

Late Medieval Block Printing on Fabric

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History

- The earliest examples of block printing on fabric, fragments of silk printed with flowers in three colors, date from before 220 CE, during the Han Dynasty in China.
- By the 10th century CE, printing on fabric had become a large industry in India.
- A few specimens from the 10th century have been found in Arabic Egypt.
- Two fragments from Chernigov, Ukraine date the 10th - 12th centuries (K.A. Mikhailova argues 10th/early 11th century [[Михайлова К.А. Византийские влияния на парадный костюм североевропейской и древнерусской аристократии эпохи викингов, Диалог культур и народов средневековой Европы. СПб., 2010](#)], L.I. Yakunina says 1th/12th century [Якунина Л.И. О трёх курганных тканях, Труды ГИМ вып. 11, 1940])
 - The Chernigov fragments were printed on tabby wool.
- One fragment from the Kiev province dates to the 10th to 11th century is printed on silk. This may have been produced in Persia or Central-Asia and brought to Kiev as a spoil. (Якунина Л.И. О трёх курганных тканях, Труды ГИМ вып. 11, 1940)
- The “Rider Silk” found with the relics of St. Cuthbert in Durham was produced in Persia (or possibly Spain) was printed with a resinous material and gilded. It was probably produced in the 10th or 11th century.
- Block printing appears to have reached Europe by the second half of the 13th century.
 - At least one source, *The Origins of European Printmaking* (Parshall, Schoch, Areford, Field, & Schmidt, 2005), argues that the majority of printed textiles dating from earlier than 1430 are forgeries, the exception being the Sion Tapestry in Basel.
 - Germany and Italy appear to have been the biggest adopters of the process.
 - Donald King, former Keeper of Textiles at the V&A, postulates that the process reached Italy first and later spread north.
 - The earliest reference to textile-printing as an organized industry occurs in the regulations of the *Arte di Por San Maria* guild in Florence, promulgated in 1411.
 - North of the Alps, the earliest unequivocal reference is in tax records of Augsburg from 1475.
 - Printing reaches the limes of Europe towards the 16th century.
- What was printed fabric used for?
 - Wall hangings, for example the Sittener Tapestry (<http://www.hmb.ch/sammlung/object/sittener-tapete-detail.html>), produced in Italy in the second half of the 14th century
 - Religious draperies
 - The Nüremberger Kunstbuch discusses liturgical garments
 - Cennini discusses clothes for little boys and children

Motifs

- Images of motifs are attached as Appendix 1

Historical Materials

- Blocks
 - Bois Protat, an extant block from the 15th century, was carved from walnut.
 - Cennini suggests nut or pear wood.

- Paint/Ink
 - Cennini (from Appendix 2, please educate yourself on poisons before using these recipes)
 - For cloth of unspecified color:
 - For black, burn linseed oil and temper some of that with liquid varnish.
 - For yellow, take some saffron, warm it well at the fire, temper it with good strong lye.
 - For crimson, take some brazilwood, scraped with glass; put it to soak in lye; boil it up with a little rock alum; boil it for a while, until you see that it has acquired its full crimson color. Take it off the fire, so that it does not spoil.
 - For green, take some verdigris, ground with vinegar, and a little saffron, tempered with a little weakish size
 - For green cloth use red lead or vermilion as your primary color. After grinding it very fine with water dry it well; powder it up, and temper it with liquid varnish.
 - For red cloth use some indigo and white lead for your primary color. After grinding it fine with water, drain it and dry it in the sun; then powder it up; temper it with liquid varnish as usual.
 - For black cloth use a light blue as your base color. To achieve this, mix a good deal of white lead and a little indigo, grind and temper.
 - For light blue cloth, take some white lead, ground, dried off and tempered
- Fabric
 - Almost every example I have seen is on linen of varying quality.
 - There is at least one late medieval example on wool.
 - There's at least one example of printed silk (<http://www.musee-moyenage.fr/cache/media/oeuvres/mitre%20cl12924-1/s,900-c32195.jpg>)
 - There are two examples I could find of production in Europe on linen cotton (fustian) blend (V&A 1478-1899, a chasuble dating to around 1490, and V&A T280-1916, a fragment dating to around 1530).

