

# Identifying Printed Textiles in Dress 1740-1890

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# Identifying Printed Textiles in Dress 1740-1890

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This information pack has been produced to accompany a one-day workshop of the same name held at Manchester Metropolitan University, Whitworth Art Gallery and Platt Hall on 1st November 2007. The workshop is one of three produced in collaboration between DATS and the V&A, funded by the Renaissance Subject Specialist Network Implementation Grant Programme, administered by the MLA.

The purpose of the workshops is to enable participants to improve the documentation and interpretation of collections and make them accessible to the widest audiences. Participants will have the chance to study objects at first hand to help increase their confidence in identifying textile materials and techniques. This information pack is intended as a means of sharing the knowledge communicated in the workshops with colleagues and the public.

Other workshops / information packs in the series:

Identifying Textile Types and Weaves 1750 -1950

Identifying Handmade and Machine Lace

Front cover image: *World of Fashion*, August 1832. Detail showing an evening dress of batiste de soie printed in a running pattern of lilac and oiseau. Morning and walking dress composed of batiste de laine printed in a cachemire pattern.

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Downing Collection at MMU, 1994.073. © Manchester Metropolitan University

# Identifying Printed Textiles in Dress 1740-1890

## Introduction

Careful observation can provide the information needed to begin the dating and identification of textiles printed for dress between 1740 and 1890. But it is first necessary to know where to look, and what to look for. This information pack provides a set of twenty reference examples that are used as focal points for the discussion of key issues. This relatively small number of examples should be seen as an introduction to the subject, and cannot hope to be comprehensive or to cover many finer points. The selection is based on printed textile types that may be encountered in a typical British dress collection. It excludes accessories such as handkerchiefs and shawls, as well as garments that rarely survive such as men's shirtings. It is intended that the commentary on the chosen examples will give firm guideposts from which to build further information. This booklet cannot take the place of the experimental learning activity of the workshop it was commissioned to accompany. But it is a more lasting record of information suited to communication by illustrated text. This information is based upon the study of original sources and surviving objects; it is an on-going study and is not yet available in a published text.

The principal methods of textile printing during the period used either relief-cut blocks, or engraved copperplates, or engraved cylinders for the printing matrix. Understanding the historical development of these techniques and their application to garment prints will help the researcher discover visual traces left by the printing techniques that form a reliable basis for identification.

During much of our period, printing techniques were used in competition for the production of particular types of cloth aimed at specific markets. Contextual information about the intended market for printed textiles - high, middle or low helps in formulating judgments about identification. One clue to the market placement of a print is the quality of the cloth; high-end workmanship would not be wasted on poor quality cloth, and an expensive cloth would not be devalued by techniques aimed at cheapness. For the most commonly encountered print cloth, plain weave cotton, a "rule-of-thumb" estimation based on the thread count is suggested here:

- 10-20 threads per centimetre can be seen to indicate a cheap material;
- 20-30 threads per centimetre can be seen as a medium-grade material, and
- 30-40 threads per centimetre indicates a high-end material.

If both warp and weft fall in the same category, this helps to confirm the category. For other fibres and constructions, different rules apply, but it is always useful to consider the quality of the print cloth.

A brief bibliography is appended to this information pack. Since visual comparisons are commonly used to refine an identification or dating, some literature has been suggested because it offers good visual examples. Other texts are recommended for further information about specific issues. In the 1950s, Peter Floud pioneered the study of the stylistic progression of design within European printed textiles. More recently, Deryn O'Connor broke new ground with her object-based study of prints first presented in the catalogue to the 1982 exhibition, *Colour & the calico printer*, and continued since. Both approaches will assist the museum curator. There is also much room for new contributions to the field. It is hoped that this information pack may provide some assistance in opening up the field of prints in museum dress collections, whether in the form of a simple label or a more lengthy work.

*Philip A. Sykas, Manchester Metropolitan University, September 2007*

## Catalogue 1

### Printed *fustian* lining to stomacher, around 1740-1760

(MCAG 1947.126g) Gallery of Costume, Platt Hall (Images © Manchester City Galleries)



#### Description

**Ground:** Balanced plain weave with linen warp and cotton weft, commonly referred to as *fustian*. The warp and weft are both Z-spun, with a density of around 17 x 16 threads per cm.

**Pattern:** Diapered arrangement of dots alternating with vertically-hatched lozenges in closely-spaced rows. The repeat unit is small, about 2 by 1.5cm

**Technique:** Single-colour block print, probably dyed madder red. The blocking is uneven in density, and the join of the pattern is imperfect. The printing block was about 20 x 16cm in size (8 x 6 1/4 inches), as evidenced by visible joins in the printed pattern.

#### Discussion

a) An Act of 1721 prohibiting the use and wear of printed calicos<sup>1</sup> came into force on Christmas Day 1722, but this exempted prints on linen, and on linen-and-cotton mixture fabrics. It was not until 1774 that this Act

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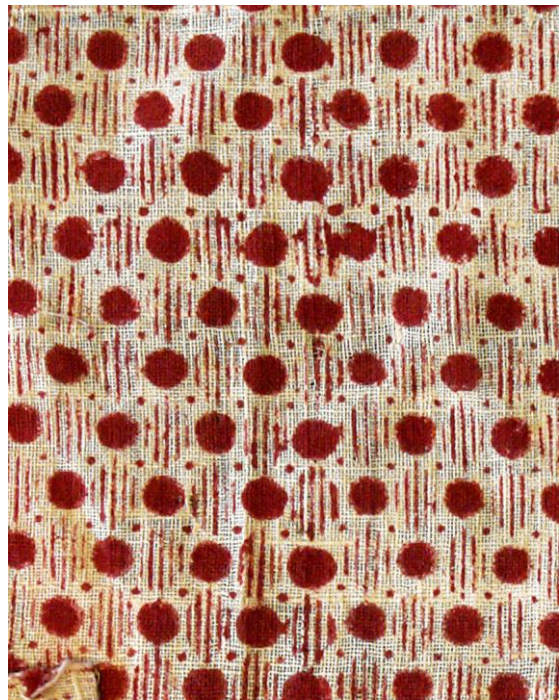
<sup>1</sup> In the seventeenth and eighteenth century, 'calico' was a generic term for a range of all-cotton fabrics imported from India. Various grades of white, plain weave calicos were used in Britain as a base cloth for printing. See also, Harris, J, *5000 Years of Textiles*, p.12.

was repealed, allowing the printing of all-cotton cloth in Britain. Therefore printed *fustians* are generally assumed to date from the middle fifty years of the eighteenth century. Of course, this can only be a generalisation as printed fustians existed before and after the Acts in question, but contemporary comment confirms that the legislation gave an impetus for the greater use of exempted fabrics.

b) Printed *fustians* are most commonly found to survive as linings to garments, and they usually date from the last period of use of the garment. Thus the date of the garment has usually formed the primary guide to dating the print.

c) Cotton/linen print fabrics of this era are often of a somewhat coarse canvas-like texture, with thread counts between 10 and 20 per centimetre in each direction. *Fustian* cloth was intended to be brushed to raise a nap from the cotton, but printers used the cloth unfinished because of its resemblance to calico.

d) The patterns are typically in one or two colours, especially red and black, and simple in nature. Evidence of the use of metal pins set into the block to create small dots is often found by the middle of the eighteenth century. Printing workmanship is often rudimentary, with little effort to disguise joins in the pattern.



## Catalogue 2

### Block-printed and mordant-painted export Indian chintz<sup>2</sup>, around 1750 to 1780

Downing Collection at MMU, 1995.008 (Images © Manchester Metropolitan University).

#### Description

**Ground:** Fine plain weave cotton, from Z-spun singles, 34 by 37 threads per cm.

**Pattern:** Serpentine trailing stems holding imaginary blossoms are outlined by a scrolling line to form leaf-like shapes. The shapes are linked by branch-like bands, with the intervening spaces filled by an imbricated pattern. The repeat measures 18.2 x 20.5cm (7 x 8 inches).

**Technique:** The outline is block-printed in red, the block being the size of the pattern repeat. Further details are hand-painted in resist (to give white), madder colours (red, pink, lilac, purple), and yellow (now faded to dull grey), followed by an additional stage of resist application and dyeing in indigo.



#### Discussion

a) Surprisingly, most chintzes surviving in dress collections date from the period of prohibition (1722-1774). In England, Indian chintzes were allowed to be bought in London for re-export during this period, and smuggling of goods back into the country was known. Lady Mary Coke writes in June 1768: "After breakfast Lady Holderness & I walked to Deal, where She carried me to three of the Houses that smuggle Indian goods. I saw several pieces of very pretty silks; I shall certainly buy one before I go. Tea & musline is extremely cheap..." In neighbouring Holland, there were no restrictions on the importation of chintz, and the spread amongst the populace was greater than in England; Dutch survivals have come to England through the art market in the twentieth century.

