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Fustat Fragments: Indian Textiles in the Dumbarton Oaks Byzantine Collection

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In the heart of Washington DC lies a discreet gem of a museum—the Dumbarton Oaks. In the first half of the 20th century the founding donors, Robert Woods Bliss and his wife Mildred Barnes Bliss, were avid collectors of Byzantine and Pre-Columbian art, as well as patrons of subjects as varied as European art, landscape design and scholarship in the humanities. With the vision of turning their home into a research institute, in 1940 they gave Dumbarton Oaks to Harvard University. Behind its tall imposing wooden doors lie magnificent gardens, impressive architecture, and unique exhibitions.

Amongst the Byzantine artifacts, the Blisses happened to acquire eight fragments of textiles from a dealer named Nicholas Tano, in Cairo in 1932. One more fragment was gifted to them at a later date to make a total of nine. They hired various people to catalogue their collections, but these fragments were overlooked.

In October 2015, I organized a private viewing of the textiles at Dumbarton Oaks for the IHBS, a rug and textile group of which I was program chair. Busy juggling a teaching assignment at the George Washington University and work, I was disappointed to miss this exclusive opportunity. Gudrun Buehl, the director and curator of Byzantine studies, assured me that she would personally give me a tour later in the year. That was when I learned that there existed a handful of fragments that were most probably from India about which nobody really knew much. While leading me to the basement to view them, Gudrun politely said “Any light you can throw on these fragments would be much appreciated.” I nearly leapt in excitement when I saw what were, until then, pictures that I had pored over so many times and that I knew to be “Fustat textiles!” I had drawn up a list of nearly 155 fragments that belonged to the Textile Museum in Washington DC but never really got around to studying them, especially after the Textile Museum moved their archives to far away Virginia. Here I found myself face to face with some of the most ancient Indian textiles that survive!¹

As a student of textile design in Gujarat, I was familiar with block printed textiles, often spending all my pocket money on contemporary cotton block prints in the narrow streets of Rani Nu Hajiro, in the old city of Ahmedabad, so that the tailor at the corner of the



2 EA.1990.802 Ashmolean Museum. Textile fragment with curving vines, quatrefoil, and rosette. 2nd half of the 10th century to 15th century AD. Cotton, block printed with mordant, and dyed brown, block printed with resist, and mordant-dyed red; with a stitch in flax. Thread count: 16 / 16 threads/cm. 14 x 9.5 cm. Image © Ashmolean Museum, University of Oxford.



3 EA.1990.236 Ashmolean Museum. Textile fragment with rosettes or wheel-shapes, flowers, and plants. 2nd half of the 10th century to 15th century AD. Cotton, block printed with resist, and dyed blue. Thread count: 20 / 23 threads / cm. 24 x 20.5 cm. Estimated block size 7.5 x 9.5 cm. Image © Ashmolean Museum, University of Oxford.



1 BZ.1933.23 Dumbarton Oaks Research Library and Collection. Block printed with mordant and dyed brown, block-printed with resist and dyed pink-red. Perhaps repeated with resist and mordant dyed dark-red. Single ply, Z twist, selvedge has 6 ends, 2 ends per dent. Thread count: 15 to 17 ends and 17 picks / cm. 16.51 cm x 15.56 cm.

street could stitch up comfortable "*Patiala*" pants and tops for me for paltry sums of money. Not only were the small repetitive motifs irresistible to my sense of textile design, but the swaths of cotton fabric swishing around my legs in the heat of Gujarat provided a soothing sensation.

Gujarat was renowned for its rich textile traditions and accessible ports way back during the Indus Valley Civilization.² Historical records tell us that apart from woven fabrics, printed and painted textiles were exported from the Indian subcontinent across the Arabian

Sea to various ports along the Arabian Peninsula. We also know that similar trade extended from East Africa to Southeast Asia and Japan up until the 17th century.

