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TEXTILES OF  
MEDIEVAL IBERIA

CLOTH AND CLOTHING IN A  
MULTI-CULTURAL CONTEXT

*Edited by*

GALE R. OWEN-CROCKER

*with*

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# The Textile Industry in al-Andalus<sup>1</sup>

Adela Fábregas

## AL-ANDALUS, A TEXTILE SOCIETY

Maurice Lombard, in his work about the textile industry in the Islamic world, declared that the importance of the textile sector for early Islamic communities was so central that they might be described as ‘textile societies’.<sup>2</sup> Some years later, Vincent Lagardère demonstrated that silk production was one of the features setting al-Andalus apart from the medieval West.<sup>3</sup> The central role played by textile production in al-Andalus is, therefore, beyond doubt, and is regularly mentioned, in generic terms, in all general histories of al-Andalus.

The textile industry features as a prominent economic, social and cultural factor in the historical sources. Geographers and chroniclers described the regions of al-Andalus on which textile industries were based, and praised their production. These included textiles produced in the region since Antiquity, such as wool and flax,<sup>4</sup> both of which were still major products in the Middle Ages.

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<sup>2</sup> Maurice Lombard, *Les textiles dans le monde musulman VIIe-XIIe siècle* (Paris: Mouton, 1978).

<sup>3</sup> Vincent Lagardère, ‘Mûrier et culture de la soie en Andalus au Moyen Age (Xe–XIVe siècles’, *Mélanges de la Casa de Velázquez. Antiquité et Moyen-Age*, 26.1 (1990), 97–111 (p. 97).

<sup>4</sup> Laura Rodríguez Peinado, ‘La producción textil en al-Andalus: origen y desarrollo’, *Anales de Historia del Arte*, 22, Núm. Especial (II) (2012), 265–79 (pp. 266–68).

## WOOL

Wool was probably the most widely used fabric, as reported by the geographer and traveller Ibn Ḥawqal (d. after 988) who visited al-Andalus: ‘Wool fabrics (*as-sūf*) [...] There are marvels with regard to dyes, obtained from grasses native to al-Andalus.’<sup>5</sup>

Wool was especially used among the humblest sectors of the population. Referring to North Africa in the 12<sup>th</sup> century, Idrīsī pointed out that ‘Common people dress in wool *cadāwīr*, and their hats are made with the same material; rich people wear cotton clothing and coats’.<sup>6</sup>

Ibn al Khaṭīb, the Nasrid writer (Granada, 1313–1374), claimed, however, that wool was used by all social classes:

The most common dress among all social classes in winter is dyed wool. There are various qualities, depending on wealth and social class. In summer, the most used fabrics are flax, silk, cotton, fine goat fur, Ifriquiya capes, Tunisian veils and light wool mantles.<sup>7</sup>

Some degree of geographical specialisation existed, especially concerning wool, the production of which was especially intense in the area of eastern al-Andalus (*Sharq al-Andalus*), as reported by the Andalusī geographer Idrīsī (1100–1165), who talks about the importance of the sector in different cities of Sharq al-Andalus, such as Chinchilla, where ‘On y fabrique des tapis de laine qu’on ne saurait imiter ailleurs...’ (wool carpets are made there that cannot be imitated anywhere else),<sup>8</sup> or Cuenca, where ‘Les tapis de laine qu’on y fait sont d’excellente qualité’ (wool carpets of excellent quality are made).<sup>9</sup> Strong specialisation would account for

<sup>5</sup> ‘Se fabrican diversos tejidos de lana [...] En los tejidos de lana tintada y en otros tejidos, los cuales se aplican al tinte, hay maravillas obtenidas con hierbas especiales ...’; Ibn Ḥawqal, *Configuración del mundo. Fragmentos alusivos al Magreb y España*, trans. María José Romani Suay (Valencia: Anubar, 1971), p. 66; Francisco Franco Sánchez, ‘The andalusian economy in the times of Almanzor. Administrative theory and economic reality through juridical and geographic sources’, *Imago temporis: medium Aevum*, 2 (2008), 83–112 (p. 99).

<sup>6</sup> ‘Les personnes du commun se vêtent de *cadāwīr* de laine et portent sur leur têtes des *carāzī* de la même étoffe; les gens riches portent dès vêtements de coton et des manteaux (*mizar*)’; Idrīsī, *Nuzhat al-muštāq fī iḥtirāq al-āfāq. Description de l’Afrique et de l’Espagne*, ed. by R. Dozy and M. J. de Goeje (Leiden: Brill, 1864), p. 3 of the translation.

<sup>7</sup> ‘El vestido más usado por las distintas clases sociales y más propagado entre ellos es el paño de lana teñido en invierno. Son variadas las calidades de las telas, según la fortuna y la posición social. En verano se usan el lino, la seda, el algodón, el pelo fino de cabra, la capa de Ifriqiya, los velos tunecinos y los finísimos mantos de lana’; Ibn al Khaṭīb, *Historia de los Reyes de la Alhambra. El resplandor de la luna llena acerca de la dinastía nazarī (Al-Lamḥa al-badrīya fī l-dawla al-naṣrīya)*, trans. by José María Casciaro Ramírez and Emilio Molina López (Granada: Editorial Universidad de Granada, 2010), pp. 126–27.

<sup>8</sup> Dozy and de Goeje, Idrīsī, *Nuzhat*, p. 237.

<sup>9</sup> Dozy and de Goeje, Idrīsī, *Nuzhat*, p. 237.

the fact that, in the late medieval period, the remaining territories of al-Andalus, including the Nasrid Kingdom, in which wool production was no longer a major sector, had to import English, Valencian and Flemish products, as clearly reflected in the Datini records.<sup>10</sup> The ledgers of Genoese merchants who operated in Granada also reflect the arrival of European cloths to Granada, including products from Valencia.<sup>11</sup>

#### LINEN

Flax seems to have been a major production in al-Andalus, never being displaced by the introduction of new fabrics.<sup>12</sup> This continued success may be explained by the high quality and quantity of Andalusian flax, which was favourably compared to Egyptian linen by such authors as Ibn Ḥawqal, who claimed that 'Ordinary linen is made for dressing and it is exported in large quantities to Egypt. The blankets made there [Pechina, Almería] are exported to Egypt, Mecca, Yemen and other places',<sup>13</sup> or the Andalusian geographer al Bakrī (d. 487/1094), who wrote that '... their towns produce the best silk and flax, which is better in quality than Fayyum flax'.<sup>14</sup>

However, the main reason behind the continued importance of flax was its use in a wide range of products, from everyday garments to luxury articles: 'For the people and the court linen cloth is made (that is) not inferior to the *dabiqi*. It is thick but light, of great quality.'<sup>15</sup>

<sup>10</sup> Federigo Melis, 'Malaga nel sistema economico del XIV e XV secolo', in Federigo Melis, *Mercaderes italianos en España (siglos XIV-XV)* (Seville: Publicaciones de la Universidad de Sevilla, 1976), pp. 3–65.

