

Medieval Textile Study Group

Coordinator: Nancy M McKenna 507 Singer Ave. Lemont, Illinois 60439 e-mail: nmckenna@mediaone.net

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Business:

The results of my e-mailing a sample copy of the newsletter in Adobe PDF format are in. Unfortunately, very few replied. Thus, I am sending this newsletter in both paper and PDF formats to everyone who has sent me their e-mail address. The replies I recieved indicated that those overseas prefer to get most of the newsletters in PDF format, with one December paper mailing to save costs and allow them to get the newsletter in a more timely fashion than paper alone allows. Those in North America prefer the paper option above the e-mail version.

So, with your checks, please advise which option you want:

North America:

PDF format w/ one paper mailing for samples: \$7.50/yr
Paper alone: \$10.50/year

Overseas:

PDF format w/ one paper mailing for samples: \$10/year
Paper alone: \$17.00/year.

Some enquired why I do not just ask for \$15/year (N. America) as other coordinators do. The reason is that a number of our members live on a limited budget, and greatly increasing the cost of the issues will limit their exposure to the world of weaving. Also, I feel that technology should be pressed into service to benifit us. As a coordinator, I feel I should serve the majority, but not forget the less fortunate.



silver Penny of William the Conqueror

Address Change/Additon:

New member of CW and MTSG:

Carolyn Priest-Dorman
42 Innis Avenue
Poughkeepsie, NY 12601-3715

Sample Update:

Nancy M McKenna
3/3 twill, s,z twist interaction:

Julie Hennessey
Warp Ikat

Gayle Bingham:
The first sample is a 10th C. (1ply) linen sample (Alamannic)
or 2/2 broken twill (z/z twist, 1 ply) -Bavaria, Merovingian period

Carolyn Priest-Dorman
"rosettenkoper," "rippenkoper," or one of the "wabengewebe" weaves

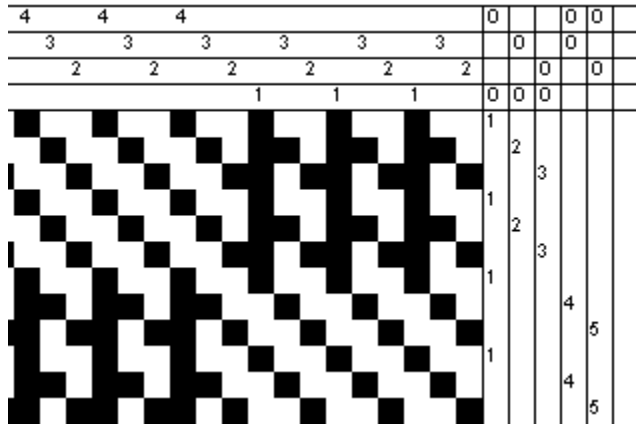
Drafts of Samples from NESAT III

Nancy M McKenna

This is just in case you have no ideas of what to weave. Most weaves we do currently were also woven in the Medieval period.

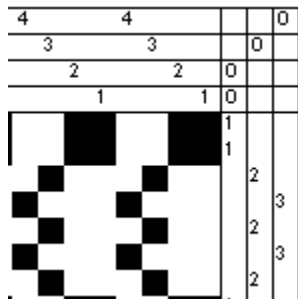
	4	4	4			0	0
	3		3	3		0	0
	2	2	2			0	0
1	1	1	1			0	0
					1	2	
							4
						2	3
					1		
						3	4
					1	2	
							4
						3	
							4

This drawdown is made from fig. 8.4, page 64 NESAT III. The fabric is a 2/2 diamond twill (broken twill), 12Z x 10S threads per diamond (6Z x 5S between reverses). Fragments of this weave were found at Coppergate: no. 1308 and have counts of 15 x 12 per cm. This is believed to be a locally made textile (Coppergate, York, 7th & 8th Century)

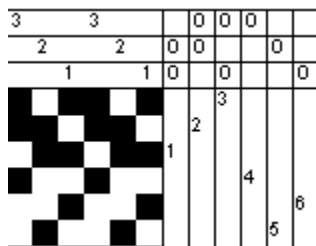


Sample not made in England, No. 1336, a 'Wabengewbe' was also found at this site (see draft, courtesy of Carolyn Priest-Dorman). In NESAT III (Penelope Walton) it is called a honeycomb variation. It is more closely related to Huck lace, but with the foundation weave being twill rather than the tabby we are most familiar with. I understand that this weave is commonly called 'honeycomb' in Europe, however.