A large cache of these patterned textiles were found during the early 20th century excavations in Fustat, Egypt, and at excavations at Quseir al-Qadim, Qasr Ibrim and Nubia. By far, Ruth Barnes, an esteemed scholar, has done the most extensive research on them. As Ms. Barnes tells us, these textiles "...were produced in India and traded to Egypt, as part of the Late Mediaeval Indian Ocean trade. Textiles of this type are loosely

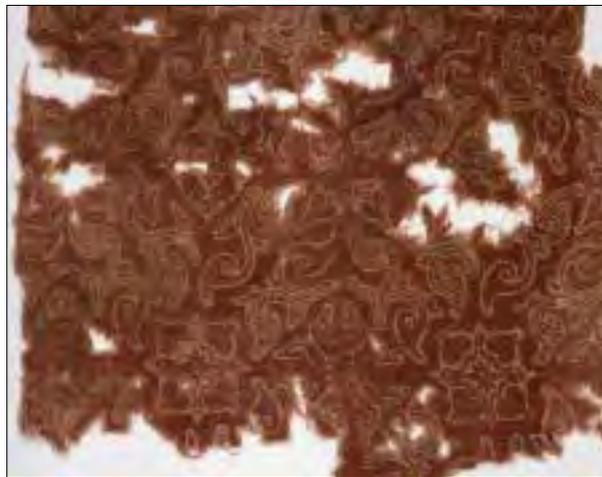
referred to as 'Fustat' fabrics, after the site of al-Fustat (Old Cairo) where apparently they first came to light."³ "Early 20th century archeologists were not greatly interested in textile finds, and their archeological context was not recorded. Thus fragments of this sort entered several museums and came into the hands of private collectors..."

Today, multiple examples of these textiles in color fast natural dyes in shades of red, blue and brown belong to various museums all over the world; the largest known collection is at the Ashmolean Museum in the UK—nearly 1,880 fragments. My study of the nine fragments of textiles in the Dumbarton Oaks' Byzantine Collection was largely informed by comparisons that I made with those at the Ashmolean Museum, and from the black and white French publication by a chemist and textile historian, Rudolf Pfister, from Alsace, France.

Although most historians agreed that the fragments came from the Indian subcontinent, it was Pfister who, in 1938, conducted the first serious study on these textiles and suggested that they were of Gujarati origin based on similar architectural motifs. Since then, they have been carbon dated to as early as the middle of the 10th century AD (Ashmolean Museum) and linked to the Indus Valley Civilization and the *ajrak* printed tradition,

practiced to date in Gujarat and Sindh, Pakistan (Noor Jehan Bilgrami).

Delicately woven and brilliantly colored, cotton fabrics from the Indian subcontinent were coveted goods, traded to much of the world, often taking on roles that their makers never imagined. We can only extrapolate how these textiles were used in Egypt by



5 Detail of EA.1990.804 Ashmolean Museum. Textile fragment with leaves and quatrefoils. 14th century to 1st half of the 17th century. Cotton, block printed with resist, and mordant-dyed red and brown. Thread count: 16 / 17 threads / cm. 38.5 x 31.5 cm. Estimated block size 13 x 9 cm. Image © Ashmolean Museum, University of Oxford.



4 R.PI 67 from Pfister's personal collection, Plate IXi from *Les toiles Imprimées de Fostat et l'Hindoustan*, Les Editions d'art et d'histoire, Paris 1938. Block printed with reserve and dyed to obtain a dark background. Fine fabric with loose sett. Thread count: 16 and 22 threads / cm. Translated and edited from the original French to English by the author. All rights reserved.

its multi-ethnic people. Luckily, a synagogue in Fustat containing documents in the *Geniza*, a chamber that is typically used to store all types of papers, yields some clues about life in Mamluk and Fatimid Egypt. S.D. Goitein transcribed and translated much of this material creating evocative impressions of Fustat in the 11th and 12th centuries. He tells us that a rich arts and crafts scene existed, with textile production being one of the most prominent industries. The textiles were used for both clothing and ample interior furnishings in the form of drapes, cushions and couches. Although silk and raw cotton were being imported from the neighboring Mediterranean region, Egyptian weavers relied mainly on the locally cultivated linen. Woven Indian muslin was considered precious, often being sent as gifts from India, while considerable quantities of block printed fabrics



6 EA.1990.247 Ashmolean Museum. Textile fragment with lotus vines, medallions, rosettes, and inscription. Radiocarbon dating shows late 10th century to 1st half of the 11th century AD. Cotton, block printed with resist, and dyed blue. Thread count: 12 / 12 threads / cm. 71 x 18 cm. Estimated block size: 14.5 x 12.5 cm. Image © Ashmolean Museum, University of Oxford.

were traded in the middle class market as every day textiles.⁴ Surprisingly, the very same block prints rose to great value in Southeast Asia, taking on royal, magical and spiritual symbolism!