<sup>11</sup> Adela Fábregas, *Un mercader genovés en el reino de Granada. El libro de cuentas de Agostino Spinola (1441-1447)* (Granada: Grupo de Investigación Toponimia, Historia y Arqueología del Reino de Granada, 2002); Adela Fábregas, *La familia Spinola en el reino nazarí de Granada. Contabilidad privada de Francesco Spinola (1451-1457)* (Granada: Grupo de Investigación Toponimia, Historia y Arqueología del Reino de Granada, 2004).

<sup>12</sup> Vincent Lagardère, *Campagnes et paysans d'Al-Andalus (VIIIe-Xve s.)* (Paris: Maisonneuve et Larose, 1993), pp. 413–39.

<sup>13</sup> 'En varias partes del país se fabrica lino ordinario para la vestidura que es exportado hacia diferentes lugares, y se llegan incluso a remitir grandes cantidades a Egipto. Los mantos confeccionados en Pechina son enviados a Egipto, a la Meca, al Yemen y a otros lugares'; Romani Suay, Ibn Ḥawqal, *Configuración del mundo*, p. 67; Franco Sánchez, 'The andalusian economy', p. 99.

<sup>14</sup> '... en sus pueblos se encuentra la seda de la mejor calidad, y lino que aventaja al lino del Fayyum'; Abū 'Ubayd al-Bakrī, *Geografía de España (Kitāb al-masālik wa-l-mamālik)*, trans. by Eliseo Vidal Beltrán (Zaragoza: Anubar, 1982), pp. 23–24.

<sup>15</sup> 'Se fabrican para el público y para la Corte vestidos de lino, que no son en absoluto inferiores al *dabiqi*. Es de gran espesor, pero también de una gran ligereza, que es apreciada ...'; Romani Suay, Ibn Ḥawqal, *Configuración del mundo*, p. 67.

Both these uses of flax are also mentioned in Cordoban 10<sup>th</sup>-century *fatwas*, the legal opinions given by qualified jurists that give us historical information about economic, social and religious life.<sup>16</sup> Flax was used in mixed fabrics, for instance serving as the warp of some silk fabrics, known as *trasimirgos*,<sup>17</sup> or in middling silk-like fabrics called *filosilks*, which were very popular in Christian markets. The origin of these *filosilks* is, though, uncertain, and they may have been imported from *Mudejar* producers based in Castile.<sup>18</sup> Written references to flax production are not limited to relatively generic mentions in geographical works, but are also found in urban marketplace regulations, the treatises of *Hisba*:

[199] Cotton and flax threads must not be sold in bundles, to avoid fraud, since women put objects inside the bundles, in order to make them heavier.<sup>19</sup>

[138] Flax thread is different to silk at the loom, because the finer it is, the denser the mesh and the lighter the fabric. This is because silk comes in just one type, while flax comes in many.<sup>20</sup>

[140] ... the neck of flax tunics are broad, so they look good hanging, but when worn, they become unbalanced.<sup>21</sup>

[141] Dyers must not dye red using brazilin, because it will not last, except for light colours on cotton and flax.<sup>22</sup>

<sup>16</sup> Vincent Lagardère, *Histoire et société en Occident musulman au Moyen Âge. Analyse du 'Mi'yār' d'Al-Waṣṣārīsī* (Madrid: Casa de Velázquez, 1995), pp. 101 (& 149), 102 (& 156); Luis María Serrano-Piedecabras Fernández, 'Elementos para una historia de la manufactura textil andalusí (ss. IX–XII)', *Studia Historica*, 4 (1986), 205–29 (p. 218).

<sup>17</sup> Serrano Piedecabras, 'Elementos para una historia', p. 214.

<sup>18</sup> Cristina Partearroyo Lacaba, 'Estudio histórico-artístico de los tejidos de al-Andalus y afines', *Bienes Culturales: revista del Instituto del Patrimonio Histórico Español*, 5 (2005), 37–74 (pp. 63–64).

<sup>19</sup> 'Los hilos de algodón y de lino no deben venderse ovillados, porque es ocasión de fraude, ya que las mujeres suelen meter en los ovillos cuerpos extraños, para que aumenten en peso'; *Sevilla a comienzos del siglo XII. El tratado de Ibn 'Abdūn*, ed. by E. Lévi Provençal and Emilio García Gómez (Madrid: Servicio de Publ. del Ayuntamiento de Sevilla, 1948), p. 169.

<sup>20</sup> 'El hilo de lino difiere del de seda en el telar, pues cuanto más fino, mayor el número de casas y menor el peso de la tela. Esto es porque el hilo de seda es de una sola clase, mientras el de lino es de muchas variedades'; Al-Saqāṭī al-Mālaqī *El buen gobierno del zoco*, ed. by Pedro Chalmeta and Federico Corriente, trans. by Pedro Chalmeta (Almería: Fundación Ibn Tufayl de Estudios Arabes, 2014), p. 162.

<sup>21</sup> '... hacen muy anchos los cuellos de las túnicas de lino, de tal manera que parezcan cumplidos cuando se miden pero, al desdichado que la viste se le vencen hacia un lado'; Chalmeta and Corriente, Al-Saqāṭī *El buen gobierno*, p. 164.

<sup>22</sup> 'Prohibirá a los tintoreros teñir de rojo con brasilete porque no dura y, quitando los colores claros del algodón y lino, los demás tampoco duran'; Chalmeta and Corriente, Al-Saqāṭī *El buen gobierno*, p. 164.



