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Iberian Carpets, Wool, and the Making of Modern Spain

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O Wool, noble dame, thou art the goddess of merchants, to serve thee they are ready, by thy good fortune and thy wealth thou makest some mount high, and others thou bringest to ruin.

O Wool, Christians no less than pagans and Saracens, seek to have thee and confess thee...Thou art cherished throughout the world and the land where thou art born may do great things by reason of thee.¹

John Gower

This poem, “Wool: Goddess of Merchants,” extols the commercial value of wool, while reckoning its potential for ruin. It was written by John Gower (1330-1408), an English poet who was a contemporary of Chaucer. Wool, indeed, brought risk of great benefit or complete ruin, not only for the fortunes of merchants but for those of monarchs, too.

The startling realization that wool substantially contributed to the making of modern Spain came to me as I began to prepare a paper for the 13th Biennial Symposium of the Textile Society America, thematically focused on “Textiles and Politics.” The paper was initially entitled, “Iberian Carpets and the Making of Modern Spain,” based upon research I had conducted as Curator at The Textile Museum, followed by research undertaken for an exhibition on the crown of Aragon for the Philadelphia Museum of Art, which was postponed after the economic downturn of 2008.² But as I began writing, I realized it was not the carpets, but the wool that played such a prominent role in Spain’s economic history. As curator I had the benefit of working with what is recognized as the finest collection of Iberian carpets in the world, and the largest collection anywhere of carpets preserved from the 15th and 16th centuries.³ As Curator, my scholarly focus, necessarily, was documentation, analysis, and interpretation of the carpets themselves, comprising the collection.⁴ As Research Associate, with the benefit of hindsight and distance in both time and space, I found myself at liberty to think more broadly in terms of economic history and a cultural history that is not so narrowly object-based. This shift in a literal point of view

¹ The full poem is reproduced as frontispiece in Bill Carter and John MacGibbon, *Wool: A History of New Zealand’s Wool Industry* (Wellington, NZ: Ngaio Press, 2003).

² Carol Bier, “Jewels of The Textile Museum’s Collection: II. Carpets of Andalusia,” in *A World of Oriental Carpets & Textiles*, ed. Murray L. Eiland, Jr. (Washington, DC: International Conference on Oriental Carpets, 2003), pp. 17-36 (notes and structural analyses, pp. 283-84); Carol Bier, Bier, “Spanish and Mamluk Carpets: Comparisons of Decoration and Structure,” *Ghereh* (Turin, Italy) 36 (2004), pp. 9-17. A map of rug-weaving regions of the world, including Spain, is illustrated at “Symmetry and Pattern: The Art of Oriental Carpets,” <http://mathforum.org/geometry/rugs/carpets/map.html> (accessed 28 November 2012).

³ Kühnel, Ernst and Louisa Bellinger, *Catalogue of Spanish Rugs: 12th Century to 19th Century* (Washington, DC: National Publishing Company, 1953).

⁴ Bier, “Jewels of The Textile Museum’s Collection,” and the exhibition brochure, *Carpets of Andalusia* (Washington, DC: The Textile Museum, 2003).

affects one's scholarly perspective.⁵ This is not so surprising, however, if one stops to ponder Iberian carpets (figures 1-4): as with the carpets of many other traditions, warp, weft, and pile are made of wool, but carpet-weaving itself is not a tradition indigenous to Spain. Its origins on the Iberian peninsula



Figure 1a, left: Iberian carpet, Seljuk style, 15th century, The Textile Museum 1976.10.3 (Purchase, Arthur D. Jenkins Gift Fund and Proceeds from the Sale of Art).

Figure 1b, center: Iberian carpet, Gothic style, 15th-16th century, The Textile Museum R44.2.1 (Acquired by George Hewitt Myers in 1920).