Evidently, trade was booming. And whatever their varied audiences thought of them, to me these fabrics are a source of continued fascination—a basis from which to study Indian aesthetics—and have been hailed as being quietly harmonious and refined.⁵ Although the quality of the cotton and the mastery of brilliant color-fast dyes definitely play their part, the permutations and combinations that their makers used of motifs, scale and repetition and their interplay are what make them so timeless.

The base fabric of “Fustat fragments” is always a plain weave in cotton. In a previous article, I wrote about endemic Indian cotton (*Textiles Asia Journal*, January 2017, Volume 8, Issue 3, pp.10–16). One wonders if the cotton used is *Gossypium Arboreum* or *Gossypium Herbaceum*. Just like contemporary hand weavers of India, we see that the fabrics are all made of single ply yarn, with uniform sett and weaving.

Cotton and linen are both cellulosic fibers, and cellulosic fibers are notorious for being difficult to dye. Both ancient Indian and Egyptian cultures were proficient in weaving cotton and linen fabrics. Although Egyptians



7 Detail of BZ.1933.39 Dumbarton Oaks Research Library and Collection. Block printed with mordant and dyed brown, block-printed with resist and dyed red. Single ply, Z twist. No selvage is visible. Thread count: 9 to 10 ends and 12 to 14 picks / cm. 10 cm x 22 cm.



8 Detail of BZ.1933.33 Dumbarton Oaks Research Library and Collection. Block-printed with mordant and dyed brown, block printed with resist and dyed red. Single ply, Z twist. Selvedge of 8 ends, 2 per dent. Thread count: 15 to 16 ends and 15 to 18 picks / cm. 41.91 cm x 52.07 cm.

knew how to extract colors, they did not know how to treat linen for color fastness until much later. So they stuck with natural colored linen, resorting to colored beads and gorgeous jewelry to pretty up their outfits. Before any other people had mastered such skills, Indians had figured out that in order for color to adhere to cotton fiber they needed to add metallic salts called mordants.⁶

Apart from simply dyeing yarns, Indian artisans played with different aspects of designing patterns, printing or painting resists and/or mordants, printing single or multiple carved blocks, bleaching, complex dyeing, painting fine details and occasionally even adding gold and silver accents. The result was a dazzling variety based on the hereditary knowledge from the times of the Indus Valley Civilization.

The Fustat fragments are block printed and/or hand painted and dyed several times in complex cleverly thought out sequences. Two dyes predominate: indigo and madder. They are patterned in red and blue with innovative variations of block prints with resist paste or mordants, or both. Sometimes other colors were added. Often block printed borders are combined with hand painted fields and details.



9 EA.1990.710 Ashmolean Museum. Textile fragment with linked squares, tendrils, and quatrefoils. 2nd half of the 10th century to 15th century AD. Two pieces of cotton, block printed with mordant, and dyed red and brown; joined with a flat seam in cotton. Thread count of fabric 1: 16 / 18 threads / cm. Thread count of fabric 2: 17 / 17 threads/ cm. Total length x width: 25.9 x 25.8 cm. Image © Ashmolean Museum, University of Oxford.

Of the nine fragments I studied at the Dumbarton Oaks Collection, I would like to talk about seven of them in this article. They are a good representation of some of the main elements of design that exist in this large group of textiles.

Let us start with Dumbarton Oaks' BZ.1933.23. A charming all over pattern with twirling vines with trifoliolate leaves and tendrils that form a background while eight lobed circles and eight petaled square flowerlike motifs arranged in a straight repeat alternate with each other. The Ashmolean Museum's EA.1990.802 has exactly the same pattern and fabric structure (16 ends and 16 picks per cm). Could it be that the two fragments belong to the same bolt of fabric or was it just a popular pattern? (Figures 1 and 2)

The Ashmolean's EA.1990.236 has the same pattern executed in a completely different color scheme: blue on white on a finer fabric (20 ends and 23 picks per cm). Pfister's R.PI 67 is a similar pattern. We are not sure if the latter was in shades of red or blue as the only trace of it is in his black and white publication of 1938. A fragment with motifs that are similar in scale, color and pattern in the Ashmolean Museum, EA.1990.804, was

carbon dated to 1460 AD +/- 70. (Figures 3, 4 and 5)