*Fatwas* also frequently had to deal with the conflicts of what clearly was a very active industrial sector.<sup>23</sup> The flax trade thrived to the final phases of al-Andalus (the so-called Nasrid period, 13<sup>th</sup> to 15<sup>th</sup> centuries), and one of the most important Christian sources for the transformation of the former Islamic territory after the Castilian conquest, the *Libros de Apeo y Repartimientos* (Christian land registers), attests to the growing of flax in Nasrid rural areas. These records make frequent reference to dyeing facilities in the form of cisterns, known as *alberquillas del lino*, in which the flax was steeped, as the Nasrid botanist Ibn Luyūn explained shortly before:

When flax is ready, if you put it in water it sinks to the bottom, because the threads get loosened and become soft and easy to handle. As such, by putting them in water you can separate each thread into two or three ... Flax is tempered by humidity, and then it can be coloured. When tempered in clear water, it goes white; if the water is muddy, it goes black; red comes from clear, stagnant water; and green from water that carries some mud.<sup>24</sup>

The *Libros de Repartimientos* often mention these cisterns (*alberquillas del lino*) in their description of Nasrid farmhouses, so they must have been a common feature in the rural landscape: ‘... there is a cistern for flax in the farmhouse of [Ynqueira, (Ugíjar)] [...] An estate in Çaharich, made of three *marjales*<sup>25</sup> of bad soil, bordering with the *acequia* (irrigation channel) of *Hamet Abulabiz*, and the flax cistern.’<sup>26</sup>

Geographical works also report the arrival of new plant- and animal-based fabrics, one of the outcomes of the Islamic Agricultural Revolution,<sup>27</sup> a process of knowledge transmission that, through the dissemination of agricultural

<sup>23</sup> Lagardère, *Histoire et société*, pp. 200 (& 393), 269 (& 169), 345 (& 225, 230), 351 (& 260), 369 (& 346), 371 (& 352), 421 (& 211).

<sup>24</sup> ‘Cuando el lino está en su punto, si se echa en agua, baja al fondo del recipiente. Así ocurre siempre que sus hebras se ponen lacias, blandas, sueltas y de fácil manejo, de tal manera que, al macerarlas en el agua, de una hebra se obtienen dos o más fibras ... El curtido del lino se produce por la humedad, y el color será como lo desee el que se beneficia. Al curtirlo en agua corriente se pone blanco, y si es cenagosa, negro. Se da el color rojo en agua limpia estancada; cuando hay barro en ella se produce el verde’; Ibn Luyūn, *Tratado de Agricultura*, ed. by Joaquina Eguaras Ibanez (Granada: Patronato de la Alhambra y Generalife, 1988), p. 261.

<sup>25</sup> Marjal: an old agrarian measure used in irrigated plantations and corresponding to 528.42m<sup>2</sup>.

<sup>26</sup> ‘... cierta parte en el alverca del lino de la alcaria [de Ynqueira, (Ugíjar)] [...] Vna haça en el pago de Çaharich de tres marjales de mala tierra, linderos el açequia de Hamet Abulabiz e la poza del lino’; Archivo General de Simancas, C.M.C., 1<sup>a</sup> época, leg. 131. Both reproduced by Carmen Trillo San José, *La Alpujarra antes y después de la conquista castellana* (Granada: Universidad de Granada, 1994) p. 220; Aurora Molina Fajardo, *El espacio rural granadino tras la conquista castellana: urbanismo y arquitectura con funciones residenciales del Valle de Lecrín en el s. XVI* (unpublished doctoral thesis, University of Granada, 2012).

<sup>27</sup> Andrew M. Watson, *Agricultural innovation in the Early Islamic world* (Cambridge: University Press, 1983); Lucie Bolens, *Agronomes andalous du Moyen-Age* (Geneva: Librairie Droz, 1981); Lucie Bolens, ‘The use of plants for dyeing and clothing. Cotton and woad in al-Andalus: a

techniques, allowed new species, such as cotton and the mulberry tree, to be adapted to Mediterranean conditions. The fact that these fabrics and related production activities are mentioned in geographical treatises is an indication of their economic relevance, as these works tended to focus on the economic potential of the regions they were describing, therefore only economically relevant activities were considered worth writing about. This economic focus is especially clear in some of these geographical accounts, for instance that of the Andalusí geographer al-ʿUdrī (Almería, 1003–1085), which even provides information about the tax revenue collected by textile production.

Tax revenues in the district of Elvira during the reigns of Al-Ḥakam (770–822) and his son ʿAbd al-Raḥmān (792–852) were as follows: 109.603 dinars in weight (*bī-l-wazina*); 1.000 *riṭl* of silk ...<sup>28</sup>

The Cordoba Calendar, an agronomical calendar of the 10<sup>th</sup> century, reveals that the state kept these industries under close scrutiny: it was during the month of May that letters were sent to the provincial tax officials who were to collect the taxes, to collect kermes, silk and fuller’s earth for the *ṭirāz*.<sup>29</sup> Furthermore, that the textile industry was a profitable enterprise is suggested by its prominence in other type of sources which also have an important economic dimension, such as agronomic treatises. These treatises were produced in the agronomic schools founded around the *taifa* courts from the 11<sup>th</sup> century onwards. These schools explored the adaptation of new species, the commercial exploitation of which would be a source of revenue for the State. Such agronomic treatises as those of Ibn Wāfid (Toledo 1008–1074), Ibn Baṣṣāl (Toledo-Seville, late 11<sup>th</sup> century), Abū-l-Jayr (Seville, 1412–1468), Ibn Haḡḡāḡ (Seville, 1073), Ibn al-ʿAwwām (Seville, 1118–1265), al-Tignarī (Granada, 11<sup>th</sup> century) and Ibn Luyūn (Almería, 1282–1349), from the agronomic schools of Toledo, Seville, Almería and Granada, would contribute to the dissemination of knowledge of different crops, including industrial plants like the mulberry tree, flax and cotton. This is the environment in which the adaptation of new crops to al-Andalus, on which the growth of the new textile industry was based, took place (Table 5.1).<sup>30</sup>

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thriving agricultural sector (5th/11th–7th/13th centuries)’, in *The Legacy of Muslim Spain*, ed. by S. K. Jayyusi (Leiden: Brill, 1994), pp. 1000–15.

<sup>28</sup> ‘Los ingresos del Estado percibidos [en la Cora de Elvira] durante los emiratos de Al-Ḥakam y de su hijo ʿAbd al-Raḥmān fueron los siguientes: 109.603 dinares en peso (*bī-l-wazina*); 1.000 *riṭl* de seda ...’; Manuel Sánchez Martínez, ‘La cora de Ilbīra (Granada y Almería) en los siglos X y XI, según al-ʿUdrī (1003–1085)’, *Cuadernos de Historia del Islam*, 7 (1976), 5–82 (p. 24).

