

An embroidered small colcha in the sixteenth-century Bengali style

Ysabel da Costa

Barony of Carolingia, Kingdom of the East

Introduction

For many centuries, decorative stitching techniques have been used in Bengal to embellish textiles. There are numerous extant examples of colchas, which are large embroidered and quilted textiles created in the 16th and 17th centuries for the Muslim and European export markets. Although none of the surviving colchas was produced for local use within Bengal, period texts describe a variety of embroidered and quilted clothing and household items in an Indian context. The extant colchas are surviving historic examples of a longstanding Bengali tradition of kantha quilting and embroidery that continues to the present day.

My goal is to create an embroidered and quilted 12-inch square in the style of a colcha, using materials, techniques, and motifs appropriate for 16th century Bengal. My project is modeled on one of three colchas I examined by special appointment at the Boston Museum of Fine Arts, where I was able to see thread and stitches close-up and take high-resolution photos. An embroidered square such as this might have been used as a book wrap, jewelry roll, or cushion cover in a wealthy Bengali home, or sold for export.

I taught myself to spin on a takli and charkha to make appropriate tussar silk thread for this embroidery. My experiments with thread and sizing are documented in an appendix.

The following aspects of the project will be documented and/or supported by my own examination of extant historic items, as well as academic research and period texts in translation:

- base fabric (fiber, weave, weight, and color);
- embroidery thread (fiber, weight, twist, and color);
- stitching (styles, technique, and methods);
- choice and execution of figures and decorative design elements;
- pattern transfer method;
- the use of small embroidered objects such as this in Bengali homes in this period.

These aspects of the project are based on more recent extant objects:

- the layout, scale, and placement of the figures and motifs in a piece of this small size.

Historic and Cultural Background

Archeological evidence shows that native wild silks (tussar and eri) were both spun and reeled to make thread in India as early as the 3rd millennium BCE [Kenoyer and Meadow].

I use the term "Bengal" to refer to the area included in the Bengali Sultanate circa 1560. At that time, Bengal was the wealthiest and most developed region of India. It was globally prominent in industries such as textile manufacturing and shipbuilding, and it produced rice and textiles for other parts of India [https://en.wikipedia.org/wiki/History_of_Bengal].

Export colchas were already being produced in Bengal before European influence. Vasco da Gama received a monochrome Bengal colcha as a gift from the King of Malindi (east Africa) circa 1502. The earliest surviving colchas were probably produced for the Islamic market; they have elaborate symmetrical floral patterns, most with no human or animal figures.

Indian embroideries were being made for Portuguese patrons surprisingly soon after the arrival of the Portuguese in India in 1498. The Portuguese settlement of Satgaon in Bengal was founded in 1536, and was the main center for this type of work [Crill].

Indian embroidered items exported to Europe included colchas (large carpet-sized quilted textiles used as floor cloths, bed or table covers, and wall hangings), church textiles, baptismal garments, and secular capes and cloaks. These items were owned by wealthy households, including the Medici and Habsburg families, in Portugal, Italy, England, and Austria, and given as diplomatic gifts. Monochrome embroidered capes from Bengal were mentioned in sumptuary laws of 1609 in Portugal, perhaps because the tussar silk embroidery resembled gold [Karl, Histories].

Bengal has a long **domestic** tradition of embroidery and quilting, dating back to at least the 12th century, but probably much earlier. The popular 16th-century religious text *Chandimangal* contains many references to embroidered garments and household items. It includes a richly detailed description of a bodice, or sari blouse, embroidered all over with animals, people, and plants (see my supplemental materials).

Modern kantha quilting and embroidery is used to produce tablecloths, wraps for books, mirrors, and musical instruments, cushion covers, bedspreads, etc. Kantha embroidery is also used to decorate garments, including sari blouses, dupattas, kurtas, and even entire saris.

Many other parts of India also have their own distinctive and highly-developed local hand embroidery traditions dating back to the SCA period. Gujarati embroidery is of particular interest, since there are extant 16th-century Gujarati colchas, including MFA Colcha #3 below. The materials (mulberry instead of tussar silk thread), techniques (chain stitch only) and style (colors and motifs) of Gujarati colchas are different from Bengali colchas.

Embroidery technique and tools of historic Bengal colchas

Period Bengali export embroideries were worked in tussar silk, most commonly in just one color. Tussar silk is one of several "wild" silks native to northeast India; it was commercially available only in that region in the SCA period [Karl, Histories]. Extant monochrome embroideries used natural undyed tussar silk, which is a pale golden color, or red-dyed tussar silk. In addition to colchas, there are other extant export articles in the monochrome style, such as capes, jackets, church vestments, curtains, and cushion covers. A few polychrome Bengal colchas do survive, but they are very rare.