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<sup>2</sup> The origins of the word 'chintz' are discussed in detail in Chapter 1 of Irwin and Brett's *The Origins of Chintz*. In eighteenth century Europe, 'chintz' was used to describe cotton dress and furnishing fabrics printed or painted with the traditional Indian colour range of red, pink, purple, brown-black, indigo and yellow - whether imported or locally-produced.



b) As the design of eighteenth century printed cottons tends to parallel fashions in woven silks, a broad date range can usually be arrived at by comparison with the scale and layout of silk patterns.

c) Historians once mistakenly believed that printing with blocks was not practised in South Asia, but there had been an active tradition of block printing in North West India since medieval times. Block printing of the red outline in this example is revealed by small flaws and damages that regularly recur.

d) Both Indian work and European imitations of the eighteenth century employed madder colours and indigo, and both were worked on Indian cottons. However, characteristic of Indian work, as opposed to European imitations, is the use of painted resist to apply detail to coloured shapes. European work is more likely to show directly-applied indigo, rather than indigo dyed over a resist. In this example, perhaps another indicator of Indian work is the densely worked but relaxed execution. European workshops investing this amount of labour in a pattern would probably have demanded more methodical workmanship.



## Catalogue 3

### Copper-plate printed-to-shape waistcoat, around 1770-1790

(MCAG 1983.619) Gallery of Costume, Platt Hall (Image © Manchester City Galleries) and (Proof Image © G.P. & J. Baker)



#### Description

**Ground:** Balanced plain weave cotton, 20 S-spun warps and 18 S-spun wefts per cm.

**Pattern:** A fine undulating trail outlines the edge of the waistcoat and pockets. Adjoining this is a scalloped border with alternating large and small dots along the outer edge, and alternating flower and bud shapes along the inner edge. Outline printed in purple-brown, the border is completed by red on the larger dots and buds, yellow on the scallops, and blue on the flowers. The button shapes consist of a circle of the fine trail enclosing a floral sprig. Inside the border, the ground is printed in purple-brown with a speckled pattern, known as *stormont grounding*.

**Technique:** The outline and border pattern have been printed with an engraved copperplate to the shape of the waistcoat fronts, along with pocket flaps and button pieces. The stormont ground and red have been block printed, while the blue and yellow were painted (*pencilled*) with dye. A detail from a copper plate proof on paper of a similar pattern is shown below.

#### Discussion

a) Waistcoat printing was a sideline of handkerchief printers in the eighteenth and early nineteenth century. Such prints shared in common the division between border and ground, and the creation of individual shapes rather than the repeating patterns of *piece goods*. Copperplate printing of repeat patterns for furnishing started with the work of Francis Nixon and Theophilus Thomson at Drumcondra, Ireland in 1752. However, copperplate printing of textiles for dress and accessories was known from the

seventeenth century. In dress collections large-scale copperplate prints usually date from the last quarter of the eighteenth century.

b) Dating of printed-to-shape goods is usually based on the fashionable shape of the garment. In waistcoats, the major style transition from rococo to neo-classical was marked by the change from cut-away to squared fronts, and from rounded necklines to turned-back lapels.

c) The very fine lines seen in the edging pattern could only have been created by engraved copperplate printing at this period. A width of one millimetre is about the limit for carving of wood blocks, which with a light printing might print around half that width. But finely-carved blocks wore out quickly, and there is usually some evidence of minor damages in the print (gaps due to splits or losses).

d) Here, the engraved pattern is simple and repetitive and did not require the highest level of mastery. The pencilling of the yellow is careful and neat, although the application of blue and blocking of red are less so. These may be indicators of a middling class of goods, in keeping with the ordinary nature of the home-produced ground fabric (identifiable by the S-spun cotton yarns). Copperplates were seldom printed in more than one colour.

e) Stormont grounds became fashionable in the 1780s. At an earlier date, it was possible to print stormont effects by overprinting of pinned blocks out of register. However, by the 1780s, techniques were developed to print lengths of cloth by spattering from a brush roller (recorded by John Graham at Bamber Bridge near Preston), and also by use of pinned rollers, the latter possibly a development of Taylor and Walker's patent of 1772. The scalloped border of this waistcoat was probably masked while printing the *stormont* ground by hand-block.



## Catalogue 4

### Block-printed linen dress, around 1770-1780

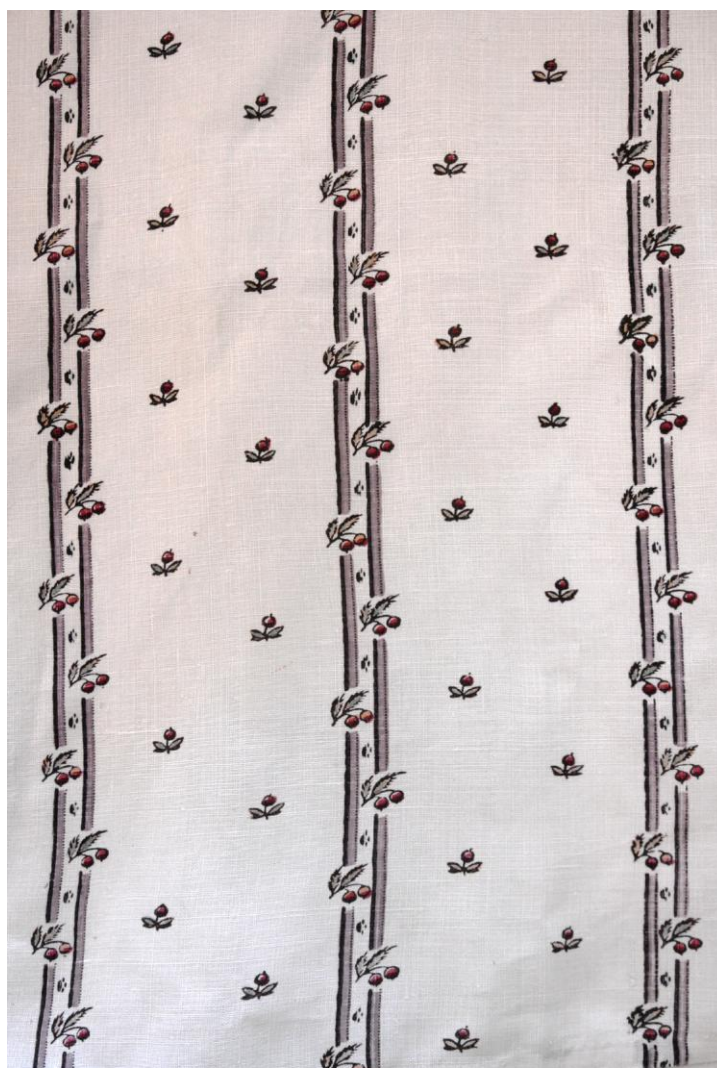
(MCAG 1970.199) Gallery of Costume, Platt Hall (Images © Manchester City Galleries)

#### Description

**Ground:** Bleached white plain weave linen, with 28 Z-spun warps and 26 wefts (without appreciable twist) per centimetre.

**Pattern:** Fruited sprigs are set within paired stripes, the intervening spaces are set with diapered floral sprigs. The repeat unit measures 5cm by 8cm.

**Technique:** Block printed with black outline, along with red and purple fillings (madder colours). Pencilled yellow and blue. The block size measured 24.5 x 16cm (9¾ x 6¼ inches) as evidenced by registration marks (as indicated by the arrows). These are left visible for the purple colour, but for other colours marks are hidden in the pattern.



