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Exploring Pattern in Woven Design: a Comparison of two Seventeenth Century Italian Textiles

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This paper explores the differences in both pattern and technical features between two similar woven silk textiles from the collection of The Metropolitan Museum of Art. The two textiles are seventeenth century Italian woven silks. They have in common an identical brocaded pattern consisting of four floral motifs, two are large and two are small. It is the differences between the two textiles that provoke comparison, more than do their similarities. First, the ground colors are different, as are the ground weaves. Second, the individual brocaded motifs, while identical in detail, are a mirror reflection from one textile to the other. Third, the binding systems employed for the brocaded areas are different. These two textiles raise questions concerning the roles of designers and weavers, and methods for textile design in the seventeenth century.

A combination of technical analysis and a discussion of the particular use of pattern and symmetry may lead to the possibility of dating the textiles more precisely, in addition to identifying more specifically the origin of production and the market for which these textiles were produced.

The objects came to my attention on two separate occasions; upon seeing the second example I realized that I had seen this pattern before, in a different color. Until I studied the two objects again, the differences, other than ground color weren’t apparent. After seeing them again, it became clear that this wasn’t simply an example of the same textile in two different colors. This was perhaps an unusual early example of design copying.

Both textiles came to the Metropolitan Museum in 1981 in a donation of four objects: a set of vestments consisting of the chasuble plus a maniple and stole, and the panel composed of two widths of silk. They are catalogued as seventeenth century Italian; no other information seems to have been recorded at the time of donation. The brocaded pattern follows the general description of late sixteenth and early seventeenth century designs in which separated floral motifs are arranged in horizontal rows with a diagonal emphasis that changes direction from one row to the next. Where there were formerly connecting elements (branches or vines) the floral motifs have now become individual, separate elements. The scale of pattern is generally smaller than what was common earlier in the sixteenth century, and the species of flowers depicted are often those recently imported to Europe from the East. This type of floral pattern is abundant in weaving and embroidery throughout Europe in the seventeenth century. It appears in English embroidery and in a variety of woven silk types such as velvets, brocaded silks and silk and metallic textiles. The two MMA textiles are part of a small group of silks, attributed to Italy, which display a large number of colors by using discontinuous supplementary weft brocading.
Chasuble (figure 1)
Italian. 17th century. (back view)
The Metropolitan Museum of Art, Gift of Dr. Richard J. Cross, William R. Cross, Jr. and Dr. Thomas N. Cross, 1981. (1981.85.3)

Dimensions: L 119.4 x W 77.5 cm (47" x 30 1/2")
Weave: Cannelé, brocaded. Brocaded areas bound in 1/3 twill, with every third foundation warp acting as binding.
Yarn:
Warp: purple silk, S twist
Weft: purple silk, twist difficult to discern
Brocading wefts: 3-4 bundles, each bundle has Z twist

Front (left panel)
Selvage: 7 mm wide, plain weave: green with white stripes
Thread count: warp- 60/cm
weft- 20/cm
Pattern repeat: 13.5 cm L x 13 cm W

Back (left panel)
Selvage: 8 mm wide, plain weave: green with white stripes
Thread count: warp- 64 cm
weft- 22 cm
Pattern Repeat: 13 cm L x 13 cm W

Brocading colors: blue (light), blue/green, brown (light), green, ochre, olive, green, pink, salmon, yellow/gold, white.

The form and dimensions of the chasuble, as well as the use of self orphreys, are consistent with the attribution of Italian, seventeenth century. The silk itself is pieced only at places which are covered by the metallic trim. While there is some general wear, there is no evidence of the textile having been used in a different form prior to construction as a chasuble. There is evidence of a different trim having been used at some point; a folded line with stitch markings appears along the long vertical edges of the orphrey front and back. The coat-of-arms which appears on the back is tentatively identified as that of the Gradenigo family of Venice. The textile is a purple silk cannelé weave brocaded with polychrome silk flowers. There are four different flowers arranged in two rows which alternate direction; within the rows the flowers alternate size, large and small. One row has tulips which lean left alternating with a smaller plant with spotted blossoms, and the other row has a large daisy-like flower which leans right alternating with a small violet.

