



# Finding the Golden Slipper

Recreating Western Han Dynasty Silk Shoes

## 1: Silk Shoes from the Western Han Dynasty

### Cinderella né Ye Xian's Golden Slippers

In the 9th Century, Duan Chengshi (c. 800-63) wrote *Miscellaneous Morsels from Youyang*, which includes one of the earliest datable versions of the Cinderella cycle. In it, a young girl who is the daughter of a chief is orphaned and raised by her cruel stepmother. She befriends a large fish who becomes her benefactor. After the stepmother kills the fish and eats it, Ye Xian communicates with its spirit, and it gives her beautiful clothes to wear to a festival - including a pair of golden shoes. She is the most beautiful maiden there, but when she thinks she's been recognized by her sister, Ye Xian leaves, accidentally leaving one of the slippers behind. The slipper is found by peasants and traded until it reaches the king of a nearby string of islands.

The king begins a search to find out who the shoe belongs to, and eventually reaches Ye Xian's community. Ye Xian comes and night and steals the slipper when it is on display, but she is caught and brought before the king. She explains everything, and the king lets her leave with the slipper. The next day the king goes to find her at her house and sees Ye Xian in her festival finery. The king asks Ye Xian to join him as his queen, and the stepmother and sister are banished to the wilderness where they are later killed by a rain of fiery stones.

While the story was written during the Tang Dynasty, it is set in the late 3rd Century BCE, before the Qin-Han conquest (Waley, 1947, p. 151). The story, along with my recent research into the clothing of the Tang Dynasty inspired me to try to recreate the shoes described in the story.

### Extant Inspiration

This item is a recreation of the shoes found in the tomb of Xin Zhui (辛追), also known as Lady Dai, at Mawangdui in Changsha, China (Figure 1). The shoes were created during the Western Han Dynasty (206 BCE – CE 25) and presumably before or shortly after Xin Zhui's death in 163 BCE.

### Mawangdui, Changshan

Zhui's husband, Li Cang (利蒼), was the Marquis of Dai and Chancellor of Changsha (Psarras, 2014, p. 110). Changsha is a region of China that has been populated for thousands of years – it was named during the Western Zhou Dynasty (1046-771 BCE) but archaeological evidence points to inhabitants in the area from 3,000 years prior (Ministry of Culture, 2003). The State of Changsha was established by Emperor Gaozu, the founder of the Western Han Dynasty, and became the capital of the Hunan Province during the Qing Dynasty (1644-1911) (Ministry of Culture, 2003).



Figure 1 Silk shoes from the Mawangdui exhibit at the Hunan Provincial Museum (n.d.a)

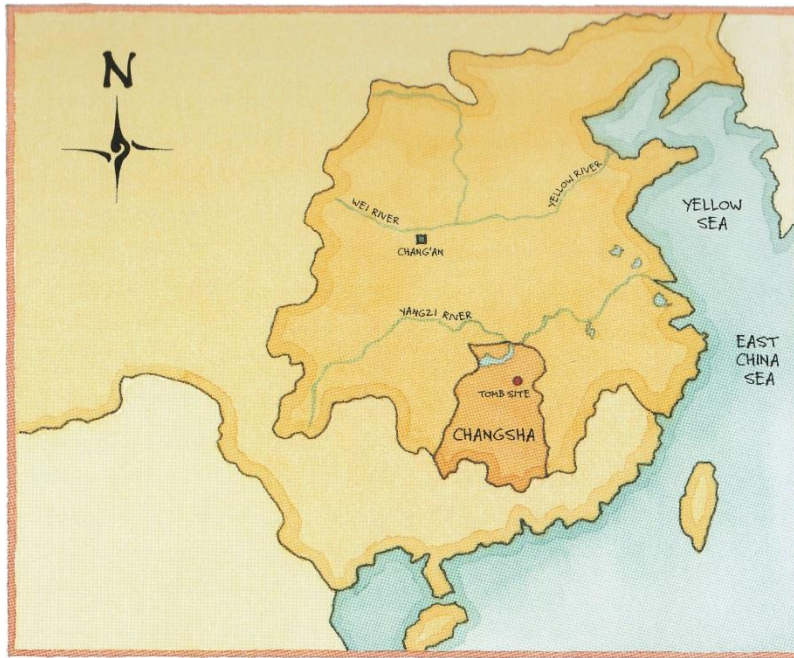


Figure 2 Illustration of map from Liu-Perkins (2014, p. 16). Tomb site indicated by red dot.

The tomb site is located in northern Changsha, near the Yangzi River. Li Cang owned land between present-day Luoshan County and Guangshan County, which is north of the river (Liu-Perkins, 2014, p. 16).