Colchas were worked on natural unbleached and undyed cotton, or on colored silk fabric. Fine cotton fabric was produced in Bengal from ancient times.

The design of historic colchas was transferred onto the fabric by pouncing a cartoon, or by drawing directly onto the fabric. Charcoal was used for either method.

The stitches used in Bengal colchas are primarily chain stitch, knot stitch, backstitch, and running stitch. Embroidery stitches were worked with either needles or *aari* (hooks). At least one surviving colcha has been confirmed to have been made using an *aari*. However, a needle must have been used for colchas that include backstitch and running stitch.

Embroidery hoops or frames may or may not have been used; both devices, as well as working on fabric held loose in the lap, are traditional.

Images used in colchas are amazingly diverse. Drawing styles vary, even within the same colcha. Figures include plants (vines, leaves, flowers, and trees), animals of India (tiger, elephant, deer, monkey, various birds, fish, snakes, many more), people (Indians and Europeans engaged in many activities), mythological figures, European heraldry, geometric patterns, abstract floral patterns, etc.

Three extant colchas at the Boston MFA

There are many excellent articles and one substantial book on colchas and other export embroideries of Bengal and Gujarat in the 16th and 17th centuries (see the References section). These references contain many images of whole colchas, and some general descriptions of materials and techniques, but they don't address many of the details needed to create a replica. The references don't include any actual-size close-up photos of the embroidery, and they don't address the weight or ply structure of thread, lengths of stitches, or the way stitches are used to create figures. Even details of figures and borders are not visible, as the authors (particularly Barbara Karl) are most concerned with the overall appearance and design of colchas and the symbolism of their imagery. So I had to do my own research to obtain the information I needed for a re-creation.

I am grateful to have been able to arrange a viewing of three extant colchas at the Museum of Fine Arts (MFA) in Boston, which has the best collection of these items outside of Europe. I examined and took close-up photos of the following colchas (descriptions are mine):

(1) MFA Accession # 01.6269: monochrome Bengal colcha, early 17c. Natural tussar silk (faded) on natural cotton muslin foundation. Stitches include chain stitch for outlines, backstitch for space filler, and knot stitches. The embroidery is exceptionally fine for a colcha, at about 30 stitches per inch. Thread is as fine or finer in weight than 1 strand of 6-strand DMC cotton floss, with very little twist (singles?) and a beautiful sheen. Fringes are definitely 2-ply; their color doesn't quite match the embroidery thread and the curators who showed me this piece guessed that they were added separately, rather than being part of the original embroidery.

(2) MFA Accession # 50.3408: monochrome Bengal colcha, yellow silk on coarse natural brown linen or jute foundation, 1st half 17c. Chain stitch with a very few knot stitches. Stitching is thickly packed and sometimes layered, giving a 3D effect. Stitch length about 16 - 18 per inch,

thread weight about like #8 DMC pearl cotton. Thread appears to be a loosely-ply 2-ply. Thread has a definite pale yellow tint (turmeric?), not like natural tussar.

(3) MFA Accession #50.3224: polychrome colcha from Gujarat/Ahmedabad region, 1st half 17c. Polychrome mulberry silk on dark-blue silk foundation. Chain stitch only. Stitch lengths vary, usually about 16 per inch (longer on outlines). Thread is about like 1 or 2 strands of 6-strand DMC cotton floss in thickness, with a noticeable loose twist, possibly 2-ply. The polychrome fringes look like a self-ply of the embroidery thread. Colors include many shades of red, blue, green, yellow, and white.

All three of these examples were made slightly after 1600. According to my references, there was no dramatic change in the style or materials of colchas from the mid-sixteenth to mid-seventeenth centuries.

Description and execution of my project

My project is to make a small embroidered square inspired by MFA colcha #1.

The design of my 12" x 12" mini-colcha is similar to, but necessarily far simpler than, that of the much larger (8' x 10') model colcha. As no SCA-period example of this type of small embroidery survives, the layout of my piece is informed by surviving *baytan kanthas* (embroidered and quilted cloth squares) of the late British Raj. My design includes the traditional central lotus flower surrounded by various birds, animals, and plants, and an outer border of geometric figures. Kantha squares of this size were used as wraps for books, mirrors, jewelry, and other valuable objects.