Panel (figure 2)
Italian. 17th century.
The Metropolitan Museum of Art, Gift of Dr. Richard J. Cross, William R Cross, Jr. and Dr. Thomas N. Cross, 1981. (1981.85.4)

Dimensions: L 81.9 x W 102.6 cm L (34 1/4 x 40 3/8")
Weave: Gros de Tours liséré, brocaded.
Yarns:
warp: yellow silk, slight S
weft: yellow silk, slight Z
brocading wefts: 3-4 bundles, each bundle has Z twist
Thread count: warp: 64 cm
weft: 22 cm
Selvedge: Width: 8 cm, blue and white stripes
Width: 52.7 cm (20 11/16 in.)
Pattern Repeat: L 14.2 cm x W 12.9 cm
Brocading colors (11): blue, blue/green, fuschia, gold, green, lilac, off-white, peach (pale), tan, yellow (slightly paler than ground color), white.

The panel is made of two loom widths and has the appearance of having been part of a petticoat or skirt, with the upper corners being cut and turned back at an angle. Selvages are present on both sides of both widths. The widths are joined by one row of machine stitching; the upper edge has two rows of machine stitching which were probably used to gather the edge at one time; the lower edge is hemmed by being folded to the back and secured with machine zig-zag stitching. On top of the hem is metallic trim, also secured by machine stitching. There is evidence of former seams on all selvage edges.

The textile is a yellow silk *Gros de Tours liseré* brocaded with polychrome flowers. The flowers are identical to those in the chasuble textile with the exception that the orientation of the individual motifs is reversed. That is, the brocaded pattern of the textile is a mirror reflection of the pattern of the purple textile. Both textiles share a technical weave repeat which is easily identified and coincides with the pattern repeat unit. The yellow textile has 4 repeats across the width; there is not a complete width of the purple textile. (figure 1)

The design of these two textiles comes more directly from Eastern textiles than some other small pattern European textiles, of the type that are characterized by a diminishing of larger motifs in the ogival network to smaller scale versions. The pattern is clearly based on Safavid Persian and Mughal Indian textiles of the period; but it would be incorrect to assume that one could find an exact prototype for these textiles, or even for the individual flowers. There are characteristics which could be argued to point in the direction of Safavid Persian textiles or toward Mughul India. Milton Sonday notes that it is sometimes difficult to distinguish between seventeenth century woven textiles such as brocaded plain weaves from Persia and India. In addition, the phenomenon of Orientalism, Europe’s fascination with the cultures of the East, had become a circular flow of influence. Europeans were inspired by Eastern design and this phenomenon was further encouraged by Persian and India leaders fostering diplomatic and trade relations with Europe during this period. Simultaneously, Persian and Indian artists were admiring the works of European botanical illustrators who were illustrating many species recently imported from the East.

Consequently, rather than looking for an exact prototype, the design should be analyzed in terms of elements which are derived from “Oriental” sources. First, there is the species of flowers and the stylized rendering of these species. These textiles are, in part, a product of the mania for tulips; the tulip flower having come to Europe from contact the Ottoman court in the mid-sixteenth century during the reign of Suleiman the Magnificent (1520-1566). The other large flower in the design is referred to as a daisy, though the
buds on the stem resemble poppies. This type of composite flower appears in Persian silks. The smaller flowering plants are probably a violet and a strawberry plant. The four plants have different leaves. The use of large flower full face combined with smaller buds in profile on the stem is a typically Persian device, though this is seen in Indian textiles as well. The depiction of the small flowering plants growing from little hillocks is also common to Persian and Indian design.

