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The production of international fashion in state-sponsored manufactures in Sweden, 1740-1810. Part I

Introduction

To what extent did state-subsidized manufactures¹ contribute to the emergence and spread of fashion in Europe during the seventeenth and eighteenth centuries?² Sumptuary laws as well as research on leading European courts as cultural disseminators have been traditional starting points for research into the origins of fashion during the period. The role of state manufactures and their influence on fashion has however been neglected, and rarely explored.³ The overarching question here is whether the production of textiles and garments in state-subsidized manufactures on the European periphery spread fashion in a more conscious and locally adapted way, than if fashion models had been imported from European fashion centres and solely been governed by sumptuary laws (Riello and Rublack 2019).

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¹ The term «state-sponsored» or «state-subsidized manufacture» refers to the Swedish legal term «manufaktur» which in early modern times referred to handicraft businesses, regardless of scale, that functioned next to the guild system, instead answering to municipal hallmark courts. Wool, silk and cotton / linen and certain other consumer goods manufactured according to an international model were described as manufacture goods. The so-called hallmark and manufacture courts which regulated the field, referred to the hall ordinances of 1739 and 1770, respectively, which established special privileges for manufacture operations. Before 1766, manufacturers were granted individual privileges for the production of one or more types of goods by the Manufacturing Office, and sub-sequently by the Swedish Board of Commerce. The Swedish term «manufaktur» is a parallel to the German «manufaktur» while the English word «manufactory» lacks the mentioned legal meaning in early modern times.

² This study forms part of the project «Fashion, luxury, credit and trust in early modern Sweden-Finland, c. 1739-1846», funded by the Torsten Söderberg Foundation (*Torsten Söderbergs Stiftelse*). It was presented as a conference paper at the *ADH New Research in Dress History Conference*, 7-13 June 2021 where I received valuable comments, for which I am grateful. I would also like to thank Dr Håkan Jakobsson, Stockholm University, who translated the text, as well as the participants at the Higher Seminar at the Department of Media Studies, Centre for Fashion Studies at Stockholm University, several of the participants at the Datini Symposium, 2021, and the thorough work and comments from an anonymous referee.

³ An exception is the international symposium *European Court and State Manufactures in a Global perspective, 1400-1800*, held at the EUI 2014, organised by Luca Molà (European University Institute), Philippe Minard (Paris VIII and EHESS) och Giorgio Riello (Warwick University).

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The concept of fashion is often defined as the spirit of the times with associated ideals, especially expressed through textiles, clothing and its accessories (Nyberg 2021a, 15, note 36). Fashion in early modern societies with defined hierarchical social structures was regulated mainly through state ordinances, where the oldest form were so-called sumptuary laws. They stipulated how different strata in society should dress and what kind of garments they were allowed to wear. The oldest type of fashion was in the words of Lesley Ellis Miller mainly expressed by «...textiles made fashion in dress» (Miller 2010, 216). The rise of industrialism, parallel to the rise of ready-to-wear after the French Revolution, broadened fashion to include a wider range of citizens (Green 1997).

State-sponsored manufactures consisted of a range of operations for the regulated production of consumer goods that existed next to the handicraft industry. The manufacture production included quality textiles (wool, silk, cotton, linen), luxury goods (furniture, instruments, lacquer work) and stimulants (sugar and tobacco), but also the oldest forms of organized, standardized mass production, such as woollen textiles and the manufacture of weapons. Around this production an extensive institutional structure was created, next to the existing guild system (Cole 1943; Nyström 1955).

The institutions included government agencies, credit institutes and banks, labour courts and quality control of manufactured goods by hallmark courts (*Hall-och manufakturrätt*). The outline of regulations varied between different European states, but often included bans on the import of competing goods, detailed regulations for the imitation of goods that were used as standard models, and royal, princely or state privileges to entrepreneurs who usually had a monopoly on their operation. Typically, the aim was to achieve the highest possible quality of, for example, different varieties of silk textiles, precious furniture made of hardwood, or faience and porcelain (Heckscher 1955; Nyström 1955, chapter 1; Henderson 1956; 1985; Braudel 1986; Hartman and Weststeijn 2013).

While sumptuary laws were normative statements whose compliance remains uncertain and can be questioned, the impact of European manufactures on fashion can be studied and substantiated in detail with the help of sources, including agencies and institutes that regulated and promoted the emergence of key elements in the fashion process. In Sweden, for example, institutions were created by the state to promote sheep breeding for quality wool, silk cultivation, the spinning of yarn, the imitation of an international product range of luxury goods, as well as several incentives, including grants, production premiums, and loans at subsidized interest rates via special credit institutions (Heckscher 1937/38; Nyström 1955; Kjellberg 1943; Nyberg 1992).

Thanks to the extensive and well-preserved source material, numerous studies have been undertaken on the Swedish situation, though by now some of them are fairly dated. The Swedish development has however rarely been related to the development in Denmark (including Norway until 1814), an approach that would be desirable to provide an overall picture of the situation in the Nordic countries that could be compared to the broader European development (Stavenow-Hidemark and Nyberg, 2015). The aim of this paper is to discuss the production of textiles in Sweden between 1740 and 1810, based on the general summaries of manufacture output collected by municipal authorities during this period.⁴ The summaries include annual data on the production of the most important wool and silk textiles, wool and silk knitwear, as well as cotton and linen textiles.⁵ More specifically I will discuss and show the type of fashion that was produced in Swedish textile manufactures during the period and how international influences affected the Swedish product range.⁶ In a subsequent forthcoming investigation I will discuss what the change in the Swedish textile production range towards the end of the eighteenth century says about Swedish and Nordic textile fashion in a European and international context.

Theoretical point of departure

Historical research of fashion has in recent decades been influenced by consumption-theoretical approaches that have changed our view of the early industrialization process and the historical origins of modern economic growth at the end of the early modern era. These approaches and the knowledge they have led to affect how we today interpret the production of luxury and fashion textiles in manufactures. The approaches are presented in more detail in the introductory chapter to the project's first publication (Nyberg 2021a, 1-15).

