

The Archive of the Neue Augsburg Kattunfabrik (NAK)

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Abstract

The pattern archive of the New Augsburg Calico Factory (1782-1996) (Neue Augsburg Kattunfabrik, NAK) forms the founding collection of the State Textile and Industry Museum Augsburg (tim). The core of the NAK collection consists of 550 pattern books with an estimated 1,5 million patterns, which are considered national cultural treasures and among the most valuable museum collection in the Federal Republic of Germany. In addition to this collection, there are engraving and roller books, records of the engraved copper plates and roller printing, colour recipe books, pattern drawings, production documents, templates, printing rollers, print design patterns, a sample archive, couture dresses, photo documentation, and archival sources. Copying books from the years 1782-1792 are outstanding sources that detail international trade in raw materials and products, as well as the struggle for printed calicoes quality. The main book of Schöppler & Hartmann, from the same decade, provides instructive insights into the quantities and qualities of the produced calicoes. This contribution highlights the variety of sources and the different levels of information that can be derived from them.

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Introduction

In the second half of the 18th century, the city of Augsburg developed into the most significant centre of the economically lucrative calico printing in southern Germany, driven by the increasing consumption of these refined cotton fabrics. In 1782, Johann Michael Schöppler (1754-1839) and his brother-in-law Gottfried Hartmann (d. 1824) took over a long-established calico printing business in Augsburg and managed it under their own name

(Fahn 2010; Chronik 1960). Under their successor Karl Ludwig Forster, the calico printing factory developed into the 'largest and most modern production in southern Germany' (Fassl 1987) with an international clientele, thanks to the latest technical equipment and chemical developments (Fassl, 'Johann Gottfried Dingler', 1987). Economic difficulties and unresolved succession within the family business led to the transformation of the calico printing factory into a joint-stock company in 1880. From 1885, the Augsburg Company operated under the name 'Neue Augsburger Kattunfabrik' (New Augsburg Calico Factory), NAK (**Fig. 1**). It was not until 1996 that bankruptcy sealed the end of the Neue Augsburger Kattunfabrik and its long corporate history.

The NAK archive, unique in its completeness, forms a central collection of the State Textile and Industry Museum Augsburg (tim). At the very centre of the surviving NAK archive are 550 numbered fabric sample books dating from 1792-1994 holding an estimated 1,5 million patterns. These belong to the most valuable museum collections in the Federal Republic of Germany and are considered as national cultural treasures. The NAK archive also includes 337 sample books related to film printing and documentation of workshops from the period between the 1920s and 1996, 65 books with prints of the engraved plates and rollers, nine recipe books, four books explicitly documenting the prints of the rollers, approximately 85,000 pattern designs, countless fabric swatches from the years 1975-1996, tools, printing rollers, engraved and embossing rollers (*Moletten, ochtermoletten*), pantograph plates, photo albums, the employee magazine from the second half of the 20th century, and much more.

Commercial journal and letter copybooks

Two of the most important sources on the company's history from its early days offer unique information on the history of calico printing in Augsburg. These include the commercial journal from the years 1782-1792 and two letter copybooks containing the company's outgoing correspondence.

The commercial journal¹ is an administrative source of accounting that records even the smallest expenses of the company. It provides information on the company's resources, material, and goods cycle (Murr and Breil, 2019) (**Fig. 2**). Eleven different accounts refer to the company's structure and its integration into the local and global money and goods cycles: the 'Profit & Loss Account,' the 'Secret Ledger Account,' and the 'Account of Exchange' document financial transactions. Then, the 'Cash Account' informs about cash receipts and disbursements on-site in Augsburg. The 'Goods or Merchandise Account' documents the retail trade of small quantities of various goods in Augsburg (printed fabrics, dyes, wine, commissioned goods in very small orders). The 'Firewood Account' records the costs for heating the workshops. Information on general expenses, such as contributions to the poorhouses, interest, notary fees, and feed for cows and horses, are provided by the 'Expenses Account.' The entries in this account reflect, among other things, the business and social microcosm in which the company was locally embedded. The 'Printing Block Account'

¹ Schöppler & Hartmann, Journal (January 1783 - March 1792), Staatliches Textil- und Industriemuseum Augsburg (tim), Inv. Nr. 000262.

is related to the production area in its narrower sense, with expenses for the production of printing models and engraved copper plates. This account offers the opportunity to further research the profession of printing block cutters in Augsburg via the aforementioned names.