Modern Materials (links are for demonstrative purposes, I'm not endorsing a specific source)

- Blocks
 - I cut my designs into standard speedball mounted linoleum blocks. They're easy to cut, easy to obtain, and inexpensive.
 - They make nice plywood blocks as an intermediate financial step between the mounted linoleum and fine wood blocks. (<http://www.imclains.com/catalog/blocks/allshina.html>)
 - Resingrave® Plates and Blocks are white epoxy resin engraving blocks that give the same precise, finely detailed and clean edged marks of traditional end-grain boxwood. (<http://www.imclains.com/catalog/blocks/resingraveblock.html>)
 - Endgrain wood blocks (the original material <http://www.artboards.com/woodcutblocks.htm>)
 - For super fast and cheap, I've cut a stamp out of craft foam and mounted it with painter's tape on a hard cover book. It works, but I would stick to simple geometric shapes.
- Carving tools
 - I use super cheap wood carving tools to cut linoleum blocks. I also find my exact-o knife quite useful.
 - Here's a link for much nicer tools: <http://www.imclains.com/catalog/woodblocktools/index.html>

- Paint/Ink
 - Speedball block printing ink for fabric- expensive, but the specific tool for the specific task.
 - Standard acrylic – cheap, but a little thin.
 - House paint – varying prices, I haven't tried it but I'm told it's great.
 - Screen printing ink – same price as the speedball ink, but you get more of it. A little thin, but it works.
 - Fabric paint – varying prices, I haven't tried it yet but I can't figure out why it wouldn't work.

- Fabric
 - Linen (IRON IT FIRST!)
 - Wool twill
 - Wool broadcloth
 - Cotton (I'd use a heavier weight to avoid distortion by the stamping process)

Historical Stamp/Block Cutting Techniques

- Bois Protat





- A double-sided, carved, walnut block (approximately 60x20cm) showing a kneeling angle on one side and a group of soldiers presumably from the crucifixion. Dates from between 1370 and 1450 (carving may have been completed at two separate times)
- Found in central France.
- Nüremberger Kunstbuch
 - The Nüremberger Kunstbuch probably contains instructions on carving the blocks (the headers seem to indicate it does), however, since I can't find a transcription (or even a facsimile) online, I can't verify this. (grumble, grumble, grumble)

My Stamp Cutting Technique

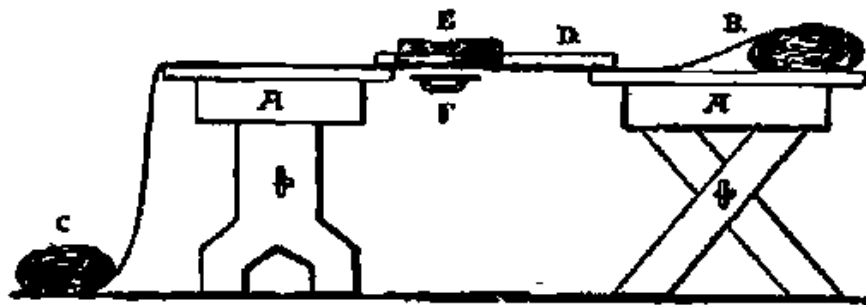
- I use really cheap wood-carving tools to cut pre-mounted linoleum pieces.
- I draw the design onto the linoleum, cut along the outside edges using an exacto knife, and then use the scoop tools to scoop out the excess linoleum.
- When cutting around the outside edges of the design, it's important to cut all the way to the block. This will let you "peel" the linoleum from the edge instead of requiring that you run the scoop all the way up to the design (which can result in slips that ruin your stamp).
- Thus far I've only tried simple geometric designs, at some point, I'm going to work up the moxie to try something with curves.
- Be careful with internal detailing. It may be easiest to do the detailing first and then the outline.
- **BE VERY CAREFUL WHEN CUTTING YOUR BLOCKS. A WOOD-CARVING TOOL STUCK IN THE ABDOMEN CAN BE QUITE PAINFUL. REMEMBER TO CUT AWAY FROM YOUR BODY!!!!!!!!!!**



A half-carved block and tools.

