

The fabric of society

**The organization of textile manufacturing in the Middle East and Europe,
c. 700 – c. 1500**

Version 17 Feb 2011

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Jessica Dijkman
j.dijkman@uu.nl

1. Introduction

There can be little doubt that in the early Middle Ages the economies of the Middle East performed much better than those of Western Europe. Their success can only partially be attributed to the inheritance of the Byzantine and Sassanian empires that dominated the region before the Arab conquests. Although much quantitative work remains to be done, a marked increase of urbanization and monetarization makes it clear that considerable progress was made during the early Islamic period.¹ By the end of the Middle Ages, however, the tables had turned. The Middle East had failed to sustain its dynamic development, while the economies of Western Europe had embarked on a course of rapid expansion. The slow-down of progress in the Islamic world was not a uniform process; there were marked regional differences in pace and timing. The economy of Iraq showed clear signs of stagnation or even contraction from the early tenth century CE onward; diminishing tax returns moreover suggest that decline may have begun much earlier than that. At that stage other parts of the Middle East, for instance Egypt, still prospered. Nevertheless, the general trend is clear: at the end of the Middle Ages the Islamic world was overtaken by the West.²

In recent years several attempts have been made to use institutional theory to explain this divergence between the Middle East and Europe. Most of these attempts focus on the organization of international trade. In the first three centuries after the Arab conquests, the argument goes, international trade in the Islamic world was stimulated by the rise of a vast unified empire that removed trade barriers and by the favourable legal institutions that developed under Islamic law, in particular the arrangements for commercial partnerships and credit.³ However, in the late Middle Ages increasing political fragmentation as a result of the gradual disintegration of the 'Abbasid caliphate was not, as in Europe, compensated by 'bottom-up' institutions such as urban communes and merchant guilds.⁴ In addition, the legal institutions that had been so useful before gradually came to be handicaps. The strictly individual character of Islamic laws did not permit partnerships with a legal standing of their own, able to outlive the individuals who constituted the partnership. In combination with an egalitarian inheritance law this created incentives for keeping partnerships small, which in turn dampened the need for organizational innovations. While commercial institutions in Europe adapted to changing needs, in the Middle East institutional sclerosis hindered further growth.⁵

The emphasis on commercial institutions fits in with an influential strain of thought that regards international trade as the motor of economic change in the Middle Ages, both in Europe and in the Islamic world. The notion can be traced to the theories of Henri Pirenne, who believed that in Europe the revival of long-distance trade in the eleventh century had triggered the emergence of towns and the development of urban industries.⁶ Scholars applying Pirenne's line of argument to the Islamic world perceived a development in the opposite direction. In the view of Claude Cahen the prosperity of

¹ Kennedy, 'Military Pay', 155-159. For a survey of the available data and the possibilities for quantitative analysis: Shatzmiller, 'Economic Performance'.

² Ashtor, *Social and Economic history*, 63-66, 168-177 (Iraq), and 126-130, 191-208, 288-301 (Egypt); Cahen, 'Quelque mots'.

³ The effects of the unification on trade are summarized by Ashtor, *Social and Economic history*, 77-80; the authoritative work on the development of commercial institutions is Udovitch, *Partnership and Profit*.

⁴ The absence of bottom-up institution building is emphasized by Bosker, Buringh and Van Zanden, 'From Baghdad to London', 18, 26-27.

⁵ Kuran, 'Why the Middle East', esp. 78-80; Kuran, *Islamic Commercial Crisis*, ***.