Figure 1c, right: Iberian carpet, Renaissance style, 16th century, The Textile Museum R44.00.3 (Acquired by George Hewitt Myers in 1942).

remain unclear, but what is clear is that Iberian carpets do not emerge from a carpet-weaving culture based on nomadic pastoralism. The carpets woven in Andalusia were not the products of nomads; nor is there any tradition of tribal carpets: pastoralism in Spain operates within a different social context than

⁵ A similar adjustment in perspective is reflected in the paper I presented at the 12th Biennial Symposium of the Textile Society of America (2010) in Lincoln, Nebraska [Bier, Carol, "Oriental Carpets, Spatial Dimension, and the Development of Linear Perspective: From Grid to Projected Grid," *Textile Society of America Symposium Proceedings*, <http://digitalcommons.unl.edu/tsaconf/10/> (accessed 27 November 2012)].

the tribalism that is pertinent to other rug-weaving regions of the world.⁶ Seasonal migration in Spain, *trashumancia*, is organized for commercial production of wool. To judge from the archival sources of the *Mesta*, the professional organization of sheep flock owners and shepherds, wool production was commercially driven and seems to have been primarily for export. Offering a reassessment that is yet preliminary, each of these factors will be treated briefly in the essay that follows. My intent is to induce thinking about the economic, social, and cultural context of Iberian carpets, a context in which the commercial production of wool with a focus on trade is highlighted as the generative economic force that sustained the tremulous economy of Spain. This perspective elsewhere might compare *wool as commodity* with *carpets as trade goods*, but in Spain it is even a sharper contrast with the rarified patronage of carpets as luxury goods, listed in inventories as palace furnishings and received as donations at convents with royal support. The span of history covered in this brief overview includes the long period of Christian reconquest, particularly from the late thirteenth century onward, when migration routes were protected by the king, and with a focus on the fifteenth and sixteenth centuries, the time of Spains transition from the Islamic world to an emerging Europe and into the modern age.

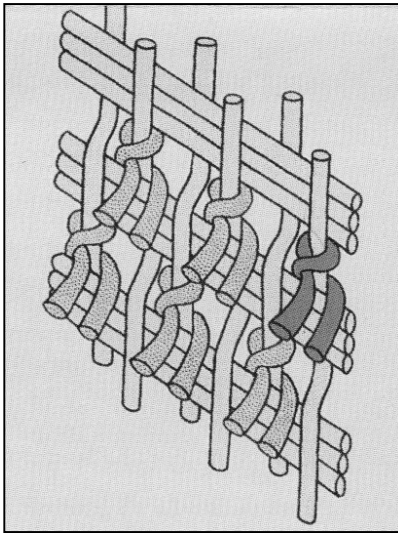


Figure 4 Iberian Single-Warp Knot, as drawn by Milton Sondag in Honor of Charles Grant Ellis; illustrated in Ellis 1988, p. 298, “Spanish Knot,” Figure 1. Reproduced with permission.

The rapid conquest of the Iberian peninsula by Arab and Berber armies in the eighth century of our era, accomplished in the short span of a couple of decades, was followed almost immediately by efforts of Christian reconquest, which lasted for nearly eight hundred years. Through military conquest and strategic alliances, including marriage, the reconquest progressed region by region with the political expansion of the kingdoms of Navarre, Aragon, Castile, and Leon. By the end of the thirteenth century Christian kingdoms dominated the peninsula, with the southern regions maintaining Islamic rule until at last the kingdom of Granada fell in 1492. The seasonal passages for the migration of sheep (figure 5a) from the summer pastures of the northern highlands to winter pastures in the southern lowlands were protected by kings. During the reign of Alfonso X in 1273, an institution known as the *Mesta* (officially

⁶ Thomas J. Barfield, *The Nomadic Alternative* (Englewood Cliffs: Prentice Hall, 1993) explores a spectrum of nomadic pastoralism responsive to what he calls “an ecology of movement” (p. 11). Spain does not figure in his comparative study. Jacob Black-Michaud, *Sheep & Land: The Economics of Power in a Tribal Society* (Cambridge: Cambridge University Press and Paris: Editions de la maison des sciences de l’homme, 1986), explores the economic and political dimensions of a tribal society in relation to sedentary agricultural and nomadic pastoral populations in Luristan, Iran.

named *El Honrado Concejo de la Mesta de Pastores*) was formalized to protect the interests of flock owners and shepherds. Routes of passage for seasonal migration were protected and privileges to the Mesta were extended for a variety of economic intents. Region by region after the Christian reconquest of Muslim areas, drovers' roads under control of the Mesta expanded as wool became Spain's major export, shipped from the northern ports of San Sebastian, Bilbao, and Santander.⁷

