, Flanders, England and France.

As many other Italian cities Lucca suffered from frequent conflicts, plague and sometimes even its protectionist laws<sup>30</sup>. But each crisis brought also the consolidation of the textile tradition: the migration caused by the Pisan conflict led to the spread of Lucchese know-how throughout Europe, the plague epidemics of the 14<sup>th</sup> century led to population decline but also encouraged many Jewish merchants to reconstruct the city and, the regulations that once prevented the weavers from leaving the city led to the forming of a new decorative style.

The regulations of Corte dei Mercanti (Merchants Court) from 1376 as in other Italian cities<sup>31</sup> were set to ensure the quality of the Lucchese textile products and contributed to their international recognition. The role of each agent was strictly controlled and quality insurance was a constant demand, fabrics that did not comply being cut, even publicly and fines were applied. As today, the markets and the important patrons controlled decision taken by the communities of practice, often setting the fashion trends and implicitly the limits of creativity.

The powerful individualization of Italian cities and the transmission of know-how were supported by the family workshop production, where members were specialized in weaving certain types of fabrics. The technical developments and the increasing demand, both for export and for the Italian market speeded the organizing of centralized production, not without conflict and the loss of technological tradition.

From a stylistic point of view, in Lucca was set the foundation of the authentic Italian design. The Oriental, Islamic<sup>32</sup>, Hispano-Moorish influences were enriched by the Byzantine representations and the new naturalistic language. The developments were not a casual synthesis but the result of *disegnatores drapporum* (cloth designers)<sup>33</sup>

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<sup>29</sup> For example the first hydraulic spinning mills (*torcitoio idraulico*), first set in Bologna in the 13th century “...con si mirabile magistero che con un piccolo canaletto d’acqua faceva lavorare e torcere il di e la notte 4000 fila di seta, come avrebbero potuto fare 4000 donne” (Ciucci, 1930, p. 49).

<sup>30</sup> Munro, 2000; *Idem*, 2013.

<sup>31</sup> Molà, Zampieri, 2009.

<sup>32</sup> *Panni tartarici* - Eastern Islamic silks woven with gold and silver, bearing knots and medallions decoration, later inserted in the Christian imagery (Degl’Innocenti, Zupo, 2010, p. 24).

<sup>33</sup> Podreider, 1928.



work-like Benedetto da Siena- painters that earned their living also by creating textile patterns and designs. The most appreciated composition was *ad lilia et castella* (with lilies and castles) and the *diasprum*<sup>34</sup> was the choice fabric for every nobleman. The new naturalistic decoration, which first embellished the traditional textiles with rural scenes and motifs (goats, hunting dogs, flowers, wild boars) will be transferred to the secular and religious textiles. A vivid example, present in the works of artists like Simone Martini, Ghirlandaio, Leonardo da Vinci is the category of *perugine* textiles. The Oriental inspiration will add movement to the 14<sup>th</sup> century compositions and the textiles will be also decorated with lotus flowers, turtles and symbols of Oriental spirituality like *Tschi* or *Luen*.

### 3. Conclusions

To conclude our journey on the routes of textile know-how we will emphasize some of the methods through which the transmission and diffusion of knowledge was facilitated. The migration of artisans could not have been successful in the absence of visionary patrons or the fortune seeking merchants. The weavers themselves are not the only agents of know-how transfer, the painters, merchants and patrons are also equally important, each playing multiple roles. The merchants were well-connected with European and Oriental routes, frequently building shops and workshops in different textile producing centers or being partners in a number of connected trades. The movement of human capital was encouraged by legislation (tax exemptions, prizes for the best fabric produced, protection of mulberry plantations, guild regulations and state subsidies, prohibition of raw material export) and by other social, religious and economic contexts. The lesson of the Italian Silk Road points out to the specialization of labor and production as a key to successful development. The traditional production, centered on small family workshops coordinated by a master weaver or a merchant were valid for an equilibrated market. As soon as demand and production grew they determined other types of organizing solutions which took the knowledge and know-how and placed it in the “arms” of technology. Social movements occurred, caused by the rapid power transfer between man and technology. What once was an organic extension of our body and generated the tacit dimension of knowledge was gradually becoming estranged and beyond our full comprehension.

Social cohesion and the organization of labor also influenced the spread of know-how. In different eras, through the activity of the guilds, corporations and courts, cohesion between all agents was being legislated. The center of this interaction was the transfer of knowledge and know-how. Throughout time the political context of the Italian Peninsula played an important role in the diminishing of production<sup>35</sup>: constant conflicts and civil wars, countless taxes, fraud, the lack of raw silk caused by export, luxury goods policies and sumptuary laws. To the political context we might add natural factors like plague epidemics which stopped the production and the diffusion of know-how and also technological factors. The international competition generated innovation, which in turn operated a selection of competitors, depending on the

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<sup>34</sup> See *diaspro*: technically a textile with satin background and plain weave motifs.

<sup>35</sup> See Munro, 2000; *Idem*, 2013.

degree of adjustment to the new technological context of each one.

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