

半臂

A *Banbi* - Half-sleeved Jacket

v. 2.0



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Preface

This is the second iteration of this project, which I initially entered in Magna Faire (AS LIV/2019). After receiving feedback, I made some adjustments to my documentation's organization, included more information about the garment ties, and added more images to my documentation, including final images of both the first and second iteration, for comparison. On the garment, I re-made both the ties and re-stitched the inner seam of the collar with a different, more invisible stitch.

Between the first and second iteration, I received the appendix to Ulrike Halbertsma-Herold's Master's Thesis, from Leiden University, *Clothing authority: Mongol attire and textiles in the socio-political complex*. This appendix included three images of extant half-sleeve outer garments which are visually similar to the Chinese *banbi*. I've added a brief discussion of these jackets based on the sources provided by Halberstma-Herold to my discussion of the *banbi*.

In order to maintain the integrity of the first attempt, I have relabeled that section Initial Construction and put additional notes and reflections under the headings Second Iteration and Secondary Conclusions. I have also tagged these pages, as well as additional figures and paragraphs added to the garment overview and Patterning sections, with flags so that they can be easily identified.

I also added an additional appendix and gave them A and B labels, so that readers could easily reference a table of Chinese Dynasties and date ranges.

As a general note, all book sources are cited in full in the References section, with author, publication date, and page numbers in footnotes. Web sources, including journal articles and museum pieces, are cited in full in both their initial footnote and the References section.

I am thankful to The Honorable Lady Stella Di Silvestri (Meridies), Mistress Una Barthsdoottir (Meridies), and Minamoto no Hideaki (Lochac) for their help with translation, source identification, and sewing logistics/talk-throughs.

Introduction

In this project, I sought to create a *banbi* (半臂, *bǎn-bī*), or Tang Dynasty half-sleeved jacket, using all hand sewn seams and finishes, a period fabric width, and an extant textile pattern. The *banbi* is a women's short-sleeved jacket worn on top of the shirt and either tucked in or outside the skirt and functions like a vest. Prior to making this garment, the only *banbi* in my wardrobe was a prototype I made in 2015 out of two layers of quilting cotton.

The Tang Dynasty (唐朝, *tǎng*) lasted from 618 to 907 CE and is widely considered the "golden age" of imperial China.¹ The People's Republic of China currently recognizes 56 different ethnic groups.² The clothing and associated culture discussed here are those of the Han Chinese during the Tang Dynasty, but China has never been a monolith in terms of culture.^{3,4} During the Tang Dynasty, the Han majority's tolerance for foreign influence created a cosmopolitan culture which included a stream of Chinese and Indian Buddhist monks, Turks from the northern steppes and Central Asia, Koreans, Japanese, Arabs, Persians, Malaysians, and other Southeast Asian cultures.⁵ Tang Dynasty China had cultural contact with Europe - via the Roman/Byzantine Empire. There are written as well as archaeological sources that show that China had contact with the Roman Empire from as early as the third century C.E.⁶

The Tang Dynasty sense of fashion stood in opposition to the concept that outward appearance must match the position, status, and wealth of person underneath, and sumptuary laws sought to keep these divisions intact.^{7,8} Encouraged by the variety of textiles produced by the textile industry, women of means dressed "according to their likes and tastes" regardless of sumptuary laws, which in turn created a fashion culture fueled by innovation and imitation between aristocracy and commoners.⁹

Information about the textiles (fiber, dyeing, and weaving), tools, and techniques can be found in the appendix, which begins on page 16.

¹ Lewis, M. E. (2012).

² 胡鸿保, & 张丽梅 [Hu, H. and Zhang, L.]. (2009). 民族识别原则的变化与民族人口. [Changes in the principle of national identity and ethnic population.] *Journal of Southwest University for Nationalities*, 212(4). Retrieved from:

<http://www.sociology2010.cass.cn/webpic/web/sociology/upload/2010/11/d20101122134817793.pdf>

³ "Han Chinese proportion in China's population drops: census data." (24 Apr 2011). *Xinhua News (English)*. Archived at:

https://web.archive.org/web/20160711022113/http://news.xinhuanet.com/english2010/china/2011-04/28/c_13849933.htm

⁴ Roberts, J.A.G. (2001). p. 5.

⁵ Benn, C. (2002). pp. 40-42.

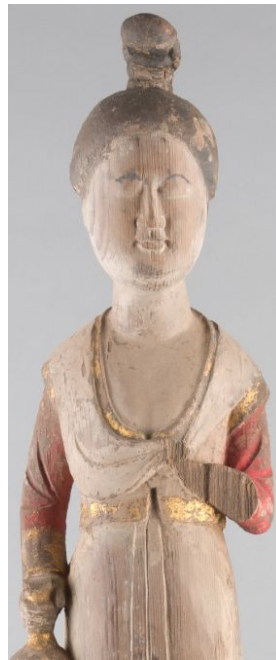
⁶ Li, Q. (2018). p. 349

⁷ Chen, B. (2019). p. 7.

⁸ *Ibid*, p. 51

⁹ *Ibid*, p. 51.

The Banbi



Banbi means “half-covered arm” and refers to the short-sleeved jacket that was in style in the earlier half of the Tang Dynasty (Figures 1-9).¹⁰ These garments were worn outside of the shirt, and functioned like a vest,¹¹ but there are some depictions where the jacket appears to be tucked into the skirt (Figure 3).¹² Like the shirt, the jacket had a front opening that tied with a ribbon (Figure 4).¹³ It could be worn either tucked into the skirt or on top of it (Figures), and it appears that this move to “outer garment” happened in the early 8th century.¹⁴

The *banbi* was first worn by “maids of honour,” but the fashion trickled down to commoners.¹⁵ Strict families did not allow

their women to wear the *banbi* at all, and it’s popularity declined as a result.¹⁶ The depictions we have of women wearing a *banbi* are all labeled as attendants and serving women, so these families likely did not want to be seen as of a lesser rank. Based on the estimated dates of the figurines and mural paintings (Figures 1-9), the *banbi* was most popular at the end of the 7th and beginnings of the 8th century, though we do have some depictions of the *banbi* from the late 8th century (Figure 9). It is worth noting that as various Tang emperors tried to impose social order via sumptuary laws that banned the production and possession of elaborately woven (*jin*) or embroidered silks,¹⁷ we see the *banbi* in visual art depicted in plainer fabrics before disappearing entirely.

Figure 1: Detail of *Standing Female Attendant* (Figurine). Late 7th - early 8th century, China. The Metropolitan Museum of Art.¹⁸

¹⁰ Zhou, X. & Gao, C. (1987). p.77.

¹¹ Hua, M. (2011). p. 32.

¹² Chen, B. (2013). pp. 93-94.

¹³ Zhao, X. & Gao, C. (1987). p. 88.

¹⁴ Chen, B. (2013). p. 106

¹⁵ *Ibid*, p. 77.

¹⁶ *Ibid*.

¹⁷ Chen, B. (2019). P. 59.

¹⁸ 唐 彩繪侍女木俑. [Standing Female Attendant]. (late 7th-early 8th century). [Figurine]. The Metropolitan Museum of Art, New York. Retrieved from <https://www.metmuseum.org/art/collection/search/39770>

Figure 2: Detail of *Standing Female Attendant* (Figurine), Late 7th - early 8th century, China. The Metropolitan Museum of Art.¹⁹



Figure 3: Detail of a wooden figurine found in the tomb of Zhang Xiong (d. 633) and Lady Qu (d. 688), Astana Cemetery, wearing a polychrome *jin* silk jacket woven to scale and tucked into a silk tapestry belt.²⁰

Figure 4: Detail of a mural painting of a dancer wearing a *banbi* outside of her skirt, from the tomb of Zhang Lichen (655-702), Astana Cemetery.²¹

¹⁹ *Standing Female Attendant*. (late 7th-early 8th century). [Figurine]. The Metropolitan Museum of Art, New York. Retrieved from: <https://www.metmuseum.org/art/collection/search/39761>

²⁰ Watt, J. C. Y., Jiayao, A., Howard, A. F., Marshak, B. I. Su, B., Zhao, F. (2004). pp. 288-289.