#### Discussion

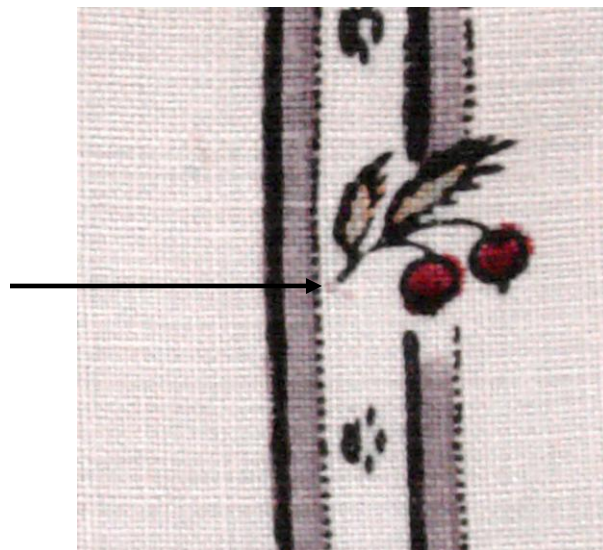
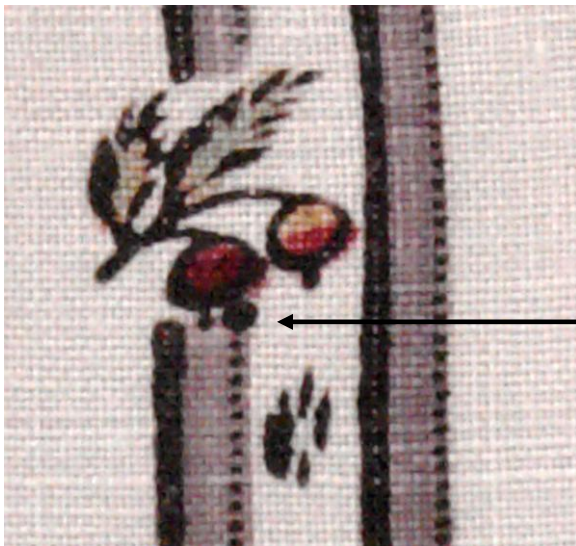
a) Because of linen manufacture being a home industry, printed linens like fustians were not subject to the prohibition of 1722 to 1774. Nevertheless, relatively few printed linen garments survive to represent this period. By 1770, linens were being printed in the regions of London, Manchester, Carlisle, Glasgow and Dublin. Scottish printers appear to have made a speciality of handkerchiefs, but the distribution of garment printing of linens has not yet been studied.

b) Printed linens enjoyed wide sales in both the home and export markets. That printed linens gained some measure of fashionability is demonstrated by examples in the Barbara Johnson album, in which both plate-printed and block-printed examples occur. Printed linens gained an association with country wear that was well developed by the 1780s. In a novel of 1789, the heroine disguises herself “as country lass, in a fine flowered linen gown, pink petticoat, straw hat, and white cloth cloak...” [Bennett, Agnes Maria. *Agnes de-Courci, a domestic tale*. Bath, 1789, p.206]. Another country maiden attired for a rustic fête wears “a little straw-hat, lined with pink, and a flowered linen gown, tied with ribbons of the same colour, and pinned

back to shew a pink petticoat...” [Keate, George. *Sketches from nature; taken, and coloured in a journey to Margate*. London, 1790, p.121.]

c) Linen is not an easy fibre to print, and it is more difficult to obtain the same depth of shade as on cotton. This may be why it is usually found printed with simpler colour effects than cotton. Madder colours were often used as these could withstand the laundering (bucking with alkalis) that linens were expected to endure.

d) Block printing of stripes was a demanding job because the slightest deviation from a vertical join was easily discernable. In this example, the designer has made the block printer’s job easier by breaking the stripe, thus disguising joins in the printing.



## Catalogue 5

### Block-printed cotton dress with fine pinned grounding, around 1780-1790

(MCAG 1947.1607) Gallery of Costume, Platt Hall (Images © Manchester City Galleries)



#### Description

**Fabric:** Balanced plain weave cotton, 25 Z-spun warps and 23 S-spun wefts per cm. Three blue threads can be seen in the selvage.

**Pattern:** Fantasy floral of indienne type, arranged in a branching trail. Repeat size 34.5cm by 28.5cm (13½ x 11 ¼ inches). Pinned ground with floral sprigs and sprays in reserve, imitating a damask or flushing warp effect.

**Technique:** Block printed with black outline, red, pink, lilac, and chocolate, as well as the red pinned grounding (all madder colours). *Pencilled* blue and yellow. The size of this repeat required two sets of blocks.

#### Discussion

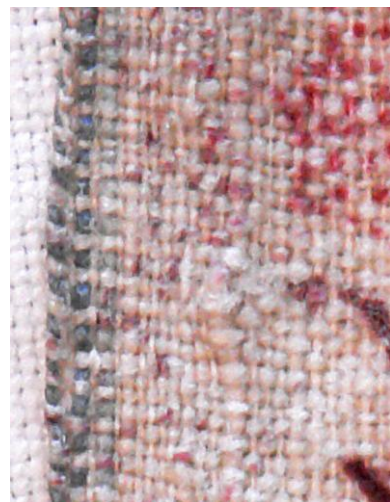
1) Very fine pinned grounds with damask effects are seen roughly between 1785 and 1805. Further research is necessary to narrow or localise this range. A journalist of 1850 describes pinning at Peel's Bury printworks in the late eighteenth century: "A number of females were also employed at Bury Ground as 'block pinners,' and apprentices were regularly received to the business, which consisted in inserting small lengths of brass wire or pins, of different degrees of fineness into a wooden block to form the pattern required, which was delineated upon the block by a 'putter-on'... I have known one block, of an extra size, contain near 63,000 pins. The smaller sizes of pins were numbered as 'dust,' or 'o,' from their fineness... A woman in this business could well earn from 12s. to 24s. a week." ("The Peel Family" in: *Supplement to the Manchester Examiner and Times*, 19 October 1850)

2) Three blue threads woven in both selvages were required by statute to distinguish British cottons from those of foreign manufacture subject to a higher duty between 1774 and 1811. The precise position of the

threads was specified (first, third and fifth warps from the edge), and there were penalties for importing foreign cottons with blue threads in the selvage; thus such blue threads are usually accepted as diagnostic of British prints.

3) A description of pencilling at Peel's works is also detailed by the Manchester journalist: "Laying on of colours was done by women... called "Pencillers," and long ranges of workshops were set apart for their use... and mistresses appointed over them. The number of Pencillers was very great, and the work most delicate and beautiful... In the shops, each woman had...a supply of hair pencils, of different degrees of fineness, according to the size of the figure or *object* to be touched, and saucers containing "colour"... according to the pattern required. When the outline only required filling up with the appointed tint, the work was easily and expeditiously performed, and a good workwoman might sometimes earn £2 a week." By around 1830, the use of pencilling had died out, as more economical means of applying colour were available. By that time block printing of indigo was possible through the use of the device known as the *spring sieve* to feed the block.

4) Madder colours are dyed after the cloth has been printed with mordant-containing pastes. It is the mordant and its concentration that largely determines the shade and intensity of colour. The most commonly seen madder colours are black, purple-brown, red, pink, purple and lilac. Recognising a group of colours in the madder range helps one to postulate the probable sequence of printing operations.



## Catalogue 6

### Block printer's pattern cloth with frame mark, 1800

Downing Collection at MMU, 1995.055 (Images © Manchester Metropolitan University)



#### Description

**Ground:** Plain weave cotton, 30 Z-spun warps by 25 S-spun wefts per cm. Selvage width 91.5 cm (36 inches); each selvage is woven with two blue warps (deviating somewhat from the legislative regulations).

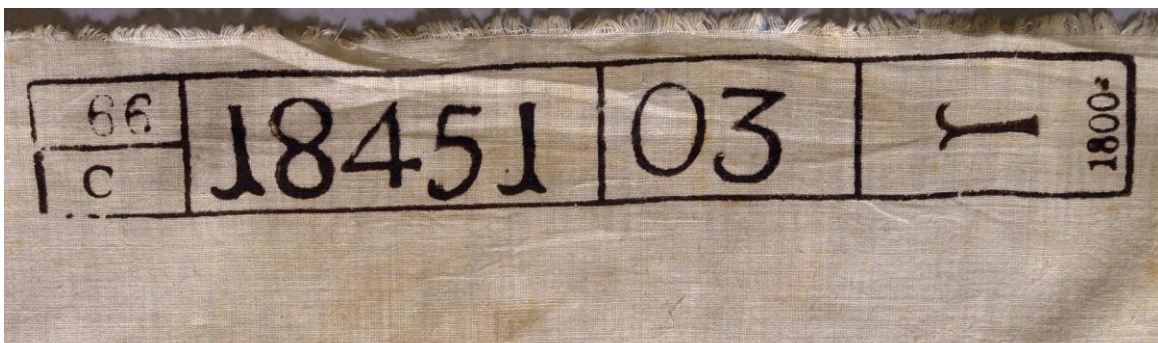
**Patterns:** Seven all-over patterns based on leaf shapes alternating with sprigs or dots are present. The patterns are numbered between 1939 and 1948. Each pattern is shown in one or two colourings, each repeated twice on the cloth which is laid out in rows of four patterns separated by black rule lines. Where there are two colourings, one usually employs a red outline with lilac filling, and the other a black outline with red filling. The repeat sizes range from 3.3 x 2.3cm to 6.0 x 3.5cm.