Xin Zhui died in 163 BCE and was buried with over 1,000 items (Bonn-Muller, 2009) including four pairs of shoes (Hunan Provincial Museum, n.d.a). The Hunan Provincial Museum's website (English-version) describes the shoes as being "worn by the owner of one of the tombs" (2010). Zhui was an aristocrat, given that her husband was a government

official equivalent to a Marquis. There were 700 households under the Dai manor, which was located between present-day Loushan County and Guangshan County in the Henan Province (Hunan Provincial Museum, 2006). The museum's description of the shoes makes it difficult to discern if these were the shoes the preserved cadaver of Zhui was laid to rest in, shoes she wore in life, or if they were a pair provided as part of the Han/Chu burial tradition.

### Burial Customs and Grave Goods

The grave goods at Mawangdui were placed there because "the separation of body and soul was felt to cause some fear and confusion to the new spirit, so the surviving members of the family tried to provide it with the support it needed" (Victoria and Albert Museum, 2015). Daoists believed that a person had two souls – a *hun*, the "ethereal soul associated with *yang* energies", and a *po*, the corporeal soul associated with *yin* energies" (Lee, 2014, p. 104). Death occurred when the *hun* separated from the *po*. One of the first acts of mourning was for family members to try and summon the *hun* back to the *po* through the rite of *fu*, or "summoning the soul". (Lee, 2014, p. 105). Once it had been established that the *hun* was not returning, Daoists believed the two parts of the soul needed guidance either to ensure a smooth journey to the afterlife or return to the tomb to live in comfort (Lee, 2014, p. 105).

### Challenges

Researching Chinese material culture can be difficult for a variety of reasons. First, I do not speak or read Chinese, and so Chinese language sources are either inaccessible or dependent on the use of others who can translate, or as a last resort, computer translation, which is often difficult to parse and holds no assurance of accuracy. Second, while much of the Mawangdui tombs' goods have been studied and analyzed by English-speaking scholars (or else translated into English), there seems to have been no particular special attention paid to the shoes. Given these challenges, I had to make some assumptions



along the way based on what I have been able to learn about basic shoe construction, both in Western Europe during SCA period as well as modern cloth shoe construction from the DIY movement, and by piecing together what information I was able to gather and glean.

## Project Goals

My goal for this project was to produce a pair of shoes worthy of a noblewoman from the Western Han Dynasty, specifically around the time that Xin Zhui lived. While the pair in her tomb may have never actually been worn, I wanted mine to be something I could wear with an appropriate outfit. Given the materials used and the status of the wearer, these are clearly not shoes that one would go traipsing around a campsite in – so while they need to be sturdy and function as a shoe, they also need to convey luxury.

Before embarking on this project, I had never made shoes. Having previously researched the clothing and culture of Tang Dynasty China, the idea of the rising, shaped toe cap had intrigued me. Since the Han Dynasty shoe style featured a shorter, but similarly turned toe, I hope to apply what I learn with these shoes to making a pair of “taller” Tang Dynasty shoes.

Lastly, I would like at some point to recreate the entirety of Ye Xian’s “festival” outfit, including a *shenyi*, and “cloak of kingfisher feathers” (using a substitution, of course). This goal is part of a larger, more long-term project to recreate several period folktale princess outfits.

## 2: Making the Shoes

### Looking Closer at the Mawangdui Shoes

The Mawangdui shoes (Figure 1, 3) are 26 centimeters (10.23 inches) long and 7 centimeters (2.75 inches) wide. This would make the shoe, in modern sizes, a woman’s 10 ½, with a very narrow width. The uppers are made of teal-green, plain weave silk that has a coarser weft (Z. Song, personal communication, 22 October 2015)<sup>1</sup>. The sole is made of reddish-purple hemp (or possibly rough flax, given that there is no separate word in Chinese that Song was aware of). The lining was also reddish purple.

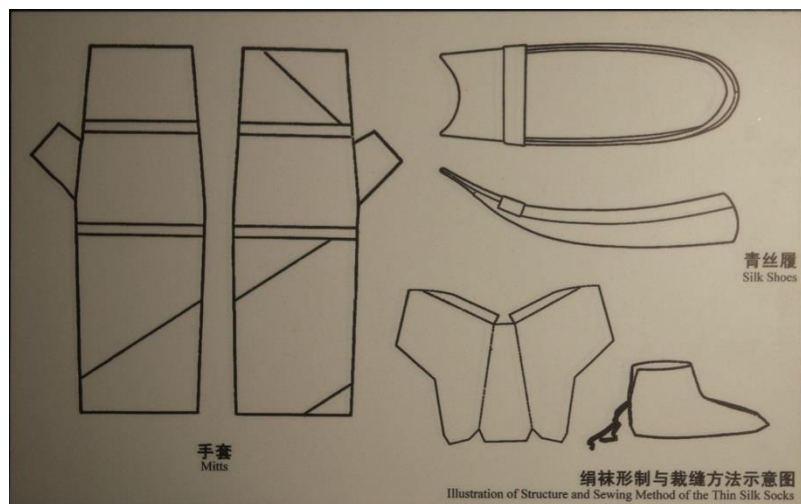


Figure 3 Diagram of mittens, shoes, and socks (Hunan Provincial Museum, n.d.a)