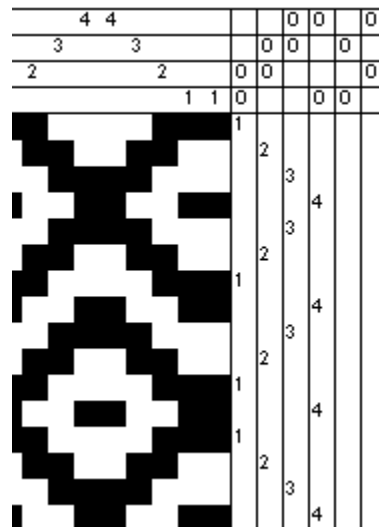
The wool found in this dig, fabric as well as raw fiber, is similar to the Scottish Blackface and the Swaledale wool available today.



Draft from the schematic drawing showing weaving detail of a textile found in Czechoslovakia dating to the 8th century. From NESAT III article written by Marie Kostelnikova (p. 115). The ends on shafts 1 & 2 are thicker than those on 3 & 4.



Rippenkoper, Dorverden 8, courtesy of Carolyn Priest-Dorman



Rosettenkoper variant, Giengen Grab 26. Courtesy of Carolyn Priest-Dorman

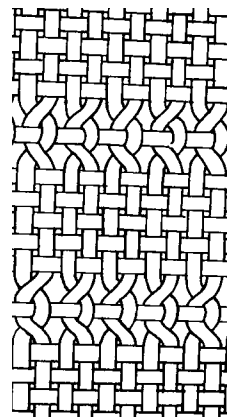


Illustration 14.4, page 115, NESAT III, article by Marie Kostelnikova. "Schema des Drehergewebes aus Dolni Dunajovice, 8 Jh." Drawing of the method of weaving, 8th Century (Czechoslovakia)

2/2 Twills: *Kreuzköper*

© Carolyn Priest-Dorman, 2000

The "*kreuzköper*," or "cross twill," is often called a "broken twill" in English. It is identical to Marguerite Porter Davison's "Halvorsen #5 Pebble Weave," treadling VII (Davison, p. 5). In north Europe, during the centuries leading up to the Norman Conquest, such weaves were executed in singles wool threads at medium to coarse setts and served as blankets, cloaks, outer clothing, and the like.

This particular draft is taken from Jorvík 1304, a mid-tenth century textile found at the Coppergate site in York, England. The count is 10 Z-spun by 8 S-spun threads per centimeter, and the thread size is 0.8mm throughout (Walton, p. 435).

The identical structure has also been found in other places and times. The earliest known piece of a textile that might be woven in *kreuzköper* (it's apparently hard to tell) dates to fourth or fifth century Lithuania. Its thread count is 10Zx9S/cm (Bender Jørgensen, p.249).

The earliest securely identified *kreuzköper* weaves, however, are 8th century; they come from north Germany (Bender Jørgensen, p. 79). There's also an Alamannic one from Baden-Württemberg (Bender Jørgensen, p. 70) in approximately the same period.

Examples from Middelburg and Elisenhof (north Germany) during the early Viking Age parallel the later London and York ones and are sometimes a bit finer (Hägg, p. 243). An Austrian *kreuzköper* of roughly contemporary date has paired Z-spun warps and S-spun weft. The warp count is 17, the weft 8 (Bender Jørgensen, p. 112). If the weft were twice the size of the warp (not an uncommon occurrence in pre-Conquest textiles), this would lead to an interesting evenweave effect.