**Technique:** Block printed with an outline block and up to two filling blocks. The block size is on average 23 x 18cm (9 x 7 inches). Completed by pencilling in indigo and yellow; green is formed by the overlaying of yellow on blue. The cloth bears a frame mark applied for the regulation of excise duty. The mark is in the post-1785 format (the one that is most commonly found). It gives the year date at the right end, with the dimensions of the cloth adjoining. As the duty was based on square yards, the width is usually in hundredths of a yard (but here simply 1 for one yard), and the length in yards, here 3. Only two yards remain, evidence that a group of twelve patterns has been removed from the upper end.



## Discussion

- a) Block printed pattern cloths were made to solicit orders, and may show a higher standard of workmanship than usual. This contrasts with pattern books that sometimes make use of cuttings from sub-standard printed areas.
- b) This pattern cloth appears to mark an early occurrence of block-making with copper or brass shapes. Such shapes were made by passing wire through dies of different forms. *Coppering or brassing* offered a more varied effect rather than the simple pinned dots of earlier days, and greatly increased the wear of the block. The introduction of block-making with shaped metal wires has been attributed to London printers around 1802, but William Paul's patent of 1796 mentions "brassing in wood" and could be an earlier reference to this technique. The method quickly spread to Lancashire. In 1804, a block-cutter from Oakenshaw was asked before a parliamentary committee "Does the new method of cutting Prints by brassing employ more or less hands?" "It requires less hands by brassing, because the brass Prints are more durable than wood; a brass Point may perhaps do three or four hundred Pieces, a cut or wood print, perhaps only 100 to 150; the length of time to make these Instruments [is] nearly equal." [*Minutes of Evidence*. 1803-04 (150.) IV.887, p.15]
- c) The coppering technique would have helped to uphold the competitiveness of block printing with the technique of copperplate printing. Block printing using coppered blocks was able to maintain an advantage for multi-colour work.
- d) The development of coppering and the equivalent engraving technique using small punches may have influenced the proliferation of styles based on small units, such as sprigs or leaf shapes, from 1800 to 1815.



## Catalogue 7

### Block-printed dark ground cotton dress, 1805-1810

(MCAG 1947.1733) Gallery of Costume, Platt Hall (Images © Manchester City Galleries)



#### Description

**Ground:** Balanced plain weave cotton, 25 Z-spun warps by 20 S-spun wefts per cm. The material has been finished by calender glazing.

**Pattern:** Stylised floral sprigs and leaf shapes alternate in horizontally-flipped orientation within closely-spaced columns. The repeat size measures 3 x 3 cm.

**Technique:** Block printed in red, pink and purple along with a dark-brown blotch ground (all madder colours), afterwards pencilled blue and yellow. The block joins are only slightly visible on the reverse, but registration marks visible from the front indicate a block size of 23 x 19cm (9 x 7 1/2 inches).

#### Discussion

a) Dark ground styles, which held sway in printed furnishings between 1791 and 1799, had a longer reign in dress fashions, from the mid-1780s to around 1810. Dark grounds remained within the calico printers'

repertoire long afterward, being considered appropriate for the autumn/winter season, and giving printers a second chance to move patterns that did not sell as light grounds. However, the dark grounds of later years seldom attempt the depth of black seen in this example.

b) Glazed finishes: calico prints could be cold calendered, friction glazed or flint glazed to intensify colours and give varying degrees of silky sheen by crushing the crowns of the weave. Original finishes seldom survive on washable dress materials but can be found on dark ground materials which did not require frequent washing. Until the development of the Schreiner calender around 1900, glazed finishes offer few distinguishing characteristics for dating. Schreiner rollers are engraved with fine parallel lines which are impressed on the fabric to impart lustre; these lines can be seen under magnification.

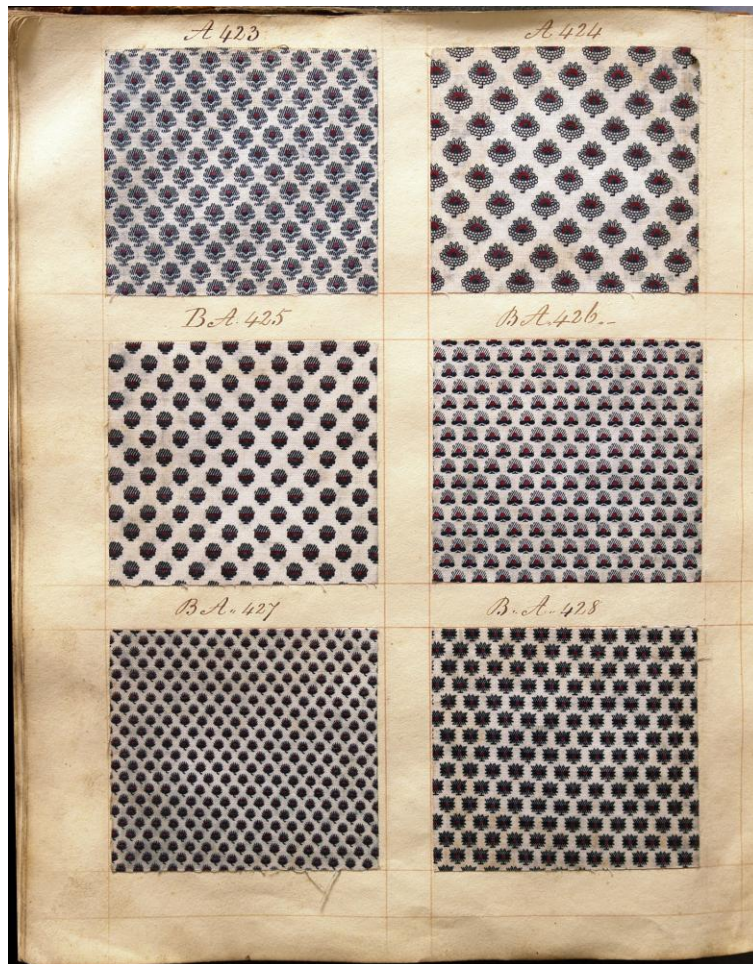
c) Dark grounds make pencilling easier as any over-running of the pattern edges is hidden. Here, the yellow has been applied with a relative degree of care, but the blue has been daubed in a summary manner. Relative speed of application would have been important for a pattern requiring this much pencilling in order to keep costs within a mid-market range.



## Catalogue 8

### Copper-plate garment prints from Moore, Johnston and Mason pattern book, around 1816

Downing Collection at MMU, 1994.011 (Images © Manchester Metropolitan University)



#### Description

**Ground:** Fine plain weave *cambric muslin*, from 35 warps by 36 wefts per cm., up to 37 warps by 42 wefts per cm.

**Pattern:** Page with patterns numbered 423 to 428, mainly small diapered arrangements of cashmere-style sprigs. Diagonal shading mimics the twill weave of woven Kashmir shawl patterns. A detail (see below) of pattern A.22 shows the result of faulty wiping of the plate edge.

**Technique:** Semi-mechanised copperplate printing in one to two colours. The samples are not large enough to show the plate length.

#### Discussion

a) The traditional method of flat copperplate printing was slowed by the necessity of alternating colouring and wiping of the plate with re-positioning it in the press for printing. However, the mechanic Henry Maudsley obtained a patent in 1805 for an improved press for printing copperplates. The plates, still the full

width of the fabric, but short in length, were fixed on a hinged frame that could be swung forward for applying colour, and then easily tilted back under the press head for printing. Maudsley's patent seems to inaugurate a new era in flat copperplate printing. The engraved surface of these plates varied from five to ten inches in length, restricting use to short vertical repeats suited to garment patterns. Printing in two colours was possible with a version of Maudsley's machine having hinged frames at each side.

b) The Wandsworth firm of Moore, Johnstone and Mason, active from 1807 to 1830, made use of the new copperplate technique, and their pattern books follow the development of plate printing during this period. One of the main advantages of plate printing over engraved roller printing was that a stiffer printing paste could be used, thereby imparting richer colours, and revealing even the most lightly engraved details with clean, crisp edges. Finely woven textures were required to show the effect to best advantage, and restricted this technique to high-end fabrics. Only a few of the Lancashire printers adopted the press which was mainly exploited by the "Town printers" based in the London region.

c) Flat copperplate printers tended to emphasize the design features in which they could surpass engraved roller printing: very small motifs, and sharpness or delicacy of line. Miniature motifs as little as three millimetres in height were in vogue for a short time around 1810.

d) The need to repeat small motifs stimulated the development of punch engraving. Punch engraving used steel tools filed to the shape required and cut with lines according to the pattern. The tools were then hardened and worked on the copper plate with a lightweight hammer. A patent describing the use of punch engraving for calico printing was granted in 1776, but the technique is more associated with the first two decades of the 1800s. It was ideally adapted for engraving the small cashmere motifs that were in fashion around 1809 to 1816.