The particular figures and motifs in my embroidery appear several times each in MFA colcha #1 (accession # 01.6269). They are copied at roughly actual size, modified slightly to fit my layout and my larger stitches. I've included a spotted deer, a tiger (hunting the deer), a pair of loving parrots, and a peacock eating a snake. The Bengal tiger and Ganges Delta spotted deer are native animals of the region. The pair of parrots are figures from Hindu folklore, and so is the snake-eating peacock, a motif which appears frequently in colchas. Both are mentioned several times in *Chandimangal*. The central lotus flower and other plants are also copied from specific floral items in MFA #1. My border is a simplified version of that colcha's border, with reference to borders in other period colchas.

First draft project: I'm not an experienced needleworker, and my eyesight isn't great for close work. Before undertaking this project, I had not embroidered anything for over 20 years. So I began by making a smaller first-draft project: a sari blouse with sleeve bands and neckline edging embroidered in commercial metallic "gold" thread on a single layer of red fabric. The sleeve bands are copied from the border of MFA #1, at twice the scale.

In fact, my original main project idea was to produce a fully-embroidered blouse like that described in *Chandimangal*. After completing the first-draft project, I decided instead to make a flat colcha-style piece for which this historic style of embroidery is firmly documented, on which the embroidery would be easier to view, and which would not require laundering.

Main Project: My main project is a square mini-colcha, worked with handspun natural tussar silk singles floss on two layers of handwoven unbleached cotton imported from India.

The embroidery was executed in chain stitch, knot stitch, and backstitch using a needle. An embroidery hoop and a frame were both employed at different stages of the project.

To my knowledge, natural tussar silk embroidery floss (either reeled or spun) is not available commercially. However, unspun tussar silk "sliver" is available for handspunners, so I taught myself to spin in order to make appropriate floss for this project. After learning to spin on a takli (Indian supported spindle), first with cotton and then silk, I bought a book charkha (Indian spinning wheel), which I used to spin all the floss I used. Spinning wheels have been used in India since around 1000 CE. Although the portable "book" charkha is a 20th-century innovation, it is functionally the same as a traditional charkha.

I purchased 200 grams of A1-quality Tussah Silk Sliver from Treenway Silks for \$38.50. Commercially-available "tussah" silk is produced in China by a wild silk moth in the same genus as the Indian tussar silk moth; the fibers are considered indistinguishable. I used 50 grams of silk fiber for this project, including waste and experiments. The cost of my handspun tussar silk floss is less than 2 cents per yard. For comparison, commercial 2-ply mulberry silk embroidery floss sells for as much as 50 cents per yard.

The available references don't discuss whether the silk threads used in historic colchas were reeled or spun, their degree of twist, or whether they were plied. My only information on this topic is my own close observation of the colchas in the MFA. The silk thread in all three colchas I examined is low-twist. The thread in MFA #1 shows no evidence of plying; MFA #2 and #3 appear to use loosely twisted 2-ply thread. After some experiments, as documented in my supplemental materials, I found that singles (1-ply) floss worked better than 2-ply to reproduce the texture and shine of the embroidery in my historic model MFA #1.

To facilitate embroidering with handspun silk singles, I used sizing. Sizing of thread is a plausible technique for this time and place: singles yarns are traditionally used for weaving in India, and they are sized with rice starch for use as warp threads. After doing some experiments with sizing (see the supplements), I chose Argo powdered laundry starch in a medium-strength solution.

A 12" square finished work requires less than 1/2 yard of fabric. The 48"-wide unbleached plain-weave cotton fabric I used was hand-spun and hand-loomed in Rajasthan. This imported fabric is thinner and lighter than the commercial cotton muslin available at fabric stores. I was not allowed to handle the MFA colchas, but from visual inspection, the weight and weave of my fabric appear to be an excellent match for the fabric in MFA #1.

After working out the main elements of my design (described above) on paper, I traced the drawing onto the thin cotton fabric with a charcoal pencil. Minor design elements and background patterns were embroidered freehand, without drawn guidelines.

Colchas have several layers of fabric. Following the methods described on p. 132 of [Karl, Histories], and my observation of MFA colcha #1, I worked the border and outlines of the figures in chain stitch on a single layer of cotton fabric. I then added a second layer of cotton, and quilted the two layers together with backstitch, filling the open areas. Following my MFA model, the figures are filled in parallel lines of backstitch, and the background is backstitched in a random looping pattern which gives a vaguely floral effect.