A ninth-century example from a woman's grave at the trading city of Birka (Sweden) was heavily fullad, partially obscuring the weave structure. The thread count is 16Zx11S/cm; the warp is firmly spun and the weft loosely spun (Geijer, p. 39).

A surprising 5.9% of the Viking Age textile finds from the harbor town of Haithabu (north Germany) were woven in *kreuzköper* (Bender Jørgensen, p. 79). They were fragments of heavy outerwear—vests and coats. Thread sizes ranged from 0.7mm to 4.25mm in diameter, with thread counts varying from 3 to 11.5/cm. Unlike the York and London examples, these were not typically evenweaves; ratio of warp to weft could be as disparate as 4:1 (Hägg, pp. 242).

An example from Milk Street, a late Saxon site in London, dates to the late tenth century. Its thread count is 9Zx8-9S/cm, and the thread sizes are 0.5mm in the warp and 1.0mm in the weft (Pritchard, pp. 53, 55).

Two later examples from Göttingen, Germany, date to the 13th or 14th century; no thread counts are available (Tidow, pp. 203-4).

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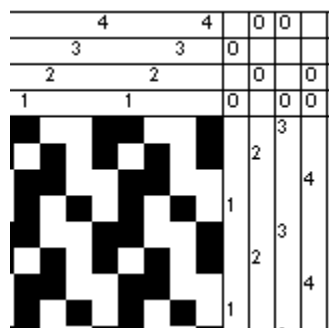
Geijer, Agnes. *Die Textilfunde aus den Gräbern*. Birka: Untersuchungen und Studien, III. Uppsala: Almqvist & Wiksells, 1938.

Hägg, Inga. *Die Textilfunde aus dem Hafen von Haithabu*. Berichte über die Ausgrabungen in Haithabu, Bericht 20. Neumünster: Karl Wachholtz Verlag, 1984.

Pritchard, Frances A. "Late Saxon Textiles from the City of London." *Medieval Archaeology*, vol. 28 (1984), pp. 46-76.

Tidow, Klaus. "Neue Funde von Mittelalterlichen Wollgeweben aus Norddeutschland," pp. 197-210 in Lise Bender Jørgensen, Bente Magnus, and Elisabeth Munksgaard, eds., *Archaeological Textiles: Report from the 2nd NESAT Symposium 1.-4.V.1984*. Arkaeologiske Skrifter 2. København: Arkaeologisk Institut, 1988.

Walton, Penelope. *Textiles, Cordage and Raw Fibre from 16-22 Coppergate*. The Archaeology of York, Volume 17, Fascicule 5. York: York Archaeological Trust and the Council for British Archaeology, 1989.



"Halvorsen #5:
Pebble Weave"

Textiles of Islamic Spain

By:Lynn Meyer
<LMeyer@netbox.com>

I recently had the opportunity to write a paper which could serve both as my contribution to MTSG, and as an entry in an SCA competition for "research papers on Moorish Spain". ("SCA" is the Society for Creative Anachronism, a group that re-creates the Middle Ages.) The SCA contest came first in time, so the paper that follows this introduction was written for that format.

A very brief intro to the history of Islamic Spain may be interesting background first. I've also added some notes on dyes that didn't fit the length constraints of the SCA paper.

History

Most of the southern part of the Iberian Peninsula (which is Spain and Portugal today) was conquered in 711 as part of the general Islamic geographic explosion around that time. It was known as al-Andalus.

From the mid-eighth century to roughly 1000 AD, a centralized government, the Umayyads, ruled al-Andalus. They were in contact with the cities of the Islamic Near East, and tried to emulate them. The rulers encouraged the arts and luxury items, including textiles, as status symbols and items of trade.

Then al-Andalus fell apart into a large number of petty kingdoms, known as the Taifa states. The Taifa rulers continued to spend large sums on luxury and status, so the arts (including textiles) continued to flourish. However, the military weakness of the Taifa rulers led to many of them paying tribute to the northern Christian kingdoms for protection. In fact, if enough gold and silver were not available, luxurious silk textiles were sometimes sent north as part of this tribute.