## Catalogue 9

### Lapis print cotton dress, mixed technique, around 1824-1826

(MCAG 1947.1791) Gallery of Costume, Platt Hall (Images © Manchester City Galleries)



#### Description

**Ground:** Balanced plain weave cotton, woven from z-spun singles 30 warps by 27 wefts per cm. Selvage width about 58cm.

**Pattern:** Branching serpentine floral trail with five-petaled flowers and acacia-like leaves. The engraved repeat measures 7.5 by 5.5cm (half-dropped); blocked repeat 7.5 x 11cm.

**Technique:** The trail was printed by a single engraved roller with a resist paste containing mordant for red. The material was then blocked with plain resist for white in the areas of the flowers and branches. After dipping in indigo for the blue ground, and dyeing in madder for the red, the cloth would have been cleared of resist, and then further block printed in brown and yellow.

#### Discussion

a) The invention of the lapis technique is disputed between James Thomson of Clitheroe and chemists working for Hartmann in Munster, but sources agree upon 1808 as the date when the technique was fully achieved. In lapis printing, a resist paste that also contains a mordant for madder is printed on cotton; when the cloth is subsequently dyed in indigo followed by madder, the result is a red print on an azure blue ground. In this way, there was no gap between red and blue, as there would be if the colours were separately printed. Within a few years, it was found the red and blue could be combined to give purple/black, or varied by use of a plain resist to yield white. The cloth could afterwards be printed or dyed yellow to form green where overlying blue, and orange where overlying red. These six sharply contrasting colours formed the staple of the lapis style. From the simple spot motifs of the early years, lapis designs gradually grew larger and more elaborate, and by use of an engraved roller to print one of the resists, the colour contrast was softened. The style is seen in its full mid-1820s development in this dress. From about 1825 to 1840, more subtle colours made by mixing mordants or dyes were favoured, and after this the technique faded from use.

b) As Deryn O'Connor has pointed out, "a defining characteristic of lapis printing is that the reverse side has a general cast of blue, from the indigo vat, even though the face of the cloth may have very little blue to be

seen.” (O’Connor, 2002, p.11). This blue reverse can be clearly seen here. The exception to the rule is where the cloth has been over-dyed yellow, forming green on both face and reverse.

c) Roller printing from a single engraved roller began to be used more widely by 1810. The advantage of the roller to print continuous stripes and trails was fully exploited from around 1816. Even though the finest patterns were still printed by copperplate, roller printed motifs increased in elaboration of line and shading to imitate plate-printed effects. By the early 1820s, naturalistic shading on florals could be printed by machine.



## Catalogue 10

### Block-printed silk fragment from hem of dress, around 1825-1830

Downing Collection at MMU, 2003.004 (Images © Manchester Metropolitan University)



#### Description

**Ground:** Dyed yellow silk tabby, 40 warps by 36 wefts per cm. Neither element shows appreciable twist.

**Pattern:** Stylised floral sprigs amid smaller tossed sprigs and angular linear shapes. The full repeat of the pattern is not present in these fragments, but is estimated at about 9½ x 7 inches, based on the probable mirroring of the main sprigs.

**Technique:** Five-colour block print: red, lilac, pink, black, green

#### Discussion

a) By the end of the 1810s, the high-end printed cottons could be successfully imitated in cheaper versions enabling them to reach a wider market. The rise in the printing of silk and wool/silk mixture fabrics in the 1820s may have been partly intended to preserve a fashion distance for the more elite market. However, the reduction of the duty on imported silks and wools in 1824 probably stimulated the trend. Such goods were more ephemeral than printed cottons; colours could be fugitive, were too delicate for washing, and wool mixtures were susceptible to moth. Few have survived to reach museum collections. When found on dresses, printed silks often date from the years 1825-1835. The printed silks of this era sometimes have their counterparts in printed ribbons, and can employ equally transient techniques, such as embossing.

b) One of the fragments of this silk survives with its padded hem, a constructional feature found in dresses from around 1823-1829 helping to date this print. The 3-S ply cotton sewing thread used in the construction is also a technological introduction of the 1820s.



c) The mixture of semi-naturalistic flowers alongside curious abstract elements points to the taste of the late 1820s and early 1830s.

d) The use of a directly printed green of this shade on cotton would indicate a date after 1833, but printed greens may have been available earlier for silk; this aspect of printed textiles for dress has received little study to date.



## Catalogue 11

### Roller-printed cotton *muslin* dress, around 1825-1830

(MCAG 1955.314) Gallery of Costume, Platt Hall (Images © Manchester City Galleries)



#### Description

**Ground:** Fine plain weave cotton *muslin*, with a stripe formed by varying the density of the warp (commonly called *self-striped*). The cotton is woven from z-spun singles, 33 warps and 40 wefts per cm, with doubled warps in the stripe (outlined by heavier warps). The selvage width is about 85cm (33 ½ inches).

**Pattern:** Tossed sprigs are laid out in diapered rows. The sprigs are assembled from a daisy-like flower and ferny branches mirrored and rotated in various positions. A loosely-fitted coloured ground is applied between the motifs. The repeat unit measures 11.5 x 28.5cm.

**Technique:** The motif is printed from a single engraved roller. The engraving employs both stippling and line work that would have originally been executed on dies. The engraving would have been transferred to the printing roller with mills produced from the variously rotated dies. The blotch<sup>3</sup> ground in chrome yellow is probably block printed.

#### Discussion

a) The printing of self-striped *muslins* begins to be seen in pattern books from around 1825, coming into prominence by 1830. In British *muslins*, such stripes are most commonly formed by doubling or tripling the warp yarns to give greater density and opacity to the plain weave, rather than by the use of satin weave.

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<sup>3</sup> A blotch ground is printed by block or roller to impart colour to the area surrounding the pattern motifs. Printing, rather than dyeing, allowed the ground colour to be applied after printing the pattern, so that the ground colour was not affected by any processing of the cloth required to achieve the pattern colour(s).

b) The application of mill engraving to calico printing is attributed to Joseph Lockett of Manchester. The technique was developed between 1810 and 1815, after which time it was in full commercial use. Milled patterns received their repeat scale from the dimensions of the mill, generally about 3 inches long by  $\frac{1}{2}$  to 3 inches in diameter. Because the surface of the mill was less than one-fiftieth of the size of a copper roller, the amount of engraving work was correspondingly less, stimulating the production of finely detailed patterns that would have been too expensive to be wholly engraved by hand. The use of flat circular dies allowed motifs to be transferred to the mill in rotated positions, used to create tossed effects with floral sprig motifs. This method was recorded in use at James Thomson's Primrose printworks in 1830.

c) Around 1816 to 1817, stipple engraving began to be introduced to calico prints in simple forms, often to shade half a leaf or a flower petal. Around 1822, very fine stippling was introduced for delicate shading, and soon naturalistic florals were engraved. Stipple engraving was brought to its ultimate perfection in the furnishing patterns of John Potts for Broad Oak printworks in the late 1820s.

d) Chrome yellow was introduced by Daniel Koechlin in Alsace, reportedly as early as 1821. Benjamin Hargreaves wrote "his success was soon known in England; and though the process was not divulged, not many weeks elapsed before it was done at Broad Oak" [Hargreaves, B. *Messrs Hargreaves' Calico Print Works...* Accrington, E. Bowker, 1882, p.10]. Hargreaves dates the introduction to 1823, which corresponds better with the occurrence of bright yellows on surviving cotton garments.



## Catalogue 12

### Printed *muslin* dress, mixed technique, around 1837-1839

(MCAG 1947.2064) Gallery of Costume, Platt Hall (Images © Manchester City Galleries)



#### Description

**Ground:** Fine plain weave cotton *muslin*, with graduated stripes formed by varying the density of the warp (commonly called *self-striped*). Selvage width 84 cm (33 inches). 35 warps by 40 wefts per cm. Self stripes of doubled warps in the sequence 2, 4, 6, 8, 44 are outlined by tripled and quadrupled warp yarns.

**Pattern:** Semi-imaginary floral motif based upon grasses with blade-like leaves, along with arching stems ending in feathery plumes and nodding seed clusters; the whole interspersed with mossy sprigs. The repeat unit measures by 20 x 7 cm, arranged in the half-dropped format. The pattern is adapted to the scale of the woven stripe.

**Technique:** Printed by a mixed technique using two engraved rollers (dark purple and red) and two blocks (green and sage green). The print runs over the selvedge.