⁶ Pirenne, *Mouvement économique et social*; cf. Lopez, *Commercial Revolution*.

the early medieval Islamic world had been based on the revenues of a flourishing transit trade, while the decline of that trade in the late Middle Ages led to general economic contraction.⁷ Later research has discovered several flaws in Pirenne's reasoning. Research on the rise of cities in north-western Europe, for instance, has shown that industry and local trade were probably more important as motors of urban development than long-distance trade.⁸ For the Islamic world the driving force of long-distance trade in economic development is also questioned. Forceful criticism is ventured by Maya Shatzmiller, who claims that early Islamic trade could only exist because it was fed by a productive, diversified, specialized, and market-oriented manufacturing sector.⁹

If the manufacturing sector was as important as Shatzmiller claims, the search for an explanation for the diverging performance of the Middle Eastern and European economies should not be restricted to trade: we should also look at the role of industry. This paper is intended as an exploratory step in this direction. The paper studies the development of one industrial sector, export-oriented textile production, over a very long period of time: from the seventh to the fifteenth century CE. The performance of this sector may have been affected by a variety of factors, both exogenous and endogenous. The lengthy period under study neutralizes, at least in part, the effects of sudden shocks such as wars, epidemics and natural disasters. What remains are long-term developments: demographic trends or developments in other sectors of the economy, and endogenous, institutional factors. The paper concentrates on this last category: it explores to which extent the organization of export-oriented textile manufacturing may have contributed to the early success of this sector in the Middle East and its later failure to keep up with the West.

Textile manufacturing has been selected because it is a relatively well-documented industrial activity, and moreover an important one in terms of the number of people employed. The focus on export-oriented industries makes it possible, in the absence of reliable quantitative output data, to use an alternative indicator to measure performance: success, or the lack of it, in a competitive international market. Iraq and Egypt have been chosen because together they cover the era of economic prosperity of the Middle East. Iraq was not a predominantly industrial country in general, but its textiles—mainly silks—were exported throughout the Islamic world in the eighth and ninth centuries. Egypt was a very important textile producer: the Egyptian linen industry dominated Middle Eastern markets in the tenth to twelfth centuries.

Comparisons are drawn to northern Italy and the southern Low Countries, the first two regions in Europe to develop successful export industries in textiles. Northern Italy specialized in cottons in the twelfth and thirteenth centuries, switching to woollens and silks afterwards. The southern Low Countries were major woollen producers from the eleventh to the fifteenth centuries; in addition a successful linen industry emerged in the fourteenth century. By including these two regions in the analysis it becomes possible to determine the timing of the transition of economic leadership from the east to west more precisely. It also becomes possible to compare institutional differences between Europe and the Middle East; this contributes to a better understanding of the backgrounds of the transition.

From the literature on the organization of production in textile manufacturing two issues emerge that might help explain the early success of textile manufacturing in the Middle

⁷ Cahen, 'Quelques mots'.

⁸ Verhulst, *Rise of cities*, ***.

⁹ Shatzmiller, *Labour*, esp. 43-50, 170-172, 200-201; cf. Shatzmiller, 'Misconstrued link'. Shatzmiller's claim that the manufacturing sector continued to flourish in the late Middle Ages will be discussed below.

East and its failure to keep up with Europe in the late Middle Ages. The first of the two is the relationship between state-managed production on the one hand and the private sector on the other. The Umayyad and ‘Abbasid caliphs, building on the foundations laid by their Sassanian and Byzantine predecessors, developed a network of large state manufactories, known as *tiraz*, that provided the court in Baghdad with ceremonial robes and other garments to be worn by the caliph and his household, furnishings for the palace, annual gifts of clothing for high-ranking officials and army officers, and robes of honour to be donated to distinguished guests or other persons the caliph wished to reward. After the disintegration of the ‘Abbasid empire the *tiraz*-system was adopted by the rulers of the successor states, but by the end of the Middle Ages it seems to have been in decline.¹⁰

In his articles on Islamic textiles written in the 1940s and 1950s, R.B. Serjeant gives the impression that in the early medieval Middle East the *tiraz* dominated textile manufacturing and claims that they “were of first importance in the diffusion of new designs, techniques and fabrics”. It can thus be surmised that the existence of these state manufactories contributed to the early rise of textile manufacturing in the Islamic world.¹¹ The possible contribution of the *tiraz* to later stagnation has been outlined by Eliyahu Ashtor. He argues that one of the main assets of early medieval textile production was the freedom of entrepreneurs—merchants and manufacturers—who were not subjected to any kind of state control. This freedom, he claims, was curtailed under the dirigiste Seljuq and Ayyubid regimes that succeeded the ‘Abbasid caliphs and even more so under the Mamluks in fourteenth- and fifteenth-century Egypt. Heavy taxation and state monopolies on raw materials for the provision of the *tiraz* weakened the private sector, which could no longer compete. Meanwhile the *tiraz* themselves were ruined by mismanagement and corruption. Capital investments fell and technological innovation came to a halt; Middle Eastern textile production could no longer keep up with the West.¹²