²¹ 舞圖. [Dancer.] (c. 702). Tomb of Zhang Lichen, Astana Cemetery, Turpan, Xinjiang, China. Retrieved from: https://en.wikipedia.org/wiki/File:Anonymous-Astana_Graves_Dancer.jpg



Figure 5: Detail from *Female Palace Attendants* [Mural], from the tomb of Princess Yongtai (永泰公主, d. 701), Shaanxi Museum, Xi'an, Shaanxi, China.²² These attendants are wearing their *banbi* outside their skirts, with the ties visible.



Figure 6: Female entertainers in a mural on the north wall of the Tomb of Prince Li Xian, dated 742 C.E.²³ The wider sleeves of the *banbi* can be seen beneath the drape of the *pibo* (shawl).

²² *Female Palace Attendants*. (7th century - 10th century). [Mural]. Shaanxi Museum, Xi'an, Shaanxi, China. Retrieved from *Virtual Collection of Asian Masterpieces*, <http://masterpieces.asemus.museum/masterpiece/detail.nhn?objectId=11389>

²³ Chen, B. (2013). p. 111



Figure 7: Figure of a woman holding a bird and wearing a *banbi* over her skirt, dated to the early 8th century.²⁴ The sancai ("three colors") glaze pattern on the jacket suggests a polychrome silk.

Figure 8: Figurine of female attendant, wearing a *banbi* tucked into a striped skirt with a patterned belt or waistband and with a blue *pibo* (shawl), from the Tomb of Zhen Rentai (a military commander), dated 664 C.E.²⁵

Figure 9: Female attendant from a mural on the tunnel's east wall, the Wei Family Tomb, dated to the late 8th century.²⁶ Her *banbi*, like her *ru*, has very wide sleeves and is worn tucked into her skirt.

²⁴ Tomb figure of a seated woman holding a bird. (Tang Dynasty, first half of 8th century). [Figurine]. Freer Sackler Gallery, Smithsonian National Museum of Asian Art, Washington, D.C. Retrieved from: <https://asia.si.edu/object/F2001.8a-d/>

²⁵ Chen, B. (2013). p. 94

²⁶ *Ibid.* p. 117



Figure 10: Fragment of polychrome *jin* fabric (Tang Dynasty) found in Astana Cemetery tomb 206, Astana, Turfan, Xinjiang. Housed at the Xinjiang Uygur Autonomous Region Museum, Urumqi.²⁷ The cut of the fabric implies it is a fragment of a doll-sized *banbi* or *ru* (shirt).

Figure 11: Miniature *banbi* made of silk gauze and embroidered with gold threads, measuring 14.1 centimeters from sleeve to sleeve. It was found in a box with a statue of a Bodhisattva and labeled with the year 871. Housed in the Famen Temple Museum, Shaanxi.²⁸ Prior 874, when it was sealed, the temple received many textile donations from various Tang Dynasty emperors.²⁹



²⁷ Zhao, F. (2012). p. 227.

²⁸ Lin, C. (2006). p. 151.

²⁹ Knaller, R. & Ströbele, F. (2014). S62.



Figure 12: Half-sleeve vest with a printed gold pattern recovered from the ruins of the city of Jininglu, typical of Jin/Yuan Dynasty textiles popular with Mongol nobility.³⁰

Figure 13: Embroidered silk jacket resembling a *banbi* dating from the late 13th-early 14th century, excavated from Jininglu, Inner Mongolia.³¹

³⁰ Kessler, A. T. (1993). pp. 160, 163

³¹ Chung, Y. Y. (2005). p. 105

Patterning

While there are several short-sleeved upper garments (*hanpi*) in the Shōsōin Repository, these are men's garments and neither serve the same purpose nor have the same stylistic features of the women's *banbi*. Instead of the garment edges meeting in the middle in the front, the *hanpi* garments have a small overlapping piece stitched to the left edge and onto which the collar is extended to form a tie (Figure 16). The *hanpi* is a men's undergarment,³² while the *banbi* was outerwear. Based on the figurines, paintings, and miniature extants, I concluded that the *banbi*'s construction was closer in similarity to a *ru* (襦, shirt) than the Japanese *hanpi*. Like the *banbi*, the *ru* has a straight, open collar, a slight curve at the underarm, and ties in the front. I based my *banbi* pattern on my *ru* pattern, which I designed for a fabric width of 24 inches, which was the standard fabric width during the Tang Dynasty. (See the Appendix for more information on period textiles and tools.) Because the *banbi* is a short-sleeved garment, I did not add additional material to extend the sleeve length. As it is, the sleeve cuff sits at my elbow, which corresponds with period artwork (Figures 4 and 9). I particularly was aiming for the look of the *banbi* shown in the Astana Tomb painting (Figure 4), though I could easily wear it tucked into my skirt instead for another look - the hem extends approximately 4.25 inches past my natural waist.

Figure 14 is my pattern/cutting layout for the *ru*. This is for half of the pattern pieces - it would be mirrored for patterned fabric to accommodate for directional designs. The only direction in the fabric I used was the top/bottom of the animals in the roundels, but because there is no shoulder seam, I knew that the animals on the back of the garment would be upside down in relation to those on the front. For more information period textiles and tools and what I used, see Appendix.

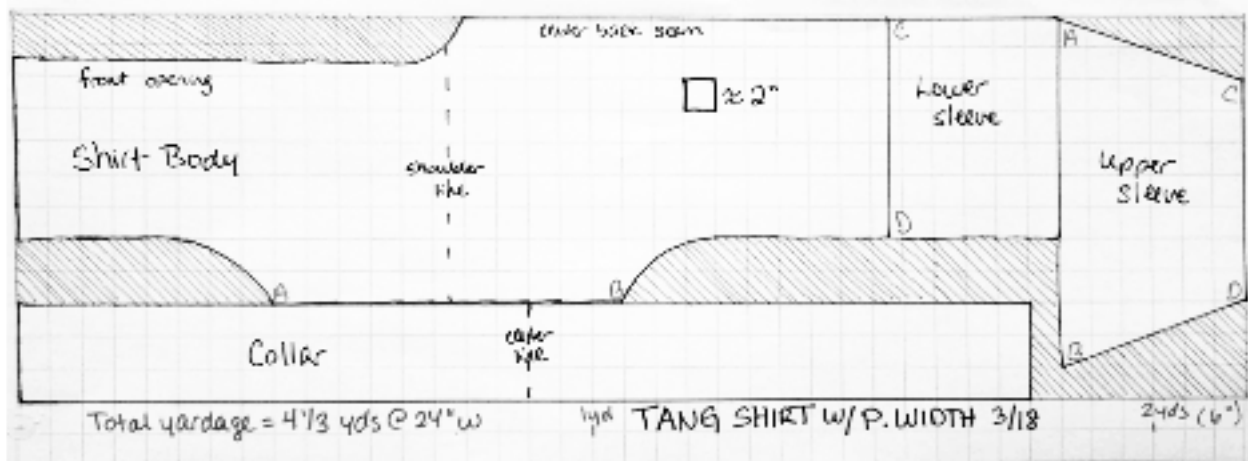


Figure 14: My pattern and cutting layout for a *ru* using period fabric widths.