<sup>1</sup> Lady Song Zidie, of Ealdomere, was kind enough to provide me with a translation of a museum plaque at the Hunan Provincial Museum (n.d.a). The plaque provided a great deal more information about the shoes than the information on the English version of the museum’s website, which simply states the length, width, and the following: “This is a pair of silk shoes worn by the owner of one of the tombs. The surface is knitted by silk threads and the bottom by hemp threads” (Hunan Provincial Museum, 2006).

The sides of the shoe have been decorated with a pattern of symbols, and the insole with a flat, plain pattern.

The Hunan Provincial Museum provides a placard next to the case housing the silk shoes which includes a side and top diagram of their construction, which makes it easier to identify the different pieces (Figure 3). The sole of the shoe curves upward toward the toe, which is capped with a top and bottom piece, the latter being approximately half the length of the former. The upper is bound with an edging, as is the toe-cap at the instep.



*Figure 4 Potential alternate view of Mawangdui shoe (Fang, 9 Sep 2013)*

Figure 4, taken from a Chinese-language site, is described as being a pair of shoes from the Mawangdui tomb, but whether they are one of the other three pairs or a reproduction is unclear. The image does not show a binding on the edge of the upper or instep, but it does provide a better idea of the curve of the upper and lining. When compared to the diagram, it does not appear that the toes of these shoes rise at much of an angle - at least when not worn. Both shoes seem sturdy enough to hold their shape.



*Figure 5 Larger view of the Mawangdui shoes (Hunan Provincial Museum, n.d.a) The binding on edges of both the upper and instep is clearly visible, though perhaps worn away in areas.*



## Other Western Han Dynasty Shoes

The Mawangdui shoes appear to be stylistically in line with other footwear of the Western Han Dynasty. Shoes by this period featured separate uppers and soles, and were made of a variety of materials including hemp, leather, or silk (Langford, 2009, p. 233). They were often decorated with woven or embroidered designs and were “forked at the front” (Langford, 2009, p. 233). Footwear was often worn with socks. The materials a shoe was made of reflected its use as well as the status of the wearer (Langford, 2009, p. 233).



Figure 6 Detail of Xui Zhui with attendants, from the T-Shaped banner (Hunan Provincial Museum, 2010).



Figure 7 Line drawing of Xui Zhui taken from T-shaped banner (Hua, 2010, p. 16).

There are artistic representations of this style of shoe – with the upturned, forked toe – being worn during the Western Han Dynasty.

Draped over Xin Zhui’s inner most casket was a T-shaped banner which is painted with scenes of Xui Zhui, servants, family members, gods, beasts, and other symbols (Liu-Perkins, 2014, p. 49) (Figure 6).

In the middle of the banner, Xin Zhui is depicted wearing an embroidered robe and leaning on a cane (Liu-Perkins, 2014, p. 49). A line drawing of the image (Figure 7) from *Research on Ancient Chinese Clothes and Adornments* by Shen Congwen is included in Hua Mei’s *Chinese Clothing: Garment, Accessory and Culture* (2010, p. 16). In this drawing, the upturned, forked toe is more visible. However, it appears to have been exaggerated in the painting when compared to the extant shoes as well as sculpture.

The Terracotta Army of Emperor Qin, the first emperor of the Qin Dynasty,

is made up of nearly 8,000 soldiers and horses, each believed to be modeled after a unique individual (Strakova, 2007, p. 28). Construction of Emperor Qin’s tomb began shortly after he became emperor in 220 BCE and lasted almost 40 years (Strakova, 2007, p. 14). Shoe tips on the soldiers vary, but both unarmored, armored, and presumably high-ranking soldiers had shoes with curved toes, while the toes of archers and cavalry-men were square (Strakova, 2007, p. 29-35). Strakova (2007) worked to



Figure 8 Terracotta warrior shoe with binding on topline and vamp for stiffening (Strakova, 2007, p. 46)