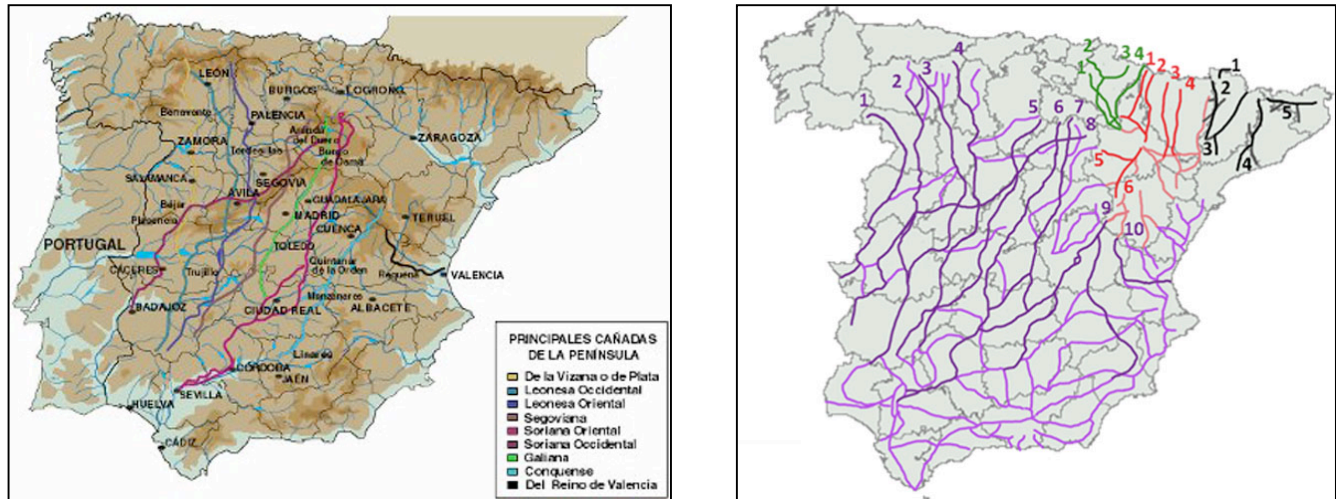


Figure 5a (left) Map of principal cañadas, drovers' roads for sheep migration on the Iberian peninsula.
Downloaded from http://www.iberianature.com/material/canadas_reales.html (accessed 1 December 2012).
Note: this map seems to be based on the map illustrated in Klein, *Mesta*, p. xix (see note 8, below).

Figure 5b (right) Map of primary (dark) and secondary (light) drovers' roads, including regions of southern Spain long held by Muslims.

http://commons.wikimedia.org/wiki/File:V%C3%A0das_pecuarias_2º_nivel.png?uselang=es (accessed 30 November 2012). Compiled from various sources by Spanish Wikipedia user Diotime; reproduction rights via Wikimedia Commons.

Wool as a commodity was valuable both for trade and for taxation and tolls along the routes of migration.⁸ Using archives of the Mesta in Madrid, Julius Klein studied the internal organization and operations of the Mesta.⁹ His magisterial work, published in 1920, linked the pastoral economy and wool production to the rise and fall of Spain's monarchies. Despite its limitations, it remained the standard scholarly work on the subject for many decades. More recently, several of his assumptions have been overturned, yielding new interpretations.¹⁰ Phillips and Phillips pursued what remained unstudied by Klein, drawing upon more local archival sources, exploring the relationship of the Mesta and wool production to the export trade. The management of the flocks of sheep and the production of wool for export occupied large segments of the population of the Iberian peninsula, providing "a

⁷ Julius Klein, *Mesta: A Study in Spanish Economic History 1273-1836* (Baltimore: Johns Hopkins University Press, 1920), p. 34.

⁸ The map in Klein, *Mesta*, p. xix, shows "highways, toll points, and pasturage areas." Images of the drovers' roads are available through Internet searches; a good example, looking north towards the Sierra in Segovia, Spain, is a photograph by Luis Fernández García, 2005 available at <http://en.wikipedia.org/wiki/File:Cannada-real-vera-de-la-sierra.jpg> (accessed 30 November 2012).

⁹ Klein, *Mesta*.

¹⁰ See perceptive remarks in David R. Ringrose, "Review of *Spain's Golden Fleece: Wool Production and the Wool Trade from the Middle Ages to the Nineteenth Century* by William Phillips; Carla Rahn Phillips; *Mesta, transhumancia y lana en la España moderna* by Felipe Ruiz Martín; Ángel García Sanz," *The American Historical Review* v.106 (2001), n. 4, pp. 1461-63 Stable URL: <http://www.jstor.org/stable/2693111>.

livelihood for tens of thousands of families at all social levels.”¹¹ From shepherds and flock owners to merchants and muleteers, carters, shipbuilders and ship owners, an immense economic network was established to buy and sell wool, the profits of which “fueled the economic rise of Spain in the fifteenth and sixteenth centuries.”¹² The ratio of domestic wool production to that for export relies on estimates, and the proportion of wool for the weaving of carpets has not been calculated. It is, however, reasonable to assume that before discovery and exploitation of the New World, wool was Spain’s most important export, primarily to Flanders and England.