<sup>29</sup> ‘C’est durant ce mois que sont envoyées des lettres (aux agents provinciaux du fisc leur prescrivant de procéder à des réquisitions) du Kermès, du soie et de terre à foulon pour le *ṭirāz*’, *Calendrier du Cordoue de l’année 961*, ed. by R. P. A. Dozy, trans. by Charles Pellat (Leiden: Brill, 1961), p. 90.

<sup>30</sup> Bolens, ‘The use of plants for dyeing’; Expiración García Sánchez, ‘Las plantas textiles y tintóreas en Al-Andalus’, in *Tejer y vestir: de la Antigüedad al Islam*, ed. by Manuela Marín (Madrid: Consejo Superior de Investigaciones Científicas, 2001), pp. 417–51 (pp. 436–37).

Table 5.1 Textile-related raw materials featured in Andalusí agronomic treatises.

	Flax	Wool	Mulberry tree
Kitāb fī tartīb...			X
Ibn Wāfid	X	X	
Ibn Baṣṣāl	X	X	
Abū-l-Jayr	X	X	X
Ibn Haḡḡāḡ	X	X	X
Al Tignarī	X	X	
Ibn al-'Awwām	X	X	X
Ibn Luyūn	X	X	

Naturally, the information provided by mercantile sources also reflects the success and evolution of this market-oriented industrial sector. Legal precepts – the famous *fatwas*, legal rulings based on real cases, and professional manuals, such as the treatises of *Ḥisba*, all of which established what should be normal practices for the guidance of administrative officials in the control of market activities and were applied on the market in everyday life – reveal that textile manufacturing processes were closely monitored and regulated. With regard to international transactions, the evidence for the earliest periods of the history of al-Andalus is scarce, but the record is a little more eloquent for the later periods, and this invariably reflects the central nature of the textile trade. These sources include the correspondence between various Jewish textile merchants from the 11<sup>th</sup> century onwards, currently held at the Genizah archive in Cairo,<sup>31</sup> and additional correspondence between members of different Tuscan companies in the late Middle Ages, for instance the Datini records at the Archivio di Stato di Prato (Italy), which furnish vital information for the reconstruction of late medieval commercial activity. It is impossible in this context to provide more than a minimally representative selection of the bibliography which the study of these records has generated, beginning with Federigo Melis's pioneering work.<sup>32</sup> Detailed information

<sup>31</sup> S. D. Goitein, *Letters of Medieval Jewish traders* (Princeton, NJ: Princeton University Press, 1973); S. D. Goitein, *A Mediterranean society: the Jewish communities of the Arab world as portrayed in the documents of the Cairo Geniza*, 6 vols (Berkeley, CA: University of California Press, 1967–1993) I, *Economic foundations* (1999 edn); Olivia Remie Constable, *Trade and Traders in Muslim Spain: The Commercial Realignment of the Iberian Peninsula, 900–1500* (Cambridge: Cambridge University Press, 1994).

<sup>32</sup> Other major contributions include Federigo Melis, *Aspetti della vita economica medievale: studi nell'Archivio Datini in Prato* (Siena: Monte dei Paschi, 1962); *Documenti per la Storia Economica dei secoli XIII–XVI*, ed. by Federigo Melis (Florence: Olschki, 1972); Angela Orlandi, *Mercaderies i diners: la correspondència datiniana entre València i Mallorca (1395–1398)* (Valencia: Universitat de València, 2008).

concerning the cargoes being delivered to and from Andalusi harbours was recorded by custom officials at different western ports such as Genoa; new practices of commerce such as insurances policies, ship commissions and *commenda* contracts, and the ledgers kept by foreign merchants with business interests in, or even based in, al-Andalus, bear witness to the international importance of the textile sector, one of the main economic powerhouses of al-Andalus throughout its history, the evolution of which is closely tied to that of trade.

#### THE SILK: AN UNBALANCED FIELD OF STUDY

Despite all of the above, the fact is that the scholarship that has evolved around the Andalusi textile industry presents not only well-defined trends, but also gaping lacunae. Studies on the textile industry have focused on the earliest periods of the history of al-Andalus, although the 13<sup>th</sup> century is always highlighted as a period of splendour for the industry, especially with regard to some areas, such as the silk industry; later phases, for instance the Almohad and Nasrid periods, have received a good deal less attention.

Most efforts have concentrated on the study of luxury fabrics. Examples of the most luxurious fabrics, exclusively used by political elites, such as the pieces produced in the famous *tirāz* workshops (royal textile workshops), have survived until the present day. These pieces survive in museum collections, and have contributed to the tendency of many scholars to follow art-historical approaches. Different and promising approaches have been introduced in recent years, which are especially concerned with production techniques. Many projects which are helping to establish the study of Andalusi textiles from new viewpoints, such as the use of dyes, production techniques and tools, are currently being emphasized, and bringing new perspectives to the discipline.<sup>33</sup>

<sup>33</sup> Some overviews are worth mentioning: Partearroyo Lacaba, 'Estudio histórico-artístico'; Cristina Partearroyo Lacaba, 'Los tejidos de Al-Andalus entre los siglos IX al XV (y su prolongación en el siglo XV)', in *España y Portugal en las rutas de la seda. Diez siglos de producción y comercio entre Oriente y Occidente*, ed. by Comisión Española de la Ruta de la Seda (Barcelona: Universitat de Barcelona, 1996), pp. 58–73; Rodríguez Peinado, 'La producción textil en al-Andalus'; Laura Rodríguez Peinado, 'La seda en la Antigüedad tardía y Al-Andalus', in *Las rutas de la seda en España y Portugal*, ed. by Ricardo Franch and Germán Navarro Espinach (Valencia: Universitat de Valencia, 2017), pp. 15–38; Silvia Saládrigas Cheng, 'Los tejidos de Al-Andalus entre los siglos IX al XVI. Aproximación técnica', in *España y Portugal*, pp. 74–98. For a good example of the most recent contributions, see *La investigación textil y los nuevos métodos de estudio*, ed. by Laura Rodríguez and Ana Cabrera (Madrid: Fundación Lázaro Galdiano, 2014); María Barrigón, 'Investigación y análisis de tejidos medievales: posibilidades para reconstruir algunos usos textiles en la Castilla del siglo XIII', in *Arte y producción textil en el Mediterráneo Medieval*, ed. by Laura Rodríguez Peinado and Francisco de Asís García García (Madrid: Ediciones Polifemo, 2019), pp. 153–80.