Alarmed by the Christian conquest of Toledo in 1085, the Taifa states asked for help from two successive groups ruling North Africa, the Almoravids and the Almohads. In contrast to the rather hedonistic Andalusis, these North African groups were ascetic, reforming zealots, and had little time for art. They did re-unify al-Andalus, but as a province of North Africa.

In the first half of the thirteenth century, the Christians made huge advances, conquering all that remained of al-Andalus except the province of Granada, which paid tribute to Castile. Silk manufacture continued as a major activity in Granada; Almeria, a major textile city, was also included in the province. In 1492, of course, Ferdinand and Isabella conquered Granada, the last remaining bit of al-Andalus.

Reference: Fletcher, Richard. Moorish Spain. University of California Press, 1992.

Dyes

I'd hoped to include dyes in the SCA paper, but there was a length limit. Here's a summary, taken from Constable unless otherwise noted. (Baker mentions Islamic dyes, but not much by specific region.)

Al-Andalus was famous for its production and export of qirmiz and saffron. Qirmiz (kermes) is an insect similar to the New World cochineal and to various other Old World insects; and like them, it produces brilliant reds. Saffron was very expensive, but could be used as a high-quality yellow dye, in perfumery or as a spice. Kermes, incidentally, was used with alum to color some of the famous cordovan leather (Constable, p.192).

Much brazilwood was imported from the east; it's a red dye, but I've heard it's somewhat fugitive.

Lac was also imported from the east, although it's unclear how much was used as red dye, how much for shellac, and how much as medicine. I am indebted to Carolyn Priest-Dorman and Jennifer N. Munson for further information on lac, from a discussion on the SCA_NaturalDyes email list. They pointed out that a red dye analysis was done on 53 surviving European textiles, including 20 Spanish ones (both Christian and Andalusis) dating from 11th to late 15th centuries. "Surprisingly, lac dye, the import of which into European centres is well documented in medieval texts, has not been found at all." Their source was an article by Dominique Cardon et al. in Dyes in History and Archaeology 8 (1989), "Analysis of Medieval Red Dyes by HPLC, with Special Emphasis on the Insect Dyes," pp. 22-31. (Cardon et al. also footnote their claim about no lac to a book by Dominique Cardon, Les Vers du Rouge: Insectes Tinctoriaux (Homoptera: Coccoidea) Utilises dans l'Ancien Monde au Moyen-Age, Montpellier, 1987.)

Woad was grown in al-Andalus, and indigo was imported, for blues. (Apparently there was quite a lot of scholarly confusion for a while on whether indigo was grown in al-Andalus too, but Bolens concludes that only woad was actually grown there.)

Bolens also mentions that the Calendar of Cordoba, 1009, shows the royal textile workshops requisitioning qirmiz in May, sky-blue (woad) in August, and madder in September.

Sanchez says that dyeing plants mentioned by Andalusis agronomists included safflower, saffron, wild madder and sumach. Safflower can produce red or yellow, depending how it's processed.

A poor quality of alum (for mordanting) is found in Iberia; it was known to Rome, and recorded by Pliny. There are no known records of this low-grade local alum being used in al-Andalus, but there are records of better alum being imported from elsewhere.

In the thirteenth century, when the Christians controlled most of Iberia, alum did become known as an export from Iberia. Also, kermes and saffron continued to be exported from Iberia — although they were now being exported mainly to Christian European countries, where before they had been exported primarily to Islamic Mediterranean lands.

Contradiction

Since writing the original paper, I've discovered a contradiction between two reputable sources. If anyone

discovers further info on this, I'd appreciate a note!

Patricia Baker (Islamic Textiles, British Museum Press, 1995; p. 62) says of her "Veil of Hisham" photo: "Detail of linen plain weave with tapestry-woven decoration in six silk colours and gold thread..."