Between 1500 and 1800, according to Phillips and Phillips, Spain exported an average of seven million pounds of washed wool each year, and during peak years, exports rose to more than fifteen million pounds in the mid-sixteenth and the mid-eighteenth centuries.¹³ The exported wool came mainly from flocks whose owners were members of the Mesta; flocks outside the Mesta jurisdiction probably held several times that many animals and produced wool for the internal textile industry, but this has not yet been substantiated.¹⁴ They also estimated domestic production for the local weaving industry of garments, and attempt to quantify sheep in non-Mesta contexts between 1477 and 1852.¹⁵ But the determinate relationship of wool to *carpets* of the Iberian peninsula is not discussed, and having received scant notice elsewhere, it deserves scholarly attention.

Just as wool for the textile industry relied upon domestic production, so presumably did the wool for carpet-weaving. Iberian carpets are made of wool, which is used for warps, wefts, and pile. Functionality of carpets required thick yarns. Because of their weight and the length of pile, carpets would have required far larger amounts of wool than that needed for weaving bolts of lighter weight woolen textiles of equivalent length and width. But the wool for carpets, similarly, relied upon animal husbandry and flock management, as well as the same technologies of yarn preparation and dyeing. Just the gauge of yarns spun and plied would have been lower (i.e. thicker dimensions) than for the wool needed by the domestic textile industry. Wool as a commodity for trade and export, and the wool used in carpets, would have come from sheep, although probably not the same breeds of sheep – a topic not yet studied in this historical context. But in either case, the sheep required pastures, plentiful in lands with high rainfall, but scarce in lands with low rainfall.

Pastoralism, as an economic adaptation to environmental constraints on the steppes of Central Asia, led to the development of weaving cultures in which many household products are made of wool, from the tensile architecture of tents and their coverings for shelter from the elements to bags for storage and transport to furnishings and garments. Entire households moved on migration (figure 6), to find suitable pastures for livestock. On the Iberian peninsula, in contrast, rainfall allowed for patterns of land management that supported extensive agricultural development (figure 7). In such circumstances there was no need for the adaptive nomadic pastoralism that emerged in Central Asia, Turkey and Iran. From what we know of weaving production centers in Spain, which are named in historical sources (Chinchilla, Alcaraz, Letur, Lietur, Murcia, Cuenca), carpet-weaving emerged in commercial environments.

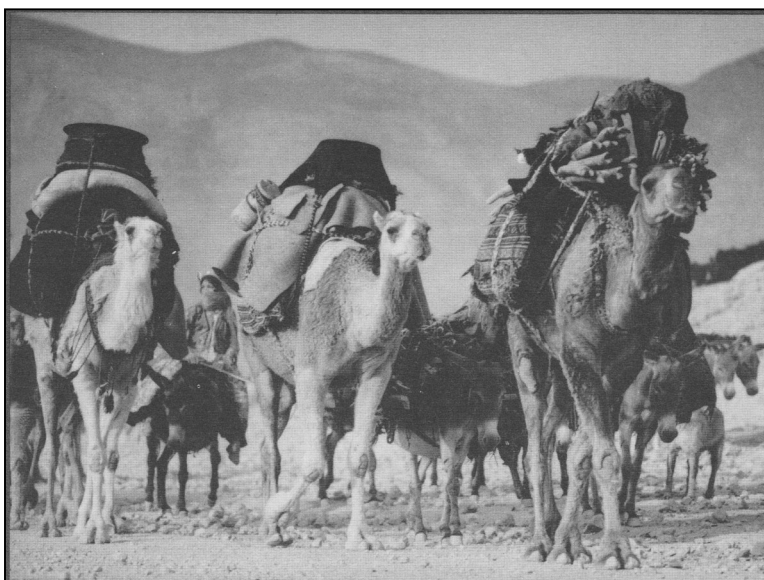
¹¹ William D. Phillips, Jr. and Carla Rahn Phillips, *Spain's Golden Fleece: Wool Production and the Wool Trade from the Middle Ages to the Nineteenth Century* (Baltimore, Johns Hopkins University Press, 1997), p. xvi.