From having previously viewed manufactures as a kind of forerunner to the emergence of the factory system in the late eighteenth century, and as a sudden break with older static conditions, we now know that European industrialism was a more complex, gradually emerging process (Marx (1906) 1954; Mendels 1972; Kriedte et al 1981; De Vries 1994). In Swedish research the idea of manufactures as artificially constructed «political greenhouse flowers» was discussed and analysed from the 1930s until the 1970s as part of the so-called Heckscher-Nyström debate. That debate today appears anachronistic (Heckscher 1937/38; Nyström 1955; Krantz 1976, part I and Krantz 1976, part II; Nyberg 1992, chapter 1). The early industrialization began earlier than previously thought and was based on an extensive home industry in the countryside (Berg 1994; Hudson 1992). The growth of fashion was affected by increased consumption of consumer goods and falling relative prices of groceries and industrial products. These consumption processes represent a slow but ground-breaking change in early modern society (Trentmann 2012).

The issue at the heart of this investigation, i.e., the importance of manufactures for the emergence and spread of fashion must be seen in the light of this renewal of research. I recognize the relevance of Jan de Vries' theory of the emergence of an «industrious revolution» in Western Europe as early as the end of the seventeenth

⁴ Up until 1809, Sweden also included present-day Finland, which thereafter became part of the Russian Empire.

⁵ The complete source material covers the time period 1739-1846.

⁶ See also the part «The background to the project» in the end of this paper.

century, an approach that theorizes how households changed their resource allocation as a result of a growing demand for consumer goods (De Vries 2008). The idea of an industrious revolution, as well as Maxine Berg's view of a «new luxury», falls back on older more empirical approaches about the birth of a consumer society introduced by McKendrik et al in the 1980s (Berg 2005; McKendrick et al 1982; Nyberg 2021a, 1-15).

The emergence of a manufacturing industry is still primarily associated with the institutional structure of the early modern states in north-western Europe, including England and the Low Countries. The various theories as regards the formation of such institutions, have been dealt with in the first publication of this project (Nyberg 2021c). The way in which manufactures were developed in different European countries must however also be seen in a comparative perspective, connected with a growing world trade in luxury textiles and clothing before the emergence of ready-to-wear garments and colonial goods (Roche (1994) 1996; Lemire 2017; Styles 2007; Riello and Thirthankar 2009).

State-sponsored manufactures was one of the early modern institutions that was intimately associated with the rise of absolutism and central power and the spread of fashion. This applies both to the situation in Philip II's Spain and later in France during the time of Louis XIV and Colbert, as well as in the expanding Nordic states of Denmark and Sweden (Magocsi 2002; Braudel 1986; Braudel (1949) 1997; Cole 1939; Cole 1993; Minard 2009). To this must be added the rich presence of manufactures in the many princely states within the German-speaking area and in the Habsburg Empire (Henderson 1985; Ogilvie 1997; Siebenhüner, Jordan and Schopf 2019). The dismantling of guilds, monopolistic trading companies and manufactures in north-western Europe represents a different distribution of fashion impulses than was the case in the Nordic countries and areas in continental Europe with a stronger tradition of manufacturing and guilds. We must at the same time assume that there were distinctions between the different countries. The sparsely populated Nordic countries, where manufacturing policies were only widely implemented in the middle of the eighteenth century, represent something significantly different than the leading mercantile countries in Europe.

The emergence of Sweden and Denmark as nation states during the sixteenth century not only led to their expansion in the Baltic Sea area and on the northern European mainland. During the seventeenth century, the two states also became places where fashion emerged as part of a wider institutional build-up with the aim to commercialize the heavily agrarian economies (Nyberg 2010). The emergence and implementation of fashion in Sweden based on state manufacturing formed part of closely related trade policies that should be understood in the context of international development patterns.

By all accounts, Nordic state-sponsored manufactures transferred an international product range of fashion goods and an associated world of ideas to the Nordic countries. In the process it also adapted this complex to the conditions of the nascent domestic markets by specific designs of new societal institutions.

In previous publications, the production in Swedish manufactures during the eighteenth century has been contextualised based on research in consumption history outlined above. The establishment of manufactures was closely linked to the

emergence of a new group of large merchants in Stockholm (Nyberg 2021b). The research has also shown that the rise of manufactures was part of an institutional framework that included artisanal crafts and visual arts, where for example areas of handicraft production such as furniture making, mirror making and instrument making, were placed under the auspices of the hallmark courts, or where funding for cultural workers was supplied through the Manufacture Office (Nyberg 2017, 23-26).

The consumer goods produced by Swedish manufacturers during the eighteenth century were mainly consumed by members of the higher urban social strata (Ahlberger 1996, chapt II). This consumption grew continously from the period after the Napoleonic Wars until 1846 when the hallmark courts and the guild system were abolished (Schön 1979, chapter III-IV; Nyberg 1999, chapter 5).

State-sponsored manufactures

The Swedish manufacture statistics

Information about the production in state-sponsored manufactures in Sweden from the middle of the eighteenth century onwards can be found in factory reports, collected by the municipal hallmark and manufacture courts. In addition to the production quantities and the so-called manufacturing value of the products, the number of plants and their owners as well as the number of looms and workers were also recorded by the authorities. The information forms a uniquely coherent series from 1739 until 1846, i.e., a period of over 100 years (Mitchell 1992, 490, table D14).

One could still question the accuracy of the information, in particular with regards to the quantities compiled in the so-called general summaries, where data from all the different manufactures were summarized. This was also the compilations that were used by Professor Eli F. Heckscher, as the basis for the original data has been digitized and is analysed here to present the value and scope of production for the period up to 1810. The latter part of the statistics from the first half of the nineteenth century onwards has been treated by modern researchers and will not be covered here (Schön 1979; Persson 1993).

The general background to and the contents of the archives of the hallmark court in Stockholm have been discussed by the Swedish archivist Lars O. Berg (Berg 1967). The courts, or the magistrates, in cities that were too small to have their own court, registered individuals with concessions to operate manufactures, with a production that was subjected to hallmarking, meaning that it was stamped as part of the official quality control. They did also, at least in theory, register manufacturers who produced goods that were not hallmarked.⁷ Unstamped goods

⁷ See Hallordningen 1739, Art I, par 9, See also Hallordningen 1770, Art VIII, par. 1.

were those on which it was technically impossible to affix a paper, lead or varnish stamp, including for example soap and sugar.⁸

Two copies of the factory report were compiled by the hallmark courts, one of which was sent to the Manufacture Office and the Board of Commerce on a central level, whereas the other was kept by the court. The reports should be viewed as a secondary source, based on the primary information about looms, workers, production quantities, quality of production and the manufacturing value.⁹ The general quality of the data has been discussed by both Heckscher and Nyström, but then mainly with respect to its consistency over a longer period (Heckscher 1937/38, 154; Nyström 1955, 142f).