Finally, I finished the piece with a backing layer of silk (also hand-loomed in India), which is not quilted to the other layers. The model colcha has a silk backing, and it also has a fringe, made of thread which is a somewhat different color and texture than the embroidery. The MFA curators were not sure whether the backing fabric and fringe were original to this colcha, or added later. I chose to add backing fabric to protect the embroidery, but to omit the fringe, which I would have had to spin and make by hand.

Embroidery in Indian colchas doesn't have the precision aesthetic of many contemporary European styles, such as Tudor English blackwork. The goal seems to have been to cover the fabric with silk thread, rather than to place each stitch carefully. Colchas are very large and were probably made by several people working on different areas at the same time, resulting in variations in style and technique even within a single colcha.

As in the historic models, my stitch lengths are somewhat variable. In a necessary concession to my aging eyesight, I have worked in larger stitches than my principal model MFA #1, which has exceptionally fine stitching for a colcha [Karl, Histories]. The difference is most noticeable in the backstitches which fill in the figures and background and quilt the two layers of cotton together. My piece looks more quilted than the model, likely because my stitches are more spaced-out. However, some other historic colchas, such as the all-backstitched Bengal colcha described in [Crill, A&E], do have a pronounced quilted texture. My average stitch length does fall within the general range of some historic colchas, such as MFA #2 and #3.

My handspun silk floss also varies in thickness. A close look at the stitches in my photos of MFA #1 shows some variation in thread thickness and stitch length, but my inexpert work is even more irregular. Historic colchas are so enormous that any variation in the individual stitches doesn't affect their overall appearance; the irregularities are more noticeable in a small project such as mine.

Results and conclusions

This project involved many phases, and took place over four years. After some initial research, I viewed and photographed the museum colchas, then executed the first-draft sari blouse project, learned to spin (first cotton and then silk) on the takli and charkha, experimented with embroidery techniques and types of handspun floss, made further experiments with sizing formulas and thread-blocking equipment, researched small-scale embroidered items, designed a pattern, produced many hundreds of yards of sized singles thread for the final project, and finally the executed the embroidered piece.

Learning to spin led me to new involvement in the fiber arts. The side trips made the project take longer to complete, but the journey has been richly rewarding. Since starting this project, I have spun many kinds of fiber, dyed handspun and purchased thread with natural dyes of India, and used the results to make embroidered items, cording, and woven narrow-ware.

I feel that my finished reproduction colcha captures something of the appearance and spirit of its historic model, given its much smaller size and my larger stitches. I look forward to seeing further works inspired by these amazing historic pieces and informed by my close-up reference photos, executed by Society artisans whose embroidery skills and eyesight are better than mine. Indian embroidery is beautiful and its techniques are very accessible, and it deserves to be more widely practiced in the SCA.

My handspun single-ply tussar silk floss did succeed in imitating the thread in the MFA model colcha, which is still glossy and beautiful after 400 years. My finished project has a somewhat greater color contrast between the embroidered thread and background fabric than the model. Perhaps this is how MFA colcha #1 looked when it was new, and not yet faded by time and exposure. The overall effect, as described in period European texts, is like a cloth of pale gold.

TIMELINE

3rd millennium BCE: Thread made of tussar and eri silks, native to northeast India, used to string beads in Happa and Chanudaro, Indus valley civilization

1352: Shamsuddin Ilyas Shah unites three small sultanates in Bengal and proclaims himself Shah of Bangala, establishing the Bengali Sultanate.

1498: Portuguese arrive in India [Crill, A&E]

1502: Vasco da Gama receives a Bengal colcha as a gift from the King of Malindi (eastern Africa) [Karl, *Marvelous Things*]

1517: The Portuguese begin sending ships to Bengal to trade.

1536: Portuguese settlements at Chittagong and Satgaon established [Crill, A&E; Campos]. Satgaon (near to modern Kolkata) became the main center for the production of Bengal colchas.

1538: Ser Shah Suri conquers Bengal, which becomes part of the short-lived Suri Empire.

1560-1600: *Chandimangal* is written. Colchas are produced in Bengal and Gujarat for the Portuguese export market.

1575: Bengal is conquered by Mughal emperor Akbar the Great; full Mughal control is not established until 1612.

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<https://ysabelsnotebook.wordpress.com/home-page/colchas-at-the-mfa-boston/>

MFA Accession # 01.6269: <https://www.mfa.org/collections/object/embroidered-cover-73839>

MFA Accession # 50.3408: <https://www.mfa.org/collections/object/bed-cover-or-hanging-65753>

MFA Accession #50.3224: <https://www.mfa.org/collections/object/embroidered-cover-or-hanging-65754>