³² Parent, M. N. (2001a). Hanpi 半臂. *JAANUS: Japanese architecture and art net users system* [Dictionary]. Retrieved from <http://www.aisf.or.jp/~jaanus/deta/h/hanpi.htm>



The shirt is fairly straightforward, being very similar to a basic T-Tunic, without under-arm gussets or gores. There are no extant shirts from the Tang Dynasty, so we are limited to period depictions including reliefs, murals, paintings, and tomb figurines, though we can supplement this with extant garments from preceding and succeeding periods. In terms of construction, the shirt likely had a center back seam. The seam in the center back is described in the Book of Rites regarding the proper construction of the *shenyi* (深衣),³³ and can be seen in upper-body extant garments. Given that the standard width of fabric in the Tang Dynasty was approximately 24 inches, a center back seam is necessary to produce an open-front garment that can go all the way around the body. The Shosoin Repository's *hanpi* collection feature several that have a visible center back seam (Figure 16), and The China National Silk Museum has garments from the Southern Song³⁴ (1127 - 1279 C.E.) and Yuan Dynasties³⁵ (1279 - 1368 C.E.) with this same construction. The China National Silk Museum has one shirt from the Northern Dynasty (386 - 580 C.E.) which appears to be lined, and it is difficult to see whether there is a center back seam (Figure 15).³⁶ It may be that the lining does not have a center back seam and the outer fabric does, though this would be odd considering other lined garments have a visible center back seam in the lining. I did not have plans to line this *banbi*, given the weight of the polychrome *jin* silk.

Figure 15: Northern Dynasties lined shirt made of plain-weave silk and with tie-dyed pattern of small dots.³⁷

³³ Confucius. (475 B.C.E. - 221 B.C.E./2018).

³⁴ 小花菱纹罗单衣片. [Part of an unlined shirt made of dupo leno with a damask pattern of small, ornamented lozenges]. (Song Dynasty). [Garment]. China National Silk Museum, Hangzhou, Zhejiang, China. Retrieved from: http://www.chinasilkmuseum.com/zggd/info_21.aspx?itemid=1831

³⁵ 花卉纹罗袍. [Lined gauze robe with floral pattern]. (Yuan Dynasty). [Garment]. China National Silk Museum, Hangzhou, Zhejiang, China. Retrieved from: http://www.chinasilkmuseum.com/zggd/info_21.aspx?itemid=1852

³⁶ 绞缬绢衣. [Plain weave silk clothing with tied knot dye pattern]. (Northern Dynasty, 386-581). [Garment]. China National Silk Museum, Hangzhou, Zhejiang, China. Retrieved from: http://www.chinasilkmuseum.com/zggd/info_21.aspx?itemid=1815

³⁷ *Ibid.*



Figure 16: *Hanpi* (sleeveless coat) of bast-fiber cloth in the Shōsōin Repository.³⁸

The Book of Rites³⁹ calls for a “square-shaped collar”⁴⁰ for the *shenyi*, but given how the garments appear to rest in statuary, as well as on a figurine wearing cloth garments, I believe the necklines for women’s shirts were curved. I am only aware of one extant upper garment where the side seams are open and the textile is laid flat to show an angled collar, but it is unclear who wore this garment.⁴¹ Though they are usually displayed and photographed flat, it is arguable that extant upper-body garments from preceding and succeeding dynasties, as well as *hanpi* in the Shosoin

Repository, have curved necklines. A textile fabric dated to the Tang Dynasty recovered from Astana tomb number 206 that appears to be part of an upper garment (either a shirt or jacket) made for a tomb figurine due to its small size, not unlike the two skirts found in another Astana tomb, looks to have a curved (if slightly) neckline (Figure 10).⁴² Juni L. Yeung translated an article by Hu Jingming, originally posted on Baidu Tieba (an online community that is integrated with a Chinese internet search engine), which was posted to the Toronto Guqin Society’s page. The article presents an argument for a curved Ming Dynasty neckline.⁴³ I have made shirts with both a square neckline and a curved neckline, and I prefer the fit of the latter. From a mathematical perspective, the calculation of pi (π) was known in China as early as the 3rd century.⁴⁴ The miniature garment in Figure 11 also features an undeniably curved neckline.

The majority of Tang Dynasty women’s clothing was secured on the body by means of ties, which is evident in the extant garments we have from preceding and subsequent dynasties (Figure 15) as well as visual art from the period (Figures 2,7).

³⁸ No. 2 (Chest, No. 88). (n.d.). The Imperial Household Agency: The Shōsōin Repository, Nara, Japan. Retrieved from: <http://shosoin.kunaicho.go.jp/en-US/Treasure?id=0000012786>

³⁹ The Book of Rites is a compilation of the customs, administration, and rituals of the Zhou Dynasty (c. 1046 BCE–256 BCE) written during the Warring States (475 BCE–221 BCE) through the Han Dynasty (206 BCE–220 CE).

⁴⁰ Confucius. (475 B.C.E. - 221 B.C.E./2018).

⁴¹ “小花菱纹罗单衣片.” [Part of an unlined shirt made of dupo leno with a damask pattern of small, ornamented lozenges]. (Song Dynasty).

⁴² Zhao, F. (2012). p. 227.

⁴³ Hu, J. (2011, April 11). Understanding hanfu aesthetics mathematically: Curves of a robe. (J. Yeung, Trans.). *Toronto Guqin Society*. Retrieved from: <https://torquqin.wordpress.com/2011/04/11/hanfu-curves/>

⁴⁴ Gao, S. & Tian, M. (2015). Mathematics. In Lu, Y. (Ed.), *A history of Chinese science and technology* (Vol.1) (C. Qian, Trans.). Heidelberg: Springer. p. 249.



In diving back into the research for the second iteration of this project, I found a short-sleeved jacket from the Yuan Dynasty in the Gansu Provincial Museum (Figure 17) which may be a descendent of the Tang Dynasty's *banbi*. There are visible seams just past the sharp curve of the armpit, and the garment is lined with a center back seam. There are no ties or visible evidence of previous ties. It is 63 centimeters long and has an arm-span of 115 centimeters.⁴⁵

The *banbi* may have either influenced or been influenced by clothing worn by the Mongols; an entire mode of dress, called *hufu* (foreign clothing) was popular during the Tang Dynasty to the degree that there are an ample number of tomb figurines and paintings of women wearing such garments. Halbertsma-Herold (2008) points to three garments from Inner Mongolia that are similar to the *banbi* (Figures 12 and 13).⁴⁶ Unlike Mongol garments that feature a cross-collar design, these jackets have a parallel collar and either visible or the suggestion of previous ties. The longer versions of short-sleeved coats that Halbertsma-Herold presents in artwork all have crossed collars. Both garments are lined and feature a center back seam. The lining in both garments may have shifted over time, resulting in it being visible beneath the hem of the outer fabric.

Figure 17: Yuan Dynasty twill damask silk patterned with flowers and birds, from the family tomb group of Wang Shixian, Zhang County, Gansu Province (northwestern China).⁴⁷

⁴⁵ “妆花凤戏牡丹纹绫夹衫.” [Silk twill damask phoenix peony patterned jacket]. (Yuan Dynasty). Gansu Provincial Museum, China. Retrieved from: <http://www.gansumuseum.com/dc/show-221.html>

⁴⁶ Halbertsma-Herold, U. (2008). p. 202.

⁴⁷ “妆花凤戏牡丹纹绫夹衫.” [Silk twill damask phoenix peony patterned jacket]. (Yuan Dynasty). Gansu Provincial Museum, China. Retrieved from: <http://www.gansumuseum.com/dc/viewall-221.html>

Initial Construction

For information about materials, tools, sewing techniques used in period and what I used for this project, please see the appendix.

After cutting my pattern pieces out of the 24" wide fabric, I used my blind hem stitch to finish the ends of the sleeves before attaching them to the shoulders with a backstitch. I finished all my seams with the flat-fell seam technique, pressing and trimming them to reduce bulk. Next, I stitched the center back with a backstitch, then did the same for the side seams.