I have made a thorough source-critical analysis of the annual reports. The analysis is based on a review of all manufacture regulations issued between 1739 and 1846 and a detailed investigation of how the legislation was interpreted by the hallmark court in Stockholm during the same period (Stavenow-Hidemark and Nyberg 2015, 321-24). My review of the regulations concerning quality control and the registration of production, shows that the legislative texts became more stringent and precise over time. In the hallmark regulation of 1770, a distinction was made between preliminary stamping and final stamping of finished goods with the expressed aim to be able to point out where errors arose in the long process of textile refinement. In cases when defects were registered, the producer was always the one who was directly responsible, while he at best indirectly at certain points could seek to hold the workers responsible.

The development of the regulations concerning volume and quality suggests that the information in the factory reports was so accurate that the recorded quantities of different textile qualities can be regarded as reliable. The statistics can also be compared with three textile sample collections (see below) that have been preserved for the years 1744, 1751 and 1766.¹⁰ In cases where a written explanation of the textile samples was included in the sample books the terminology is the same as in the factory reports. The name of the manufacturers in both materials also correspond during the specific years. In 1751, the reported textile varieties in the factory statistics also agree well with the extant sample pieces.¹¹

Exactly how carefully the regulations were applied in practice regarding quality control and the measurement of length and width, is impossible to determine. The fact that the factory reports over time became more coherent suggests that the compiled volumes were indeed matched by an increasingly thorough inspection. This is further supported by the fact that the hallmark courts were relatively

⁸ See Kongl. Maj:Ts Landt-, Tulls-, och AccisOrdning år 1756., in R. G. Modée, Utdrag Utur alle ifrån den 7. Decemb. 1718 utkomne Publique Handlingar, Placater, Förordningar, Resolutioner ock Publicationer... (I–XV. 1742–1829, cited Modée), vol. VI, Cap VII, Par. 2, punkt, 1, 4299.

⁹ Riksarkivet (RA), Kommerskollegium, kammarkontoret, Årsberättelser fabriker serie 1, 1739-1815.

¹⁰ RA, Kommerskollegium kammarkontoret Industrivävnadsprover, Svenska städer A-Ö (cited 1744:); RA, Kommerskollegium, Kammarkontoret, Industrivävnadsprover 1751 Stockholm (cited 1751:) and Nordiska museets arkiv (NMA), Adolph Modéer's tygprovssamling («En del af Kunskapen. Sw. Fabriquerne i ordn. Saml. af Ad. Modeer»).

¹¹ Stockholms stadsarkiv (SSA), Hall- och manufakturrättens arkiv (HMA), series B-III, year 1751.

independent institutions, which after 1770 were linked more closely to the town magistrates (Nyström 1955, 251f).

Collections of textile samples

In 1990, Elisabet Stavenow-Hidemark, in her role as the head of the textile collections at the Nordic Museum in Stockholm, published a catalogue of the so-called Berch collection of eighteenth-century textiles, as part of an exhibition at the museum (Stavenow-Hidemark 1990). The Berch catalogue renewed Swedish research by showing that Swedish textile manufacturing formed part of an international context. The collection of mainly British samples from the 1740s shows the importance of different kinds of smooth and patterned woollen fabrics. This variety of fabrics corresponds to *new draperies*, a type of textile which revolutionized the European textile market from as early as the end of the sixteenth century. The type arrived in the Nordic countries, mainly via Norwegian port cities and through smuggling (Eldvik 2014). Other types of factory-made textiles were also part of the international textile trade. Samples of silk and the precious felted woollen are also prominent in the Berch collection.

A long-standing collaboration between Stavenow-Hidemark and myself arose in the aftermath of the exhibition, which in 2015 led to the publication of another catalogue of three Swedish collections of eighteenth-century textiles (Stavenow-Hidemark and Nyberg 2015). Together, these three collections from 1744, 1751 and 1766, contain about 1,500 fabric samples. The samples are small, but often contain information about the name of the manufacture, where it was made, its width, and price.

The 2015 catalogue provides detailed knowledge of the domestic production and a unique visual experience of the fabrics that were recorded by the hallmark courts in the period after 1739, after the introduction of new policies on manufacturing and a ban on the import of new draperies (Aldman 2008). The authorities instead wanted to see more domestic production in line with the mercantilist ideas of the time (Magnusson 1994). The samples can also be seen as the long-term result of a manufacture system that was formulated already in the seventeenth century, but only led to lasting results after the end of the Great Nordic War in 1719 and the new development after 1739.

Methods

As mentioned, textile production in Swedish manufactures was recorded by municipal hallmark courts. The information was sent to the Manufacture Office and after 1766 to the Board of Commerce where the local data was combined into a general national industrial statistic. In the following I will focus on the information in the later compilations (Stavenow-Hidemark and Nyberg 2015, 363-73).¹² I will subsequently also compare the individual production information with

¹² RA, Professor Eli F. Heckschers efterlämnade excerpter, «Manufakturer i kuvert».

the fabric samples to show the representativeness of the fabric samples when compared to the annual manufacture production. The samples provide more reliable knowledge compared to previous research on what kind of textiles the factory reports recorded, including how they were designated, looked, and were composed, what colour they could have and what their international equivalents were.

My interpretation of what the textile categories in the general summaries represent is mainly based on textile manufacturing dictionaries and similar compilations of information on textiles and fabrics. Textile manufacturing in Sweden was meant to follow international models, and, as mentioned, as a result often retained an established nomenclature.