However, today I see that Florence Lewis May (Silk Textiles of Spain, Hispanic Society of America, 1957; p. 14) says the same textile is "woven entirely of raw silk according to a recent analysis, and ornamented with a tapestry-woven band in gold and silk threads". The "recent analysis" is footnoted to Carmen Bernis Madrazo, Tapiceria hispano-musulmana, in Archivo espanol de arte, July-Sep 1954, v. 27, p.198-199 (the whole article is pp. 189-211).

The photos make it clear that they are referring to the very same textile. Baker is much more recent — but May and Bernis Madrazo are far more specialists on Spanish textiles.

Introduction

Textiles, like food, were a vital industry in medieval times. "Textiles ranked among the most highly organized and productive medieval industries in al-Andalus and elsewhere, and they provided the staple export of many areas.(58) There are records of thousands of bales of silk, wool, flax, and cotton, shipped across the Mediterranean in the medieval period." ¹

Perhaps more importantly for purposes of this paper, I personally find the topic fascinating and wanted to learn more about it. In particular, I wanted to survey Andalusí textiles as a whole, not just Andalusí silks. Many general art books and specialized textile books focus entirely on the silks — which are indeed spectacular! — but only part of the story.

Background

Romanized Spain produced linen and wool textiles. I found almost nothing on textiles of Visigothic Spain, but in general the major effect of Visigothic rule over the Romanized population seems to have been an overall decline in prosperity, as in the "Dark Ages" elsewhere in Europe.

However, the Muslim conquest of Spain in 711 would lead to major developments and advances in many areas, including textiles.

For one thing, the Muslims provided a fairly stable central government for several centuries — e.g. the Umayyad dynasty from the mid-700s till roughly 1000. This was a much stabler environment for agriculture, artisans and

trade than the perpetual squabbles and warfare of the unruly Visigothic nobles. ²

For another, Spain became part of the Mediterranean network once more. For many centuries, the Mediterranean was essentially controlled by Islamic ships. Trade and travel between Islamic countries were frequent and easy.

Since the early Muslims had assimilated many of the urbanized, highly advanced centers of the Near East, such as Egypt, Damascus and Baghdad, the Mediterranean now linked Spain with major centers of civilization. ³

Although many of the original conquerors and settlers of al-Andalus (Islamic Spain) were Berbers from North Africa, the elite were Arabs and other Near Easterners. They retained ties with relatives there, and tried to copy the capitals (Damascus and later Baghdad) in their own areas.

Thus, even rulers of outlying areas like al-Andalus provided patronage and incentives to attract the skilled practitioners of the sophisticated arts and crafts of the Near East to their own lands, to create luxury, and perhaps more important, prestige.

For instance, a Baghdad ceramicist was imported to train local North African potters in making polychrome luster-painted tiles for a mosque. From here, the skill spread, leading to the production of these elaborate tiles in Malaga, Spain, and eventually the Hispano-Moresque ware of the 15th-16th century. ⁴

Once the advanced skills were established, changing fashion trends could even be followed, simply by importing the latest style of fabric for local artisans to copy.

But even before the luxury skills, came more practical importations, such as irrigation. The Romans, of course, had done a good deal of this, e.g. building their usual aqueducts. But the Arabs improved and extended it, greatly increasing the area that could be cultivated. From their desert homeland, they brought a good deal of "Middle Eastern innovations such as the noria (waterwheel) and *saqiya* (gated pot-chain) to raise water to greater heights and the *qanat* (underground canal) to distribute it." ⁵

These improvements in irrigation allowed the introduction of new crops and expansion of existing ones. In addition, crops unknown to the Romans during the time they held Spain had now spread westward to Islamic lands, and could now be imported to Spain — notably silkworms.