The second factor that may have contributed to the diverging developments of the Middle Eastern and the European textile industries is the relation between entrepreneurs and craftsmen. Artisans employed in the large urban textile industries of late medieval Western Europe were usually organized in guilds. In the Islamic world, on the other hand, craft guilds appear to have been non-existent until the very end of the Middle Ages, when they emerged in the cities of the Ottoman empire. In fact, until the 1960s the prevailing view, based on an hypothesis advanced by the eminent scholar of Islamic culture Louis Massignon, held that these later Islamic guilds dated back to the early Middle Ages.¹³ But around 1970 a systematic review of the sources cited by Massignon led to a very different conclusion. Although there was little doubt that there were informal bonds between craftsmen who lived in the same neighbourhood or shared a common ethnic or religious background, it turned out that no hard proof could be found for the existence of Islamic guilds—in the sense of corporative bodies with a certain degree of autonomy—before the Ottoman era.¹⁴

¹⁰ Grohmann, ‘Tiraz’; Serjeant, ‘Islamic textiles’ I, 58-63. The term *tiraz* is sometimes also used to denote large-scale private industries. In order to avoid confusion, I have not adopted this practice: I use the word *tiraz* as a synonym of state-managed manufactories.

¹¹ Serjeant, ‘Islamic textiles’ I, 58.

¹² Ashtor, *Social and Economic History*, 246-248, 308-309.

¹³ Massignon, ‘Les corps de métiers’, ‘La futuwwa’ and ‘Islamic Guilds’; cf. Lewis, ‘Islamic guilds’, who follows and clarifies Massignon’s ideas.

¹⁴ Cahen, ‘Y a-t-il eu’; Stern, ‘Constitution’, 36-47; Baer, ‘Guilds’. There is a growing body of literature on the Ottoman guilds of the early modern era. For a recent survey outlining themes and approaches, see

The European guilds have long been seen as rigid, conservative institutions that discouraged innovation and hampered progress. Henri Pirenne, to name one of the most prominent spokesmen of this point of view, has argued that the textile industries of the cities of the southern Low Countries had done well as long as they were dominated by merchant-entrepreneurs. At the end of the Middle Ages, however, they were strangled by guild regulation and guild protectionism.¹⁵ Since the 1980s new research has given rise to a re-evaluation of the role of guilds. It appears that guilds were not only more flexible than it was previously thought, but also fulfilled at least important functions that could help to create and maintain an environment stimulating economic growth. Guilds contributed to the development and diffusion of human capital through the regulation of apprenticeship, they helped to reduce information asymmetries between producers and consumers by providing mechanisms for quality control, and in a world dominated by small workshops they improved the coordination of complicated production processes.¹⁶ In reaction to Pirenne the adherents of this 'revisionist' view have pointed out that the guild-dominated textile industries in the southern Low Countries sustained a successful export trade capable of innovation and of a flexible response to changes in demand.¹⁷ It might thus be argued that whereas in Europe the guilds facilitated long-term growth of textile manufacturing, the absence of such institutions prevented the Middle Eastern industries from making similar progress.

In order to explore the contribution of the two factors just described to the diverging development of the Middle Eastern and the European textile industries, the next section first outlines the long-term trends in the performance of the textile export industries. Because of the scarcity of quantitative data, this is done by combining and interpreting qualitative information, with special attention to the shifting balance of the textile trade between East to West. The long-term trends thus reconstructed are then linked to the two institutional factors mentioned above: section 3 explores the effects of state-managed production in the Middle East, while section 4 discusses the possible consequences of the absence of craft guilds.