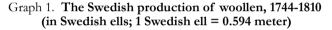
The analysis of individual quality designations has been carried out in various ways. For woollen fabrics, as well as cotton and linen, the local terminology has been found in three lexica of trade goods from 1797, 1815 and 1845 (Orrelius 1797; Synnerberg 1815; Almström 1845). The international word for the same quality has subsequently been identified, not least with the help of the Berch collection catalogue. The etymological origins of various fabrics have been found in Leif Wilhelmsen's English Textile Nomenclature (Wilhelmsen 1943; see also Wilhelmsen 1954). The linguistic-historical dimension has been supplemented with information from Florence M. Montgomery's Textiles in America 1650-1870 (Montgomery 1984). This has been further supplemented by several textile dictionaries from the period after 1850 where older statements about textile quality designations from archives, investigations and older dictionaries have been brought together. I have also consulted additional Swedish and Danish catalogues of historical textile samples in the Nordic countries (Goliger 1984; Cock-Clausen 1987; Lindström 2004). Finally, the analysis is based on research on the individual sub-industries as conducted by Per Nyström, Sven T. Kjellberg and myself (Nyström 1955; Kjellberg 1943; Nyberg 1992).

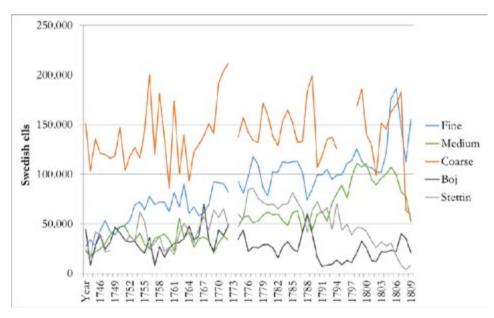
The general outline of the textile production

The production of woollen (*kläde*) – a felted fabric without patterns – increased during most of the eighteenth century. Before the middle of the 1750s, the total annual production amounted to less than 300,000 Swedish ells (see Graph 1). After 1770, more than 400,000 ells were typically produced each year. The bulk of this expanding volume was in finer qualities. In the 1740s about one-fifth of the total production volume of woollen consisted of fine and medium-fine varieties. This increased to about 200,000 ells at the end of the eighteenth century. Coarser qualities stayed at roughly similar production levels.

The production of woollen during the eighteenth century seems to have been significantly lower than the quantities that were imported in the seventeenth century (see Graph 2). This development formed part of a long-term transition from coarser to finer and more expensive varieties. Just before the middle of the seventeenth century, between 540,000 and 819,000 ells of woollen were imported annually, mainly of coarser qualities. As late as 1718 – the last year of the Great

Nordic War – 500,000 ells were imported. Only two years later this amount had been halved (Boëthius and Heckscher 1938; Aldman 2008). When the import of woollen and other textiles was gradually banned during the next two decades, approximately the same amount was produced domestically until the 1750s when the numbers started to rise. Still, not even the highest annual numbers of half a million ells that were produced during the war years at the end of the eighteenth century amounted to more than half of the highest imported quantities in the seventeenth century. A reasonable interpretation is that the long-term increase, and the rising share of fine and medium qualities, reflects a growing demand for fashion fabrics in Swedish society. The much higher production numbers before 1720 and during individual years towards the end of the eighteenth century and in the beginning of the nineteenth century were largely inflated by orders from the military (Kjellberg 1943, 487f; Nyberg 2007, 18-21; Nyberg 2013, 2-6)



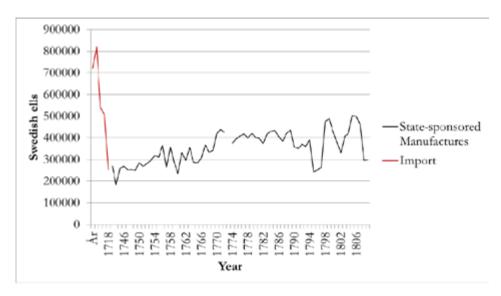


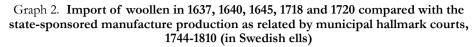
Source: RA, Professor Eli F. Heckschers efterlämnade excerpter, Manufakturer i kuvert.



Fig. 1. Woollen samples in different colours

Source: NMA, Adolph Modéer's tygprovssamling, Sheet 29 (Woollen in different colours, 21 samples, Pinckhardt & son's manufacture).





Source: Graph 1; Boëthius and Heckscher 1938.

Note: The proportions in 1718 and 1720 do not fully correspond to chronological calendar years; the total manufacture production refers to the sum of the five most important qualities: fine, medium and coarse woollen as well as the coarse qualities boj and stettin for the period 1744-1810.

Next to the large textile imports during the seventeenth century, a substantial domestic production was also undertaken by early cloth industries (*vantmakerier*). Their production apparatus was mainly designed to supply the crown with fabrics to produce uniforms, which sometimes required large deliveries at short notice. Next to the right to temporary exemptions from various types of taxes and fees, the cloth producers were often also allowed to combine production with trade in unprocessed and uncoloured fabrics as well as the preparation of purchased semi-finished products and imported finished fabrics.

Woollen was the quantitatively dominant textile produced in Swedish textile manufactures during the eighteenth century. Woollen production however also included the manufacture of worsted textiles (*stoff*) woven with warp yarn, into a fabric that could include patterns. Other types of fibres were sometimes mixed into the weft yarn. A range of different qualities existed, but only a few of these were quantitatively significant (see Graph 3).

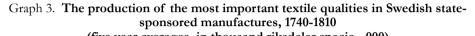
The production of worsted textiles in Sweden was strictly regulated in state ordinances from 1751 and 1772 which defined the dimensions of the most important qualities in both their raw and finished states (see Fig. 2). Worsted textiles are also prominent in the examined fabric sample collections. In the end they still only played a minor role in overall woollen production. When compared with woollen, the production of worsted textiles declined during the late eighteenth century, leading to the easing of the import bans on imported yarn that were meant to stimulate the domestic production (Kjellberg 343-55). This can be compared with British export figures, where the same type of textile increased its share of wool exports during the period up until 1775 when it amounted to 64.6 percent. Towards the end of the century, the proportion decreased to just under 50 percent and woollen rose by more than 15 percent (Van der Wee 2003, 397-472; Harte 1997; Kerridge 1985).