#### Discussion

a) Self-striped cotton *muslin* grounds. While printing on these fabrics began around 1825, the elaboration of graduated stripes seen here is probably a development of the 1830s. The excise duty on printed calicos was repealed in 1831, giving the greatest relief to printers of cloth for the lower end of the market on whom the tax fell the greatest, but providing a stimulus to the industry in general.

b) Two-colour engraved roller printing. During the 1820s, means were sought to expand the colour range of fabrics machine printed with two rollers by an assortment of mixed techniques. The advance evidenced here is the etching of each roller to two depths to apply two shades of a colour with each roller (red/pink and, purple/lilac). This points to a date after 1830.

c) Directly printed green. The lead-chromate green process was introduced in 1833, replacing earlier direct greens with a colour of good fastness, and inaugurating a period of popularity for the colour. Here, one

green fills the roller-printed motif, and the other provides the surrounding sprigs. Separating the two functions allowed the filling block to be smaller to ease fitting of the pattern, and allowed the sprigging block to be usable with other pattern motifs of similar shape and size.

d) "Blocking after rollers" was less skilled work, and less remunerated. Before block printing, the cotton which had been dyed in madder after roller printing had to be stretched back out to its original size. Thus fitting of the pattern can vary throughout the cloth. George Wallace stated in 1850 that this combination of machine with block printing had been abandoned for garment work.

e) While this pattern may be purely ornamental, given the formation of the Anti-Corn Law League in 1838, it is not out of the question that the grain-like motif was intended by the designer or the wearer to carry a metaphorical message.



## Catalogue 13

### Roller-printed cottons with fancy groundings from Rossendale pattern book, around 1838-1840.

Downing Collection at MMU, 1996.047, p.108. (Images © Manchester Metropolitan University)

#### Description

**Ground:** Balanced plain weave cotton, from Z-spun yarns woven 33 x 33 threads per cm.

**Patterns:** The patterns discussed here are at the left edge of the page. 1) The same motif on different grounds: Leafy branch and sprig motifs are arranged in alternating columns, and varied by horizontal flipping. The motifs are printed in two shades of purple against two variant grounds, one with an orange-peel texture and the other a granular texture. 2) Different motifs on the same ground: The motifs are printed in dark purple-brown and resist white against a lilac-brown ground representing stippled cloud shapes. One pattern is based on a tossed tree-branch motif, and the other on a stylised floral spray alternating with chiné stripes.

**Technique:** Three-colour engraved roller printing, one of the rollers engraved with a fancy *cover* ground.



#### Discussion

a) This book comes from the Rossendale design studio, but does not necessarily originate from the Rossendale Printing Company. It contains samples of printed fabric collected as design intelligence in the second half of the 1830s that have been removed from another book to this one. Both British and French firms are represented as revealed by occasional end stamps, and the original compiler may have been in France, as suggested by the blue-grey text paper still attached to some samples at the underside corners.

b) Cover grounds. The introduction of mill engraving made the production of finely drawn patterns feasible. From 1823, Lockett produced eccentric style patterns by etching the lines traced with a lathe upon a

varnished roller. These developments led on to the rollers known as *covers* in the 1830s, entailing both the wider use of etching techniques, and the application of patterns as grounds for varying motifs. Cover patterns generally imitated the granularity or reticulation of natural surfaces, and were intended to be printed along with a main motif. By mixing grounds and motifs, the manufacturer was able to increase the range of patterns offered with no additional expense.

c) Improvements in engraving and roller printing also increased the susceptibility of manufacturers to the copyist. Cover patterns were seen as one way of making the copyists work more difficult. Piracy of designs was a hot issue at this time leading to the Copyright Designs Act in 1839, and the Select Committee on copyright of designs in 1840. In September 1842, the 1839 Act was replaced by the Ornamental Design Act resulting in the archive of registered designs now housed in the National Archives and going back to this date.



## Catalogue 14

### Block-printed *delaine* dress, around 1842-1843

(MCAG 1947.2271) Gallery of Costume, Platt Hall (Images © Manchester City Galleries)



#### Description

**Ground:** Plain weave worsted *delaine*: Z-spun combed cotton warp, worsted wool weft without appreciable spin. 22 warps by 32 wefts per cm. 65cm selvage width (25½ inches).

**Pattern:** The pattern presents alternating stripes: a) floral trail on unprinted ground and b) floral sprigs with ombré blotch ground.

**Technique:** Seven-colour block print (red, pink, yellow, mustard, sage, green, and black) with a deep blue ombré-striped ground. The repeat unit measures 24 x 11cm. Slightly overlapping horizontal joins of the block are visible in the blue ground, and registration dots can be seen just above the join in the white stripe (as indicated by the arrow). The printing blocks probably employed coppered shapes to achieve the fine lines.

#### Discussion

a) Lightweight wool fabrics, known as *mousseline de laines*, began to be printed in France around 1830. In England, a similar plain weave fabric but with cotton warp and combed wool weft was developed around 1836, and this was in considerable production by 1839. In Britain, both all-wool and cotton/wool mixtures were known as *delaines*. Around 1848 (perhaps earlier in France) the *balzarines* were introduced: a style of *delaine* patterned with gauze weave. Another cotton warp/ worsted weft fabric developed around the same time, *Orleans*, had a more tightly packed weft than *delaine*.

b) From around 1843 to 1847, there was a revival of the rainbowed or ombré grounds of the type first seen in 1823. The wool weft was able to strongly absorb dye-stuffs and showed off the colour effects to great advantage.

c) In France, blues of great brightness and depth were introduced on wool grounds in 1843, and this fashion quickly reached Great Britain. This distinctive type of blue can be seen in this example.



d) The Calico Printworks Bill of 1845 brought child labour in printworks under the Factory Acts. Children had been employed in printworks as tierers<sup>4</sup> (colour preparers for block printers) often working long hours. The end of this type of employment increased the expense of hand-block printing. Innovative cost-saving measures such as the use *tobying* to print several colours at a time were not enough to preserve the ordinary run of block-printed garment fabrics in the 1850s. Hand-block work eventually became the reserve of specialist work and high-class furnishings.



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<sup>4</sup> Also 'teerer', The job of the tierer was to brush the colour paste evenly on the block printer's 'pad' before each application of the block. The thickness of the paste, and the block-printer's deftness in handling the block, regulated how much colour was transferred from the pad to the block, and from the block to the cloth.

## Catalogue 15

### Roller-printed *muslin* flounce fragment, around 1850-1854

Downing Collection at MMU, 1995.071 (Images © Manchester Metropolitan University).



#### Description

**Ground:** Plain weave cotton *muslin*, woven from Z-spun yarns 33 warps by 27 wefts per cm.

**Pattern:** A spray of grasses, heather and convolvulus is repeated in staggered rows, set amongst smaller matching sprigs. Repeat size 21 by 9.7 cm (8<sup>1</sup>/<sub>4</sub> x 3<sup>3</sup>/<sub>4</sub> inches).

**Technique:** Three-colour engraved roller print: black, brown and tan. The print runs over the selvage.

#### Discussion

a) Despite the promotion of flat pattern design by design reformers from the 1840s onward, the use of naturalistic floral motifs shaded to appear three-dimensional never lost favour with the British public. Motifs such as seen here were aided by new resource books for the designer, notably the work of Adolphe Braun showing plants in arrangements demonstrating their natural growth. Braun's work was brought to wide attention through the publication of "flower group" plates in the *Art-Union Monthly Journal* in the late 1840s. In the 1850s, he began to publish photographic source material for designers.

b) Culturally the mid-nineteenth century placed an emphasis on the wildflower in textile design, thought most appropriate to represent the natural, unaffected beauty of British women. The language of flowers would also have been observed; here convolvulus representing transience entangles the symbols of abundance and good fortune, presenting an acceptable moral message.

c) Muslin printing became a speciality of Scottish printworks, and many of the printed muslins identified in pattern books or in the Patent Office Design Register are of Scottish origin.

d) The dyestuff cutch or catechu, a brown crystalline resin from the acacia tree, imparts a warm orangey-brown colour, and may be the source of the browns in this print. Although the dye-stuff was known earlier in the century, it was re-introduced in 1847 when Alsatian printers created a style with two tones of catechu brown (genres cachou deux nuances sur coton). Catechu had good fastness to light and soap, and would have been an appropriate choice for a *muslin* expected to receive several washings during its lifespan. Catechu was able to be worked in conjunction with madder dyes leading to a style of print with brown or drab grounds alongside madder colours much seen in the 1850s.



## Catalogue 16

### Roller-printed cotton *muslin* flounced dress, around 1855-1860

(MCAG 1971.32.) Gallery of Costume, Platt Hall (Images © Manchester City Galleries). Presented by Manchester Museum of Science and Technology, Calico Printers' Association gift.



#### Description

**Ground:** Plain-weave cotton *muslin* with self-stripes formed by six doubled warps (outlined each side by tripled warp). 28 warps by 22 wefts per cm, all Z-spun singles. 80 cm selvage width. Printing continues over the selvage.