Obviously this approach cannot answer all questions. The analysis is largely based on inference from indirect evidence: the co-incidence of institutional developments and trends in performance. The details of the mechanisms that linked the first to the second are not systematically researched. This would require an in-depth investigation of the functioning and efficiency of institutional arrangements, preferably in a comparative perspective. However, the available information for the Middle East on important issues such as, for instance, the transfer of skills is so much less detailed than for Europe that options for a meaningful comparison on this level are very much restricted. The paper points out possibilities and impossibilities, probabilities and improbabilities; it thus helps determine the direction of future research.

2. Long-term developments in textile manufacturing

In the first centuries after the Arab conquests textile industries in the Middle East flourished. Existing woollen and linen industries found new markets, while cotton and

Hanna, 'Guilds in recent historical scholarship'. A collection of relevant contributions on the subject has been published by Faroqi and Deguilhem, *Crafts and Craftsmen*.

¹⁵ Pirenne, 'Crise industrielle', ***.

¹⁶ Epstein and Prak, 'Introduction', 4, 7-14, and the literature cited there.

¹⁷ Duplessis and Howell, 'Reconsidering'; Lis and Soly, 'Ambachtsgilden in vergelijkend perspectief'.

silk production, confined to only a few regions in the pre-Islamic era, spread rapidly.¹⁸ Umayyad and 'Abbasid Iraq was mainly known for its important position in international trade, but the country also produced a variety of high-quality fabrics, mainly silks and cottons. Iraqi silks in particular had a certain fame, and at an early stage: literary texts from the late seventh or early eighth century CE refer to silk fabrics and garments from Iraq as desirable commodities. Some of the manufacturing centres of Iraq (for instance Mosul in Upper Mesopotamia) were towns that pre-dated the Islamic era, although it is not clear if at that stage they were already cloth producers. But Iraq was best known for the silks made in its three largest cities Baghdad, Basra and Kufa, all three newly founded by the Arabs. By the tenth century these three cities had developed into important centres of export production: authors of the era praised the various silks manufactured there.¹⁹

Notably, some of these authors also recorded the undeniable signs of general economic and demographic decay which by that time had set in. Muqaddasi and Ibn Hawqal for instance both drew attention to the depopulation of Baghdad.²⁰ But although this must have affected the production capacity of the city's textile industries, these industries were still impressive around the year 1000. In 985 the Buyide emir Simsam al-Dawla tried to introduce a new ten per cent tax on the manufacture of silks and cottons in Baghdad, which was estimated to render about one million dirhams. The total value of the annual production of these fabrics in the city can thus be estimated at the very substantial sum of ten million dirham or about 600,000 dinar.²¹

In the eleventh, twelfth and thirteenth centuries the general economic situation deteriorated rapidly. Invasions, political turmoil and natural disasters took their toll. The urban population of Baghdad and other towns contracted significantly.²² Textile manufacturing also declined, but the process was gradual. Around 1200 Baghdad still seems to have been an important manufacturing centre, producing large amounts of high-quality textiles for the court.²³ Marco Polo, who visited Iraq in the late thirteenth century, referred to the manufacturing of various costly silk fabrics in Baghdad; he also praised the silk muslins made in the northern town of Mosul and mentioned the great merchants who exported them. Even in the second half of the fourteenth century merchants from Baghdad and Basra visited Egypt in order to sell textiles made in Iraq, and Mosul apparently still produced good-quality boucassins (a cotton fabric) in the late sixteenth century.²⁴ Nonetheless, by the end of the Middle Ages little was left of the former international reputation of Iraq's textile industries.

Egypt was without a doubt a more important textile producer than Iraq. The cultivation of flax and the manufacturing of linen had a long history in Egypt, a tradition that was continued after the Arab conquest. From the late ninth century onward both flax cultivation and linen production appear to have expanded markedly. During the reign of the Fatimids (tenth to twelfth centuries) Egypt was the main linen producer and exporter

¹⁸ For an overview of the development of the 'old' woollen and linen manufactures and the 'new' cotton and silk industries Lombard, *Textiles musulmans*, 21-104.