There are, however, many other aspects that need attention if the nature and evolution of the textile industry as an economic sector are to be fully understood. For instance, the fact that in the 13<sup>th</sup> and 14<sup>th</sup> centuries the sector appears to have veered decisively towards the processing of raw materials has gone virtually unnoticed. This is arguably a very significant change of production strategy, and it is thus worth more attention that it has been paid to date.

The study of the Andalusī textile sector from a strictly economic perspective is crucial for complementing the (art historical and technical) research avenues that have been opened in recent years, and for achieving a comprehensive understanding of the significance of this industry in the history of al-Andalus.

#### NEW APPROACHES TO THE STUDY OF THE TEXTILE SECTOR IN AL-ANDALUS

If we approach the study of the Andalusī textile industry from an economic perspective, aspects which have been considered secondary to date, but which are important for the emergence and development of this all-important sector, come to the fore. Naturally, this approach needs to examine the rich luxury textiles that made the sector famous, but we must also try to go beyond their symbolic value as vehicles for conveying political and social meaning both at home and at foreign courts: for instance, their use as a means to accumulate wealth for the state, as already proposed by Lombard.<sup>34</sup> We need to make sense of the efforts to store more and more first-rate textile pieces in the public warehouses. Al-Maqqarī recorded the delivery of 1000 pounds of silk and another 1000 of dyed silk to ‘Abd al-Raḥmān III in 939, which were deposited in the *ṭirāz*’s treasury,<sup>35</sup> where they were to be considered a royal asset. Like the royal mint, the *ṭirāz* was both the recent creation and a monopoly of the state, according to Ibn ‘Idārī.<sup>36</sup> Stipends and rewards could be paid in money and *ṭirāz* pieces, as described in detail by the palatine annals of Caliph Al-Ḥakam,<sup>37</sup> and al-Maqqarī recounts that the caliph’s men were rewarded in textile pieces. The *ṭirāz* workshops (*Dār al ṭirāz*) were part of the administrative structure of the state, and were directed by high officials:

<sup>34</sup> Lombard, *Les textiles*, pp. 194–97.

<sup>35</sup> Al-Maqqarī, *Analectes sur l’histoire et la littérature des arabes en Espagne*, ed. by William Wright et al. (Leiden: Brill, 1855–1859), p. 154. Information taken from Lagardère, ‘Mûrier et culture’, p. 105.

<sup>36</sup> Ibn ‘Idārī, *Histoire de l’Afrique et de l’Espagne intitulée al-Bayano ‘l-Mogrib par Ibn Adhārī et fragments de la Chronique d’Arib (de Cordoue)*, trans. by R. Dozy, 2 vols (Leiden: Brill, 1849–1851), II, p. 93.

<sup>37</sup> *Anales palatinos del califa de Córdoba Al-Ḥakam II, por ‘Isā Ibn Aḥmad al-Rāzī (360–364 H.=971–975 J.C.)*, trans. by Emilio García Gómez (Madrid: Sociedad de Estudios y Publicaciones, 1967 [1977]), pp.166–68.

Abd Allāh ibn Aḥmad, known as Ibn Iflīlī, was put in charge of the *ṭirāz*. Around that time, Muḥammad ibn al-Walīd was appointed by his peers as *ṭirāz* secretary, as he was one of the most efficient men in the trade.<sup>38</sup>

The caliph commanded Fā'iq al-Siqlabī, first *fatá*, courier and chief of the *ṭirāz*, to ride from the castle in Córdoba to al-Zahrā' ...<sup>39</sup>

And they were under direct orders from the Caliph:

Caliph Al-Ḥakam rode to the *Dār al ṭirāz*, on a visit. When he entered, he was welcomed by the administration staff and the workshop managers, who paid him due respects. The Caliph asked about their work, and gave them useful advice.<sup>40</sup>

We have no evidence for the use of textiles as currency during the Cordoba Caliphate period, but we know that the stockpiling of cloth as an asset persisted for a long time. The use of textiles as storable wealth is attested among Jewish merchants from an early period, from Genizah records,<sup>41</sup> and was still very much alive by the final years of Andalusī history. The final episode of this practice was the expulsion of the *Morisco* population, who were forced to leave most of their property in Spain, except for that which they could convert into easy-to-transport and highly valued bundles of silk.<sup>42</sup>

We must also try to understand better the role of textiles as a source of wealth, generally in connection with the commercialisation of the fabrics produced in the regional workshops of Cordoba, Almería, Pechina, Fiñana, Baza, Seville, Malaga, Murcia and Granada.<sup>43</sup> In some cases, those workshops operated under the direct supervision of the state – which was not going to let slip this source of revenue from its purview; and they were referred to by using the same term (*ṭirāz*) used to designate public workshops.<sup>44</sup> At the beginning, the activity of these workshops was limited to the production of highest quality products, both for the

<sup>38</sup> '[...] fue ascendido 'Abd Allāh ibn Aḥmad, conocido por Ibn Iflīlī, al cargo de alamīn del *ṭirāz*. Por la misma fecha fue también ascendido, por elección entre sus colegas, al cargo de secretario del *ṭirāz* Muḥammad ibn al-Walīd, que era uno de los kātibes más sobresalientes y prácticos y delas gentes más capaces y duchas en su oficio'; *Anales palatinos* [77], p. 115.

<sup>39</sup> '[...] Mandó el Califa al gran fatá, correo mayor, y jefe del *ṭirāz*, Fā'iq al-Siqlabī que fuese a caballo desde el alcázar de Córdoba al de al-Zahrā' ...'; *Anales palatinos* [183], p. 209.

<sup>40</sup> '[...] fue el califa Al-Ḥakam a caballo a la *Dār al ṭirāz*, con objeto de visitarla. Al entrar en ella fue recibido por los directores administrativos y los directores de los talleres, que le rindieron el debido acatamiento. El Califa les pidió detalles de su trabajo y les favoreció con sus indicaciones'; *Anales palatinos* [78], p. 115.

<sup>41</sup> Goitein, *A Mediterranean society*, I, p. 101.

<sup>42</sup> Miguel Ángel Ladero Quesada, 'Los judíos granadinos al tiempo de su expulsión', in his *Granada después de la conquista: Repobladores y mudéjares* (Granada: Diputación Provincial de Granada, 1993), pp. 293–309.

<sup>43</sup> Serjeant, *Islamic textiles*, pp. 169–76.