¹² *Idem.*

¹³ *Ibid.*, p. xi. John Mills’ May Beattie Memorial Lecture (2002), “From Glory to Decadence: Rug-Weaving in Southern Spain up to 1700” seems relevant here for comparison, but I have not yet obtained a copy for reference.

¹⁴ Phillips and Phillips, *Spain's Golden Fleece*, p. xi.

¹⁵ *Ibid.*, p. 291, Appendix 1, figure A1.1.



**Figure 6: Camels moving households during Qashqai spring migration, Fars Province, Iran, 1976.
Photograph by Carol Bier.**

Carpets of the Iberian peninsula, referred to as the “carpets of Andalusia,”¹⁶ “Spanish rugs,”¹⁷ or “Mudejar carpets,” are among the oldest carpets preserved in their entirety. And they often bear patterns that relate them to the carpets of Turkey and lands farther to the east, lands of the Islamic world of which Spain had been an integral part from the early eighth century. Yet these carpets also reveal distinct differences from those that are considered to be their design forbears in the Near East and Central Asia. Iberian carpets (figures 1-4) are similarly rich in colors and diversity of images, and sometimes they even share the same patterns. In the first half of the fifteenth century, they often they bear specific heraldic shields pertaining to particular historic individuals (figure 3).

Despite the great diversity in styles and sources of the designs, what distinguishes Iberian carpets from all other traditions is that they share a distinct weave structure (figure 4). It is based upon a single-warp knot that is often called the “Spanish” knot. In other carpet-weaving traditions, typically, knots are wrapped around paired warps and with few exceptions, disposed in vertical alignment.¹⁸ In contrast, the Spanish knot (figure 4) is wrapped around alternate warps in successive rows. The staggered placement of knots results in a diagonal alignment that affects the possibilities for design using diagonal, horizontal, and vertical lines, allowing the weaver to create a relatively lightweight carpet with complicated designs. In addition to the unique knot structure, Spanish carpets often exhibit multiple weft yarns interlaced between rows of knots, yielding a low knot count, while the warps remain on a single level (with no warp depression). The net result of these features working in combination with one

¹⁶ Bier, *Carpets of Andalusia* (exhibition brochure).

¹⁷ Standard references for the study of Iberian carpets in Western collections include Maurice S. Dimand and Jean Mailey, *Oriental Rugs in The Metropolitan Museum of Art* (New York: The Metropolitan Museum of Art, 1973), pp. 251-63; D. King and D. Sylvester, *The Eastern Carpet in the Western World: From the 15th to the 17th Century* (London: Arts Council of Great Britain, 1983); Sarah B. Sherrill, *Carpets and Rugs of Europe and America* (New York: Abbeville Press, 1996); Louise W. Mackie, “Two Remarkable Fifteenth Century Carpets from Spain,” *The Textile Museum Journal* 4/4 (1977), pp. 15-32 and “Native and Foreign Influences in Carpets Woven in Spain during the 15th Century,” *Hali* 2/2 (1979), pp. 88-95; Charles Grant Ellis, *Oriental Carpets in the Philadelphia Museum of Art* (Philadelphia: Philadelphia Museum of Art, 1988), pp. 240-263; Michael Franses, “A Museum of Masterpieces: 2. Iberian & East Mediterranean Carpets in the Museum of Islamic Art, Doha,” *Hali* 157 (2008), pp. 68-95.

¹⁸ May H. Beattie, “On the Making of Carpets,” in King and Sylvester, *Eastern Carpet in Western World*, pp. 106-09, remains one of the best descriptive statements; see also the section, “Making Pile Carpets,” in my “Symmetry and Pattern: The Art of Oriental Carpets,” <http://mathforum.org/geometry/rugs/carpets/making.html> (accessed 30 November 2012).

another produces carpets with a particularly floppy handle, relatively lightweight for their size in comparison to carpets from other rug-weaving traditions. The designs and patterns are nonetheless complex, although they are achieved with a notable economy of materials.



Figure 7 Agricultural land surrounding Valladolid in 1572, illustrated in Georg Braun, Frans Hogenberg, *Civitates Orbis Terrarum*, Band 1, 1572.

Available at http://upload.wikimedia.org/wikipedia/commons/1/14/Braun_Valladolid_UBHD.jpg (accessed 30 November 2012). Reproduction rights via Wikimedia Commons.