The three final accounts to be listed combine local and global goods cycles. The 'Household Account' lists goods obtained through major trading houses in Augsburg, Frankfurt, or Leutkirch; for example, we read about large quantities of wine, chestnuts, Limburger cheese, Selters water, and silk stockings, as well as tax payments and monthly deposits into the ménage—the company's general budget account. Transfers from the 'Profit and Loss Account' equalised the balance in this account.

The 'Manufacturing Account' and the 'Account for Dye' provide the largest amount of information on local and global trade relations. The 'Manufacturing Account' lists expenses for production and revenues from the printed goods, including, among other things, wages for employees such as printers, painters, drafters, finishers, apprentices, labourers, as well as wage and material costs for preparing the raw materials for printing (oil, candles, brooms for bleaching, bran, manure), external but local services such as grinding the finishing stones for Chintz costs for fulling, payments to the mangle master, and interest payments, such as the annual interest for the printing workshops.

The procurement of raw fabrics, whether Augsburg calicoes or East Indian fabrics, was not recorded in the journal. Clients supplied the raw materials at their own expense. Nevertheless, between the years 1786 and 1792, the calico printing factory already emerged as the fourth largest importer of Indian fabrics in Augsburg.

On the revenue side, each shipment to various customers is listed with details on packaging units, quantities, pattern categories, unit prices, and packaging costs. The fabric quality information proves enlightening, as it reveals the provenance of the fabrics, such as Batthas, Guinees, and Casses from India, Mousseline from Switzerland, and calicoes from Augsburg or Saxony. Last but not least, Schöppler & Hartmann's main customers from near and far are recorded here. The 'Account for Dye' also reflects the purchase of printing ingredients from the local, regional, and transnational environment.

Starting from 1785, the listing of inventory (stocktaking) in March or April of each year provides information on the stock of goods within the company. It also records the respective transfers for account balancing. Separate inventory overviews are maintained for the 'Account for Dye' and the 'Manufacturing Account.' The inventory list for the 'Manufacturing Account' specifies the stock of fabrics either in reserve or in production. Raw materials and goods in the printing workshops were recorded only in terms of quantity, but without financial value. Further subdivisions reflect completed work processes, distinguishing between fabrics that were prepared for printing, goods in the bleaching process, and finishing goods. The respective inventory results analysis allows for conclusions to be drawn about the quantities of goods that the calico printing factory constantly needed.

The two letter copybooks² complement the information from the journal and provide evidence of a total of 267 correspondents across 1,931 letters from the years 1783 to 1795. These sources reveal the complex interplay of various cycles: from raw materials, chemicals, and dyes to patterns, goods, information, and financial transactions. An economically efficient network centred around Augsburg arises from these cycles, which virtuously connect local and global dimensions through the medium of letters. These also provide insights into the weather in Augsburg, as it had a significant impact on the bleaching process and thus, on the quality of the finished fabrics (Schmölz-Häberlein 2021). Since there were no standards like DIN norms as we know them today, they highlight the struggle for quality between customers and the printing house. Finally, they inform us about how pattern development and ordering between wholesalers in Frankfurt and the printing house in Augsburg were carried out. However, these letters only represent a small part of the company's communication, as the most extensive transactions were conducted in person by Johann Michael Schöppler and Gottlieb Hartmann. The main customer of the calico printing house, the trading house Issak Hanau, from Frankfurt, had a representative in Augsburg with whom all business transactions, pattern development, and quality control were discussed verbally on-site. This is a gap that can never be closed.

Linked to these written sources is Schöppler & Hartmann's first sample book, which, in addition to the letters and accounts, provides valuable insights into the products (Breil 2019).