Next, the alternation from row to row in the direction of the diagonal emphasis is a feature seen in both Persian and Indian textiles. While this feature is not new in the seventeenth century, there is a break with previous design of floral and vegetal elements in an ogival network; the Persian/Indian influence manifests itself in the dissolution of the connecting network and the separation of motifs. The pattern repeat unit is translated vertically and horizontally to create the overall pattern (a straight repeat). Yet, within the individual repeat unit the two large flowers give the effect of parallel glide reflections: that is, the shape of the flower is mirrored and then slides to appear in the row above (or below). This type of symmetry is characteristic of pattern units of some Safavid Persian silks, and is especially evident in the well-known seventeenth century figural velvets. The design technique results in a “more complicated perception of design and pattern,” a relatively small technical repeat can appear more complex and interesting. These Italian silks are not a brilliant example of textile design; they do not approach the sophistication of the Persian velvets, as the repeat is obvious and separation between motifs and repeat units is clear. But the design principles of Persian textiles must have been influential. A seventeenth century Iranian brocaded taffeta in the collection of The Textile Museum, Washington, D.C. exemplifies the type of pattern that was influential in Italy: the flowers alternate direction from row to row, show full blossoms and buds on one plant, and eleven different brocading colors are used.

A third element of Oriental influence is seen in the choice of brocading colors and the way in which the colors are used. Accounts by European travelers to Persia during the late sixteenth and seventeenth centuries often remark on the variety and the quality of Persian silk dyes. Several of the colors used in the purple textile, in particular, are shades that were new to the European eye, like salmon pink and bright yellow-green. Both the yellow and the purple textile use a large number of brocading colors (eleven and ten respectively) which is a feature common to Persian silks and velvets. There is no identifiable color repeat in the yellow textile. There is balance: generally the large flowers (the tulip and the daisy) are woven so that light flowers on dark stems alternate with dark flowers on light stems. There are three identical tulips on the yellow panel on the left piece, there are no identical daisies or small plants. In the purple textile, there is a pattern of four vertical weave repeats to one color repeat, though within this, there are exchanges of similar colors, i.e. grass green is exchanged for yellow-green in a subsequent repeat. This complicated use of color, or lack of an identifiable pattern, is another technique employed that succeeds in making a relatively small and simple weave repeat appear to be more complicated and lively visually. The technically simple use of discontinuous brocading wefts may have been influenced by the achievements of the weavers of Safavid Persian velvets. The Safavid velvets employ both discontinuous
brocading and warp substitution to change colors. Concerning the use of a variety of colors in the Safavid velvets Carol Bier writes: “... the emphasis in coloring seems to have been on overall effect, seemingly an attempt to convey a sense of the full color spectrum. Color alternation was clearly an aesthetic choice. Many different colors were used for the same design elements repeated within the pattern. What seems to have been important was the display of color.” The same effect, a display of various colors, is achieved in the brocading of both the purple and the yellow textile.

The use of color brings us to the discussion of the differences between the yellow and the purple textiles. The use of color in the brocading of the individual motifs does differ in the yellow and purple textile: first of all the yellow textile makes use of eleven colors in the brocading and the purple textile uses ten. Compared to other Italian brocaded silks, this is a relatively large number of brocading colors. There are other small differences in the way in which the brocading is done in the yellow and the purple textiles. For example in the yellow textile all of the individual violet blossoms (three on each plant) are brocaded in one color, while on the purple textile the individual violet blossoms are brocaded in two colors. Decisions concerning the use of individual brocading colors must have been made by the weaver at the time of production. It seems highly unlikely that someone other than the weaver planned the use of individual colors in advance of the actual weaving.

The most obvious difference between these two textiles is the color of the foundation weave, which leads one to notice that the foundation is also a different structure. The purple textile is an extended plain weave, cannelé; the yellow textile is a Gros de Tours liseré. The brocaded flowers in the purple textile are also bound in twill while the yellow textile employs a straight float. The combination of the liseré technique and the longer floats in the brocaded areas makes the yellow textile structurally weaker. But the purple textile appears much flatter due to the plain dark ribbed ground and the twill brocade. The use of liseré and damask ground weaves to provide dimension to the relatively flat looking floral patterns of the seventeenth century is generally dated from second quarter to the end of the century. Whether this is simply an attempt to improve what came to be considered less than ideal woven designs, or was another instance of the influence of Eastern design is difficult to determine. Safavid and Mughal Indian carpets were known for multi-layered designs. And the liseré ground of the yellow textile can be compared with Indian carpet designs which employ a tone on tone.