In the fragment BZ.1990.49 (back cover image) curving thick vines decorated with a line of single dots form two continuous lattice patterns that are superimposed on each other. Paisley motifs and other minor decorative motifs create interest in the lattice. Bits of brown borders are apparent on the top and bottom of the fragment. The repeat of the block can be seen on the left of the fragment. Also on the left are three warp ends pre-dyed in blue along with another end, which is unevenly dyed. This is unusual as few textiles within this category of painted and printed textiles are woven with pre-dyed yarn.

Similar thick vines with a line of dots in a lattice pattern can be seen at the Ashmolean Museum's EA.1990.247 carbon dated to the 1010 AD +/- 55 (figure 6), and EA.1990.320, carbon dated to 1060 AD +/- 40. Apart from the vines, and their lattices, the motifs on these three textiles are very different. This could suggest that the vine lattice theme evolved at an early date and continued to be interpreted in various ways that are characteristic to these printed designs.

Many of the patterns are composed of little cur-



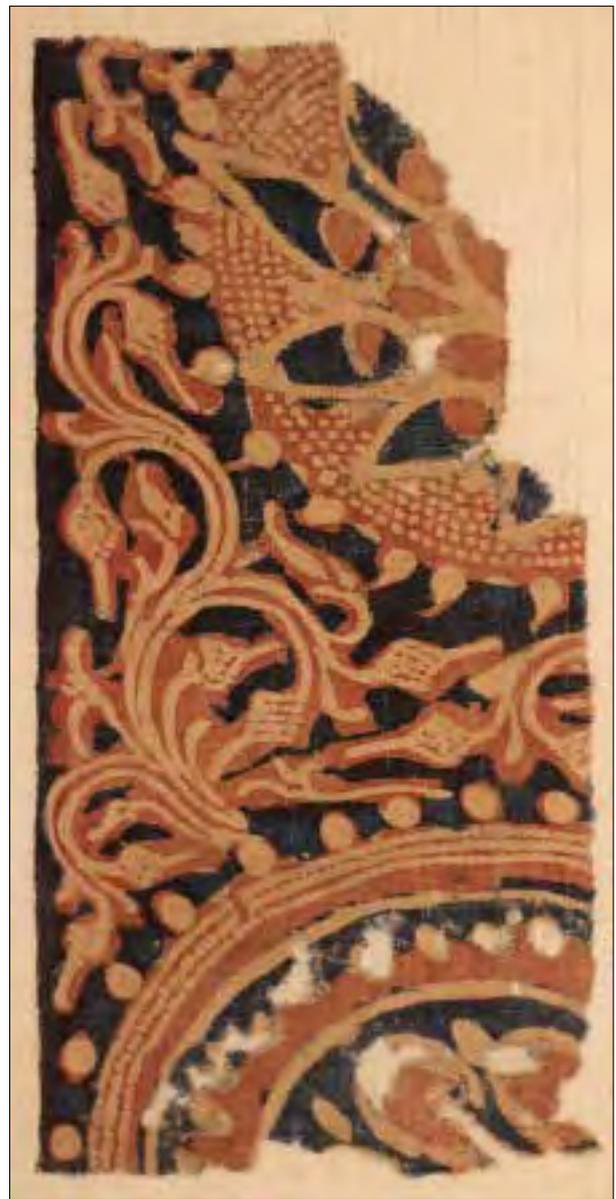
10 Detail of BZ.1933.29 Dumbarton Oaks Research Library and Collection. Block printed with mordant and dyed brown; block printed with resist and dyed brick red; indigo blue may have been applied onto fabric. Single ply, Z twist. No selvage visible. Thread count: 14 to 16 ends and 15 to 16 picks / cm.30.48 x 37.47 cm.

licues interpreted in different sizes. Sometimes they are enlarged to form motifs in their own right. Otherwise they are used as fillers. In DO.1993.39 (Figure 7) quatrefoil medallions in a half step repeat are decorated with these tendril like curlicues while thick curving vines with a single dotted line enclose them in a lattice. The lattice is interrupted with small decorative cartouches and lobed medallions. The Ashmolean Museum's EA.1990.765 has exactly the same pattern and similar thread count (13 / 12 threads per cm). This design is similar in style to the Kelsey Museum's red, brown and white Cat. #30, Acc# 94133, which has quatrefoil medallions linked by lines to make a lattice, with minor decorative motifs that add interest to the lattice and background.