A number of agronomists in al-Andalus wrote scholarly

works on plants, including textile-related plants. A chapter of Ibn al-'Awwam's *Book of Agriculture* covers at some length the methods of cultivating cotton, then moves on to flax and hemp; the dyeplants saffron, henna, madder and woad; and the thistle used for teaseling (raising the nap on cloth).⁶

Linen

The improved irrigation techniques allowed a great increase in the existing cultivation of flax for linen in the Iberian peninsula.⁷ Baker, surveying Islamic textiles in general, says that "The cultivation of flax and trade in linen ... have long been associated with Egypt. ... Other important centres were Tunis and Carthage in North Africa, Andalusia and Syria ..."⁸

An indication of the perceived value of linen can be seen in this: "When Granada was threatened with attack in 1125, a chronicler explained ... the invaders were attracted by the region's 'advantages and fertility for wheat, barley and flax, and by its many silkworms, vines, olives and fruits...'"⁹

Bolens notes "flax had already been introduced during Roman times, into Galicia, Lusitania and the marshy regions of the south, towards Ampurias, Tarragona and Jativa, and the tradition was continued under the Hispano-Arabs... [from the 11th century onwards] it no longer seems to be found in the best-placed sites at the foot of the sierras, contemporary documents rather referring to the Southern coastal regions, around Malaga, in the Plain of Granada and in the wonderful Andarax valley, catering for Almeria(37), where coloured linen sails were manufactured. ... Linen was woven and dyed both for the home market and for export."¹⁰ (Alas, Bolens does not say what dye was used on the linen! Other than that slight amounts of sheep manure in the water retting the flax stems would make the finished product reddish-brown.)

Bolens remarks that hemp was also grown for fiber, in similar conditions to flax but requiring less water. It was used for coarser fabrics, ropes and paper.¹¹

Constable, who studied trade patterns of Muslim Spain in depth, found an interesting pattern in Geniza records (mostly 11th and 12th centuries — see Glossary for details) and in geographers' writings. Apparently flax was carried from Egypt to al-Andalus, woven into linen cloth, then exported back to the Near East.

"Although silk had a higher value, linen and flax were traded in greater volume. Geniza merchants often handled both silk and flax, carrying the former eastward from al-Andalus and Sicily and the latter westward from Egypt. Their letters indicate that hundreds — even

thousands — of bales of Egyptian flax were shipped westward every year, with each bale weighing roughly six hundred pounds.(59) Once in al-Andalus, Egyptian flax was transformed into woven linen, and ... returned as exports, according to Ibn Hawqal, 'to Egypt, Mecca, Yemen, and elsewhere' in the tenth century.(60)"¹²

Almost all surviving Andalusí textiles shown in books are silks, (which is quite natural — they're gorgeous!) but one, the so-called Veil of Hisham, naming the Cordoban ruler Hisham II (r. 976-1009 and 1010-13, was tapestry-woven in silk and gold on linen.¹³

Cotton

Cotton was one of the new crops introduced into the Iberian peninsula by the Muslims. The improved Islamic irrigation techniques had a lot to do with this, but Watson suggests that development of a new species of cotton may possibly have increased the growing range of cotton in this time frame, as well.¹⁴ In any case, "cotton cultivation was widespread in the tenth-century Islamic world, from the eastern provinces to North Africa and Iberia, including Egypt and Syria."¹⁵

Watson says "Many places in the western part of Dar al-Islam [Islamic world]— Egypt, the Maghrib, Spain, and Sicily — also came to grow cotton and make cotton goods."; "cottons from Djerba, Tunis, and other parts of Ifri-qiya [North Africa] were exported to Spain and Italy." Specifically, "In Spain, cotton cultivation is first mentioned in sources of the ninth and tenth centuries, and the manner of growing it is later described by the agronomists Abu al-Khair, Ibn Bassal, and Ibn al-'Awwam.(59) Although the early sources speak of its cultivation only in the south, notably in the Algarve and in the hinterland of Seville and Elvira, later sources state that it was also grown at Guadix and, more surprisingly, in Valencia and Majorca. Andalusian cottons were exported to other parts of Spain and to the cities of the North African coast.(60)"¹⁶

I doubt that large quantities of cotton were exported from al-Andalus to other countries. Some Muslim geographers claim that it was: "Razi reported that the region of Seville produced 'a large quantity of cotton, which is exported to all regions and across the sea.' ... Ibn Ghalib went further, saying that by the late twelfth century Sevillian cotton was 'exported to all parts of the world.'" "However, Constable was unable to find much reference to such exports, in the Geniza records or in Latin notarial contracts. Although the records for Andalusí trade are fragmentary, Constable did piece together quite a lot of evidence on many other imports and exports."¹⁷