¹⁹ Ashtor, *Social and Economic History*, 97; Serjeant, 'Islamic textiles' I, 81-82, 85, 89-91; Muqaddasi, *Divisions*, 117.

²⁰ Muqaddasi, *Divisions*, 109; Ibn Hawqal, *Configuration de la terre* I, 234.

²¹ Ashtor, *Social and Economic History*, 151; Serjeant 'Islamic Textiles' I, 82.

²² Ashtor, *Social and Economic History*, 217-222, 249-254; for estimates of population decline Adams, *Land behind Baghdad*, 115-116.

²³ Allsen, *Commodity and exchange*, 33.

²⁴ Marco Polo, *Travels* (tr. Latham 1958), 51-52; Serjeant, 'Islamic textiles' I, 84 and 92; Ashtor, *Social and Economic History*, 262, 275.

of the Muslim world. In the Nile delta in particular linen fabrics of every kind were manufactured in large quantities. The two main production centres were Tinnis and Damietta, but a host of smaller settlements in the region also engaged in textile manufacturing. Linen cloth was also produced in Alexandria, in the Fayyum district, and in a few towns in Upper Egypt.²⁵

Tinnis and Damietta, strategically situated in the eastern part of the Nile delta, were destroyed in the early thirteenth century during the Crusader wars. Apparently the linen industry in the Tinnis-Damietta district did not recover from the blow: later authors describe the manufactures of not only these two towns, but also of some of the smaller textile centres in the area as a thing of the past. However, the textile industry in Alexandria, at the western tip of the delta, did not suffer the same fate; Alexandria still exported fine linens in the early fourteenth century.²⁶

While the Egyptian economy did well enough during the first century of Mamluk rule, the plague epidemics of the second half of the fourteenth century heralded an era of economic decline and stagnation. Stuart Borsch has shown that Egypt, in contrast to England and other European countries, failed to recover from the effects of the plague.²⁷ Borsch bases this conclusion on a sharp decline of the agricultural output, but in the Alexandria textile industry signs of contraction were visible as well. According to contemporary Egyptian historians the city harboured 14,000 looms in the late fourteenth century, while in 1434 only 800 were left. Even if the figures as such are open to doubt, they do indicate a strong decline.²⁸ Alexandrian linen manufacturing was not completely wiped out, as is shown by references to linens made in Alexandria in late fifteenth-century documents.²⁹ However, the textile industry did not escape the general decline of the Egyptian economy in the fourteenth century, nor its failure to recover in the fifteenth century.

A shifting balance

In early medieval Europe small quantities of precious fabrics, mainly silks, imported from the Middle East by Arab merchants, had found their way to a select group of buyers who could afford such luxuries: kings, wealthy noblemen, and high-ranking members of the clergy. In reaction to Henri Pirenne, who claimed these imports stopped in the Carolingian era, Etienne Sabbe has shown that this was not the case: they continued undiminished in the ninth and tenth centuries.³⁰ At this stage Europe had raw materials and agricultural products to offer in return, but no textiles. Certainly, trade in the famous Frisian cloth was interregional in the sense that the Frisian trade network covered much of north-western Europe. However, the only reference to Frisian cloth in relation to the Middle East is in the *Gesta Karoli* composed in the late ninth century: it states that Charlemagne included Frisian cloth in a gift to caliph Harun al-Rashid, because he had heard that in the lands of the caliph the cloth was highly valued.³¹ The reliability of this source is doubtful, but even if the gift really took place a regular trade is highly unlikely: the Islamic sources of the era make no mention of European textiles.

²⁵ Serjeant, 'Islamic Textiles' IV, 91-100; 106-109; Lombard, *Textiles musulmans*, 47-50; Wheatley, *Places*, 194-196.

²⁶ Serjeant, 'Islamic Textiles' IV, 97-102.

²⁷ Borsch, *Black Death in Egypt and England*, ***.

²⁸ Bosworth, *Historical Cities*, 18; Ashtor, 'Lainages', 671.