**Pattern:** The main pattern consists of diapered ringed dots, the ring in dark purple and the dot in lilac. The flounce print (35cm depth) is laid out in three bands of increasing width: a) straight band of circlets of dots against striped ground, b) a scalloped band of circlets of dots with fine branches above and striped ground below, and c) scalloped bands of circlets or flowerheads with fine branches above holding boteh (buta) shapes, and striped ground below.

**Technique:** Three-colour roller-print (dark purple, lilac, pale pink).

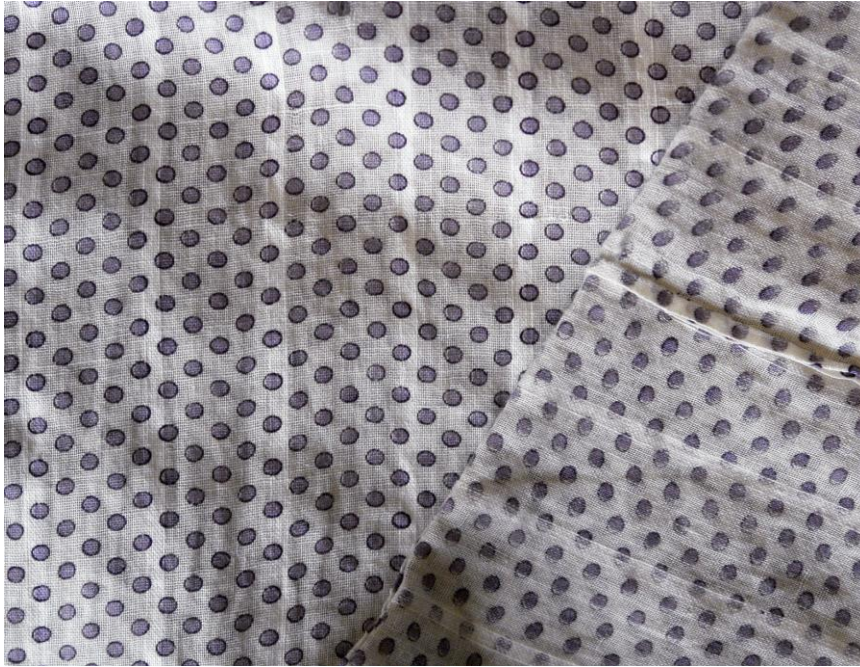
#### Discussion

a) Flounces that were patterned to shape were in fashion between 1851 and 1860, whether produced by weaving, embroidery or printing. Although Anne Buck reports that “they began to disappear from the skirts of day dresses by 1857,” pattern books show that manufacturers continued to offer printed flounces until the summer of 1861.

b) By the 1850s, machine printing was able to cope with designs unevenly distributed across the width, so that fabrics could be printed with flounce motifs at one side running into grounding motifs at the other side. This gave a flounce running in the warp direction that did not require as much cutting for making-up, but relinquished the advantage of the strong warp running vertically in the dress. “Apron” devices for the roller printing machine were developed that allowed the temporary masking of rollers to enable the printing of saris and other bordered styles. Later, machines with rollers that could be alternately lifted and returned to printing position performed the same effect more efficiently. These machines could be used to print large scale flounces in the weft direction, but in this example the flounce depth is short enough to have been engraved on a roller of normal dimensions.

c) Triple flounces graduated small/medium/ large became the standard for printed *muslins*. These were used along with small-scale all-over motifs, such as sprigs and dots as seen in this example, and also ribbon-like bands that could be applied as sleeve borders.

d) Naturalistic floral motifs were often used to soften the effect of bold “paisley” or geometric forms in the 1850s.



# Catalogue 17

## Roller-printed woollen flannels from Swaisland notebook, 1860-1861

Downing Collection at MMU, 1994.014. (Images © Manchester Metropolitan University).



### Description

**Ground:** Plain weave woollen flannel, 16 warps by 28 wefts per cm. The fabric is finished with a raised surface, creating by teasing a short nap from the weft yarns.

**Pattern:** Simple dot and stripe patterns are shown alongside plain dyed fabrics on the page.

**Technique:** The page is headed "Cylinder – steam and wash." This indicates that the patterns were roller printed followed by steaming to allow the dye to penetrate more deeply into the fibres. One-, two-, and three-colour prints are shown.

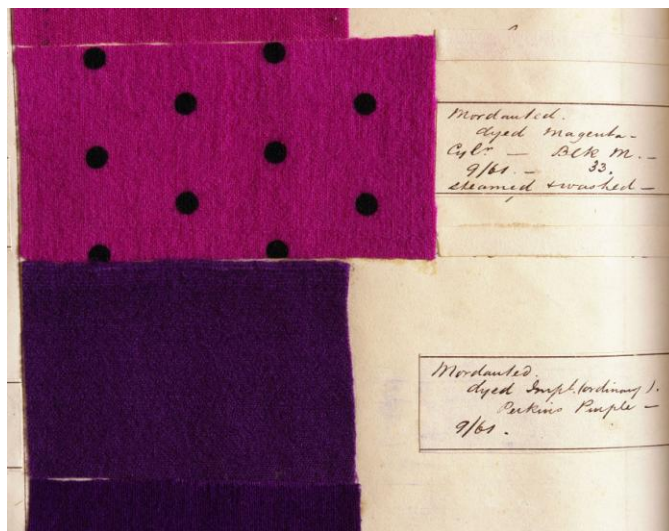
### Discussion

a) This page is from the notebook of the colourist Thomas Royle, who worked at Charles Swaisland's printworks in Crayford. Royle arranged samples of printing from the works in his notebooks by dye type.

The pages devoted to “coal--tar” dyes show that use of aniline dyes for large-scale commercial work had begun by 1860. The purple dye shown here was purchased from the originator William Perkin.

b) Anne Buck writes, “The early colours, magenta and solferino, appeared in fabrics of the early 1860s, often in combination with black and white, and sometimes in unexpected places,” going on to quote the *Englishwoman’s Domestic Magazine*, 1860, “Magenta the favourite shade for coloured petticoats this winter.” The flannels on this page may well have been destined for such petticoats.

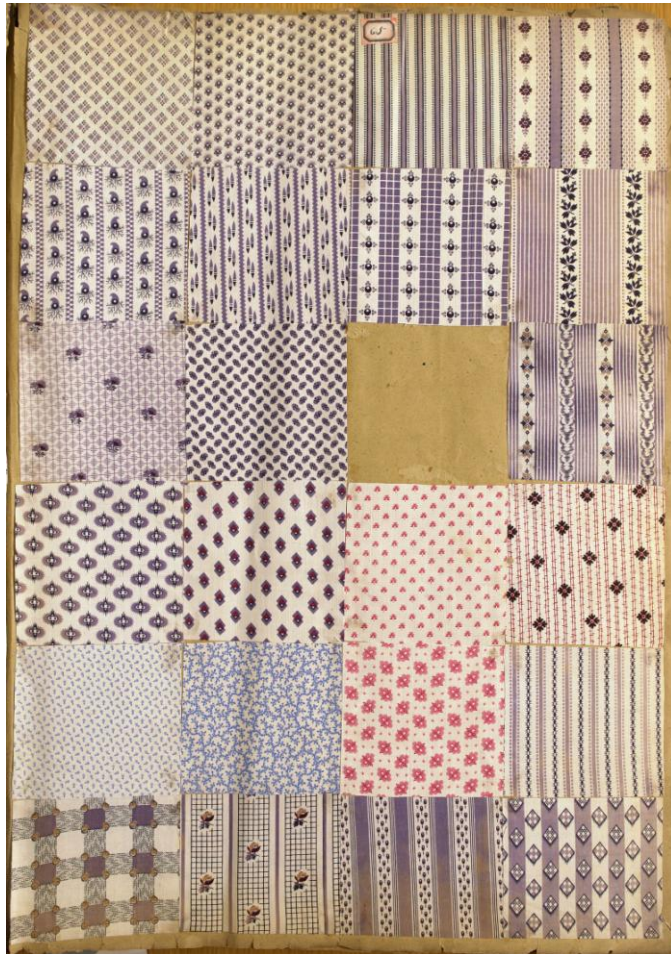
c) Printing of woollen fabrics was a specialised trade. The Swaisland printworks was renowned for printed flannels, and held on to a large share of the trade in men’s sporting stripes for decades. However, Yorkshire was another centre for printing on wool, and when the Swaisland works closed in 1892, the manager Ernest Honey carried the printed flannel trade with him to his new post in Yorkshire.



## Catalogue 18

### Purple roller-printed cottons from book of subscription patterns, May 1861

Downing Collection at MMU, 1998.001. (Images © Manchester Metropolitan University).



#### Description

**Ground:** Plain weave cotton, woven with 30 Z-spun warps by 26 wefts (without appreciable twist) per cm. Finished by calendering.