Christian monarchs, local rulers, and the admirals of Castile, Leon, and Aragon were patrons of the arts who commissioned the production of luxurious woolen carpets as furnishings for their royal palaces and residences. Those woven in the fifteenth century often bear heraldic arms (figure 2), documenting the expansion of the realm based on marriages, conquest, and alliance. Replete with local imagery and cultural references that are regional, distant, and foreign, Iberian carpets represent the diverse cultural traditions indicative of the global interactions of the land that was to become Spain, and they reflect the reorientation in the fifteenth and sixteenth centuries, documenting Spain's turning away from the Islamic world of which it had been such an integral part for hundreds of years, towards an emerging Europe of the Renaissance. To be sure, Iberian carpets document the blending of cultural traditions, with styles reflecting an inheritance of earlier rug-weaving traditions and an Islamic cultural heritage from Turkey and Central Asia. But carpet-weaving on the Iberian peninsula was not an indigenous tradition; although its origins remain speculative,¹⁹ several points of comparison are worthy of note: First, carpet-weaving in Spain was not the result of a weaving culture as in Central Asia, and parts of Iran and Turkey. Rather, it was a commercial enterprise, and at the highest levels of patronage, products of the industry in Spain were large, flat floor coverings, not rugs – a much broader category that includes bags for storage and transport, furnishings, and ceremonial trappings, all of which pertain to rug-weaving cultures. Secondly, the management of flocks in Christian domains of the Iberian peninsula was highly organized along protected routes of since the establishment of the Mesta in 1273, and wool as a commodity was produced, transported, traded, taxed, and exported. Wool, rather than carpets, was the generative force that contributed to the making of modern Spain.

The story of wool is yet more complicated, and it warrants further study and deeper analysis with respect to Europe's wars as well as trade. The story of carpets is also more complicated, with points of intersection in the household effects transported as a result of strategic alliances through marriage.²⁰

¹⁹ Among various speculations as to origins, both the introduction of the Merino breed of sheep to Spain, and possibly carpet-weaving, are attributed to the Berber tribe of the *Banū Marīn* (Castilian *benimerines*), which still seems to be a plausible hypothesis, yet without conclusive evidence.

²⁰ Eleanor of Castile (1241-1290) was first queen consort of Edward I of England and a contemporary report mentions carpets in her quarters at Westminster (Dimand and Mailey, *Oriental Rugs*, p. 253). Catherine of Aragon (1485-1536), daughter of Queen Isabella of Castile and King Ferdinand of Aragon, was Queen of England 1509-1533, married to King Henry VIII, who owned many carpets (King and Sylvester, *Eastern Carpet in the Western World*, p. 18).

Furthermore, some designs and patterns in carpets are shared with those executed in ceramics, woodwork, and stucco. The Nasrid palace of Alhambra in Granada is a rich source for comparisons with its many examples of geometric interlace, complicated tessellations, and stylized Arabic scripts. But architectural ornament and the decorative arts of Christian Spain also offer comparative elements.²¹

Thinking about Iberian carpets as commissioned luxury goods in relation to wool as a commodity offers an interesting perspective. For me personally, it came about initially when I moved to California a few years ago and encountered the “*camino real*” (“royal road”) remaining from the time of Spanish rule. I had heard that in Spain, these were really “sheep highways” (figure 5b) and that me led to thinking and reading more about the features that characterized historical pastoralism in Spain, *trashumancia*, and comparing that to the nomadic pastoralism in the Near East and Central Asia, with which I was somewhat more familiar (figure 6).

The differences could not be more stark – Spain is a land of agricultural abundance and carpet-weaving took place in urban centers. In Turkey and Iran (discounting imperial ateliers of the 16th century, and later capitalization by foreign enterprise in the 19th century), rug production was centered in pastoral, nomadic, and tribal societies, in which wool-production and rug-weaving were part of an all-encompassing economic endeavor that involved three forms of human adaption through nomadism (economic), pastoralism (environmental), and tribalism (social/political). On the Iberian peninsula, in contrast, sheep herders and livestock owners were a specialized community; they practiced a seasonal form of pastoralism (transhumance) over long distances along a series of *cañadas*, drovers’ roads designated for the passage of sheep from lowland to highland pastures. The routes of the biannual seasonal migrations were protected by a succession of kings to secure economic advantage.