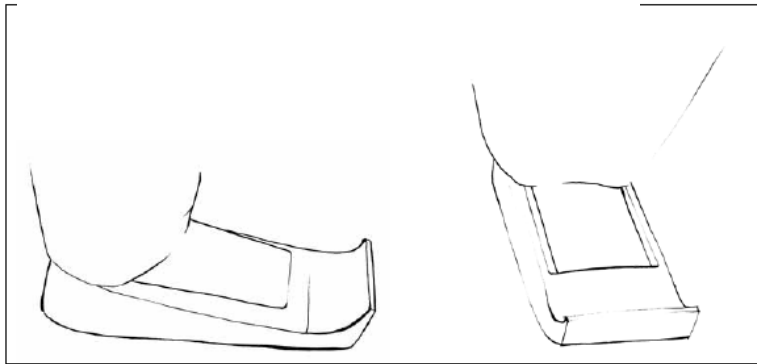


Figure 9 Views of square-shaped shoes with raised toes (Strakova, 2007, p. 39)



Figure 10 Finished felt reproductions of Terracotta warrior shoes, with laces and leather bindings along the topline and vamp (Strakova, 2007, p. 55)

reproduce two different styles of shoes worn by the Terracotta Army, and in doing so corresponded with Zhang Wembi, director of the Museum of the Terracotta Warriors and Horses of Emperor QinShinhuang's Research Office Director (p. 37). Zhang noted that while they have not unearthed a female stature in the Terracotta Army, footwear was the same for both males and females (Strakova, 2007, p. 37). This is in line with what extant footwear, fragments, and art survive today. Some of the Terracotta warriors have shoes that lace in a variety of ways, some with or without a bound edge to stabilize the vamp and topline (Figure 8), while others do not have either (Figure 9). There is also evidence of a heel seam (Strakova, 2007, p. 46), much like modern ballet flat construction. Strakova was recreating shoes meant for soldiers, so used thick wool felt for the upper and leather for the sole, both of which were used in period (p. 48). Because Strakova was using felt, he was able to shape the upper, including the inner sole, from one piece of felt by putting it over a wooden shoe last and steamed (p. 49). Silk does not behave this way, and so was more likely cut and sewn from several pieces.



## The Limes Watchtowers' Shoes

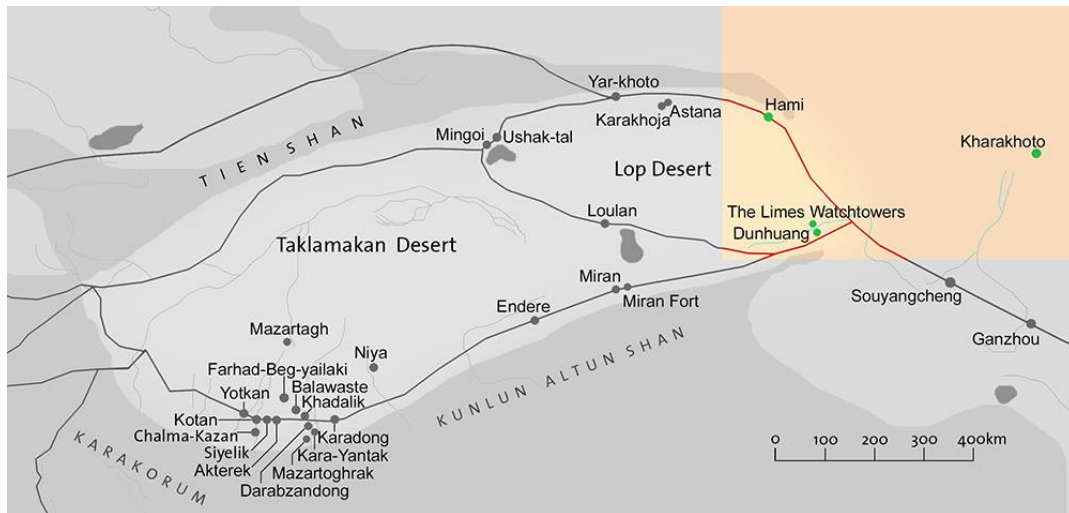


Figure 11 Map of the areas explored by Sir Aurel Stein, Victoria and Albert Museum, London

The Stein Collection at the Victoria and Albert Museum includes the textile pieces found at the Limes Watchtowers, which date to the Western Han Dynasty. Unfortunately, the Limes Watchtowers are approximately 1,700 miles northwest of Mawangdui. The shoes from the Limes Watchtowers aren't as

well preserved, nor are the majority of them made from materials as fine as Xin Zhui's shoes. That being said, some insight can be drawn from their construction that can be applied to the Mawangdui shoes.