As I was sewing this *banbi*, I embarked on a weight loss regimen. After I had done the sleeve edges, center back, and side seams, the garment no longer fit me. I had to retroactively refit the garment by taking in the center back and side seams, which meant temporarily removing the collar and completely taking out the already finished center back seam. I removed approximately four inches from each side seam. I stitched the new seams before cutting away the excess fabric and finishing the seams.

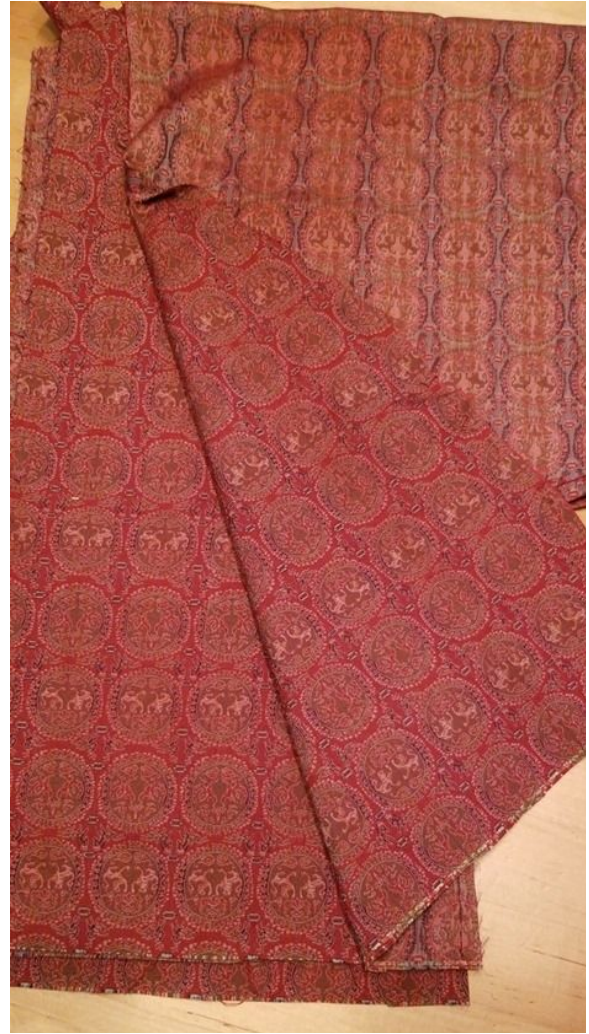


Figure 18: Fabric cut; cuffs and side seams sewn.



Figure 19: New side seam before cutting away extra fabric.



Figure 20: Outside of collar pinned, right-sides together with the *banbi*. After this, I pressed up the seam, then folded the collar over to do a blind whip stitch on the inside.

Figure 21: Inner edge of collar pressed and pinned after refitting. Side seams still open.

The collar consists of a single, straight piece of fabric that is 3 inches wide. To attach the collar, I first stitched it using a backstitch to the outside of the *banbi*, then folded it over and pressed it, then pressed up the inner edge and stitched it to the inside of the garment using my blind hem stitch. I had initially gotten halfway through attaching the collar before I needed to make my weight-loss adjustments, so I had

to remove the stitches and re-attach the collar once I had a better fit.



Once the collar was attached, I took two pieces of gold silk (a heavier weight plain weave from my scrap bin) and hemmed the edges before tacking it down in a square on the inside of the collar where I wanted my *banbi* to tie. This construction was due to fabric limitations.

Second Iteration

My initial ties were not constructed in a method that I could confidently stand behind - they were made using a heavier weight, plain woven gold silk that was leftover from an Arnegunde coat I made for a friend several years ago.



Figures 22, 23: View of the gold silk ties from the initial construction, showing the rolled hem and attachment to the inside of the collar.

I constructed the initial ties by doing a rolled-hem on the edges and attaching them to the inside of the collar with a series of running and whip stitches. The rolled-hem edges were because I did not have enough fabric to do a folded or turned tape, as I have done in other Tang garments.

These silk tapes don't get much attention in the literature: Zhao Feng mentions them as closures for Liao Dynasty garments, ranging from 1.5-2.5 centimeters in width for upper garments, with wider tapes used for pants and skirts.⁴⁸ They are visible on extant garments, as well as in art throughout Chinese history (Figures 4 and 7 are particularly good examples).

THL Stella DiSilvestri⁴⁹ suggested I look at *Traditional Korean Costume*⁵⁰ to get more insight on the way the ties are made and attached to collars. The Tang Dynasty roughly corresponds to

⁴⁸Zhao, F. (2004). p. 203

⁴⁹ Also known as Seong Myeong su, or Tami King, Meridies.

⁵⁰ Lee, K., Hong, N., & Chang, S. (2005).

the Unified Silla period in Korea, and the majority of the garments in this book are not from that era. This being said, the methods of how to make and attach silk ties are likely very similar to what was used in the 7th-9th century, given the simplicity of ties as a closure method.

The most attention paid to the attachment of silk tapes in *Traditional Korean Costume* is in the description of a *jangot* (cloak-shaped veil), a type of garment that dates to the Joseon Dynasty (1392–1897).⁵¹ It describes the wider chest straps as being stitched down to the edge of the finished collar and folded back so that the strap extends out from the garment, then stitched again.⁵² This same method is described on a 16th century men's coat.⁵³ Details on a men's vest describe similar bands as attached with a fine hemming stitch.⁵⁴

The ties on the various garments vary in width and length, ranging from 1.7 to 2 centimeters wide - more often, the seam allowance (usually 0.5 centimeters) of the tie attachment is noted rather than the dimensions of the tie. For upper garments, no attention is given to the construction of the ties themselves, though they appear to be made by sewing strips of silk into tubes and pressing them flat, with the narrow edges folded in and finished with an invisible slip/ladder stitch. Ties for pants and lower undergarments are described as constructed in a variety of ways - using the selvedge for one side and a rolled hem for the other,⁵⁵ a folded seam allowance held together with glue,⁵⁶ a rolled and slip-stitched seam allowance on one side and selvedge on the other.⁵⁷

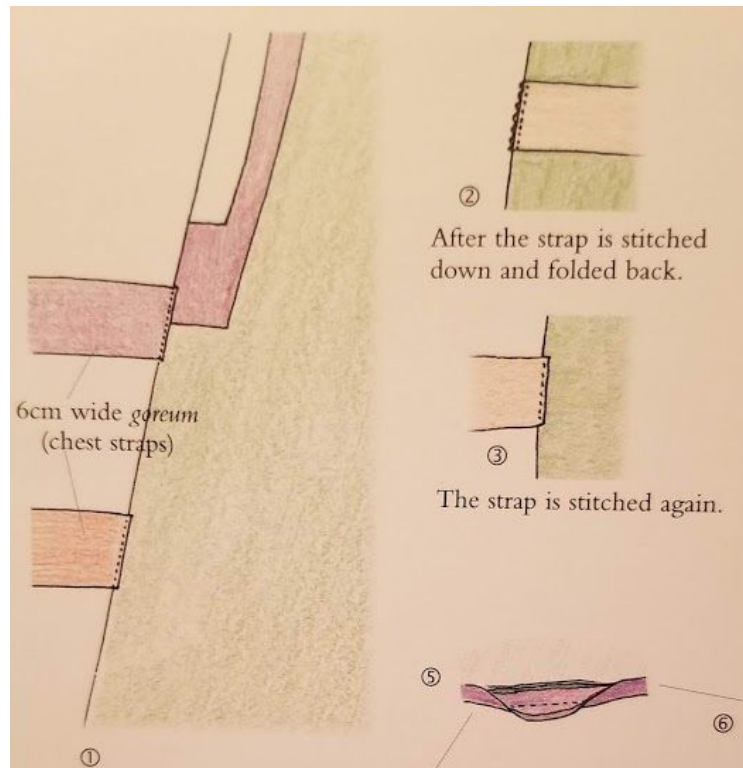


Figure 24: Detail from *Traditional Korean Costume* showing the tie attachment for the jacket-shaped veil.⁵⁸

⁵¹ Lee, K., Hong, N., & Chang, S. (2005). pp. 22, 52-53.