In the maps of the *cañada real* that I initially was able to locate, I was fascinated to note that the carpet-weaving centers named in historical sources lie to the southeast of the protected routes of passage of the *Mesta* – the *cañadas* of Christian Spain. Carpet-weaving was centered in the south, in Andalusia, the borders of which continued to shift with Christian reconquest, in areas long held by Muslims. At first, I was troubled by this seeming inconsistency, but then I realized that the lineage of both Western and Spanish scholarship on the *Mesta* has relied upon Christian records in lands *after* reconquest – the *Mesta* archives in Madrid, and records in Burgos and other cities involved in the wool trade. Indeed the very founding of the *Mesta* institution itself belies its Christian origins, but Arabic sources yet untapped might shed light upon Muslim traditions of similar aspects of land management and sheep-herding. One step further, however, yielded a potential correction to some of the information published only in English -- using Wikipedia in Spanish yielded a map (figure 5b), with what are identified as “secondary roads” (*vias pecuarias 2º nivel*) in Murcia and Andalusia. Initial consideration of herding and pastoralism in Spain suggests that the economic model of Spain might parallel that of ancient Mesopotamia (Iraq) – where the textile industry (in wool) was situated in towns and cities, in closer proximity to a labor force, capital, and state control, with shepherds tending the flocks in surrounding highlands.²²

²¹ For parallels in architecture and the decorative arts, illustrations may be found in several recent publications: Jerrilynn D. Dodds, María Rosa Menocal and Abigail Krasner Balbale, *The Arts of Intimacy: Christians, Jews, and Muslims in the Making of Castilian Culture* (New Haven and London: Yale University Press, 2008); Heather Ecker, *Caliphs and Kings: The Art and Influence of Islamic Spain* (Washington, DC: Arthur M. Sackler Gallery, Smithsonian Institution and New York: Hispanic Society of America, 2004); Mariam Rosser-Owen, *Islamic Arts from Spain* (London: Victoria & Albert Museum, [2010]).

²² H. Waetzoldt, *Untersuchungen zur Neusumerischen Textilindustrie* (Rome, 1972). For a summary of what is now known about sheep-breeding for wool production, see also D. T. Potts, *Mesopotamian Civilization: The Material Foundations*

As far as we can judge from the large carpets of Spain in the 15th and 16th centuries found today in European and North American museum collections, Iberian carpets pertained only to the upper echelons of society. We do not yet know anything specific about the grades or sources of wool, nor to my knowledge, have there been any studies undertaken to determine breeds of sheep from which the wool of Iberian carpets were made. Future research projects would benefit from careful attention in Mesta sources to mention of carpets and carpet-weaving, as well as to Arabic sources that touch upon transhumance and the production of wool. Furthermore, additional information may be gleaned from Berber traditions of herding and weaving in North Africa. Finally, the analysis of wools from Iberian carpets might possibly yield data that could be correlated with analyses of sheep breeds to determine more accurate information to link Iberian carpets with wool production over time.

If we extend our consideration to Spain in the New World, wool was not a generative force, even though sheep were carried on Columbus' second passage.²³ This may have reflected commercial aspirations, but history proves it was not so much the *wool* in colonial domains as it was the *sheep* that had a profound and long-lasting impact globally – the Spanish *churra* of the Americas sustained the local communities of conquistadors and settlers with dairy products, meat, and wool, ultimately giving rise to the Navajo's *churro*. Globally, it was the Iberian breed of merino sheep, initially protected within Spain and first exported in 1786 to Louis XVI of France, who purchased more than 300 Spanish merinos from his cousin, Charles III of Spain.²⁴ Thus began the breeding of French Merino, or Rambouillet (named after the rural estate of Louis XVI), which in turn were among those first transported to Australia. Seventy sheep, suitable only for mutton, survived the journey with the first fleet to Australia, arriving in late January 1788. But within a few months, the flock had dwindled and needed reinforcement with rams.²⁵

According to Klein, Spanish merino wool for generations had become one of the great staples of commerce during the period when modern Europe was in the making. Klein attributes this to the “Honorable Assembly of the Mesta,” representing six hundred years of laborious effort on the part of “one of the great European powers to dominate the production and marketing of that essential raw material.” This, in turn, reflected the mercantile ambitions of the Castilian monarchs. Klein states, “The high unit value of wool, its compact, exportable form, and the universal demand for it, made it one of the most valued means for determining the relative status of rival monarchies.”²⁶

Spain's indigenous sheep breeds, including the *churra* and merino, have been subjected to genotyping using DNA microsatellite technology, but the results have been inconclusive.²⁷ Not forty years after the earliest export of Spanish Merino rams, an image of the Iberian breed was published in Loudon's *Encyclopedia of Agriculture* in 1825.²⁸ By then, through export and breeding merinos had spread from

(Ithaca: Cornell University Press, 1997), pp. 91-95. For suggesting this parallel and offering references, I am indebted to Wolfgang Heimpel, Jerry Cooper, and Gonzalo Rubio.