²⁹ Serjeant, 'Islamic Textiles' IV, 103-104.

³⁰ Sabbe, 'L'importation des tissus orientaux'.

³¹ Sénac, 'Les Carolingiens', 43, 55.

Textile imports from the Middle East probably increased in the tenth and eleventh centuries, when Italian merchants, following up on tentative beginnings made in the eighth and ninth centuries, built up an extensive trading network in the Mediterranean. By 1100 merchants from Genoa, Pisa and Venice, frequented the main ports of the Levant, where they purchased a wide range of luxury commodities; high-quality silks, cottons and linens were among them.³² The conquests of the Crusaders in the Levant provided an additional stimulus. Cottons and silks made by indigenous artisans in occupied territory, or brought in from neighbouring Muslim regions, were transported to Europe from the Frankish ports along the Levantine coast.³³ Nor did the Muslim reconquest at the end of the thirteenth century put an end to this line of trade. Amidst long lists of spices and raw cotton, the late fourteenth-century Datini documents mention modest quantities of boucassins, camlets (a rich fabric made of goat's wool and silk) and silks being transported from Syria to ports in Italy, southern France and Catalonia.³⁴

In other words, at least until the end of the fourteenth century exports of modest quantities of valuable fabrics from the Middle East to Europe were a constant factor. Change came from another quarter: from the twelfth century onwards Europe began to export large quantities of affordable European textiles to the Middle East. Ashtor, while acknowledging that some European cloth was exported to the Middle East even at the time of the Crusades, claims that a dramatic increase took place in the early fifteenth century, when woollens from various European countries, but especially from Italy, were 'dumped' in large quantities and at favourable prices in the markets of Alexandria, Damascus and other cities in the Levant. In addition, linens and luxury fabrics such as silks and velvet were also transported to the east. The indigenous industries, already weakened by the absence of technological innovation, could not compete and dwindled.³⁵

But Ashtor's interpretation has been criticized. Objections have largely focused on what happened in the fifteenth century. It has been pointed out, for instance, that prices of European cloth on the Middle Eastern markets were not lower than in Europe and that therefore dumping in the sense of deliberately reducing prices in order to eliminate competition of indigenous industries did not take place.³⁶ A closer look at the preceding period raises additional doubts: there is good reason to believe that Ashtor underestimated export volumes before the fifteenth century.

Research in the notarial archives of Genoa has shown that in the second half of the twelfth century woollens from various towns and villages in Artois and Flanders were shipped from this Italian port town to Sicily, Syria, Alexandria and northern Africa.³⁷ Urban woollen manufacturing in northern France and the southern Low Countries seems to have emerged in a few towns in the tenth century, spreading rapidly in the eleventh century. The products soon acquired a prominent position in international trade; woollen cloth from Ypres was apparently known in Novgorod as early as the 1130s.³⁸ Notably, it was not until the fourteenth century that woollen production in the southern Low Countries focused on heavy, luxury cloth. In the late twelfth century

³² Lopez, *Commercial Revolution* 63-65; Goldthwaite, *Economy of Renaissance Florence*, 3-5.

³³ Jacoby, 'Economic function', 174-175, 182.

³⁴ Ashtor, 'Volume of Levantine Trade', 587-588.

³⁵ Ashtor, *Social and economic history*, 307-309; Ashtor, 'Lainages', esp. 667, 671, 673-676, 680-686; Ashtor, 'Exportation', esp. 305-309, 369-375; cf. Munro, 'South German silver', 928, who argues that thanks to the voluminous export of textiles Europe's balance of trade deficit in the Levantine trade was relatively modest.

³⁶ Munro, 'South German Silver', 939.

³⁷ Krueger, 'Genoese Exportation'.