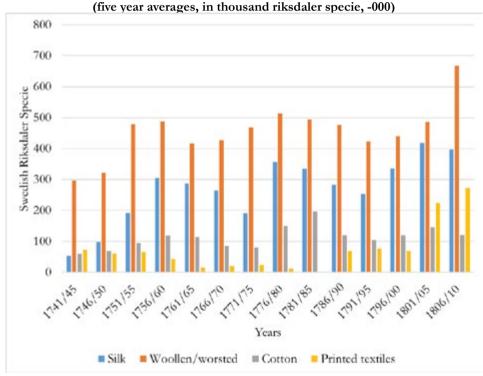
Fig. 2. The state-sponsored production of worsted textiles in Sweden was strictly regulated in state ordinances, which defined the dimensions of the most important qualities in both their unfinished and finished states

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Source: Årstrycket, December 16, 1751.

Next to wool, silk production was the second most important textile sector both in terms of the amounts produced and value during the eighteenth century. Cotton and linen production (cotton yarn with linen warp) played a minor role, which only changed towards the end of the eighteenth century, when calico (*kattun*) printing was introduced, in connection to the introduction of new technologies by Jewish immigrants (Brismark 2013, 171-88).





Source: RA, Kommerskollegium, kammarkontoret, Årsberättelser fabriker serie 1, 1739-1815.

Woollen textiles

Woollen

Woollen was made from short wool fibres which were spun into a loose, comparatively coarse yarn, after a series of preparatory production processes.¹³ A special feature was the final treatment of these fabrics. They were mechanically processed by ways of stamping so that weft and chain yarns were felted together

¹³ Linköpings Lands- och stiftsbibliotek (LLS) Handskrifter, E14, 31.

into one unit. The fabric was then roughened up with brushes, after which the surface was sheared. Finally, the fabric was pressed (Wilhemsen 1943, 43f; Wilhemsen 1954, 61; Cock-Clausen 1987, 35f; Stavenow-Hidemark 1990, 250f; Nyberg 1992, chapter 2).

Preserved examples of woollen from Sweden during the eighteenth century have almost always been sheared and finished. The 361 preserved examples in the 1751 textile sample catalogue, for example, all show the appearance of the fabric after it was finished through rolling and dyeing. Unfinished woollen, which was taken out of the loom to be prepared, was referred to as raw woollen cloth. This can be seen in a few samples in the Berch collection which both show how the textile looked before the preparation and how it was gradually refined during its various stages through rolling, roughening, shearing, dyeing and pressing (Stavenow-Hidemark 1990, 141-48). For finer varieties of woollen, roughing and shearing took place repeatedly and alternately and were thus part of the fashion element: a sheared piece of woollen was roughened up again and again, after which it was sheared anew, with a finer quality achieved, the more times this happened. In the process, the fabric decreased in size, as the felting pulled it together. No fabric shrank as much in length during its preparation as woollen (Randall 1991, 52; Kjellberg 1943, 730).¹⁴

A wide range of woollen qualities of varying fineness were manufactured in Sweden. Fineness was determined by the number of warp threads in the fabric in relation to the determined width, which at its widest was 2.25 ells (1.33 meters) (Kjellberg 1943, 245). The more warp threads, the finer they were spun. As mentioned, finer fabrics required more extensive preparation than coarser ones.¹⁵ This affected the manufacturing value, or what essentially was the administratively determined price. Fine woollen was valued about twice as high as medium fine and twice as high as coarse woollen.

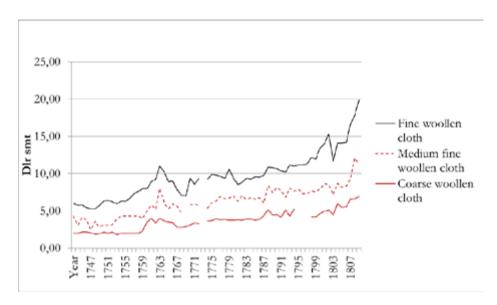
During the eighteenth century, Swedish woollen was divided according to the hundred-thread principle. A woollen identified as 16/00 had a warp that consisted of 1,600 yarns of a certain fineness. In addition to fine, medium, and coarse woollen, there were also special quality names for other types, including *boj*, *stettin*, *fris* and *ratin*.¹⁶ The varieties differed in terms of weaving technique, binding patterns, and preparation, when compared to how ordinary woollen with the same number of warp threads was treated and defined.

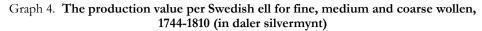
The wool and yarn used in the weaving process were defined in a similar way. In order to be called fine cloth, for example, a specified number of warp threads spun in a certain fineness was required. The wool itself had to maintain a specified quality which also was defined according to the hundred-thread designation (see Graph 4).

¹⁴ LLS, E14, 113.

¹⁵ LLS, E14, 101.

¹⁶ RA, Kommerskollegium, kammarkontoret, Årsberättelser fabriker serie 1, 1784-1788.





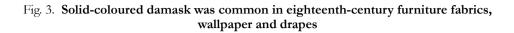
Source: Graph 1.

The raw material supply to Swedish-Finnish woollen manufactures included three groups. The most expensive was imported Spanish quality wool, from which the finest textile varieties were made. The domestic, heavily subsidized Swedish wool production was also focused on higher qualities, but still does not seem to have matched the Spanish wool in fineness. Finally, various coarser wool qualities were also imported, typically from Poland or different regions in present-day northern Germany. The domestic supply of wool and its organization was the subject of substantial government attention throughout the latter part of the eighteenth century (Westerlund 1988; Quiding 1865, 468-69; Nyberg 1992, chapter 5).¹⁷

Worsted

Stoff or *estoff* (Fr: Étoffe) was, as mentioned, the Swedish name for several different types of worsted textiles. Internationally these textiles were generally called "new draperies". The emergence of new draperies was so significant in the history of textiles in England that the Norwegian researcher Leif Wilhelmsen used it to name the period after the Norman conquest. According to Wilhelmsen, the period extended until the beginning of the industrial revolution at the end of the eighteenth century.

¹⁷ RA, Kommerskollegiums arkiv, Särskilda utredningar, plantager och schäferier, capsule 42-45.