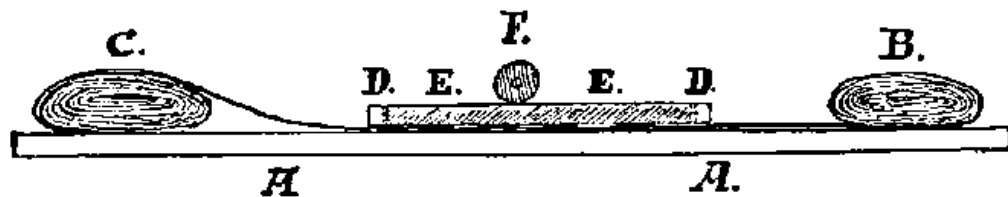
Historical Stamping/Printing Techniques

- Il Libro dell'Arte (Cennini)
 - Il Libro dell'Arte was produced in Italy at the end of the 13th century by Cennino Cennini, a painter who was influenced by Giotto. A translation of Cennini's instructions for block printing is attached as Appendix 2.
 - Cennini's method differed from the method I learned. Cennini's process is to put the fabric in a frame, set the inked stamp on the fabric within the frame, and press the fabric against the stamp from below with a hard, smooth tool
 - Reconstruction of Cennini's Press from: *Die Kunst des Zeugdrucks vom Mittelalter bis zur Empirezeit* by Dr. R. Forrer (Strasbourg [Strassburg], 1898) (hereinafter: *Die Kunst des Zeugdrucks*)



- A – Das beiden Drucktische. (The two printing tables)
- B – Das noch unbedruckte Tuch. (The blank cloth.)
- C – Das bereits bedruckte Tuch. (The cloth printed on the outside.)
- D – Der Holzrahmen mit der auf der untern Seite eingespannten Leinwand; der Rahmen auf die beiden Tischkanten gestützt. (The wooden frame with the canvas clamped on the underside; the frame is supported on the two table edges.)

- E – Die mit dem Bilde nach unten gekehrte hölzerne Druckform; in die Hälfte des Rahmens eingepasst und mit der linken Hand auf die Leinwand festgedrückt. (The wooden printing block with the image facing downwards; set on half of the frame and pressed with the left hand into the canvas.)
 - F – Das Schildchen, das mit der Rechten von unten nach oben gegen die Leinwand gedrückt wird und zum Anreiben behufs Erzielung gleichmässigen Farhaufrages dient. (The “porringer”, which is pressed against the screen from below with the right hand, serves to ensure uniform color.)
- Nüremberger Kunstbuch
 - The Nüremberger Kunstbuch was produced around the last half of the 15th century, presumably for the sisters of the Convent of St. Catherine in Nuremberg. The convent was occupied with the production of liturgical vestments for the Dominican order as well as having an active scriptorium.
 - The Nüremberger Kunstbuch provides limited information on the process of printing on fabric, instead it is focused on recipes for inks and the process of applying silver and gold leaf.
 - The method described in the Kunstbuch, is more similar to the method I learned. The stamp is inked, set onto the fabric, and then pressed into the material with a “knebel” (helpfully translated by Google and Leo as “gag”)
 - I am working using the modern German description of the process in *Die Kunst des Zeugdrucks* as the 15th century German is proving a bit impenetrable (seriously, what is “ogger”? My Early New High German dictionary goes from of- to oh- and it’s linked to ocher in Middle High German and that means ‘penis’ in the Nuremberg dialect.).
 - Reconstruction of Nuremberg stamping method from: *Die Kunst des Zeugdrucks*