<sup>44</sup> Dozy and de Goeje, Idrīsī, *Nuzhat*, p. 198 (original), p. 241 (translation).

domestic and foreign markets, as suggested by the few but very valuable commercial records dated to the 10<sup>th</sup> and 11<sup>th</sup> centuries in the Genizah,<sup>45</sup> or the custom records from northern Spain which reflect the circulation of Andalusī silk.<sup>46</sup> These documents also confirm that the geographers' reports on the value of textiles as sources of public revenue were not exaggerated.

The value of the textile industry for the public accounts was not restricted to luxury textiles; raw materials and dyes were also subjects of a lively trade, as already pointed out by Lombard, although his work has been criticised and challenged.<sup>47</sup> In spite of that, his conclusions set the foundation for the study of the textile sector from a strictly economic point of view, considering productive, commercial and social factors. In this regard, the study of al-Andalus lags far behind other regions and periods, in which this topic has been invested with good deal more attention from historians. Lombard already clearly distinguished the products made for the palace and those of the *ṭirāz*, the purpose of which was to satisfy political ends, beginning with the symbolic representation of power, and to produce high-quality products for customers other than the palace. These other products were especially numerous, and constituted the bulk of production (of which no absolute figures can be given), also being related to the introduction of pre-capitalist labour regimes, which were now beginning to proliferate in other Western regions as well.<sup>48</sup>

We should pay some attention to the fundamental shift involved in the generalisation of some productive activities, such as silk-weaving, and the involvement of increasingly wide sectors of Andalusī society in the sector. Idrīsī's reference to the existence of over 800 looms in Almería alone, may be somewhat exaggerated:

Almeria ... was then a very industrious city, and, among other workshops, one could count eight hundred silk workshops where were made fabrics known as *holla*,<sup>49</sup> *dibādj*, *siglaton*, *ispahānī*, *djordjāni*; curtains decorated with flowers, textiles decorated with nails[?], little carpets, fabrics known under the names *attābī* (*tabis*), *mi'djar*, etc ...<sup>50</sup>

<sup>45</sup> Goitein, *A Mediterranean society*, I, p. 102; Mordechai Akiva Friedman, 'An Indian trader's partnership in Almeria (1139)', *Sefarad*, 76.1 (2016), 75–96.

<sup>46</sup> Lombard, *Les textiles*, p. 198.

<sup>47</sup> For instance, Mounira Chapoutot-Remadi, 'Réflexions sur l'industrie textile dans le monde musulman au Moyen Âge. À propos d'un livre récent', *Annales*, 35.3–4 (Recherches Sur L'Islam: Histoire et Anthropologie) (1980), 504–11.

<sup>48</sup> Lombard, *Les textiles*, p. 162; Goitein, *A Mediterranean society*, II, *The Community* (1999 edn), p. 275; Chapoutot-Remadi, 'Réflexions sur l'industrie textile'.

<sup>49</sup> *Holla*: an Arabic fabric, probably purple in colour and embroidered in gold; Jesusa Alfau de Solalinde, *Nomenclatura de los tejidos españoles del siglo XIII* (Mexico City: Instituto de Estudios Históricos y Documentos, 1981), pp. 43–44.

<sup>50</sup> 'Almeria ... Elle était alors très-industrieuse et on y comptait, entre autres, huit cent métiers à tisser la soie, où l'on fabriquait des étoffes connues sous le nom de *holla*, de *dibādj*, de *siglaton*, de *ispahānī*, de *djordjāni*; des rideaux ornés de fleurs, des étoffes ornées de cloous, de

The spread of this activity in the 12<sup>th</sup> century is significant. With the increasing integration of al-Andalus into Mediterranean and European commercial networks, mulberry trees became more common in Andalusí fields. Testimonies that refer to whole regions dedicated to silk production begin to appear in the record, for instance in Jaen:

It is called 'Jaen of the silk' because of the large number of people there who are engaged in producing silk ... Among the things to be highlighted is saffron from Baeza (one of the province's cities), which is exported by sea and land.<sup>51</sup>

and in Las Alpujarras: 'in no other region is so much silk produced as in *yabal Sulayr (Alpujarras)*'.<sup>52</sup>

Cities full of looms are recorded:

[Murcia] is alongside Almeria and Malaga, the third greatest producer of *wasy*. Specialities of the city include the al-Banyala table cloths, which are exported to the East, and beautiful tapestries for the walls.<sup>53</sup>

and Valencia's fabrics were specially valued: 'this city's specialities include Valencia brocades which are exported to the Maghreb'.<sup>54</sup>

An enormous variety of silk fabrics is enumerated, which in most cases we are hard put to identify, but which were the objects of praise as trade goods. Therefore, the first thing to be emphasised is that this activity, which was fully integrated in commercial orbits, went far beyond the scope of court workshops, entering the domestic unit. The household was, therefore, not only a consumption unit, but also participated actively in the production process, one of the reasons for the strength of this sector in al-Andalus. The written records suggest that this activity took place in both cities and the countryside and among all social groups, and that it was quite evenly distributed geographically. The discovery of

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petits tapis, des étoffes connues sous les noms de 'attābī (tabis), de mi'djar etc'; Dozy and de Goeje, Idrīsī, *Nuzhat*, p. 240.

51 'Se le llama "Jaén de la seda", por el gran número de gentes, tanto en el campo como en la ciudad, que se dedican en ella a la cría de seda ... Entre las cosas de que se gloria se cuentan el azafrán de Baeza (que es una de las ciudades de su provincia), el cual se exporta por tierra y mar'; Emilio García Gómez, *Andalucía contra Berbería. Reedición de traducciones de Ben Hayyan, Saqundi y Ben al Jatib* (Barcelona: Universidad de Barcelona, Departamento de Lengua y Literatura Árabes, 1976), p. 130.

52 'la región de yabal Sulayr (Alpujarras) es la que produce más seda del mundo'; Al-Zuhrī, s. XII; Dolores Bramon, *El mundo en el siglo XII: estudio de la versión castellana y del 'Original' árabe de una geografía universal* (Sabadell: Editorial AUSA, 1991), p. 165-66.

53 '... Murcia con Almería y Málaga, es la tercera ciudad en la industria del *wasy*. Productos especiales suyos son los tapetes de Abanilla (al-Banyala) que se exportan a las tierras de Oriente, y los tapices que regocijan la vista, con que se cubren las paredes'; García Gómez, *Andalucía contra Berbería*, pp. 137-38.