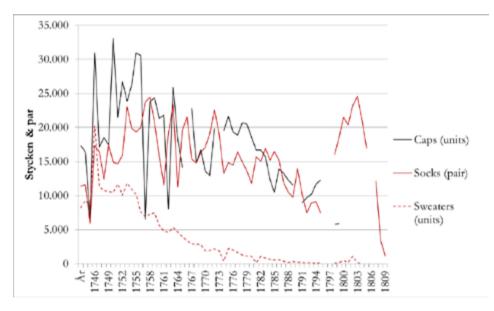
Source: NMA, Adolph Modéer's tygprovssamling, Sheet 24 (Solid-coloured wool damask, 7 samples, small moth attacks).

Unlike woollen, most worsted textiles were imported or smuggled into the Nordic countries before the eighteenth century. With the mentioned ordinances of 1751 and 1772, the Swedish state highlighted the importance of worsted textiles and their international connection.¹⁸ In the ordinances, the prescribed width of the

¹⁸ Årstrycket, December 16, 1751.

fabrics was specified for about twenty varieties with different variations in the design. During the heyday of worsted manufacturing in the 1760s to 1780s, there were countless variants in the product range. By the turn of the nineteenth century, the variations were fewer and the focus was on varieties of simpler design. The long-term decline in the production of worsted textiles, which happened in parallel to the downturn of the silk industry, saw a development towards the production of plain instead of patterned fabrics (Nyström 1955, 173). The Swedish production of flowered satin, a patterned fabric, for example amounted to 60,000 ells in 1766 and was then among the three most important, but thereafter almost disappeared. Instead, simple and inexpensive variants increased their shares towards the end of the eighteenth century (Nyström 1955, chapter V; Kjellberg 1943, chapter X; Nyberg 1992, 267f; Jakobsson 2021, 97-119) (see Table 1).

Graph 5. The principal hosiery garments produced in state-sponsored manufactures in Sweden, 1744-1810 (number of pieces or pairs)



Source: Graph 1.

Printed import statistics from the period after 1828 suggests that these simpler fabrics were available also in the first half of the nineteenth century, but that they were increasingly imported, with a sharp increase in imports in the 1830s.¹⁹ In knitwear production, worsted yarn, which was called *redgarn* in the Swedish nomenclature, was also used (*Preliminär textilteknisk ordlista* 1957). The industry had

¹⁹ Kommerskollegii underdåninga berättelse om rikets utrikes sjöfart, 1828-1846.

its heyday before the 1760s but then declined long-term. The sharp increase in the production of socks made from worsted yarn towards the end of the eighteenth century was not a natural market increase, but was connected to shifting state demands during the war years (Stavenow-Hidemark 1990, 207f) (see Graph 5).

Year	Camlet	Flowered Satin	Shalloon	Flannel	Rash	Bunting	Calimanco
1746	3,907		15,843	8,705	11232	984	5,804
1754	64,179	47,557	102,649	3,390	33,193	820	24,072
1766	68,797	57,988	44,903	5,041	61,130	5,555	20,235
1771	150,175	34,462	65,513	12,961	79,922	21,825	6,082
1776	111,474	32,899	46,455	3,644	66,991	33,681	8,330
1780	84,895	15,726	58,859	5,619	66,539	74,437	6,014
1785	60,954	4,929	80,218		66,073	67,826	514
1790	47,882	1,323	41,813	5,591	22,881	198,310	869
1800	35,305		47,076	16,082	38,713	61,688	
1810			12,480	30,363	8,196	44,280	

Table 1. Worsted qualities produced in Swedish state-sponsored manufactures, 1746-1810 (in Swedish ells)

Worsted fabrics were light yarn fabrics with warp made from worsted yarn (Synnerberg 1815, (II), 143; Nyberg 1992, note 4, chapter 1). The weft could consist of worsted yarn, carded yarn, silk, camel yarn or even a mixture of several different fabrics, a production technique that was a direct parallel to new draperies (Kjellberg 1943, 414f). The different manufacturing techniques used to produce different types of wool affected the dyeing and thus how different aspects of fashion changes were implemented. While fabrics based on short fibres could be dyed at various stages during the refining process, dyeing of silk and worsted fabrics took place during the final preparation of the textiles. In connection with this, the fabric was also washed, stretched, and mangled. As with woollen, the process ended with the pressing of the fabric. An important part of the imitation of the international models was to ensure that the fabric got the required stiffness, but in particular the correct shine and lustre.

The names of the various worsted fabric varieties were only partly based on the techniques used in the preparation and often instead had a geographical place as a name, prefix, or suffix. One example was camlets, which during the eighteenth century often were made under the name *Camlott de Bruselle* in Sweden. Sometimes binding patterns were mentioned as special qualities, for example satin, while there were also uniquely Swedish names such as flag cloth (*flaggduk* [bunting]). In a couple of cases, there were similar names for varieties that occurred in both silk and cotton production, such as *shag* and *felp*.

Source: RA, Kommerskollegium, kammarkontoret, Årsberättelser fabriker serie 1, 1746-1810.

Worsted fabrics were imported in significant quantities before the introduction of the manufacturing system in the 1740s. In 1718, just over 485,000 Swedish ells were imported; two years later 473,000 ells entered Sweden from abroad.²⁰

Fig. 4. Wool-imitations that resembled ermine pelts were based on an association with superb luxury. Ermine-lined coats were an attribute among senior officials



Source: NMA, Adolph Modéer's tygprovssamling, Sheet 26 (Wool textile fabrics, 7 samples).

Despite opportunities for diversity and variation by using different types of weft yarn, the type of worsted fabrics that were mentioned in the factory statistics were clearly defined textiles. Comparisons of the yarn fineness based on weaving calcula-

²⁰ The figure should be seen as approximate as the coarse cloth *boj* was also included in the sum.

tions from the 1740s and 1750s, compared with data from 1782, suggests that no significant technical change happened that affected the varieties (Kjellberg, 1943, 318f; Stavenow-Hidemark and Nyberg 2015: Joh. Pauli: 1751: Sheet 10, column 1, sample 1-14; Nic. Pauli: 1751: Sheet 10, column 2, sample 1-15; Christ. Pauli & son: 1751: Sheet 10, column 3, sample 1-5).²¹ That assumption is further supported by a decree from 1772 which shows that the names of the worsted fabrics and their dimensions were identical to the situation some twenty years before.²² Abundant proof of the domestic production of worsted fabrics can be found in all of the three fabric sample collections (Stavenow-Hidemark and Nyberg 2015: Sheets 9-12b in the 1751 collection mainly contain worsted yarn fabrics. The exceptions are fabrics from a couple of smaller garment manufacturers and a cotton and linen manufacture. 1751: Sheet 12, column 1; column 2, sample 1-14. The 1766 collection contains no less than 141 worsted yarn samples on sheets 21-30).