Pattern books

Aside from the fabric samples themselves, the 555 textile sample books are a self-contained collection that, in many cases, reveal only a few additional details. However, they are a product of the industrial phase of fabric printing and, as a 'document per se, a phenomenon of the manufacturing industry and, above all, industrial culture.' As such, they reflect the nature and principle of industrial production, namely the production of a series (Kluge 1993).

The year 1792 marks the designation of the first preserved sample book (**Fig. 3**), which contains drawings, fabric samples, and model prints on paper from the years 1783 to 1800. In 1786, Schöppler & Hartmann were able to produce 173,486 pieces of calico and had about 300 employees (Fassl 1988). With the first sample book, they established a company-specific series of sources that was maintained for almost 200 years until the successor company, the Neue Augsburger Kattunfabrik, went bankrupt in 1996. The sample book predominantly features designs set on a black background, less frequently on white or red ones. The motifs consist of flowers, blossoms, or imaginative bouquets (Breil 2019).

While the first sample book does not seem to be systematically arranged, the subsequent examples from the years 1825-1835 already demonstrate a commitment to documenting their own production. For instance, the sample book contains imprints of block prints on paper, along with small fabric pieces that show the documented pattern in its actual colours

² See Schöppler & Hartmann, *Kopierbuch*, vol. 1 (03.12.1783 - 29.08.1788); *Kopierbuch*, vol. 2 (01.09.1788 - 27.07.1793), *tim Inv. Nr. 000256 und 000257*.

(**Fig. 4**). Simultaneously, the first collection sample books were created, showcasing serial production through fabric samples and their corresponding design numbers (**Fig. 5**). The collection sample books, which continued until the 1990s, are easily recognisable by their clear structure and the design number that identifies each sample piece. They represent a not yet fully explored source for researching the development of textile design in Central Europe over a time span of 200 years.

A second group of sample books within the chronological arrangement comprises sample books of ‘competitors,’ which contain patterns from European fabric printing companies, mainly from Great Britain, France, Switzerland, and the present-day Czech Republic (**Fig. 6**). These books served the purpose of industrial espionage, or, in other words, the comparison of their own production with international trends. Schöppler & Hartmann certainly used somebody else’s patterns, recombined them, and created new designs that, even with the slightest variations in colour and pattern, sold successfully over the years (Bianchi-Königstein and Breil 2020). In the last third of the 19th century, subscription books produced in Paris or Italy took over this function.

A third category of sample books is of a technical nature. They contain colour recipes, or document the series of experiments with new dyes. The colour spectrum is large. Others serve to document printing patterns, copper plates, or copper rollers in the form of black prints of the tools on light paper (**Fig. 7**). These types of tool books only began to be produced in series as the era of the family business approached its end. The transformation of the company into a joint-stock company required documenting, evaluating, and ultimately using the factory inventory in a new, more economical way.

A particular visual delight is presented by the sample books dedicated to ‘Augsburg Red,’ as the locally known Turkey red-dyed cotton fabrics were called (**Fig. 8**). These printed fabrics developed into an award-winning branded product of the company in the first half of the 19th century. Pharmacist and chemist Johann Gottfried Dingler (1778-1855), together with Daniel Koechlin, researched Turkey red dyeing around 1800 in Mulhouse, Alsace (France). Dingler brought this knowledge to Augsburg. Along with the Augsburg fabric printers, especially Wilhelm Kurrer—the head of dyeing at Schöppler & Hartmann—the quality of Turkey red dyeing was advanced to perfection. Recipe books reveal how much the dyers at Schöppler & Hartmann repeatedly experimented with formulas, chemical compositions, and colour variations in their dye kitchens. Kurrer and Dingler published their research results in numerous publications, such as the *Polytechnisches Journal* (Fassl 1987).