- A – Der Drucktisch. (The printing table.)
- B – Das noch unbedruckte Tuch. (The unprinted cloth.)
- C – Das bereits bedruckte Tuch. (The printed cloth.)
- D – Der Holzrahmen, welcher auf den Stoff gelegt wird. (The wooden frame, which is placed on the fabric.)
- E – Die in den Rahmen eingepasste Druckform. (The printing form fit into the frame.)
- F – Der Knebel, mit dem die Druckform auf den Stoff gedrückt wird. (The “gag” [rolling pin?] with which the printing form is pressed onto the fabric.)

My Stamping Technique

- Materials:
 - FLAT table or other surface
 - Enough craft felt to cover your stamping surface in at least two layers of felt
 - Chalk
 - Ruler
 - Ink or paint
 - Inking sheet (I use a square of mirror)
 - Brayer
 - Stamp
 - Rubber mallet
 - Fabric you want to print
- Set up:
 - Cover your stamping surface with two or more layers of large pieces of craft felt.
 - Using your ruler, draw registration lines in chalk on your fabric.
- Method:
 1. Roll ink with the brayer on the inking sheet until it starts to make obnoxious kissy noises.
 2. Roll ink onto the stamp with the brayer.
 3. Press the stamp firmly into the fabric. Getting it situated correctly within the registration lines is a plus.
 4. With the stamp on the fabric, hit the back of the stamp with a rubber mallet.
 5. Smile because you got to hit something.
 6. Remove the stamp from the fabric and return to step 1.
- Alternative Inking Method:
 - Using a cake pan or similar flat tray with walls, lay down a couple of layers of felt. Pour a copious amount of paint or ink over the felt. After the felt has absorbed the paint, you should be able to use it like a traditional stamp pad.

Bibliography

- Cennini, C. D. (1933). *The Craftsman's Handbook. The Italian "Il Libro dell' Arte."* (D. V. Thompson, Jr, Trans.) New York: Dover Publications. Retrieved April 17, 2017, from <http://www.noteaccess.com/Texts/Cennini/13M.htm>
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- Parshall, P., Schoch, R., Areford, D., Field, R., & Schmidt, P. (2005). *The Origins of European Printmaking*. New Haven, CT: Yale University Press.

Websites

Project Forlog - Potišťené textilie ve východní Evropě, <http://sagy.vikingove.cz/potistene-textilie-ve-vychodni-evrope/>

Tkaniny I Dzianiny (Polish website on early Slavic textiles, includes information on stamping/printing) <http://www.strojesigrid.zafriko.pl/str/tkaniny>

Атрибуция набивных тканей из кургана №2 у с. Левенка Стародубского уезда из раскопок Д.Я. Самоквасова. (Attribution printed fabrics from the mound in a №2. Levenko Starodub district of excavation by DY Samokvasov), <http://kaup.ru/index.php/lib/articles/135-atributsiya-nabivnykh-tkanej-iz-kurgana-2-u-s-levenka-starodubskogo-uezda-iz-raskopok-d-ya-samokvasova.html>