Silk textiles and silk ribbons

A similar tendency towards simplification and standardization of the product range that can be observed in the production of worsted textiles also happened in the silk industry. During the heyday of the silk industry between the 1760s and 1780s, a countless range of fabrics were produced in the domestic manufactures. By the turn of the nineteenth century, the number of varieties had decreased in parallel with a tendency to focus on fabrics of simpler quality. The production of brocades (*broscherade*) as well as velvet and floral-patterned silks (*blommerade*) were reduced except for *droguet*, which had small-flowered patterns. They were replaced by smooth fabrics such as taffeta, satin, as well as silk scarves.²³ (see Table 2)

Year	Race de Sicile	Droguet	Bordaloux	Taffeta	Satin	Flor
1750	6,8	9	0,8	5,3		2,5
1759	15,2	31,1		50,5	11,7	17,5
1766	7,7	27,7	16,1	29,9	6,7	12,7
1770	8,6	27,5	41,9	16,1	10,4	26,8
1780	1,5	35	22,6	25,9	18,3	176,7
1791		1,6	1,9	34,2	28,4	114

Tab. 2.Some important silk qualities produced by state-sponsored manufactures in
Sweden, 1750-1791 (in thousand Swedish ells, -000)

Source: Graph 1.

²¹ RA, Kommerskollegium, utredningar, capsule FV 46; SSA, Suck-Pauliska arkivet, Series G IX, Abraham Paulis Kassabuch, 73-75; 83-88, with calculations on shalloon, camlet, satin and flannel.

²² Årstrycket, December 16, 1751; Modée V, 3113; Modée IX, 799-802.

²³ The latter were referred to as handkerchiefs in the manufacture statistics.



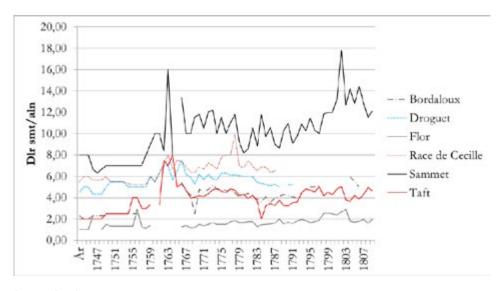
Source: NMA, Adolph Modéer's tygprovssamling, Sheet 12 (7 samples).

In the factory reports, one can see a division of the silk fabrics into four main groups, mainly corresponding to how the fabrics were made: smooth, floral patterned (*blommerade* or *façonerade*), brooched, and sheared fabrics.

Smooth silk fabrics, such as taffeta, satin and serge de soie (*kypert*) were woven on ordinary looms. Small-patterned fabrics, such as *bordaluox*, *carlé* and *natt och dag*, could be made by equipping the loom with up to 25 shafts and treadles. Fabrics that were woven with more extensive patterns included *droguet*, *liseré*, *prussienne*, *peruvienne*. These were produced on a type of draw loom – in eighteenth century Swedish sources often called *träckverk*, which in French sources is referred to as a *le* *métier à petite tire* or *le métier à bouton*. The set-up of this type of loom was very time consuming but the weaving was relatively simple.

Brocades and large-patterned fabrics such as *damask* and *raz de sicile* were woven on simple drawlooms (*le métier à la grande tire*) a loom where the drawstrings were lowered on the side of the loom. The pattern was marked with tied strings, socalled 'curls' and the drawstrings were handled by an assistant. The weaving was slower on this loom, but the patterns could probably be prepared by tying the curls in a frame outside the loom. The factory reports do not state what type of drawloom harnesses (*dragrustning*) were used in the Swedish silk weaving mills. At one point, however, a manufacturer distinguished between chairs for brocades and floral fabrics, which could possibly represent two different types. Weavers of worsted and linen textiles used similar harnesses to weave patterned fabrics in wool, cotton, and linen. Sheared fabrics included velvet, plush, *felb*, *schagg* and *caffa*. They could be either smooth or patterned in the loom.

Graph 6. The production value per ell for the silk qulities bordaloux, droguet, flor, race de sicille, velvet and taffeta in state-sponsored manufactures, 1744-1810 (daler silvermynt / Swedish ells)



Source: Graph 1.

Smooth fabrics were usually cheaper than patterned textiles or brocades. (see Graph 6) The amount of material that was needed seems to have been the decisive factor in the pricing of the fabrics, where a smooth velvet fabric was much more expensive than a patterned silk textile. This holds true, despite that the work effort was greater for the patterned fabrics, which in addition to the weaver required an assistant. The smooth fabrics were woven wider than the patterned ones, which

also increased their price. Some colours (including black and real red) were also more expensive, which explain the price differences between fabrics of the same technology and quality.

Cotton and linen textiles

In Sweden, the production of cotton and linen textiles was treated under a similar heading in the industrial statistics. This included textiles with a linen warp and cotton weft yarn, a type which fell back on English forerunners. Before the introduction of the factory system and the breakthrough of mechanized cotton spinning mills during the latter part of the eighteenth century, similar cotton textiles with linen warp called fustians (*parkum*) had been produced in Lancashire (Nyberg 2013, 11). Cotton could sometimes also refer to wool in the early modern period and researchers have pointed out the complexity of the term's older meaning (Montgomery 1984, 206). Quantitatively, Swedish cotton and linen production was of limited importance during the period. It is significant that the quantities of cotton fabrics produced in Swedish manufactures decreased from the end of the eighteenth century at the time of the breakthrough of the mechanized spinning mills. The amount of calico, i.e., printed cotton textiles, that was produced on the other hand increased sharply from the late eighteenth century.