The colourful fabrics produced by Schöppler & Hartmann, and later by the Neue Augsburger Kattunfabrik for over 200 years, were primarily used for clothing and, from 1870 onwards, also served as upholstery fabrics. Predominant motifs included floral elements and Paisley patterns, which were produced across Europe following the English model. Between 1850 and 1880, the Kattunfabrik manufactured scarves and aprons that were mainly exported to Eastern Europe (**Fig. 9**). Unlike other printed fabrics, these were exclusively made using hand-printing techniques. They are ‘the only products that largely left the NAK premises in a finished state’ (Murr and Loibl 2010).

Since the early 19th century, exports extended from Austria-Hungary through the Balkan countries, Sardinia, Russia, and the Americas, even reaching Africa. Sample book No. 80,

from the years 1861 to 1866, for example, attests to Schöppler & Hartmann's extensive trade relations with Brazil (**Fig. 10**). The headquarters of the two repeatedly mentioned Brazilian business partners were in Rio de Janeiro and in the Pernambuco region, with its capital, Recife, whose port was closest to the Western European economic centres. The sample book documents the fashionable preferences of the Brazilian clientele: popular Augsburg export goods were printed woolen fabrics, usually featuring colourful floral patterns (Breil 2015).

The sample book archive was housed in special rooms and was not accessible to everyone, even during the company's operational years. This likely contributed to its preservation beyond World War II (1939-1945). The bombing of Augsburg in 1944 also hit the Neue Augsburger Kattunfabrik buildings, destroying not only premises, production machines, and warehouses but presumably also additional company records that existed previously. It is noteworthy that there are very few archival materials and other references to the company's history from the pre-war period.

Designs and drafts

In addition to the sample books, the drawing archive of the Neue Augsburger Kattunfabrik from the 1940s onwards has been preserved. It contains approximately 85,000 pattern drawings, which served not only for documentation but also as templates for new designs. The NAK acquired designs either from external designers or had them developed by its employed pattern designers. Labels with numbers attached to the drawings indicate whether the designs have in fact gone into production. The first part of the number represents the design number and refers to the printing technique. Designs with four-digit numbers were produced by NAK on *rouleaux* printing machines, while designs with five-digit numbers were made on rotary screen printing machines. The digits after the slash indicate the year. Drawings without numbers were not included in the fabric printing collection. However, they served as inspiration for designers, who could use the extensive archive in their creative process.

Routing slips

The routing slips represent the process between design and the printed fabric ready for sale.

The production sheet for the pattern contains, in addition to the design template, numerous details about further processing. The large stamp in the centre indicates the workflow from the design studio to the production of the printing stencils and back, and then on to the department for colour matching ('Colouristics') which finally determined the colours of the pattern. Each department in turn stamped additional information on the sheet. The red stamp on the left provides information about the composition of the colours or the required opacity. To its left, the blue stamp indicates the type of rotary screen, in this case a lacquer screen with a printing width of 160 cm and a printing repeat length of 64 cm. The stamp labelled 'Film' in the lower right contains the design number and indicates how long it took to produce

the printing template. The associated fabric swatch is the evidence of the produced fabric. The swatch consists of three fabric strips. It shows the same fruit motif as that of the routing slip and the preserved rotary screen printing stencils (**Fig. 11**). The motif is rendered in various colour variations with yellow, brown, and red accents. The fabric strips display different repeats and thus, document the replication of the pattern design on yardage. The fabric was produced in 1993 for the 1994 spring and summer season.

Conclusion

The sample collections of the NAK archive, with their interdisciplinary source value, allow for a variety of research approaches in the fields of textile and fashion design, textile technology, textile chemistry, as well as economic and social history, which have yet to be explored. From the perspective of globalisation research, the early written sources related to the first sample books offer an instructive insight. As early as the 18th century, Augsburg patterns were being exported worldwide. In terms of production, the calico printing company was involved in the global trade of raw materials. To make the sample book archive accessible for research, the sample books have been digitalised since 2021 and are available online³. A virtual exhibition in English and German presents the history of the company⁴.