Sometimes medium scale patterns that are loosely geometric appear, such as BZ.1933.33 (Figure 8), a fragment with a geometric pattern made of a grid of squares and rectangles with the same delicate tendril curlicues as ornamentation. The repeat of the blocks is visible. Some of the squares appear rectangular or are distorted due to block misalignment. The Ashmolean Museum's EA.1990.710 (Figure 9) has exactly the same pattern, colors and thread count. It also has a seam. Both pieces probably belong together. The Ashmolean Museum's EA.1990.721 and EA.1990.743 have similar squares and tendrils interpreted with surprisingly less geometric rigidity along with floral elements. Pfister pointed out that the tendrils were derived from Chinese designs that reached India via Turkestan.

Apart from small and medium scale all over patterns, we also see large-scale designs. Some such as DO.1933.29 (Figure 10) seem to be composed of several different blocks. This fragment with a decorative motif composed of a large rosette enclosed within a partial square is one such pattern. Blocks of quarter rosettes and narrow borders were manipulated by turning them, while protecting and masking certain areas. We see several edges of repeats, imprecise corners, and some outlines intruding into the outer border. The latter is made of characteristic paired leaves with buds and quatrefoils. The design is informed by the uneven brown lines and further defined by the resist. Although the reverse cannot be examined, it seems to have less dye saturation for blue. Similar to Dumbarton Oaks' BZ.1933.16, in the number of colors and design aesthetic this fragment is comparable to the Ashmolean Museum's EA.1990.973, EA.1990.947 and EA.1990.948. The fragment has a border and field very much like contemporary bedspreads.

Dumbarton Oaks' BZ.1933.21 (Figure 11) is an



11 BZ.1933.21. Dumbarton Oaks Research Library and Collection. Hand painted resist, mordant-dyed red and resist-dyed blue in 2 shades. Single ply, Z twist. Selvage seems to have 6 ends which are set close together, not doubled in a dent. Thread count: 21 to 24 ends and 23 to 24 picks / cm. 11.75 x 24.77 cm.

example of another group of large-scale patterned textiles—less rigid, with fluid hand painted details. Although the natural white of the cotton is yellowed with age and the effect of mordants, the brick red and two shades of blue are still so vivid. The fragment has a quarter segment of a large circle decorated with concentric circles and lines of dots, and another segment of a large circular motif decorated with petal shaped forms and dots. A resist that defines the design seems to have been rapidly painted, resulting in dots that mingle or overlap. This is seen in what seem to be concentric circles but are actually closely placed dots. Familiar

twirling vines with leaves made up of small dots fill the background. Two shades of blue can be observed in some dots on the fragment from which we understand that after a preliminary dyeing of blue, resist was applied and then the fabric was dyed a second time to obtain a shade of darker blue.

This fragment belongs to a recurrent theme of stylized trees with concentric borders of dots and lines with backgrounds of twirling vines and dotted leaves. We see variations of this theme in several fragments. The Textile Museum's TM 6.253 and Pfister's RPI 147 (Figures 12 and 13) show similar treatment of tree



13 R.P.I.147 from Pfister's personal collection, Plate IXc from *Les toiles Imprimées de Fostat et l'Hindoustan, Les Editions d'art et d'histoire*, Paris 1938. Thread count: 32 / 22 threads / cm. Fine fabric with with tight sett in two colors: red and pale blue. Some areas of the background are "marbled" with blue yielding to give a dark violet. 18 cm long. Translated and edited from the original French to English by the author. All rights reserved.

motifs, surrounded by vines with dotted leaves. The Ashmolean Museum's EA.1990.1040, EA.1990.1060 and EA.1990.1129 have characteristic trees and leaves in this type of pattern, and EA.1990.1123 carbon dated 1450 AD +/- 50 may be a related version.