The technical differences in the ground weaves and binding of the brocaded areas plus the reflection of the brocaded flowers between the textiles clearly point to two different loom set-ups. But the thread counts are very close to one another, as are pick counts of the individual flowers in the brocaded pattern. It seems possible that here we have an instance of copying, either from the extant textile or from a draft, or both.

Comparative examples are difficult to locate. The most similar published examples appear in recent exhibition catalogues of vestments from Italian collections. Textiles showing the stylized flowers in rows which alternate direction was not uncommon in
Italy. What seems to have been relatively unusual in woven textiles is more literal use of the Persian model with plants resting on hillocks, many brocading colors, and the use of the *liseré* ground to create this secondary pattern as in the yellow panel. The *liseré* technique is more common in the eighteenth century, where it is generally used either as a sort of shadow to a meandering brocaded ribbon pattern, or as narrow trail of texture accenting the main pattern, rather than as an over-all background design. In the seventeenth century, the examples using *liseré* grounds are either a radiating pattern comparable to a moiré effect, or thin trailing vines or stems.

In the Basilica di Sant’Antonio in Padua, there is a chasuble identified as Venetian, from the end of the second quarter of the seventeenth century. The textile is a green *Gros de Tours liseré* with brocaded floral motifs including tulips and lilies. The brocading is executed in nine different colors, and is bound in twill. The thread count is similar to both the purple and yellow MMA textiles: 64 warp ends/cm and 20 weft insertions/cm. Also of note is the use of the *liseré* technique which not only creates a secondary pattern of a small vine with leaves between the brocaded flowers, but is also used to outline details in flowers. In the yellow panel the *liseré* is used in a similar manner as it defines the veins in the daisy leaves.

Two chasubles illustrated in *Le Stoffe degli Abati* can be compared to the MMA textiles both in structure and design. Both are *Gros de Tours* ground weaves brocaded in a number of colors, the brocaded areas are bound in twill and the thread counts that are comparable (both have 64 ends/cm and 20 passes/cm). The floral patterns are inspired by Eastern species of flowers. One chasuble is dated to the second quarter of the seventeenth century and the other to the second half of the century. The later dating is based on the characteristic *horror vacui* element in which an attempt is made to completely fill the surface visually, while the earlier piece retains a slightly less crowded appearance with more separation between the floral elements. The later piece also has a blue and white selvage as does the MMA yellow panel which may relate the textiles, as selvage color and weave was often used as an indicator of origin or quality in Italy.

Finally, the *liseré* patterning of the MMA yellow textile is very close in design to a brocaded silk with supplementary weft patterning in the collection of the Museo del Tessuto, Prato. The weft pattern in the Prato textile is a remarkably similar trailing vine used as a secondary pattern around the floral motifs which are arranged as in the MMA textiles: relatively larger and smaller motifs alternating horizontally in rows which change direction. This textile is dated to the second quarter of the seventeenth century.

Smaller pattern textiles were suitable for the construction of fashions that developed beginning in the late sixteenth century. A suit of clothing exists in the collection of Rosenborg Castle, Copenhagen; it shows a floral design similar to that of the MMA textiles, though it is an ivory satin brocaded in gold and the pattern repeat is smaller (L 8 cm x W 7.5 cm). The suit is dated circa 1634 and belonged to the Prince Elect Christian of Denmark. Portraits of the early seventeenth century exist that show similar designs being used a women’s stomachers, the polychrome floral patterns contrast with the monochrome textiles of the majority of the costume. Two examples of these are Rubens’ *Rubens and his wife Isabella Brandt*, dated 1610, and Cornelis de Vos’ *The Painter and his Family* of 1621. These textiles have slightly smaller scale designs like the
Rosenborg suit, but they do show the same alternation of direction row after row, and large and small isolated floral motifs brocaded in a variety of colors.

Based on comparisons with existing textiles and other sources, it is possible to narrow the dating of the MMA chasuble and panel. The isolated motif, with no secondary pattern in the ground weave, seem to be dated generally no later than about 1640. The portraits mentioned above are dated 1610 and 1621; however, the Rosenborg costume is dated to the second quarter of the seventeenth century. The yellow panel could be dated later than the chasuble on the basis of the liseré ground. Examples of this ground weave generally appear as thin vines or ribbon-like undulations, and are attributed to either the middle or the second half of the seventeenth century. Therefore, these two textiles could have been produced at the same time, in the second quarter of the seventeenth century. Or the purple textile could retain that dating and the yellow liseré ground textile could have been produced later in the second half of the century.