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³ <https://www.bavarikon.de/object/bav:BSB-CMS-000000000008529?lang=de>

⁴ <https://www.bavarikon.de/object/bav:BSB-CMS-000000000009711?lang=en>

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Fig. 1

Neue Augsburgische Kattunfabrik, Lithographie, around 1900.

tim Inv. Nr. F032-027.0



Fig. 2

Schöppler & Hartman, Journal (January 1783 – March 1792).

tim Inv. Nr. 000262, Page 292, February 1787.



Fig. 3

Schöppler & Hartmann, Pattern Book,
1792 [1783-1800].

tim Inv. Nr. 004001, unpaginated

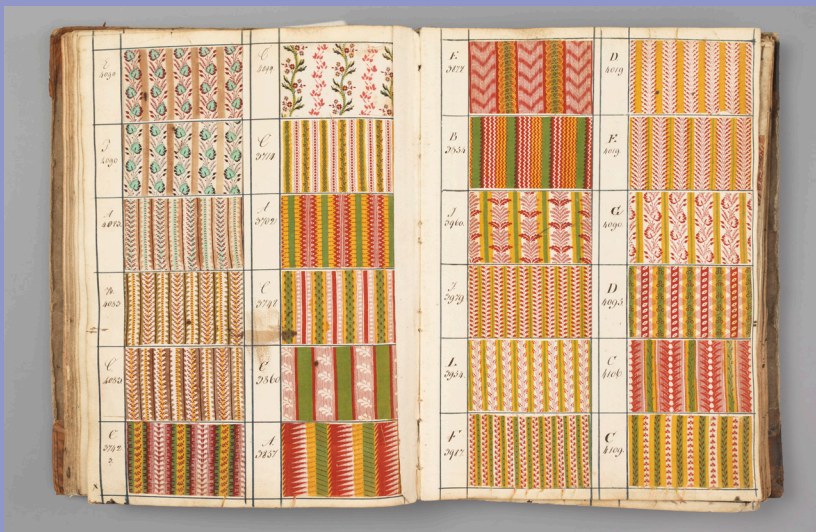


Fig. 4

Schöppler & Hartmann, Pattern Book, 1800-
1805.

tim Inv. Nr. 00403, unpaginated



Fig. 5

Schöppler & Hartmann, Pattern Book, 1820.

tim Inv. Nr. 004007, unpaginated



Fig. 6

Designs from 'Winter in Vienna,'
Schöppler & Hartmann, Competitor Pattern Book, 1852.

tim Inv. Nr. 004046, unpaginated



Fig. 7

Schöppler & Hartmann,
Pattern Book for technical documentation.

tim Inv. Nr. 004153, 1877, unpaginated

Fig. 8

Schöppler & Hartmann, Pattern Book, 1833.

tim Inv. Nr. 004015, unpaginated





Fig. 9

Schöppler & Hartmann, Pattern Book for Scarves, 1862.

tim Inv. Nr. 004086, unpaginated



Fig. 10

Schöppler & Hartmann, Pattern Book for the Export to Brazil, 1861-1866.

tim Inv. Nr. 004080, unpaginated

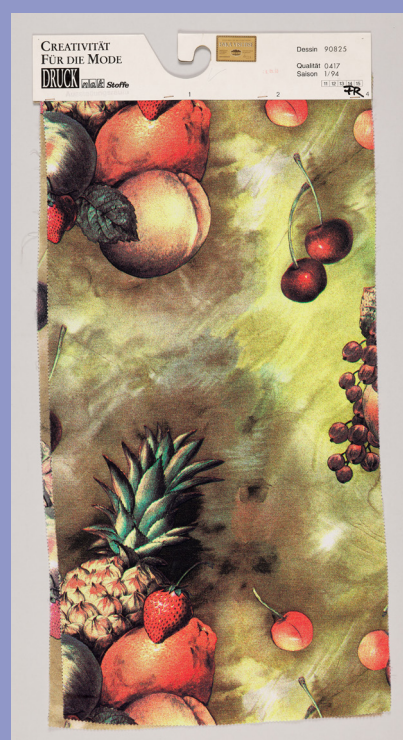


Fig. 11

Neue Augsburger Kattunfabrik, Hanger 1994.

tim, Inv. Nr. 003880