Figure 12 Limes Watchtower Shoe, Victoria and Albert Museum London, LOAN:STEIN.201

Figure 12 shows what might be the closest analog from the Limes Watchtowers to the shoes at Mawangdui. The fragment is missing the outer sole and toe. It is impossible to know if the toe was rounded, like the other, cruder hemp shoes at the site, or upturned and forked, but the fragment does show that there was an outer sole in addition to an inner one, which makes sense given that these are cloth shoes as opposed to leather. The upper is a monochrome plain weave of an unidentified plant fiber. There is a blue band at the edge that would have joined the sole to the upper, which was woven to the needed shape. The opening of the shoe has a patterned, polychrome weave of green and brown silk. There is also evidence of a lining that consisted of the same, monochrome plain weave plant fiber as the

inner sole. There were “decorative additions” of blue silk thread (Victoria and Albert, n.d.).

## Western Han Dynasty Textiles, Tools, and Techniques

### Textiles

#### *Silk*

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 (Vainker, 2004, p. 6). The first imperial workshops for silk were established in the Han Dynasty on the east coast of the Shandong Province (Vainker, 2004, p. 12). 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 (Vainker, 2004, p. 42). 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 (Vainker, 2004, p. 42). These dimensions are equivalent to just over a half a meter in width and approximately nine and a quarter (just over ten yards) in length. More silk was being produced in the Han Dynasty than previously, but one had to have a royal connection or financial means to purchase the expensive material – the price was determined by the quality and pattern of the silk (Langford, 2009, p. 56). Since was used to pay taxes, and in every region capable of breeding silkworms, households grew mulberry trees and produced silk (Zhao, 2014, p. 398).

#### *Hemp and Ramie*

Hemp and ramie, both bast fibers, were used for textile production in the in the Han Dynasty (Langford, 20109, p. 38), with hemp being more used in the north and ramie in the south (Zhao, 2014, p. 381). The soles of the shoes from Mawangdui, as well as several shoes from the Limes Watchtowers, have been identified as hemp. Hemp production in the Han Dynasty had evolved to a point where various grades could be produced – not simply the coarse fabric we think of today (Langford, 2009, p. 52). Hemp was also bleached and cleaned, indicated as being “white as snow” in a book that pre-dates the Han Dynasty (Langford, 2009, p. 52). Hemp could be spun and woven either finely or coarsely, then shaped and lacquered to create a stable shape (Langford, 2009, p. 52).

#### *Cotton*

Though cotton and how to produce it was known in western China by the Han Dynasty, it does not appear to have been popular or used very often (Langford, 2009, p. 10). Archaeologists have discovered cotton handkerchiefs, pants, and printed calico in Han Dynasty tombs (Langford, 2009, p. 59). Perhaps the rarity of use was due to the fact that sericulture was already well established, and cotton production was as labor intensive, if not more so, for a product that was inferior to silk and the native bast fibers.

### Weaves

Plain, or tabby-weave, was the primary weave used during the Western Han Dynasty (Zhao, 2014, p. 398). Leno, or gauze, was also used, as well as jacquard and brocade (Zhao, 2014, p. 398). Damask, brocade, plain weave, embroidered, and printed fabric were found in the Xin Zhui's tomb (Hunan Provincial Museum, n.d.b).

### Tools

Like modern garment construction, it can be assumed that the shoemaker used tools to cut and stitch the fabric.

A pair of scissors from the Han Dynasty is on display at the China Knife, Scissors and Sword Museum. The scissors were made from one piece of iron that had been twisted into a figure-eight (HiCenter, 14 Oct 2009). A similar pair from the Tang Dynasty (618-907 CE) is made of a twisted figure-eight handle welded to flat blades (Sothebys, 2008).

Bone and ivory needles (Figure 14) that are estimated to be between 30,000 and 23,000 years old were found at Xiaogushan, in the Liaoning Province (Smithsonian, 2015). Steel needles made it from China westward during the first century BCE, and needle rings (similar to thimbles) have been found in archeological sites dated to the Han Dynasty (Beaudry, 2006, p. 91).

### Techniques

#### Textile Production

Spinning wheels and looms were used in the Han Dynasty to produce a variety of fabrics, from hemp (Langford, 2009, p. 53), to silk. Raw silk was spun into thread using hand-operated spinning wheels, called "reeling machines" (Zhao, 2014, p. 398). This type of silk reeling machine is operated with two hands – one is used to drive the wheel and the other to feed in the cocoons after they have been boiled (Lee, 1999). Two kinds of looms were used in the Han Dynasty: the pedal loom, with sheds operated by the weaver's foot, which was used to weave both hemp and silk; and the jacquard loom, used exclusively for silk (Zhao, 2014, p. 398).