She says "Arabic geographers noted the success of cotton

cultivation and referred to international trade in the product, but their reports must be weighed against the lack of references to Andalusí cotton traffic in other sources. Razi reported [see above]... Later geographers routinely echoed Razi's words ... Nevertheless, Andalusí cotton does not appear prominently in the Geniza, nor in Latin notarial contracts, nor are there many surviving examples of Andalusí cotton textiles. Although the consensus of geographers suggests that al-Andalus must have produced and exported some cotton, the lack of corroborating evidence points out both the difficulty of assessing the importance of cotton traffic and the potential for distortion in any one source.”¹⁸

Wool

Wool was a minor product of al-Andalus, and was also imported from other countries.

Bolens says “wool was the object of frequent legal wrangling on account of the many small flocks of sheep in the general economy” of al-Andalus¹⁹, but she also quotes al-Idrisi (1100-1166) that “ ‘rich people ... wear cotton clothes and short cloaks’, while wool is worn by the poorest people.”²⁰ (I wonder — perhaps the rich stayed in the warm lowlands, and only the poor had to work in the mountain cold?)

Baker says that wool was “associated in the Islamic world with simplicity, honesty and piety. It was thus proper clothing for saintly theologians, just rulers and champions of the faith...”²¹ But she also discusses that wearing silk was the subject of theological debate²² — and most certainly, the Andalusí elite wore silk garments, at least in the earlier centuries before the more zealous Almohads ruled.

Constable mentions a northern Christian tax on flocks traded with Moorish lands, though it's not clear which way the flocks are being traded.²³

In the eleventh century, a Geniza merchant “sent a cargo of wool valued at thirty dinars from Alexandria to Almeria” (that is, from Egypt to al-Andalus).²⁴

Andalusis imported “raw wool from the Maghrib” (North Africa)²⁵ “Muslim Spain also imported raw wool, since unlike Roman Spain or later Christian Spain, the Andalusí economy never concentrated on wool production. Zuhri remarked that al-Andalus obtained wools from Tlemcen, and Geniza letters referred to shipments of wool from Egypt to al-Andalus.”²⁶

Merino sheep became a Spanish export after Islamic times, but since they are so famous, and since I've heard many conflicting rumors as to their origin, I'll include this anyway. “Sheep had been raised in the peninsula

since ancient times. The wool produced in and exported from Roman Baetica had a widespread reputation, but the long smooth staple of Roman and Andalusí wools differed from the short crimped merino wool that later became the standard Castilian export. Merino sheep may have been brought to the peninsula during the thirteenth century, but the word *merino* does not actually appear in Spanish texts until the early fifteenth century. The name probably derives from the Banu- Mari-n, a Maghribi dynasty succeeding the Almohads in the late twelfth century. However, it is not clear whether the sheep were brought to al-Andalus in the Muslim period, whether they were imported by later Christian rulers, or whether (as Lopez believed) they were introduced from North Africa to the peninsula in the fourteenth century by Genoese intermediaries who were hoping to establish a reliable Iberian source of wool to supply Italian looms.”²⁷

Silk

“In al-Andalus, silk fabrics, as well as raw silk, made up the major portion of exported textiles, distantly followed by woven linens, cottons, woolens, and a peculiar fibre known as sea wool. Andalusí carpets and rugs were also widely traded.”²⁸

Unfortunately, there is a length limit on this paper — and going into any detail at all on silk would exceed it!

Very briefly, then: Andalusí silk textiles were luxury goods, often involving gold brocade, and were well known and respected in their time. Those that were exported went primarily to other Islamic lands, but some went north to Christian Europe. Most of the Andalusí silk textiles which we have today, survived in Christian contexts — as ecclesiastical vestments, in royal burials, as reliquary linings, and so on. Whether they came north originally by purchase, as diplomatic gift, as tribute during the Taifa years, or as loot is often difficult to determine.