A Venetian origin for both of the textiles seems likely. The Venetian textile industry was highly regulated and the green selvage with two white stripes is identified as one of the standard types in the seventeenth century. The purple textile does have two areas of selvage visible, both areas are green with white stripes, though the two selvages have slightly different widths and thread counts. This, along with the stylistic similarities of the design with others of Venetian attribution makes a Venetian origin likely for the purple textile. We also have a loom width of the yellow textile which is comparable to the widths of others identified as Venetian.

In conclusion, careful consideration of the pattern of brocaded flowers, the use of many brocading colors, and the presence of a secondary pattern in the yellow textile has been essential to help place these objects in historical context. Brocaded cannélé silks attributed to seventeenth century Italy are not uncommon; the features that I believe to be unusual about the MMA textiles are, first, the interpretation of Persian textile design, and second, the possibility of these textiles being evidence of design copying in the seventeenth century. While investigation of design influences should be considered a work in progress, these particular textiles appear to be more literal translations of Persian textile designs than any other European silks I have seen in the course of my research. Concerning the issue of copies, I have not found other examples from this period which share the same brocaded pattern but have different ground weaves.

Notes
3. The coat-of-arms was examined by Dr. Nickel and tentatively identified in 1980.
4. Agnes Geijer. Oriental Textiles in Sweden (Copenhagen: Rosenkilde and Bagger, 1951), 52. “We have already referred to the interrelationship between Turkish and Italian, that is Venetian, silk weaving. The general tendency is easily exemplified. But only very rarely is it possible to establish an actual copy in one direction or another.”


9. Susan Moody, Horticulturist at The Cloisters, The Metropolitan Museum of Art, said that the flowers were too stylized to identify.


11. Sunday, “Patterns and Weaves: Safavid Lampas and Velvets,” 58. “A continuous pattern can theoretically extend in all directions. Its success is judged by assessing the use of formal elements of composition with an understanding that the pattern is indeed continuous. Nothing should hold the eye in one place too long and thus prevent it from scanning the entire pattern.”


16. Sunday, “Patterns and Weaves: Safavid Lampas and Velvets,” 69. “Patterns with a superimposition of lattices and vines were popular in Islamic lands in the sixteenth century as well as in the Christian Mediterranean. Charles Grant Ellis isolated five levels in a sixteenth century Safavid carpet in the Musée des Gobelins.”

17. Walker, 52-53, figures 45 and 46 (catalogue no. 8). Carpet. Northern India, Lahore, ca. 1610-20. The carpet has a pattern of scrolling vines combined with animals, a style which was popular during the first quarter of the seventeenth century. The pattern is multicolored on a blue ground; the ground has a simple flowering vine in a lighter shade of blue. This has the appearance of being beneath the main pattern. The ground of the main border of the carpet uses this same effect in red.

18. The pick counts of the individual floral motifs vary slightly in a sampling from each textile and from one to the other; but the averages for the tulip and the daisy in both textiles were 136 picks per flower.

19. Doretta Davanzo Poli. *Basilica de Santo: I Tessuti* (Padova: Centro Studi Antoniani, 1995), 71-72 and Plate IX, catalogue no. 18. All information regarding this piece is taken from this publication.

20. Alessandra Geromel Pauletti. *Le Stoffe degli Abati: Tessuti e paramenti sacri dell’antica Abbazia di Monastier e dei territori della Serenissima* (Treviso: Edimedia Libri, 1997), 36-38, catalogue nos. 4 and 5. All information regarding this piece is taken from this publication.


24. Boucher, 256, fig. 564 (Rubens portrait), and 253, fig. 552 (de Vos portrait).


26. Pauletti, Catalogue no. 4 has a reconstructed (estimated) width of 54.8 cm and no. 5 is 54 cm wide, compared the yellow panel (MMA 1981.85.4) at 52.7 cm wide.