⁵² *Ibid*, p. 52.

⁵³ *Ibid*, p. 288.

⁵⁴ *Ibid*, p. 218.

⁵⁵ *Ibid*, p. 241.

⁵⁶ *Ibid*, p. 238.

⁵⁷ *Ibid*, p. 242.

⁵⁸ *Ibid*, p. 52.

I sourced two different fabrics as potential tie replacements. One is a gold taffeta, similar in weight to the initial tie fabric. The other is a dark purple satin, which was described as a “lining fabric” by the seller (I hadn’t expected a satin weave). I chose to use the purple silk because the color was a better compliment to the *banbi* fabric (Figure 23).

I no longer had access to the digital microscope that was used in this *banbi*’s first iteration, so I can’t confirm with imaging that the purple fabric is indeed a satin weave. To the best of my knowledge, based on what I can see of the weave structure, as well as its weight and texture, it is a satin weave.



This kind of weave was known as *duan* (緞),

In order to ensure that the purple fabric was silk, I did a burn test. Apart from the smell, which my husband said was somewhat chemically, it behaved as silk would (Figure 24).⁵⁹



Figure 25: Comparison of the *banbi* and the three different textiles possible for ties.

⁵⁹ Griffin Dyeworks. (2012). “Burn test (for fiber identification).” Griffin Dyeworks and Fiber Arts. Retrieved from: https://siterepository.s3.amazonaws.com/5968/burn_test_to_identify_textile_fibers.pdf

Figure 26: A swatch of the purple silk after burn testing.

I measured out strips of the dark purple silk that were 6 centimeters wide and 54 centimeters long. I wanted the ties to be 2 centimeters wide when finished, and chose a 0.5 centimeter seam allowance for the inside of the ties. The gold ties felt a little short, especially when compared to the *banbi* illustrated in Figure 4, so I doubled the length of the first ties. I folded and pressed the strips, then stitched them with a backstitch and an approximately 0.5 centimeter seam allowance (Figure 25). I then turned the ties and folded in the narrow sides 0.5 centimeters and closed the tubes with a slip stitch. The finished ties are 2 centimeters wide and approximately 53 centimeters long.

After constructing the ties, I re-stitched the inside of the collar band with a blind hem stitch, taking care to make my stitches small so that they would not be very visible. Finally, I used a backstitch to attach the ties to the inside of the collar with a 0.5 centimeter seam allowance with the tie pointed toward the inside of the garment, folded them back, and top-stitched them with a running stitch and another 0.5 centimeter seam allowance.

Figure 27: Stitching a tie closed along its length with a backstitch.

Figure 28: Ties pinned to the inside of the collar.

Figure 29: Finished tie from the right side.

Figure 30: Finished tie from the wrong side.



Initial Conclusions

Overall, I am happy with the finished *banbi*. I know that my stitching, in terms of consistency, can always be improved, but I am pleased with what I was able to accomplish here in my first completely hand-sewn garment.

If I were to do it over again, or the next time I make a *banbi*, I'd like to line it. Even if I also finish the seams, I feel like lining the *banbi* will give a little more structure to the fabric. The *jin* silk is pretty sturdy, but if I do make a *banbi* out of a lighter, plain weave silk, I would definitely line it to give it more body. I'd also lengthen the tie closure. Since I was using scrap fabric I had leftover from a previous project, I wasn't able to get the length that is seen in some of the extant art. In the future, I'd like to play with the sleeve pattern to achieve the shorter, slimmer sleeves that is seen in some of the late 7th century artwork. Lastly, I'd like to experiment with the neckline. To date, I haven't made a *shan*, a single-layer, lightweight shirt with a curved neckline, and it's clear from some of the art that the *banbi* worn with a *shan* also have curved necklines. I'd like to add this options to my wardrobe, but I feel like there might be some additional, unseen ties to make this kind of closure over the bust possible, especially since it is harder to distinguish visible ties in art depicting this version of the garment (Figures 1, 2, 8).



Secondary Conclusions

Putting more thought into the tie construction forced me to focus in on an often neglected aspect of costume, and I'm happy for that, even if my best resources, from a practical sense, were from elsewhere in East Asia and out of period. This is information that will better inform all of the upper garments I construct from this region/period/culture.

While I was initially worried about the weight and drape of the purple satin as compared to the stiffer taffeta, I was pleasantly surprised when the ties were able to hold their shape without any top-stitching. They're also something I feel I can easily swap out if need be, given how they are attached to the jacket. Stitching a dark purple fabric with dark thread, usually at night, was hard on my eyes, and going through multiple layers of fabric when doing the final stitching when attaching it to the collar was hard. I had to go by feel to make sure that I caught the inner fabric of the *banbi* but not the outer, so that the stitches wouldn't show.

After putting the garment on, I realized that the ties were positioned a bit high on the chest. To mimic Figure 4, I really needed to shift them down to a few inches above the bottom of the *banbi*. Doing this made the jacket fit a bit differently, and I'm much happier with the result.

I am also much happier with the slip stitch method of finishing the inside of the collar. The stitches are practically invisible.

I would still like to make another *banbi* with a lining, or even several in a variety of fabrics, to compare the drape of the different garments given the varieties of styles we see in artwork.

Overall, I am very pleased with the finished product.

Appendix A

Textiles

Fiber

Silk and sericulture in China dates back to the Shang Dynasty (c. 1500-c.1050 BCE), and was an essential part of agriculture, commerce, government, and material culture.⁶⁰ The first imperial workshops for silk were established in the Han Dynasty (202 BCE - 220 CE) on the east coast of Shandong Province.⁶¹ Prior to the Han Dynasty, restrictions on the use and production of silk that were supposedly in place during the Western Zhou Dynasty (1046 – 771 BCE) were documented in the Zhou Li, or Rites of Zhou.⁶² These restrictions included colors and types of garments predicated on social rank, but also included regulation regarding manufacture, such as standard widths and lengths and weave densities.⁶³ Silk was used to pay taxes, so in every region capable of breeding silkworms, households grew mulberry trees and produced silk.⁶⁴

Dyeing

The colors in a piece of *jin* silk were achieved by dyeing the silk threads before weaving them, adding to the value and prestige of the finished textile.⁶⁵ Colors were considered either “pure” - black, blue, red, yellow, or white - or “blended” - bright red, green, jade green, purple, and a variant yellow.⁶⁶ Mordant dyeing was developed by the Warring States period (475–221 BCE), and progressed significantly by the Han Dynasty. By the Tang Dynasty, the range of available colors had grown even larger. Dye pigments came from both mineral and vegetable sources, such as cinnabar, malachite, small carpetgrass, indigo, acorns, lead, and white clam shell.⁶⁷

⁶⁰ Vainker, S. J. (2004). p. 6

⁶¹ *Ibid*, p. 12

⁶² *Ibid*, p. 42

⁶³ *Ibid*.

⁶⁴ Zhao, F. (1999). p. 398.

⁶⁵ Gao, H. (1992). pp. 23-24.

⁶⁶ *Ibid*, p. 24

⁶⁷ Vainker, S. J. (2004). p. 43.