BZ.1973.39 (Figure 14) is a striking piece that stands out amongst the rest due to its strong color contrast of deep maroon and pale blue. When I first saw this piece, the border design was reassuringly familiar—small, delicate and soothingly symmetrical. I soon drew parallels between this and several examples in the Ashmolean Museum that have similar borders of stylized leaves alternating with floral or geometric motifs, either painted or block printed. Some, such as EA.1990.929, are in red, blue and white, while EA.1990.136 is in blue and white and has been carbon dated to 1400 AD +/- 40. The body, however was bewildering. After several days of gazing at samples on the Ashmolean's website, I suddenly realized that I was looking at the trunk of a stylized tree. The dots and stylized tree trunk with foliage belong to the same recurrent theme within the handpainted pattern group! The Ashmolean Museum's EA.1990.1139 has stylized tree motifs with their trunks emerging from a border. EA.1990.1060 has a similar border and tree motif.

Could the "Fustat fragments" have been the



12 Detail of TM 6.253 George Washington University Museum and The Textile Museum, Washington DC. Hand painted resist, mordant-dyed red and resist-dyed in two shades of blue. The fragment appears to be fine with a tight sett.



14 BZ.1973.39 Dumbarton Oaks Research Library and Collection. Block printed and hand painted resist, mordant-dyed red and possibly applied with blue dye directly to the surface of the fabric. Single ply, Z twist. Selvage has 8 (+1) ends, 2 ends per dent and 1 end in a dent. Thread count: 22 to 23 ends and 23 to 24 picks / cm. 24.3 x 10.6 cm.

beginning of hand painted Kalamkari that became known all over Europe during the 17th and 18th centuries as Chintz...? Never before exhibited or studied, these Fustat fragments will finally see the light of day when their details are published in Spring 2019 in the Dumbarton Oaks online catalogue.

All photographs by Karthika Audinet except figures 2, 3, 5, 9 and back cover which are from the Ashmolean Museum, and figure 12 which is from the Textile Museum.

Endnotes

- 1** One of the earliest fragments of cotton cloth, 3250 to 2750 BC, was found preserved on a silver jar in Mohenjo Daro. The jar had been wrapped with this cloth. While most of it disintegrated, the silver salts helped to preserve a fragment. Not much exists by way of ancient Indian textiles due to the climatic conditions in the subcontinent and the very organic nature of natural materials.
- 2** Gujarat and present day Pakistan are geographically where the Indus valley civilization existed. It was the earliest center of cotton cultivation, manufacture and trade. Excavations of cotton seeds from archeological sites of the Indus Valley Civilization date from 5000 BC. Even though the cultivation of cotton slowly spread to other parts of the world, Indians got a head start.
- 3** By 555 AD, the Byzantine Empire had reached it's greatest extent and Egypt had become part of Byzantine. In 641 AD, Arabs invaded Egypt and built their capital at Fustat. Fustat prospered from the 7th to the 12th centuries with a flourishing industry of craft and trade. It was then burnt down and used as a rubbish dump.
- 4** Anna Muthesius in her paper on Byzantine silk production informs us of the expense of silk, fashion, and color. Silks and fine cotton muslins were luxury items destined for the upper classes.
- 5** In 1866 John Forbes Watson, a Britisher, who catalogued nearly 700 specimens of Indian textiles in his *The Textile Manufacturers and the Costumes of the People of India* says in praise, "Indian taste in decoration is, in the highest degree, refined." "...a quietness and harmony which never fail to fascinate."
- 6** The earliest trace of this knowledge is what may be a dyers workshop with a well nearby, and a small piece of cotton mordant dyed red with the madder root, in Mohenjo Daro found by archeologist, Mortimer Wheeler.

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FRONT COVER IMAGE:

Child's Robe

Child's festive robe decorated with the twelve animals of the Chinese zodiac amid flowering branches, silk satin embroidered with floss silk, trimmed with silk and gold thread ribbons and satin binding, probably northern China, about 1900. L: 30 inches. Sally Yu Leung Collection.

Photography courtesy of Sally Yu Leung.

BACK COVER IMAGE:

Fustat Fragment

Detail of BZ.1933.49 Dumbarton Oaks Research Library and Collection. Block-printed with mordant and dyed brown, block printed with resist and dyed red Single ply, Z twist. No selvedge is visible. Thread count: 14 to 16 ends and 14 to 16 picks / cm. 13.5 x 34.6 cm.

Photography courtesy of The Dumbarton Oaks Research Library and Collection.



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