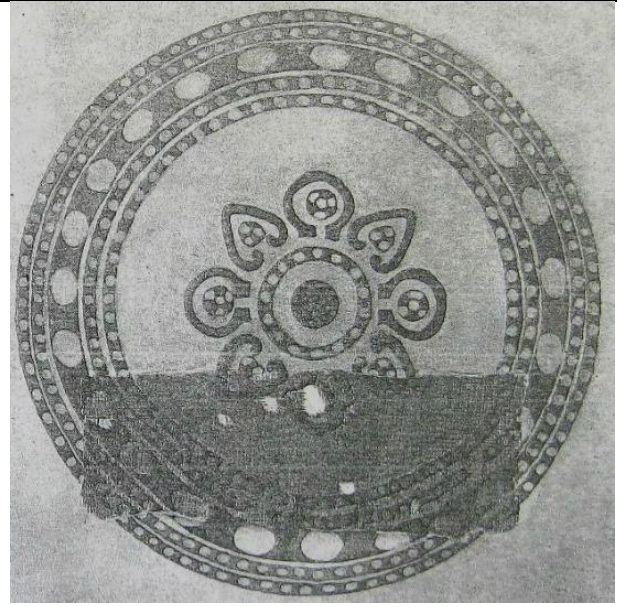
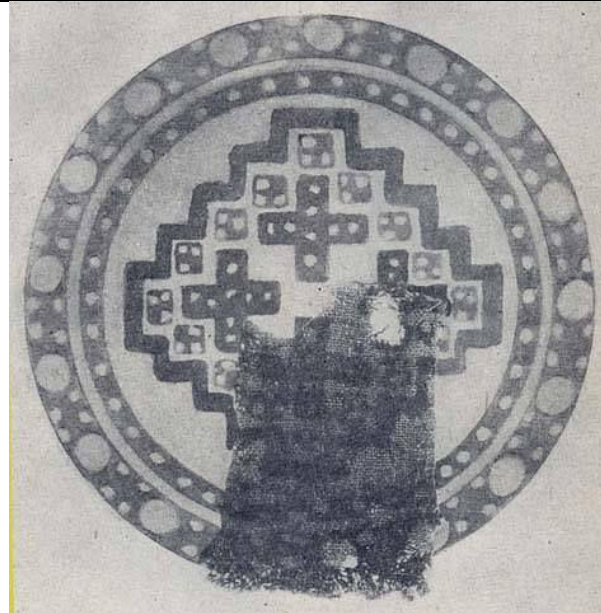
Printed Textiles in the Middle Ages Facebook Group, <https://www.facebook.com/groups/PrintedTextiles/>

Museum of Applied Arts, <http://www.imm.hu/en/>

Victoria and Albert Museum, <https://www.vam.ac.uk/>

The Met, <http://www.metmuseum.org/>

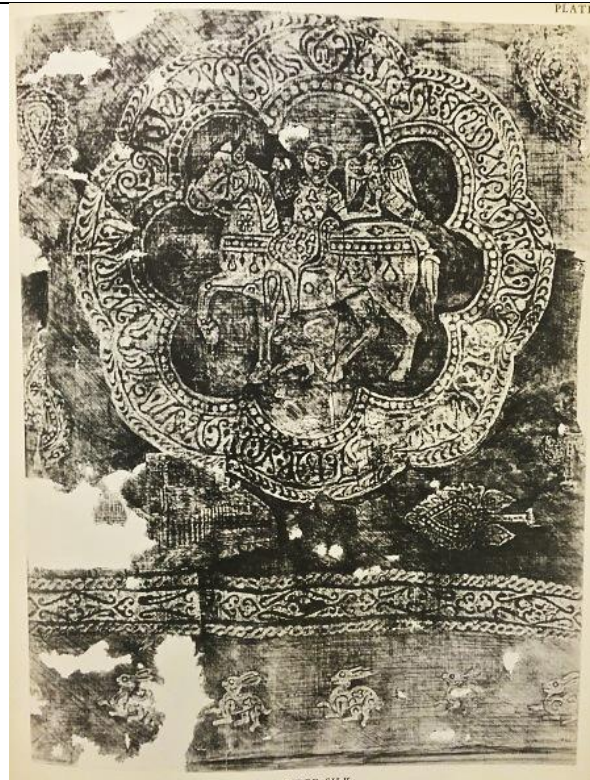
Rondels



10-12th Century, Chernigov, Ukraine, Wool
(<http://www.strojesigrid.zafriko.pl/str/tkaniny>),
12x9cm

10-12th Century, Chernigov, Ukraine, Wool
(<http://kaup.ru/index.php/lib/articles/135-atributsiya-nabivnykh-tkaney-iz-kurgana-2-u-s-levenka-starodubskogo-uezda-iz-raskopok-d-ya-samokvasova.html>) 20x7cm