Weave

There were seven principle types of woven silk in the Tang Dynasty: *sha* (纱, tabby woven gauzes), *hu* (縠, tabby woven crepes), *luo* (罗, lenos), *qi* (葛, patterned tabby), and *ling* (綾, twill) all woven in single colors; and *jin* (锦, brocades and damasks), *kesi* (缙丝, tapestry weaves), and *rong* (绒, pile or velvets) which were multicolored.^{68,69} There are also a number of Tang Dynasty *juan* (绢, tabby woven) silk fragments with various applications and printed and dyed designs.⁷⁰ *Duanwen*, (缎纹, satin) first appeared in the late Tang Dynasty.⁷¹ Figures 3, 4, and 7 show *banbi* made of polychrome *jin* silk, which is what I was able to source and use for my project.

There were some standards for cloth that was used for either money or ritual purposes, but these still varied. Real standardization of textile measures came in the Sui (581 - 618 C.E.) and Tang Dynasty when the government began collecting taxes in textiles.^{72 73} In *Cut My Cote*, D.K. Burnham (1997) lists loom widths from the Han (206 B.C.E. - 220 C.E.) and Tang Dynasties - approximately 50 cm (20 in) and 60 cm (24 in) respectively.⁷⁴ 24 inches wide is not enough to go around the body complete, so the garment must have a seam in the center - the seam in the center back is described in the *Book of Rites* regarding the proper construction of the *shenyi* (深衣),⁷⁵ and can be seen in other extant garments. Wilkinson (2018) also gives measurements for the average length and width of a bolt of cloth during the Song Dynasty⁷⁶ - between 2.135 to 2.0 by 43.75 to 48 *chi* (尺), which, when converted to metric/imperial units, is an average of 13.7 m by 60 cm (15 yd by 24 in).

The fabric I used for this project is a reproduction of a warp-patterned, plain-woven *nishiki* or *jin* silk originally found in the Hōryū-ji Buddhist temple and now part of the Tokyo National Museum's collection, which dates from the late 7th or early 8th century.⁷⁷ *Nishiki* fabric is made of a multicolored, patterned weave which usually depict florals, stripes, or hunting scenes⁷⁸ - which we would classify as *jin* using the Chinese term for the compound-weave, polychrome silk fabrics that include a variety of weave structures, including both warp and weft-faced weaves.⁷⁹ The extant fabric from Hōryū-ji is also referred to as *Shokkokin*, which is a type of fabric is believed to have originated in the Shu district of China - which is now the southern Sichuan

⁶⁸ Vainker, S. (2004). p. 85.

⁶⁹ Gao, H. (1992). pp. 15-20.

⁷⁰ *Ibid*, p. 215.

⁷¹ Kuhn, D. (2012). p. 522

⁷² Wilkinson, E. (Ed.). (2018). p. 89

⁷³ Benn, C. (2004). p. 14

⁷⁴ Burnham, D. K. (1997). p. 29

⁷⁵ Confucius. (475 B.C.E. - 221 B.C.E./2018).

⁷⁶ Wilkinson. (2018). p. 190

⁷⁷ Matsumoto, K. (1984). p. 228.

⁷⁸ Parent, M. N. (2001b). *Nishiki 錦. JAANUS: Japanese architecture and art net users system* [Dictionary]. Retrieved from <http://www.aisf.or.jp/~jaanus/deta/n/nishiki.htm>

⁷⁹ Zhao, F. (1999). p. 340.

Province - though the fragment was not necessarily produced in China.⁸⁰ The fabric features pearl-bordered roundels and arabesques on a red ground, with paired lions and paired phoenixes alternating within the roundels and paired deer and paired horses alternating between the roundels.⁸¹ In the images, the weft runs horizontally, meaning that when the textile was woven, the pattern was on its side.⁸² The reproduction fabric's pattern is also oriented this way. The phoenix is a typical Chinese motif, and the pearl-bordered roundel is derived from Persian motifs, so it is possible that this textile was woven in China and brought to Japan.⁸³

There is no metadata accompanying the description of the Hōryū-ji silk that refers to size from which a pattern scale can be derived, but there is a Buddhist ritual banner also found in the Hōryū-ji temple that uses the same or a similar pattern which measures 15 centimeters wide, but it includes a border fabric. By measuring the pixels in a scanned image of the banner (1100 pixels from banner edge to edge) and using proportion math, I estimate that the roundel section of the banner is approximately 7.09 centimeters (520 pixels) wide. This is roughly 73 pixels per centimeters. Using this ratio, the diameter of each roundel (760 pixels) is estimated at 10 centimeters. Based on these calculations, the reproduction fabric is at a smaller scale (approximately 57%) than the extant fabric, with each roundel approximately 4 centimeters wide. This would suggest that the original fabric was of a scale more in line with the *banbi* in Figures 3 and 4 are wearing.

For the *banbi* ties, I used a plain weave gold silk that I had leftover from another project. I'm not sure what the technical weight is, but it is a medium to heavy weight, similar to a taffeta. There are 90 warp threads per inch in the gold textile. For the second iteration, I used a purple satin silk, but lost my ability to inspect the weave with a digital microscope.



Figure 31: Fragment of *nishiki* silk found in the Hōryū-ji temple, dating to the late 7th or early 8th century, currently housed in the Tokyo National Museum.⁸⁴

⁸¹ Matsumoto, K. (1984). p. 228.

⁸² *Ibid.*

⁸³ *Ibid.*, pp. 228-229.

⁸⁴ *Ibid.*, p. 55.



Figure 32: Reproduction silk fabric, 24 in wide, featuring the same pattern as the Hōryū-ji silk.

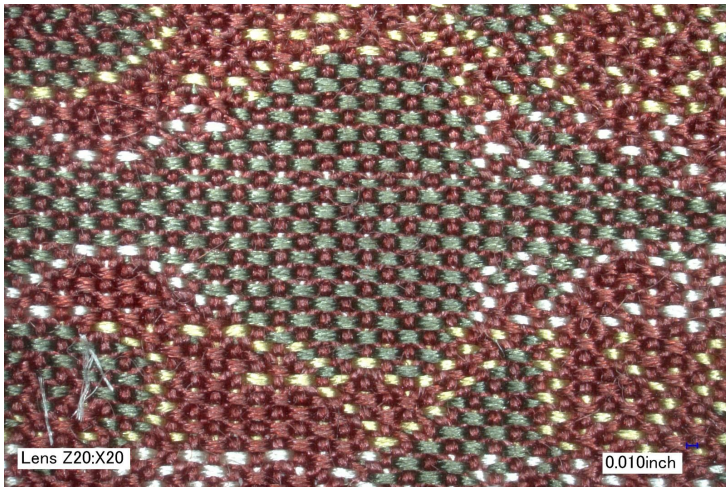


Figure 33: Magnification of reproduction silk (x20) showing the warp-patterned, plain weave structure. The warp threads still attached to this fabric support that this is a warp-patterned textile, as they are in multiple colors, leaving the red weft-thread to produce the red ground.⁸⁵



Figure 34: Magnification of gold plain weave silk (x20) used for the *banbi* ties.

⁸⁵ Special thanks to Jacob Fuerst of Fuerst Metallurgy for taking these pictures with his Keyence VHX-2000 Digital Microscope. He can be contacted via his website at <https://www.fuerstmetallurgy.com/>

Sewing Techniques

Tools



Figures 35-38: Beaten silver Tang Dynasty scissors;⁸⁶ three bone needles from Xiaogushan, Liaoning Province;⁸⁷ drawing of a bone ruler dating from the interregnum period of the Han Dynasty, found in the Sajin Tohoi Cemetery in Dengkou;⁸⁸ Detail of *Ladies Preparing Newly Woven Silk* showing a bronze iron being used to smooth a section of silk.⁸⁹

The primary tools I used to construct my *banbi* were scissors, a steel needle, glass-headed pins, and an iron for pressing. Secondary tools included a marking pencil, straight-edge ruler, and measuring tape.