Figure 13 Scissors from the Han Dynasty on display at the China Knife, Scissors and Sword Museum



Figure 15 Three bone needles from Xiaogushan, China. Image by Chip Clark (Smithsonian, 2015)

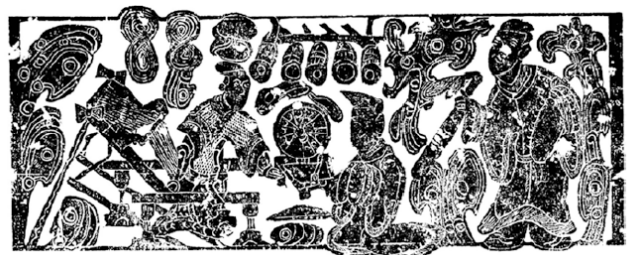


Figure 14 A stone relief featuring a weaving scene with a treadle loom (Zhao, 2014, p. 422)



### Dyeing

Han Dynasty fabric was dyed in the summer and autumn, when the plants used for dyeing were harvested (Vainker, 2004, p. 43). Yellow dye was made from *arthroxon hispidus* (Vainker, 2004, p. 43), *cotinus coggygia*, and cape jasmine (Zhao, 2014, p. 399) and red was produced using cinnabar, also known as mercury sulfide (Vainker, 2004, p. 43) and madder (Zhao, 2014, p. 399). Millet-based adhesives were used with mineral pigments when dyeing fabrics, while vegetable dyes employed mordants, dipping, and soaking techniques (Vainker, 2004, p. 43). Plant ash and “iron-bearing materials” were used as mordants (Zhao, 2014, p. 399).

The description of the Ye Xian’s shoes has been translated as “shoes of gold” (Waley, 1947, p. 150), “golden shoes” (Jameson, 1932/1988, p. 76), and “golden slippers” (Mair, 2005, p. 365). The Chinese word for “golden” (金色) refers to a color closer to what we think of as yellow than metallic gold. Pantone 108-C is a good approximation, based on comparison with Google Image search results (Figure 16).



Figure 16 Pantone color 108-C, from the Pantone website.

### Embellishment

Some of the Ye Xian stories describe the slippers as having some sort of decoration. In one, the shoes are “woven of golden threads in a pattern of a scaled fish” (Cultural China, n.d.). Mair (2005) notes that the shoes were likely “embroidered with gold thread” (p. 366). The word for the metal and the color gold in Chinese is the same (Beauchamp, 2010, p. 457). Given that several versions and translations of the story go on to describe Ye Xian being lighter than air and making no noise when she walks, as well as the evidence of silk shoes in ancient China, supports the concept of cloth shoes (Beauchamp, 2010, p. 457). The question then becomes one of textile patterning or adornment.

The Hunan Provincial Museum’s description of the shoes makes note that the sides are decorated with patterns, but it doesn’t say how that decoration was achieved or describe it any further. The other silk textiles found in the same Mawangdui tomb as the shoes showcase a variety of methods used to embellish fabric, including embroidery and printing. The inner coffin shroud in the Mawangdui tomb may be one of the first examples of the use of satin stitch in China (Vainker, 2004, p. 51). The evidence of printed textiles at Mawangdui is the earliest known use of the technique on silk (Vainker, 2004, p. 51); however, the earliest stamped textile used the technique to identify either the owner or weaver of the silk and dates to the Warring States Period (475-221 BCE) and was found in a tomb near Changsha, in the Hunan Province (Zhao, 1999, p. 31). Because the museum description does not make any special textile note

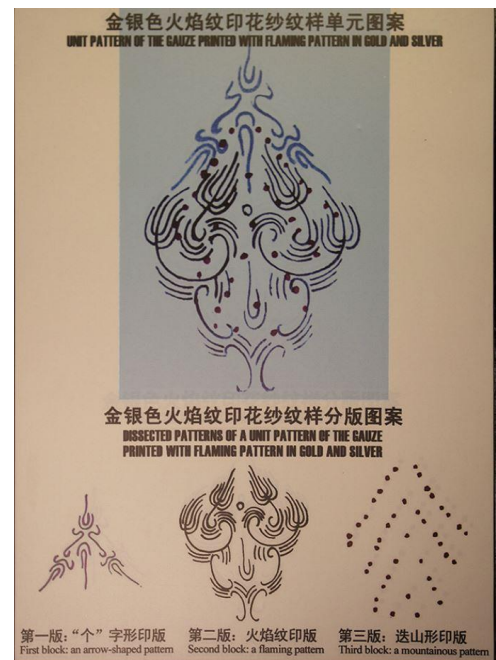


Figure 17 Breakdown of the three blocks used to create the flame pattern in gold and silver found on a textile in Xin Zhui's tomb (Hunan Provincial Museum, n.d.b)

regarding the decoration, such as the decorative “blue silk thread” on the shoe fragment at the Victoria and Albert Museum, my guess is that the design is printed.