Both images ultimately derive from Якунина Л.И. О трёх курганных тканях // Труды ГИМ вып. 11, 1940 с.147-158



“The Rider Silk” a weft-faced, twill weave silk, printed with a resinous material and then gilded. Possibly printed in the 10th or 11th century in Persia or Spain, based on Persian woven silks. (Muthesius 2002)



12-13th Century, Rheinland/Siegburg, Linen
(<http://collections.imm.hu/gyujtemeny/szovettoredek-nyomott-mintaval-kecske--es-griffparok-alakjaval/7535>), 18x16.5 cm



Middle of the 13th century, Rheinland, Linen
(<http://collections.imm.hu/gyujtemeny/selyemszovet-nyomott-mintaval/16940>), 17x12.5 cm



13th Century, Rhineland, Linen
(<https://archive.org/details/diekunstdeszeugd00f/rrr>, p 127)

Tear Drop



1. Romanischer Silberdruck auf braunrothem Leinen, niederheinisch. XII.-XIII. Jahrh. (pag. 23 u. 24). ca. 1/2.
2. Romanischer Schwarzdruck auf hellbrauner Leinwand, Kölner Gegend. XIII. saec. ca. 1/2.

Early 14th Century, Germany, Linen
(<http://collections.imm.hu/gyujtemeny/fabric-fragment/7694>), 18x7.5cm
A similar piece is found at the Met
(<http://www.metmuseum.org/art/collection/search/216326>)

Top: 12-13th Century, Rhineland, Linen
Bottom: 13th Century, Köln, Linen
(<https://archive.org/details/diekunstdeszeugd00f/orr>, p 127)



13-14th Century, Germany, Linen
(<http://www.metmuseum.org/art/collection/search/463240?img=0>), 36.8x16.2 cm



14th Century, Italy, Linen
(<http://www.metmuseum.org/art/collection/search/230490>), 49.8x34.3cm



2nd half of the 14th Century, Rhineland, Linen
(<http://collections.imm.hu/gyujtemeny/fabric-fragment/7690>), 28x27cm



15-16th Century, Spain, Linen
(<http://www.metmuseum.org/art/collection/search/216283>), 41.9x22.2cm

Complex



12-13th Century, Southern German, Linen
(<http://collections.imm.hu/gyujtemeny/szovettoredek-nyomott-mintaval/16942>), 46x24cm



14th Century, Rhineland, Linen
(<http://collections.imm.hu/gyujtemeny/fabric-fragment/7696>), 26x22cm



Late 14th Century, Rhineland, Linen
(<http://collections.imm.hu/gyujtemeny/fabric-fragment/11286>), 22x24cm



Late 14th Century, Rhineland, Linen
(<http://collections.imm.hu/gyujtemeny/fabric-fragment/7693>), 38x24cm
A similar piece is at the Met
(<http://www.metmuseum.org/art/collection/search/216325>)



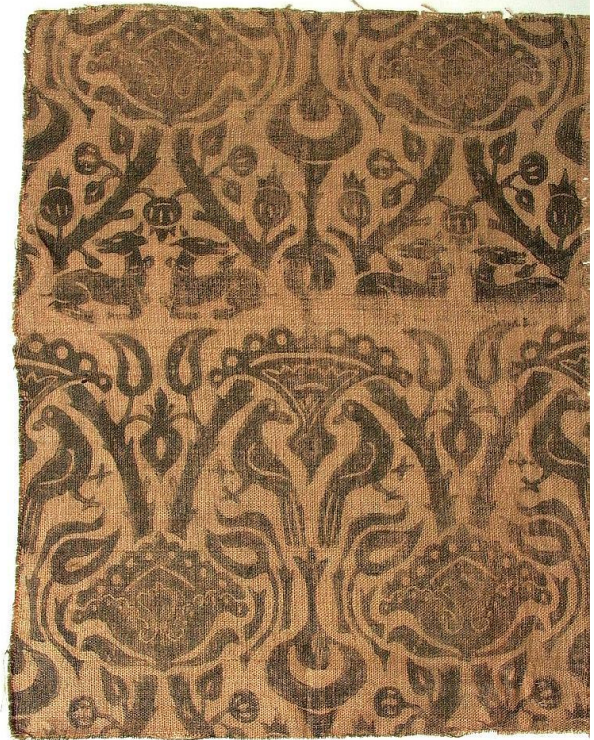
2nd half of the 14th Century to 15th Century, Linen
(<http://collections.imm.hu/gyujtemeny/szovettoredek-nyomott-mintaval/17519>), 25x18cm