⁸⁶ *Scissors*. (Tang Dynasty). [Beaten silver, metalwork]. The Metropolitan Museum of Art, New York. REtrieved from <https://www.metmuseum.org/art/collection/search/61123>

⁸⁷ Smithsonian Institution. (2015). *Bone and ivory needles*. Retrieved from What does it mean to be human?: <http://humanorigins.si.edu/evidence/behavior/making-clothing/bone-and-ivory-needles>

⁸⁸ Bai, Y. (2015 Nov 01). The studies on the measuring devices of the Han Dynasty and the relevant issues. *Chinese Archaeology*, 15(2015). p. 190

⁸⁹ 宋徽宗. [Emperor Huizong]. (12th century). 搗練圖卷 [Court ladies preparing newly woven silk.] [Painting]. Boston Museum of Fine Arts, Boston, MA. Retrieved from: <https://www.mfa.org/collections/object/court-ladies-preparing-newly-woven-silk-28127>

Scissors have been found in 213 Tang Dynasty era tombs, made from materials such as gilded iron, silver, bronze, iron, and ceramic.⁹⁰ These tombs run the gamut from elaborate to simple, with the highest status individual being Noblewoman Li Chui and the lowest a human sacrifice.⁹¹ Along with hairpins and mirrors, archaeologists often use scissors as an indicator that a tomb occupant was female.⁹²

In the anonymous ballad *Southeast fly the peacocks*, we get a textual image of both scissors and a means of measuring:

With her left hand she grasped scissors and measuring rod,
With her right hand she took the silk material.⁹³

The ballad is based on events that happened at the end of the Han Dynasty, during the Chien'an period, but may have been written as late as the mid-6th century.⁹⁴ 78 examples of measuring rods, not unlike modern rulers, have been found in Han Dynasty tombs, made of materials such as bamboo, bone, bronze, gold-inlaid iron, jade, ivory, and wood.⁹⁵ Most of these rulers were decorated and had a hole at one end for tying a string.⁹⁶ Flexible bamboo or string may have been used to measure curves in astronomical applications,⁹⁷ and so may also have been used to measure curves for tailoring.

Bone and ivory needles that are estimated to be between 30,000 and 23,000 years old were found in Xiaogushan Caves, in the Liaoning Province.⁹⁸ Steel needles traveled westward from China during the first century BCE, and needle rings (similar to thimbles) have been found in archaeological sites dated to the Han Dynasty.⁹⁹

Small pins, likely used as tools in sewing, are mostly ignored by archaeologists in favor of larger and/or elaborate pins, leaving the smaller, humbler pins to be lumped together and not given any context other than to associate a find with women (despite the fact that both men and

⁹⁰ Yang, Y. (2019). *Death ritual in the Tang Dynasty (618-907: A study of cultural standardization and variation in Medieval China*. [Dissertation]. UC Berkley Electronic Theses and Dissertations. Retrieved from <https://escholarship.org/uc/item/7fq4s2nf>. p. 148

⁹¹ *Ibid*, p. 149

⁹² *Ibid*, pp. 149-50

⁹³ Frankel, H. H. (1974). The Chinese ballad "Southeast fly the peacocks." *Harvard Journal of Asiatic Studies*, 34(1974), pp. 248-271. p. 256.

⁹⁴ *Ibid*, p. 258-259

⁹⁵ Bai, Y. (2015 Nov 01). The studies on the measuring devices of the Han Dynasty and the relevant issues. *Chinese Archaeology*, 15(2015), pp. 188-194. DOI: <https://doi.org/10.1515/char-2015-0020>. p. 191

⁹⁶ *Ibid*, p. 192

⁹⁷ Needham, J. (1959). pp. 357, 384.

⁹⁸ Smithsonian Institution. (2015). *Bone and ivory needles*. Retrieved from What does it mean to be human?: <http://humanorigins.si.edu/evidence/behavior/making-clothing/bone-and-ivory-needles>

⁹⁹ Beaudry, M. C. (2006). p. 91.

women sewed clothing).¹⁰⁰ There is ample evidence of Prehistoric and Bronze Age pins used to fasten clothing, often with decorated heads.¹⁰¹ While we I currently can't point to any physical or textual evidence of pins being used in China, the fact that steel needles existed and garments were made from materials ranging from silk gauze to heavy brocades suggests that some method of holding fabric together so that it could be stitched was known. Additionally, wire was produced at least as far back as the Spring and Autumn Period (771-446 BCE), as it was used as a material for decorative inlay in other metalwork.¹⁰²

Lu Qi's *Origin of All Things* (c. 1474), describes what would become the clothes iron (熨斗, *yundou*) as invented by Emperor Zhou (紂辛) of the Shang Dynasty (r. 1075-1046 BCE) as a torture device.¹⁰³ These irons were shallow pans, attached to long handles, with flat bottoms that held hot coals.¹⁰⁴

Stitches, Finishing Techniques, and Closures

Because of the rarity of extant garments from the Tang Dynasty, once again we look to garments from preceding and succeeding dynasties, as well as from cultures influenced by the clothing of the Tang Dynasty, to extrapolate information about seams and finishing techniques. Scholarly efforts tend to pay much more attention to the stitch techniques related to embroidery than to garment construction, so trends in seam finishing techniques are even more difficult to ascertain with any sense of surety.

An analogous source of some importance is *Chimseon: Korean Traditional Sewing (C:KTS)*¹⁰⁵ which describes the sewing methods for traditional Korean garments, (which were influenced by the Tang and succeeding Chinese dynasties).¹⁰⁶ It should be noted that this source does not cite any extant garments to support the use of these methods, but that does not necessarily mean they are incorrect. *C:KTS* lists two different types of stitches for joining fabric together, running stitches and backstitches, and two different types of backstitches, backstitch and half-backstitch. The width of backstitches, also called *ondangchim* or *on-bageumjil* (온당침 or 온박음질), is the same as a whole single stitch and looks like a running stitch from the front. Half backstitches, *ban-bageumjil* or *bandangchim* (반박음질 or 반땀침), are made so that the width of the backward stitch is half the size of the whole. From the front, it looks like backstitch as opposed to a running or machine stitch. In terms of strength, backstitch is the strongest, then half backstitch, and running stitch (홈질, *homjil*) is the weakest. This does not take into account the various types of basting stitches (시침질, *sichimjil*), which are intended to be removed once a

¹⁰⁰ *Ibid*, p. 10.

¹⁰¹ Beaudry, M. C. (2006). pp. 11-12

¹⁰² Chinese University of Hong Kong Heritage Museum. [ArtMuseum]. (2017, Jul 6). *Ancient Chinese Gold Techniques: Gold and Silver Inlaying* [Video file]. Retrieved from <https://www.youtube.com/watch?v=rIVSSXUQCc8>

¹⁰³ Siebert, M. (2011). Making technology history. In D. Schäfer (Ed.). *Cultures of knowledge: Technology in Chinese history*. Leiden, Netherlands: Brill. p. 270

¹⁰⁴ Harper, D. (2013). *Early Chinese medical literature*. [Kindle edition]. New York: Routledge.

¹⁰⁵ Yong-i Y., Yeo-Kyung K., Su-jin S. (2016). Seoul: Korea Craft and Design Foundation.

¹⁰⁶ *Ibid*, p. 21.

garment is more permanently stitched together.¹⁰⁷ It is possible that basting stitches were used instead of pins.

Looking at extant examples of clothing contemporary to Tang, it appears that most garments were lined. The seams of lined garments are protected by the lining fabric, and as a result, may not have been finished in another way. There are some garments that are classified as unlined, which would have required a seam finishing technique for stability.