After the final Christian conquest of Granada, and expulsion of the remaining Muslims, this phase of the Iberian silk industry essentially disappeared, though silk thread was still exported. Later, Spanish weavers copied Italian silks, but that was a separate enterprise.

Glossary

al-Andalus — the term most often used today for the part of the Iberian peninsula ruled by the Muslims (some use Andalusia, but this is confusing since that is also the name of a region in modern Spain).

Andalusí — the term scholars today seem to prefer as the adjective form of al-Andalus, and for inhabitants of al-Andalus (as opposed to Andalusian, a resident of modern

Andalusia). When I use it to refer to an inhabitant of al-Andalus, I do not mean to imply Muslim, Christian or Jewish, merely nationality/residence.

Geniza — “This cache of materials, including thousands of medieval letters and other papers, were preserved in a sealed room of a synagogue in Old Cairo where they were discovered in the late nineteenth century. ... many Geniza letters pertain to the affairs of Jewish merchants trading to and from Egypt during the eleventh and twelfth centuries. Over two hundred of them contain references to Andalusis, Andalusí goods, and travel to Andalusí ports.” (Constable, Preface, page xx)

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End Notes

¹ Constable, p. 159

² Reilly, p. 6

³ Watt, p. 10-13

⁴ Jenkins, p. 75

⁵ Reilly, p. 6

⁶ Bolens, p. 1003 for the chapter contents; Sanchez, p. 991 for the fact that al-’Awwam is Hispano-Muslim, probably from Seville.

⁷ Reilly, p. 6

⁸ Baker, p. 24

⁹ Constable, p. 141

¹⁰ Bolens, p. 1007-8

¹¹ Bolens, p. 1008

¹² Constable, p. 159-160. Ibn Hawqal was an early geographer

¹³ Baker, p. 61

¹⁴ Watson, p. 359-362

¹⁵ Baker, p. 76

¹⁶ Watson, p. 362; the three agronomists are eleventh-twelfth centuries, Sanchez p. 990.

¹⁷ Constable, p. 142

¹⁸ Constable, p. 142-3

¹⁹ Bolens, p. 1004

²⁰ Bolens, p. 1007

²¹ Baker, p. 21

²² Baker, p. 16

²³ Constable, p. 45

²⁴ Constable, p. 129

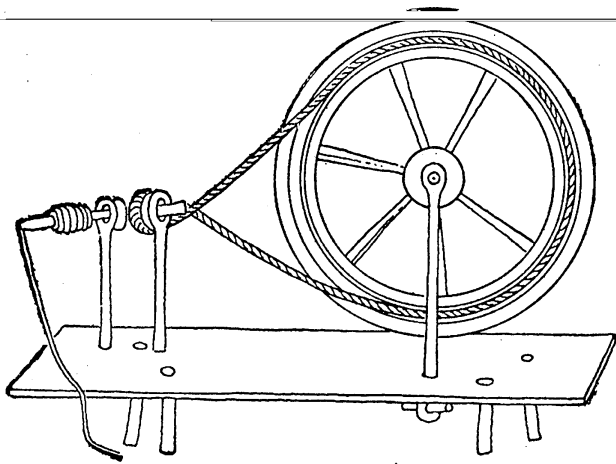
²⁵ Constable, p. 159

²⁶ Constable, p. 160

²⁷ Constable, p. 228. She cites (74) Klein, *Mesta*, p. 4; M.

Lombard, *Les textiles dans le monde musulman du VIIe au*

²⁸ Constable, p. 159



Spinning Wheel, 1340

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www.weavespindye.org/convergence/index.html

Complex Weavers' Seminars 2000
Wilmington College, Ohio
June 26 - 28, 2000
www.complex-weavers.org/sem2000.htm

* As overshot and double woven coverlets are not closely related to Medieval weaving, I'll not be sending the catalog to everyone. But if you want a copy, let me know, as I have a couple copies.