54 'entre los productos especiales de esta tierra está el brocado valenciano, que es exportado a las tierras del Magrib'; García Gómez, *Andalucía contra Berbería*, p. 138.



loom weights is a constant feature in urban spaces such as Pechina (10<sup>th</sup> century), Mértola and Granada, and rural areas such as Yecla and Tirieza (11<sup>th</sup> to 13<sup>th</sup> centuries).<sup>55</sup> They are found in domestic as well as in early Nasrid palatial contexts, for instance the Cuarto Real de Santo Domingo, in Granada.<sup>56</sup> It is important that we understand this phenomenon from all angles.

#### DIVERSIFICATION OF PRODUCTION AND CHANGE OF FOCUS

Production was diversified, and it was largely oriented, especially during the Nasrid period, to the production of highly-in-demand, lower-quality fabrics, and first and foremost to the processing of raw materials to feed the budding European textile industry.

We have already noted the large number of varieties of silk products from the 12<sup>th</sup> century, and we also have ample evidence for silk production in the Nasrid period, especially in Granada, Malaga and Almería. According to Ibn al Khaṭīb, concerning silk production in Malaga: 'they also make silk fabrics with embroidered motifs ... the textile industry is of high quality, and they make such wonderful products that they are in high demand in *ṣana'ā'*'.<sup>57</sup> He also refers to towns in the province of Almería, such as Berja, 'La industria de la seda constituye la fuente de su economía y de su bienestar' (The city's wealth and well-being is based on the silk industry), Dalías, 'Florece en ella la industria de la seda, que cualquiera que sea su calidad, se logra a bajo precio' (the silk industry is thriving, and, regardless of quality, silk can be bought cheaply), Almería itself, 'Posee materias primas para su industria' (has raw materials for their industry), and Andarax, 'Es fuente de tributos y madre de gente esforzada y altanera. Su seda vale tanto como el oro' (is a source of revenue and it breeds hard-working and proud people. Its silk is worth as much as gold...)<sup>58</sup> Ibn al Khaṭīb also describes the importance of silk production for towns in Las Alpujarras, for instance Jubiles:

It is a magnificent source of silk, both for clothes and for carpets, for it is easy to embroider. In Jubiles they use silk as adornment of houses, furniture and clothes. Tax collection on each industry is easy for tax agents and reaches a considerable sum because of the great profits that silk provides to industrialists ... No other

<sup>55</sup> Jorge Eiroa Rodríguez, 'El trabajo de la seda en Murcia durante la Edad Media', in *Seda. Historias pendientes de un hilo, Murcia, siglos X al XXI*, ed. by Mariángeles Gómez Ródenas and Jorge A. Eiroa Rodríguez (Murcia: Museo Arqueológico de Murcia, 2017), pp. 22–31 (p. 24).

<sup>56</sup> Personal communication by the director of the excavations, Alberto Garcia Porras, whom I want to thank for the information.

<sup>57</sup> '... Se fabrican también tejidos de seda con dibujos bordados... Su industria textil es también de excelente calidad y se confeccionan vestiduras de tal magnificencia que hasta desde *ṣana'ā'* los solicitan insistentemente'; Ibn al Khaṭīb, *Mi'yār al-ijṭiyār fī ḍikr al-ma'āhid wa-l-diyār*, Arab text, Castilian translation and study by Mohamed Kamal Chabana (Rabat: Instituto Universitario de Investigación Científica, 1977), p. 117.

<sup>58</sup> Chabana, Ibn al Khaṭīb, *Mi'yār al-ijṭiyār*, pp. 122, 123, 124 and 129, respectively.

trade is practiced in the city, other than silk, and for this reason no foreigners live there with the locals.<sup>59</sup>

Other travellers, such as Ibn Ṣabbāḥ, give similar accounts: ‘... the above mentioned city of Granada is the seat of the silk and taffeta industries.’<sup>60</sup> In these luxury textiles, however, what was previously made of precious materials, like gold, was now crafted in coloured silks. We also know that these later products were of lower quality, and cheaper, imitations of older pieces. According to various authors, including Ibn al Khaṭīb, these fabrics were well known and thrived in both Muslim and Christian markets despite this drop in quality, but the fact is that other sources contradict these reports: according other information, Nasrid silks were nothing but a secondary product in Western commercial orbits.

This is not to say that the silk industry had completely disappeared in the Nasrid Kingdom. The silk trade was still very important, and was strictly controlled by the Nasrid state, which created a network of tax offices in the main cities for collecting the silk revenue.<sup>61</sup> Although luxury products were still being manufactured, these were secondary from the point of view of international trade. In fact, the Nasrid kingdom seems to have focused on the supply of raw silk bales to the main European silk manufacturing centres, which were already under the control of capitalist firms. In terms of revenue, raw silk was much the main export during the final phase of Andalusí history.

We have records, most of which were generated outside the kingdom of Granada, that provide some information concerning the export of Nasrid products to Western markets, among which raw silk bales are by far the most prominent. Although foreign businessmen sometimes complained about its low quality, they did not hesitate to buy it: ‘E se non potessi aver di quella [seta di Granada] gigante, sian contenti ne togliate due fardelli di quell’altra. Perche sia un pocho men fina non churiamo, ma che n’abiate buon merchato’ (And if I could not find [Granada silk] I’d still be happy with two bundles. Even if it is not the best, you still find buyers for it).<sup>62</sup>

<sup>59</sup> ‘Es un espléndido manantial de magnífica seda, en su doble aspecto de tejidos para vestir y para alfombras se enriquece fácilmente. Los de Jubiles usan la seda para el adorno de sus viviendas, de sus muebles y de su indumentaria. La recaudación de impuestos sobre cada industria es cosa fácil para los agentes del fisco y alcanza una suma considerable, en razón de las grandes ganancias que la seda proporciona a los industriales ... Salvo el de la seda no hay otro comercio en la ciudad, por lo cual los forasteros no permanecen en ella y solo la habitan sus propios vecinos’; Chabana, Ibn al Khaṭīb, *Mi’yār al-ijṭiyār*, p. 130.

<sup>60</sup> ‘la ya citada ciudad de Granada / es la sede de la artesanía del tejido de la tela de seda y del tafetán’; Francisco Franco Sánchez, ‘El reino nazarí de Granada según un viajero mudéjar almeriense: Ibn Aṣ-Ṣabbāḥ (m. después 895/1490)’, *Sharq al-Andalus*, 13 (1996), 203–24 (p. 208).

<sup>61</sup> Adela Fábregas, ‘Aprovisionamiento de la seda en el reino nazarí de Granada. Vías de intervención directa practicadas por la comunidad mercantil genovesa’, *En la España Medieval*, 27 (2004), 53–75.