Zhao Feng, a curator and researcher at the China National Silk Museum, has written a remarkable volume regarding the textiles and clothing of the Liao Dynasty titled *Liao Textile and Costumes*, in which he discusses the methods of construction and the influence of the Tang Dynasty on Liao garment and textile design.¹⁰⁸ Liao Dynasty clothing that was unlined was stitched together, usually with Z-twisted silk filament plied with an S-twist using running stitches with a 0.7 centimeter seam allowance,¹⁰⁹ and the edges were rolled and hemmed.¹¹⁰ These “edges” are most likely the ends of cuffs and the hems of garments. Zhao notes that, when necessary, “another thread would be stitched 1-2 [centimeters] from the seam.”¹¹¹ It is unclear if this means that the seam allowance was stitched to the garment (as in a clean finish) or if it was a simpler check against the possibility of fraying. Lined garments were assembled either by stitching the shell and lining pieces separately and then stitching them together or by flatlining - where the lining and shell fabric are stitched together and treated as one piece for assembly.¹¹² While the first method is more common in extant garments, a gauze robe from the Liao Dynasty is flatlined.¹¹³

C:KTS lists five different types of seams, according to how they have been finished: *gareumsol* (가름솔), *hotsol* (홀솔), *tongsol* (통솔), *ssamsol* (쌈솔), and *gobsol* (곱솔).¹¹⁴ *Gareumsol* seams are pressed-open flat seams, primarily used for thicker fabrics or armholes. *Hotsol* seams, which are used for bodice and shoulder seams, are not divided, and are pressed to one side so that the fold is about 0.1-0.2 centimeters away from the stitching.¹¹⁵ *Tongsol* seams are French Seams used for curves on single-layered garments, and are stitched 0.6-0.7 centimeters away from the seam line before turned and stitched again to encase the seam.¹¹⁶ *Ssamsol* seams are flat-felled seams and are used for single-layered undergarments and patchwork.¹¹⁷ Lastly, the *gobsol* method for sheer or delicate fabrics consists of folding the seam allowance just above the first line of stitches (0.2 centimeters), trimming the excess seam allowance away, then

¹⁰⁷ *Ibid*, pp. 52-53.

¹⁰⁸ (2004). Hong Kong: Muwen Tang Fine Arts Publication Ltd.

¹⁰⁹ Zhao, F. (2004). p. 203.

¹¹⁰ *Ibid*, p. 202.

¹¹¹ *Ibid*, p. 203

¹¹² *Ibid*, p. 202.

¹¹³ *Ibid*.

¹¹⁴ Yong-i Y., Yeo-Kyung K., Su-jin S. (2016). pp. 58-60.

¹¹⁵ *Ibid*, p. 58.

¹¹⁶ *Ibid*, p. 59.

¹¹⁷ *Ibid*.

folding and pressing the seam once again and a final line of stitching stitched between them before being opened up and pressed from the right side.¹¹⁸

The book 時代衣裳の縫い方: 復元品を中心とした日本伝統衣服の構成技法 [Jidai ishō no nuikata: fukugenhin o chūshin to shita Nihon dentō ifuku no kōsei gihō, How to sew traditional costumes-techniques for constructing traditional Japanese clothing], has construction information related to clothing in the Shōsōin Repository, including *hanpi*.¹¹⁹ While I believe the *banbi* is closer to the *ru* than the *hanpi* in terms of patterning and construction, there still may be some relevant information in this text regarding 8th century Japanese garment construction that might be applicable to Chinese garments of similar styles. The text is in Japanese, and I have reached out to others in an attempt to get some of the pages translated.

I used a backstitch for my seams, finishing them using the flat-fell method and a modified blind hem stitch that is a mix between a blind hem, slant hem, and vertical hem stitch (Figure 39).

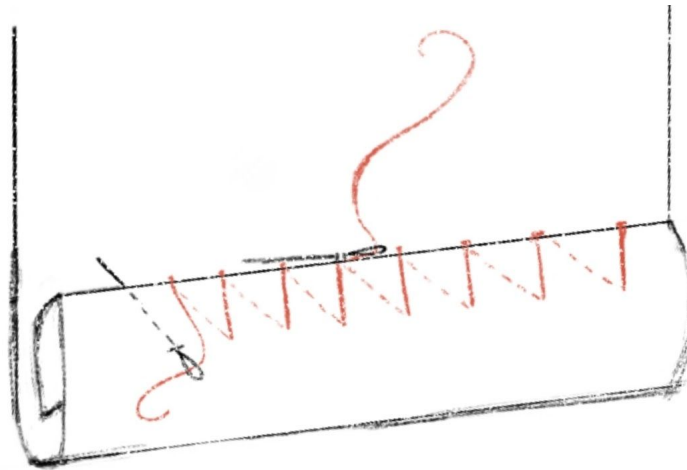


Figure 39: A diagram of my variation on the vertical/blind hem stitch.

For this stitch, I start by securing my knot in the fold of the fabric and picking up a few strands of the outer fabric. I then come straight down with my needle into the folded fabric and out through the top crease before picking up a few more strands of the outer fabric again. The result from the right-side of the fabric resembles a blind hem stitch. On the wrong side it looks like vertical hem stitch. For all my stitches, I used Gutermann silk (S 303) in colors to match the gold, purple, and red-ground fabrics.

¹¹⁸ *Ibid*, p. 60.

¹¹⁹ Kurihara, H. & Kawamura, M. (1984). 時代衣裳の縫い方: 復元品を中心とした日本伝統衣服の構成技法 [Jidai ishō no nuikata: fukugenhin o chūshin to shita Nihon dentō ifuku no kōsei gihō.] Tokyo: Genryūsha.

Appendix B

Chinese Dynasties and Tang Dynasty Emperors

Neolithic period	C. 7000 - c. 1600	Emperor Zhongzong	705 - 710
BCE		Emperor Shaodi	710
Xia Dynasty	C. 2100 - c. 1600	Emperor Ruizong	710 - 712
BCE		Emperor Xuanzong	712 - 756
Shang Dynasty	C. 1600 - 1027 BCE	Emperor Suzong	756 - 762
Western Zhou	1027 - 771 BCE	Emperor Daizong	762 - 779
Eastern Zhou	770 - 256 BCE	Emperor Dezong	779 - 805
[Spring/Autumn/Warring States]		Emperor Shunzong	805
Qin Dynasty	221 - 206 BCE	Emperor Xianzong	805 - 820
Western Han	206 BCE - 8 CE	Emperor Muzong	820 - 824
Xin Dynasty	9 - 23	Emperor Jingzong	824 - 827
Eastern Han	25 - 220	Emperor Wenzong	827 - 840
Three Kingdoms	220 - 280	Emperor Wuzong	840 - 846
Western Jin	265 - 316	Emperor Xuanzong	846 - 859
Eastern Jin	317 - 420	Emperor Yizong	859 - 873
Northern Dynasties	386 - 580	Emperor Xizong	873 - 888
Southern Dynasties	420 - 589	Emperor Zhaozong	888 - 904
Sui Dynasty	581 - 618	Emperor Aidi	904 - 907
Tang Dynasty	618 - 907	Five Dynasties	907 - 960
Emperor Gaozu	618 - 626	Liao Dynasty	907 - 1125
Emperor Taizong	626 - 649	Northern Song Dynasty	960 - 1127
Emperor Gaozong	649 - 683	Southern Song Dynasty	1127 - 1279
Emperor Zhongzong	684	Jin Dynasty	1115 - 1234
Emperor Ruizong	684 - 690	Yuan Dynasty	1279 - 1368
Zhou Dynasty	690 - 705	Ming Dynasty	1368 - 1644
[Empress Wu]			

From Hanyu, G. (1992). p. 7; Benn, C. (2002). pp. xxi - xxii.

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