The limited amount of cotton and linen fabrics in relation to the total production in the textile manufactures must also be understood against the background of an extensive handicraft of fine and coarse linen in the countryside.²⁴ These fabrics were of two types. On the one hand, simple shaft fabrics were woven that could be fine or coarse in their design. On the other hand, expensive patterned fabrics were also produced. The simple linen fabrics were offen produced in the cottage industry and played an important role as clothing or for textile furnishings for the broader population. The most common pattern fabrics were woven in *damask* and *dräll* (Utterström 1957; Jonsson 1994; Brismark 2008).

Conclusion

The manufacturing policy in Sweden after the 1739 hallmark legislation built on an active state control of the fashion element in the production of legally defined luxury goods, in addition to guild-controlled crafts and traditional imports. As mentioned, this did not only apply to textiles. The production and colouring of furniture, glass, porcelain, and faience as well as wallpaper were also affected. The main aim was to achieve an international quality standard to produce luxury and colonial goods (mainly sugar and tobacco).

The state wool policy, silk cultivation, state-organized spinning districts for the spinning of worsted and cotton yarn, and its dyeing policy followed two lines. On the one hand, it focused on the domestic production of quality wool, silk, worsted yarn, and dyes (imports of Spanish wool, silk, and partly worsted yarn as well as

²⁴ Mainly in the Sjuhäradsbygden region and the provinces Ångermanland and Hälsingland.

indigo and red dyes were maintained, however).On the other hand it was intended to streamline and organize processing efficiently. Commodity management, training, migration, and sales were supported with premiums and subsidized lending. The international movement and training for journeymen – which had already been developed within the framework of the guild system – was further promoted through travel scholarships. At the same time, about 3,600 textile workers were introduced to Sweden.

The tightened state control after 1739 influenced the design of fashion with an institutional dimension of a fundamentally new kind. The manufacturing policy was intended to break the guild system. Following the introduction of the 1739 manufacture legislation, guild-organized wool weavers and dyers were instead required to answer to the hallmark courts. It was a slow process, however, with dyers being incorporated into the manufacturing industry under protest. Shearers were also forced to abandon their guilds in favour of working under the overseeing eyes of the hallmark courts. The same probably also applied to the artisans in charge of the preparation of silk and worsted fabrics.

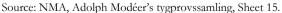
Wool preparation, spinning, weaving, patterning, preparation, and dyeing were affected by differences in the production processes. The state manufacturing policy was at times very detailed, almost a little French in its elaborate regulation (Minard 1998). In addition to the 1739 and 1772 hallmark court ordinances which specified the textiles that the manufactures were expected to produce, there were several separate ordinances that for example defined how the handling of wool, dyeing, and the width of woollen fabrics should be organized. All of these were subcomponents in the larger state-defined manufacture system.

The preparation of worsted textiles was for example affected by the basic difference between short and long fibres. Carded wool and short cotton fibres had to be crushed and felted, while cotton and camel yarn was created by twining long parallel fibres. Silk yarn was made from the extremely fine threads in silk cocoons. The preparation of short-fibre fabrics began with rolling, where the fabric was processed with a kind of pounding mallet or wooden logs whereby the strength of the fabric was significantly increased. The remaining loose fibres was then roughened up with special brushes and the lint of the surface was cut off with specially designed scissors. In the wool industry this was called shearing and was an advanced craft and a special profession just like dveing. The finer the fashion quality in question, the more rounds of such finishing were required. The result was a thin and almost indestructible fabric that got its variation from the fineness of the wool that was used; nuances in the change of fashion that were described in the fashion magazines of the early nineteenth century. The many conflicts that arose when errors were made during these stages of refinement dominate the protocols of the hallmark courts and provide a unique insight into the implementation of the manufacturing policies.

While fabrics based on short fibres could be blended and dyed during different stages of the refining process, the dyeing of silk and worsted fabrics typically happened during the finishing stages. In connection with this, the fabric would be washed, stretched and mangled. As with clothing, the process ended with the fabric being pressed. An important part of the imitation of the international model was to ensure that the fabric achieved the required shine and lustre.

Fig. 6. Only following the finishing stages in the production of smooth silk satin was the required lightness and shine created





Until 1766, there was extensive experimentation with state support for different kinds of production methods and a varied product range. After 1766, the subsidies were modernized and more saleable production came to the fore (see also Miller 2014 for the French context). This led to a narrower product range of single-coloured and smooth silk and worsted fabrics, as well as increased production of

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fine and medium-fine woollen. State-provided monetary support decreased while the discounting of wool and finished fabrics was accepted with heavily subsidized interest rates.

In summary, the manufacturing policy affected the fashion and production of Swedish luxury goods in various ways, above all by regulating production in detail according to international standards. The state governed through special ordinances that specified the technical properties of the textiles that the municipal hallmark courts were called on to inspect. The authorities in particular challenged the guild system. In Stockholm this for example led to the hallmark court taking over the inspection of textiles from the three guilds that represented weavers, shearers and dyers. As a result, the management and control of manufacturing was given a new administration which did things differently than the traditional guild system. It also further integrated the Swedish production system with the European standard.

The background to the project

This article is the second out of three planned studies in the project «Fashion, luxury, credit and trust» that summarizes how the institutional design of fashion and luxury industries in Sweden, including credit institutions, affected fashion growth and design at the end of the early modern period. The first study, which would have originally been presented at the Datini Symposium in 2020 under the heading «Fashion, luxury, credit and trust in eighteenth and early nineteenth century Stockholm», focused on conditions in the credit market. When the symposium was moved to 2021 due to the covid-19 pandemic, it was instead integrated in the anthology Luxury, Fashion and the Early Modern Idea of Credit, which was published as volume 62 in the Routledge series Perspectives in Economic and Social *History* at the end of 2020. The current study continues by analysing the role of state-sponsored textile manufactures in Sweden as fashion creators and distributors. The study should be read in parallel with the first study, which dealt with the growth of the Swedish luxury industries as well as the social and institutional transformation that followed after the introduction of new manufacturing legislation in Sweden. It also discussed the Swedish research situation and older interpretations that mainly relate to the Scandinavian research situation. A third study will conclude the project: The production of international fashion in state-sponsored manufactures in Sweden, 1740-1810. Part II. It will broaden the investigation of the manufacture production and place it in an international comparative perspective.

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