**Pattern:** Small-scale allover patterns usually in striped or diapered arrangements of two to three colours. The motifs are mainly geometric in nature, but also include stylised florals and “paisleys.”

**Technique:** Two to three colour engraved roller printing, the rollers probably produced by mill engraving.

#### Discussion

a) The technical problems of producing three-colour roller prints were fully resolved by 1840, and by the end of the decade five-colour to eight-colour printing was common. However, the mainstay for garment printers from 1840 to 1890 was one-colour to three-colour work. Because of this, works inventories show that old machines remained in use into the early decades of the 1900s alongside newer models.

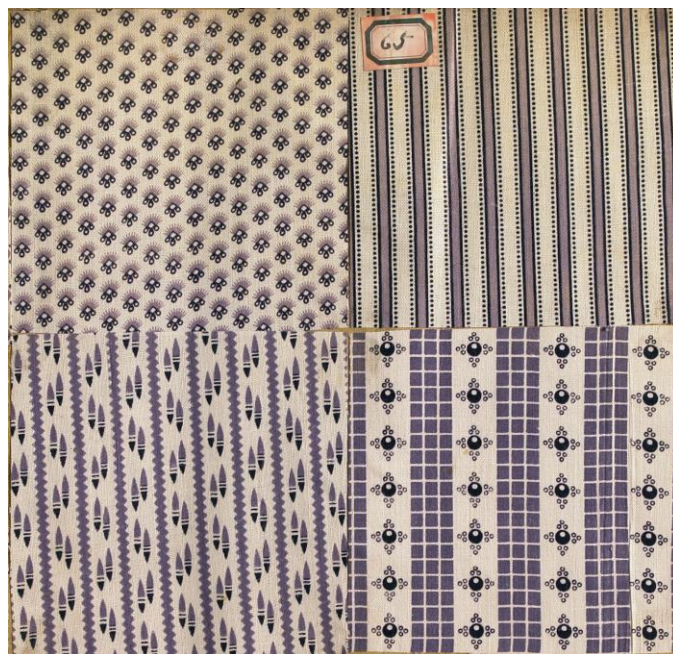
b) By 1840, purple prints had become for the middle-classes a universally acceptable dress material for day wear. Such prints were a substitute for the earlier indigo prints that had associations of dirtiness because the dye rubbed off. Indigo prints remained a working class fabric. A draper of the period recalls: “The



common people and servant girls generally wore at that time navy-blue prints, with a small white or yellow spot on them... they were usually kept below the counter, and pulled on top of it when they were wanted... This class of goods, I dare say, is now entirely out of the market, their place being taken by the excellent lilac prints known as 'Hoyles' or 'Ashtons'. The high and fancy coloured prints were mostly loose colours, which were generally distrusted by purchasers, the preference being given to... madder colours... which were known to be durable, lasting goods." (*Reminiscences of an Old Draper*, London, 1876).

c) The development of madder extract dyes reduced the cost of madder-dyed prints, probably contributing to the ubiquity of the purple print in the 1840s, although true madder still produced the best lilac shades. *Garancin*, prepared by treating madder with sulphuric acid, was introduced in 1838, according to Persoz. By 1846, the process of extracting dye from the residues of madder to make *garanceux* was developed, and was available commercially on a large scale in 1847. Madder lake dyes fixable by a steam after-treatment were also in use by 1848.

d) When a survey of the history of calico printing was prepared for the Great Exhibition in 1851, the proportion of purple prints was found greater than all other colours. The widespread nature and long lifespan of purple prints makes them difficult to precisely date. Occasionally small design features may be of assistance. For example, in 1849 the *Journal of Design* signalled as an innovation purple prints with small additions of red, and these continued at least until the early 1860s. Charles O'Neill commented on Hoyle & Sons' continuing reputation for madder work in 1862: "In dark purples Messrs Hoyle have an advantage, and their pinks are not excelled by any we have seen. Their garancine work is also excellent." The company's Mayfield printworks was closed in the 1890s signalling an end to the reign of purple prints.



## Catalogue 19

### Page from a Lancashire album of roller-printed cottons, 1871-1874

Downing Collection at MMU, 1994.061. (Images © Manchester Metropolitan University).



#### Description

**Ground:** Plain weave cotton, 34 Z-spun warps by 30 S-spun wefts per cm.

**Pattern:** Small-scale, two-colour motifs, often dots and sprigs on single coloured grounds. The grounds include stripes, checks and textural effects.

**Technique:** Three-colour engraved roller printing. The grounds are printed in pigment colours, notably green and ultramarine.

#### Discussion

a) These samples are identified as the product of Thomas Boyd & Company. Although Boyd's printworks was located at Barr Head near Glasgow, the company also had a warehouse in Manchester explaining why his work appears in this pattern book. Although specialising in printed *muslins* and *delaines*, the firm evidently printed high-quality calicos as well.

b) The focus here is on a group of samples printed with pigment colours. The most important pigment colours were ultramarine blue (cobalt blue), Guignet's green, chrome orange, chrome yellow, vermilion and earth colours (iron oxides). These colours are not dyestuffs but mineral pigments, finely ground, then

thickened and applied with albumen. For dark shades, blood albumen was used, but for bright colours egg albumen was best. Steaming coagulated the albumen and fixed the colour on the cloth. Although introduced earlier, pigment colours were not widely used before the introduction of aniline dyes around 1858; their period of greatest application was between 1860 and 1890.

c) Ultramarine blue was in use on a limited scale by around 1849. The highly expensive true ultramarine was probably quickly replaced by cobalt blue. This colour was used to supply a bright azure blue to the printer's palette, a colour then difficult to obtain by indigo dyeing, and fugitive if done with Prussian blue.

d) Guignet's green or chrome green, consisting chiefly of hydrated chromium oxide, was introduced in 1858. Although not as bright a colour as Scheele's green (hydrated copper arsenite), it was largely used because it was not nearly so poisonous. Duerr (*Calico Printing*, 1896, p.97) reports that "it is also a very fast colour, and stands strong nitric acid, which is necessary when used in the indigo discharge style". These mineral greens have a very distinctive tone. They were much used in the 1860s, but are even more associated with the 1870s.



## Catalogue 20

### 'Three pinks' style roller prints from an unidentified Lancashire pattern book, around 1880-1890

Downing Collection at MMU, 1994.073. (Images © Manchester Metropolitan University).



#### Description

**Ground:** Plain weave cotton, from Z-spun yarns, 35 warps x 33 wefts per cm.

**Pattern:** A daisy-like flowerhead in red, horizontally flipped in alternate rows, is printed against widely-varying grounds in two shades of pink. The grounds vary from fine foliage arranged in stripes, to branching trails to scattered leaf-shapes.

**Technique:** Three-colour engraved roller print. The engraving was probably done with a pentagraph machine.

#### Discussion

a) The source of the samples on this page is unknown. The leaf was torn from a pattern book and bears no identifying inscriptions. However, the work is typical of that of Lancashire printers, and closely resembles prints assembled for the Jubilee Exhibition held in Manchester in 1887.

b) Pink prints were seldom out of fashion from the 1820s to the end of the century. Originally pink was one of the more expensive colours to produce, requiring better grades of madder or cochineal, and purity of chemical solutions for good results.

c) The introduction of synthetic alizarine dye in 1868 made pink prints available at a lower cost. This dye had a more far-reaching and lasting effect than that of the more celebrated mauve and magenta. Alizarine was the outcome of the gradual building of organic dye chemistry through the contributions of different chemists. Unlike the other modern dyestuffs, alizarine was fast upon cotton and served for a variety of uses replacing cochineal as well as madder. The three pinks style as seen here appears to have enjoyed a vogue in the 1880s. This may be the result of the increasing use of a simplified process in which alizarine was printed and fixed by steaming, rather than dyed in a bath.

d) Pentagraph engraving. A workable machine using parallel tracing points (a pantograph) to transfer a design to a copper roller for etching was available by 1854. Because the scaling down of the pattern when applied to the roller was by a factor of five, the machine was called a “pentagraph.” Pentagraph engraving removed some of the individual character from pattern drawing as conventions were used in tracing angles and curves to give the optimum results, and the reduction in scale produced a sense of mechanical accuracy. Eventually, the trained pentagraph engraver was a specialist technician, rather than a designer. By the 1870s and 1880s, pentagraphed patterns can feel somewhat stilted and artificial in comparison to those of the previous period.

e) By the 1880s, old pattern books were often used by designers as source material, and it becomes much harder to judge date by style or motif. Sometimes proportions or engraving method to help signal a pattern revival, but contextual information becomes increasingly important for the dating of simple one-colour to three-colour printed patterns from this decade.



# Identifying Printed Textiles 1740-1890

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