Mid-14-15th Century, Italy or Germany, Linen
(<http://collections.vam.ac.uk/item/O129528/printed-linen-unknown/>), 36x7cm



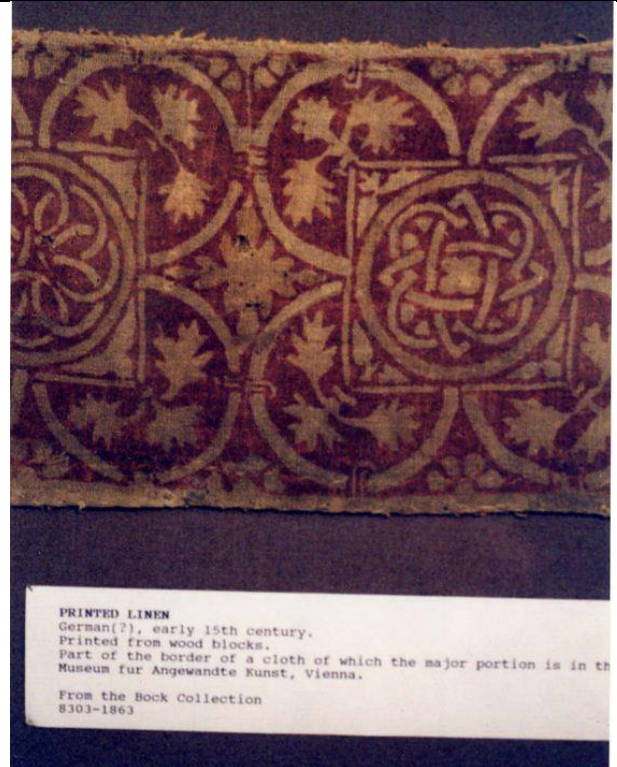
Mid-14-15th Century, Germany, Linen
(<http://collections.vam.ac.uk/item/O148454/printed-linen-unknown/>), 16.7x34cm



15th Century, Germany, Linen
(<http://collections.imm.hu/gyujtemeny/fabric-fragment/7715>), 30.5x24cm



15th Century, Rhineland, Linen
(<http://www.metmuseum.org/art/collection/search/463239>), 23.5x29.2cm
A smaller piece can be seen here:
<http://www.metmuseum.org/art/collection/search/463242>



15th Century, Germany, Linen
(Pinterest, presumably at the Whitworth Gallery)

PRINTED LINEN
German(?), early 15th century.
Printed from wood blocks.
Part of the border of a cloth of which the major portion is in the
Museum fur Angewandte Kunst, Vienna.
From the Bock Collection
8303-1863



16th Century, Spain, Linen (and cotton?)
(<http://www.metmuseum.org/art/collection/search/222997>), 213.4x53.3cm

??		
		
<p>10-11th Century, Rossawy, Kiev Province, Ukraine (originating in Iran or Central Asia), twill Szelków? Fabric (http://www.strojesigrid.zafriko.pl/str/tkaniny), 19x8cm</p>		

Il Libro dell' Arte (1st Quarter of the 15th Century) - Cennino D' Andrea Cennini. The Craftsman's Handbook. The Italian "Il Libro dell' Arte." Translated by Daniel V. Thompson, Jr. New York: Dover Publications, Inc. 1933, by Yale University Press. Accessed from <http://www.noteaccess.com/Texts/Cennini/13M.htm>

CLXXIII A Section Dealing with Miscellaneous Incidental Operations: First, Block Printing on Cloth.