<sup>62</sup> Archivio di Stato di Prato, Archivio Datini, Filza 994, Luca-Valencia, 1102195 (22-10-1400).

When Nasrid silk (13<sup>th</sup>- to 15<sup>th</sup>-century) was identified as coming from Almería or Málaga (this indicates the harbour from which it was shipped, not necessarily the place where it was manufactured), it was not deemed to be of sufficiently high quality for the demanding Tuscan market, but was shipped to northern Europe – Bruges or Paris. Especially important were the silk hubs of Florence and Lucca; the latter in particular seems to have had a substantial demand for raw silk, some of which came from Granada.

A supply system of silk for the Lucchese textile industry that was to become common among Tuscan merchants who operated in the Nasrid Kingdom, namely the exchange of European cloth for Nasrid silk, began to be tested at an early period:

I send you 200 pieces of *Choltrai* and the rest of *Vervi* and other types. And even if you do not manage to sell them all for cash, get some *Málaga* silk and send it to Pisa...<sup>63</sup>

This arrangement was eventually also adopted by the Genoese, who were later to become the main customers for Nasrid silk, despite the efforts made by Catalanian merchants to monopolise the silk export sector.<sup>64</sup> Elsewhere I have previously pointed out the Genoese involvement in the silk trade. As others had done before them, the Genoese supplied their factories with Nasrid silk, while redistributing also to other European silk-producing regions.<sup>65</sup>

#### LABOUR RELATIONS AND SYSTEMS

In the context of a major market and export-oriented industry with a very significant output (although figures cannot, unfortunately, be provided), a sector which generated considerable profit among wide sectors of the population, both foreign and local, it is appropriate to analyse labour relations and systems.

The strong demand posed by foreign markets was to have a direct effect on the local economy at large, including peasant economies. Mulberry trees became a common presence in some areas, and even the predominant tree in several regions, such as Las Alpujarras and some districts in the coast of Málaga, such as

<sup>63</sup> ‘... vi mandrò pani 200, la metà di Choltrai, ressto Vervi e altri pani, li quali vorò ne faciate fine a contanti. E si pure no ne poteste fare fine di tuti a contanti prendetene della seta di Malicha e mandatela a Pisa ...’; Archivio di Stato di Prato, Archivio Datini, Filza 854, Brujas-Barcelona, 416744 (1401/12/7). Other examples in ASP, AD, F. 854, Brujas-Barcelona, 416749 (1402/23/2), ASP, AD, F. 1060, Brujas-Mallorca, 121246 (1402/21/1).

<sup>64</sup> Roser Salicrú, ‘Manifestacions i evolució de la rivalitat entre Gènova i la Corona d’Aragó a la Granada del segle XV, un reflex de les transformacions de la penetració mercantil’, *Acta Historica et Archaeologica Medievalia*, 23–24 (2002–2003), 575–96.

<sup>65</sup> Adela Fábregas, ‘La seda en el reino nazarí de Granada’, in *Las rutas de la seda en España y Portugal*, pp. 39–63.

Torrox, where almost all the landowners possessed mulberry trees.<sup>66</sup> The plant became a fundamental part of the Nasrid peasant economic model – its cultivation was free from any form of monopolistic restraint – and the total output of silk was very high.

Although silk production processes are imperfectly understood, we know that silk processing involved different phases and could take place in a variety of settings. López de Coca referred to rural and urban phases in silk processing.<sup>67</sup>

In the early stages of the care of silk worms, which involve growing the mulberry tree on which the worm feeds, different agents collaborated in various ways, as reflected in *fatwas*.<sup>68</sup> One such collaborative formula was the *širka fī-l-‘ulūfa* contract, an agreement in which the owner of the trees and that of the silk worms worked together, and which also made provision for the hiring of waged labourers.<sup>69</sup> This contract is historically important insofar as it reveals that different sectors/agents worked in close association from the very beginning of the production chain. As pointed out by Lagardère, silk production involved a large number of actors, who could interact with one another in various ways,<sup>70</sup> for example a lone owner of mulberry trees who also possessed silk worms, or associations of multiple individuals, who separately owned trees, worms and spinning facilities for the early processing of the silk (which must be distinguished in these associations from the weaving process *per se*).

Although nothing prevents the entire *chaîne opératoire* of silk processing from being conducted in the countryside, it seems that in later periods, the spinning, dyeing and weaving of the silk were commonly carried out in urban areas. The study of this topic is riven with difficulties, but needs to be addressed in the future.<sup>71</sup>

Only with the arrival of Genoese mercantile capital to Granada’s textile industry does the variety of production arrangements come to an end, when these businessmen became involved in the production of silk, as well as in its redistribution. The sector entered a new phase of growth, which almost drove it to the point of productive collapse; foreign demand for Nasrid silk, which was considered to be of good quality, grew ceaselessly, straining internal supply chains, but the details of this process go well beyond the scope of the present work.

<sup>66</sup> Trillo, *La Alpujarra*; Virgilio Martínez Enamorado, *Torrox. Un sistema de alquerías andalusíes en el siglo XV según su libro de repartimiento* (Granada, THARG, 2006).

<sup>67</sup> José Enrique López de Coca, ‘La seda en el reino de Granada (siglos XV y XVI)’, in *España y Portugal*, pp. 33–57 (pp. 34–36).

<sup>68</sup> Lagardère, *Campagnes*, pp. 391–411; Lagardère, *Histoire et société*; López Ortiz, ‘Fatwas granadinas de los siglos XIV y XV’, *Al-Andalus: revista de las Escuelas de Estudios Árabes de Madrid y Granada*, 6 (1941), 73–128 (p. 113).

<sup>69</sup> Salud Domínguez Rojas, ‘La economía del reino nazarí a través de las fetuas recogidas en el *Mi’yār* de Al-Wanšarīsī’, *Anaquel de Estudios Árabes*, 17 (2006), pp. 77–107 (86–87).

<sup>70</sup> Lagardère, *Campagnes et paysans*, p. 396.

<sup>71</sup> Maya Shatzmiller, *Labour in the medieval Islamic world* (Leiden: Brill, 1994).

In conclusion, the textile industry played a central, and poorly known, role in the history of al-Andalus. It became a highly dynamic economic factor, and substantial auxiliary industries emerged around it, for example the dyeing industry. It operated within a framework of complex labour systems, and became, after its introduction into international commercial orbits, a veritable powerhouse for the economic projection of some regions of al-Andalus.

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