Figure 18 Images of printing blocks found in King Nanyue's tomb, similar to the motifs found printed on textiles in Xin Zhui's tomb (Hunan Provincial Museum, n.d.b)

The earliest known example of a textile printing block in China was found in the tomb of King Nanyue, in Guangzhou, and dates from the Western Han Dynasty (Vainker, 2004, p. 52). The block is made of bronze and was used to create the traditional “flames” pattern (Vainker, 2004, p. 52), which is similar to the pattern found printed on silk in the Mawangdui tomb (Zhao, 2014, p. 452). Relief printing was possible in the Qin and Han dynasties due to the increased popularity of seals (Zhao, 2014, p. 452). The printing blocks found in King Nanyue’s tomb are only slightly larger than common seals – approximately 6 centimeters long and 4 centimeters wide (Zhou 2014, p. 452). The printing block also has a “holed knob” to grip while printing fabric (Zhou 2014, p. 452). The blocks feature

a design cut in relief and would be dipped into the wanted color and then pressed onto the fabric (Zhao, 1999, p. 74).

### Modern Choices

The Mawangdui shoes are made of a plain-weave silk, so while there are examples of silk with woven patterns from the Western Han Dynasty, I decided to keep the fabric of the shoes a plain, or tabby weave. I originally planned to use a heavyweight (40 momme) silk taffeta for the uppers, and the heaviest weight habotai (16 momme) I could find for the lining. I believe that a heavier-weight silk will hold its shape better. Unfortunately, the silk taffeta I ordered ended up being out of stock, and due to time constraints and overseas shipping, I couldn’t be sure that the replacement item would arrive in time. I had to adjust my plan, and so opted to make both the lining and the outer upper out of the habotai. I also used two pieces of buckram in the toe to help it hold its shape – it was easier for me to acquire cotton buckram than stiffened silk gauze or hemp, and cotton was a known textile in the Western Han Dynasty. Lastly, I used gold silk sari ribbon that I had remaning from a previous project to bind the edges of the lining and upper together.

The habotai and the hemp were white and natural, respectively, and so required dyeing. I decided to dye the fabrics using Rit dyes, due to availability and convenience.

I also decided to print the fabric, which meant creating my own block. I am not a metalsmith, and so I decided to carve my block out of synthetic rubber printing block material used by modern artists in printmaking. I also decided to use dimensions similar to the blocks found in King Nanyue’s tomb. I decided to use modern pigment inks to do the printing, in part because I have had success in the past

using them to print silk, and in part because I have not been able to find a description of any particular inks or dyes used in period textile printing.

## Reproduction

### Patterning

To start, I did several mock-ups using a variety of materials including quilting cotton, muslin, craft felt, and habotai (16 momme) for the toes and uppers and cotton canvas for the sole. I also made some modern ballet flats to get an understanding for how the “turn-shoe” method would work with cloth. Using a combination of patterns from a cut up pair of modern ballet flats, foot tracings and measurements, and the duct-tape method, I came up with what I felt was a workable pattern that achieved the look of the Mawangdui shoe without being an exact replica. The two challenges I faced were to allow enough space for the toes before the rising cap, and to achieve the proper rise at the toe. My feet are also wider than Xin Zhui’s, so I had to make the vamp higher on my instep in order to keep the shoe on my foot.

My most successful mock-up was made from four pattern pieces out of cotton duck for the upper and cotton canvas for the sole. It also included two pieces of buckram to help the toe hold its shape. The pattern consists of an upper, vamp, lower toe, and sole.



Figure 19 I made various mock-ups to develop the final pattern.