²³ “Christopher Columbus – Second Voyage,” <http://www.christopher-columbus.eu/voyage-2.htm> (accessed 1 December 2012).

²⁴ “Rambouillet (sheep),” [http://en.wikipedia.org/wiki/Rambouillet_\(sheep\)](http://en.wikipedia.org/wiki/Rambouillet_(sheep)) lists 318 ewes, 41 rams, 7 wethers.

²⁵ “Merino,” <http://en.wikipedia.org/wiki/Merino> (accessed 1 December 2012).

²⁶ Klein, *Mesta*, preface, p. vii.

²⁷ J. J. Arranz, Bayón, Y. and Primitivo, F. S., “Genetic Relationships among Spanish Sheep using Microsatellites,” *Animal Genetics* 29 (1998), pp. 435–40. doi: 10.1046/j.1365-2052.1998.296371.x. This affirms analytically Ryder's statement that through selection and cross-breeding, the Merino sheep exhibit the greatest genetic variety (M. L. Ryder, *Sheep and Man* [London: Duckworth, 1983], p. 759). He further considers the Merinos of Spain (in the mid-20th century) to be the “most highly evolved fleece type” in comparison to the earlier origins of sheep in the Middle East.

²⁸ J. C. Loudon, *Encyclopedia of Agriculture* (London: A. & R. Spottiswoode, 1825), p. 996, reproduced at <http://www.teara.govt.nz/files/a16628ap.jpg> (accessed 28 November 2012).

Spain to many other parts of the world. In Spain there were several different strains of Merino, offering a range of sizes and variety in the fineness of their wool. The genetic diversity contributed to the possibilities for breeders to adapt sheep to local environmental conditions. But the diversity has so far precluded a mapping of genetic inheritance. In New Zealand, men and stock arriving from Australia in the early 1840s initiated the wool industry there. In particular, they brought the Spanish merino breed. New Zealand sheep farmers continued to import Australian stud merino for many years.²⁹ Although the foundation of the Mesta in 1273 and legislation in 1836 brackets the study of Klein, despite the decline of the Mesta in the nineteenth century, Klein gives Spain credit for “the merino sheep...it developed and gave to the world...and enriched the pastoral industry of every continent.”³⁰

An old Spanish proverb suggests that “one shouldn’t mix merino and churra” (“*no mezclar churras con merinas*”). The meaning of this proverb is to not mix up different concepts.³¹ In the course of my research for this paper, I discovered that the proposed title, “Iberian Carpets and the Making of Modern Spain,” risked just that. For I am now convinced, that it was not the carpets, but the wool that contributed to the making of modern Spain, and the Iberian breed of merino sheep, in particular, that contributed to the making of the modern world.

Acknowledgments

Thanks to Olga Bush for her vision in proposing an organized session on “Andalusi Textiles: Crossing Borders, Constructing Politics,” to explore new perspectives. I am much indebted to Gonzalo Rubio and Kathy M’Closkey for sharing both knowledge and experience, as well as steadfast support and encouragement of this foray into territories beyond my ken.

²⁹ John Wilson, “Australians,” *Te Ara - the Encyclopedia of New Zealand*, updated 20-Sep-11. <http://www.TeAra.govt.nz/en/australians/3/1> (accessed 27 November 2012); Hugh Stringleman and Robert Peden, “Sheep farming,” *Te Ara - the Encyclopedia of New Zealand*, updated 27-Sep-11. <http://www.TeAra.govt.nz/en/sheep-farming/3/1> (accessed 27 November 2012).

³⁰ Klein, *Mesta*, p. 349.

³¹ Personal communication, Gonzalo Rubio; see also, “Churra (sheep),” (*sic*) [http://en.wikipedia.org/wiki/Churro_\(sheep\)](http://en.wikipedia.org/wiki/Churro_(sheep)) (accessed 1 December 2012).