[235] Inasmuch as the execution of certain products painted on linen cloth, which are good for garments for little boys or children, [236] and [p. 115] for certain church lecterns, still has to do with the profession of brush, the way to do them is this.

Take a stretcher made as if it were a cloth-covered window, four feet long, two feet wide, with linen or heavy cloth nailed on the slats. When you want to paint your linen, roll up a quantity of four or fourteen yards all together, and lay the heading of this cloth over the stretcher. And take a block of either nut or pear, as long as it is good strong wood, and have it about the size of a tile or a brick; and have this block drawn upon and hollowed out a good line deep; and on it should be drawn whatever style of silk cloth you wish, either leaves or animals. And have it so divided in shape and so drawn that all four faces will come out in a repeat, and make a finished and unified job. And on the other side, which is not engraved, it should have a handle, so that you can lift it and apply it. When you are going to work:

Have a glove on your left hand; and first grind some vine-sprig black, ground very fine with water, then thoroughly dried either by sun or fire, then ground again, dry; and mix it with as much liquid varnish as may be required; [237] and take up some of this black with a little trowel, and spread it out on the palm of your hand, that is, on the glove. And thus you ink up [238] the block with it where it has been engraved, neatly, so that the incision does not get choked up. Set to work, and place it systematically and evenly upon the cloth spread out on the stretcher. And underneath the stretcher take a porringer (a small bowl, typically with a handle) in your right hand, or a little wooden porringer, and, with the back, rub hard over the space occupied by the incised block; and when you have rubbed until you think that the color has penetrated the cloth or linen thoroughly, lift your block, put color on it over again, and replace it very systematically, in this way, until you finally get the whole cloth done.

This work needs to be embellished with other coloring laid in here and there, to make it look more showy; for this you ought to have colors without body, namely, yellow, red, and green. The yellow: take some saffron, warm it well at the fire, temper it with good strong [p. 117] lye. Then take a rather blunt bristle brush. Spread out the painted cloth on a bench or table, and set out, with this yellow, animals or figures or foliage ornaments, as you think best. Next take some brazilwood, scraped with glass; put it to soak in lye; boil it up with a little rock alum; boil it for a while, until you see that it has acquired its full crimson [239] color. Take it off the fire, so that it does not spoil; then set it out with the brush, just as you did the yellow. Then take some verdigris, ground with vinegar, and a little saffron, tempered with a little weakish size. Set it out with this brush, just as you have done the other colors; and have them so set out that each animals appears in yellow, red, green, and white.

Furthermore, for executing this work it is good to burn linseed oil, as I have shown you before; and temper some of that black, which is very fine, with liquid varnish; and it is a very perfect and fine black; but it is more expensive.

This process [240] is good for working on green cloth, and red, black, and yellow, and blue or pale blue. If it is green, you may work on it in red lead or vermilion. After grinding it very fine with water dry it well;

powder it up, and temper it with liquid varnish. Put some of this color on the glove, just as you did with the black, and work in the same way.

If it is red cloth, take some indigo and white lead. After grinding it fine with water, drain it and dry it in the sun; then powder it up; temper it with liquid varnish as usual; and work the way you do with black.

If the cloth is black, you may work on it in quite a light blue, that is, a good deal of white lead and a little indigo, mixed, ground and tempered according to the practice which I have given you for the other colors.

If the cloth is light blue, take some white lead, ground and dried off and tempered like the other colors. And in general, as you find the grounds, so you can find other colors differing from them, lighter and darker, as it seems to you may suit your fancy. For one thing will teach you another, both by experience and by theoretical understanding [p. 117] The reason is that every profession is fundamentally skilled and pleasant. God helps those who help themselves, [241] and contrariwise the same.