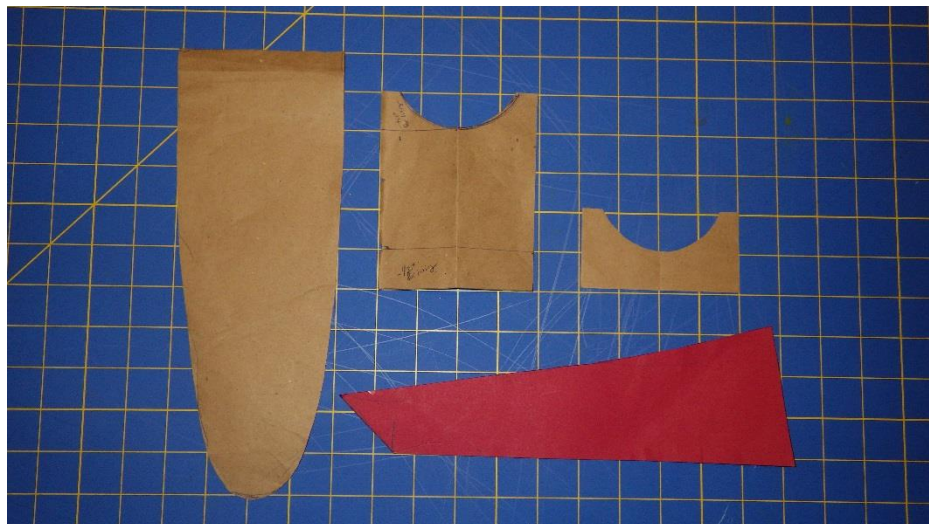


Figure 20 Final pattern





Figure 21 Side view of successful mock-up



Figure 22 Top view of successful mock-up

### Preparing the Fabric

After prewashing my silk, I used a synthetic rubber block leftover from a previous block printing project to carve a stamp that is approximately 4.5 cm wide and 5.5 cm long and used a geometric pattern to imitate fish scales. I then used a 4 inch brayer and a Stampabilities Gold Pigment Ink Pad to print the fabric, using my palm to press the block into the silk.

### Construction

I used my paper pattern pieces to judge how much stamped fabric I would need for the upper versus how much plain fabric I would need for the lining. After the fabric was stamped, I pinned my paper pattern to the silk using glass head pins and cut out my pieces. I then hand-stitched the pieces using a steel needle and Gutermann silk thread.

The construction steps I used for the printed uppers and the plain linings were similar. I used a backstitch for all the seams except the binding, since that would be visible on both sides. When I finished seams, I used the flat fell technique and a blind hem stitch. First, I stitched the back seam, which I then finished. For the uppers, I then stitched the bottom of the toe and its corresponding piece of buckram to the sole. I then stitched the upper to the sole, and then the vamp and its buckram to the upper and toe.

The lining was constructed the same way, but did not include buckram or the lower toe piece. In addition, the toe of the vamp was square, not bifurcated.

I put the lining inside the outer layer of the shoe, wrong-sides together and folded the silk sari ribbon



Figure 23 (Top) Carved block for printing fish scales

Figure 24 (Bottom) Stamped habotai



over the edges of the vamp. I pinned this and stitched it down using a straight stitch. I left about an inch over each edge so that I could turn it under the binding that went around the opening of the shoe, which was attached the same way. Each end of the ribbon was finished with a blind-stitched hem.



*Figure 27 Outer shoe, inside-out to show the buckram at the vamp.*



*Figure 26 Outer shoe, right-side out.*



*Figure 25 Shoe linings.*





*Figure 28 Shoe with lining inserted, binding around opening pinned.*



*Figure 29 The first shoe finished.*





Figure 30 Both shoes, top view.



Figure 31 Both shoes, angled view.

### 3: Conclusions

I was able to create a pair of silk shoes that fit me and echo the style of the shoes found in the Mawangdui tomb. When I tried them on without socks, they seemed a little loose when compared to my mockup, but this may be remedied by a heavier weight silk providing the shoe with more shape memory. Wearing the shoes with socks – a pattern for a silk pair from the same tomb can be seen in Figure 3 – may also resolve the fit issue.

#### Materials

The shoes do not “stand” (when not worn) as well as the mockup did, and I think that is due in part to the weight of the silk. I would still like to make a pair using the heavier weight silk for the upper and the 16 momme habotai as the lining. The silk sari ribbon I used to bind the edges is a rougher weave – more like dupioni silk, with visible slubs. I would like to find a mid-weight bias-cut or woven silk ribbon to use as a binding, or else make my own bias tape.

I would also like to carve a block for printing out of wood as opposed to synthetic rubber. The extant blocks that correspond to printed designs from the Western Han Dynasty are metal, but wood blocks were used for clamp-resist dyeing in China, though these date to the Tang Dynasty (Zhao, 1999, p. 348). Alternatively, I could explore the idea of embroidering the decoration for the shoes, since the description of the Mawangdui shoes is not exact in regard to the decoration method. It would also be interesting to research the pigments used to paint fabric in the Western Han Dynasty and potentially try to replicate a more period practice for block printing, provided the pigments are safe and available.

#### Execution

I have plenty of room for improvement in regard to my hand-stitching. This is a skill I need to develop further. There are areas where my block printing doesn’t quite line up, which might be improved by carving a new block. I was pleased that I was able to achieve the upward curve of the toe, as this is a hallmark of not only this style of shoe, but for shoes throughout the history of Chinese clothing.

#### Looking to the Future

As aforementioned, there are plenty of opportunities for further research and to improve on these shoes, both in terms of period practice and execution based on materials and skill. I am pleased overall both with the scholarly aspect of this project as well as the finished product.

I’d like to try making the shoes again, and then adding to the outfit to create an entire set of clothing from the Western Han Dynasty, all inspired by Ye Xian’s “festival clothes” – the equivalent of the western Cinderella’s ball gown.

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