³⁸ Verhulst, *Rise*, 135, 137; Pirenne, 'Draps d'Ypres'.

exports were dominated by relatively cheap and light fabrics that sold well in the Middle East.³⁹ Although the twelfth-century Genoa notarial archives provide no detailed quantitative information on the volumes of woollen cloth shipped to the Middle East, they do show that these shipments were not incidental: even at that stage this was a regular and substantial line of trade.⁴⁰

The Genoa records also show that there was one other type of European textile frequently included in these overseas shipments: fustians (cloth with a cotton weft and a linen warp) from Lombardy. In Italy export-oriented textile manufacturing emerged later than in the southern Low Countries; when it developed it focused not on indigenous woollens or linens but on cottons, using technical know-how transferred from the Islamic world. In the twelfth and thirteenth centuries cotton industries emerged in many parts of the peninsula, but especially in the towns in the north, where cotton manufacturing, frequently in the shape of fustians, developed into a major industry.⁴¹

In quantitative terms twelfth-century exports of woollens to the Middle East were probably more important than the fustians.⁴² However, the fact that the latter were there at all is striking: after all, cotton manufacturing was relatively new in northern Italy. Moreover raw cotton had to be imported. A significant part of it came from the Middle East; thus a pattern was established that combined westward transports of raw materials with eastward shipments of manufactures.⁴³ Apparently the young Italian cotton industry was able to sell its products abroad very soon after its take-off, and what is more, to market them successfully in the Middle East despite the presence of well-established indigenous industries there and despite the added transport costs for raw materials and finished products.

In the fourteenth and fifteenth centuries important changes took place in the textile industries of the Low Countries and Italy. From around 1300 the northern woollen industries and the Italian cotton industries both encountered serious problems, caused by a combination of wars, population decline and the subsequent decline in demand for mass products, and the rise of competing industries in other parts of Europe.⁴⁴ Production of the light northern woollens and the Italian cottons declined. However, in their place came new textile industries that answered to a growing demand for higher-quality fabrics. The woollen industries in the towns of the southern Low Countries switched to the production of heavy, luxury woollen cloth made exclusively from high-quality English wool. Although the Mediterranean market was largely lost, ready markets for these products were found in northern Europe.⁴⁵ When in the fifteenth century woollen manufacturing once again faced serious problems because of the rising export duties on English wool and the rise of competing wool industries in England and Holland, the woollen industries in the southern Low Countries adapted again: producers switched to the use of Spanish merino wool for good-quality cloth, first in the smaller towns and later also in the large cities. Some towns also re-initiated the production of the light and cheap *sayes* that had been so successful in the twelfth and thirteenth centuries.⁴⁶ In addition, linen manufacturing developed into a flourishing export-

³⁹ Chorley, 'Cloth exports', esp. 366-368.

⁴⁰ Krueger, 'Genoese Exportation', esp. 749-750; cf. Munro, *South German Silver*, 912-913.

⁴¹ Mazzaoui, *Italian Cotton Industry*, 29-30, 59-66, 87.

⁴² Krueger, 'Genoese Exportation', 746.

⁴³ Mazzaoui, *Italian Cotton Industry*, 61-64.

⁴⁴ Mazzaoui, *Italian Cotton Industry*, 129-131, 138-139, 144-150; Munro, 'Medieval woollens', 241-243.

⁴⁵ Munro, 'Medieval woollens', 244-246, 249-250; cf. Munro, 'Industrial transformations' and Van der Wee, 'Structural Changes'.

⁴⁶ Munro, 'Medieval woollens', 287-290, 297-298.

oriented industry. In the sixteenth century the products of the rapidly expanding linen industries of the southern Low Countries were sold all over western Europe.⁴⁷

In the fourteenth century woollen industries also emerged in northern and central Italy; these produced a lighter variety of the northern woollens that appealed to customers in southern Europe and the Middle East. When at the end of the fourteenth century the price of English wool rose, the Italian industries were quick to switch to Spanish merino wool. This did not prevent a slump in the production of the important woollen industry of Florence in the late fourteenth and the first quarter of the fifteenth century, but it may well have aided its recovery afterward: in the second half of the fifteenth century Florence once more produced large quantities of good-quality cloth.⁴⁸ More striking still was the development of the silk industry, which had been introduced at about the same time as cotton manufacturing, but had grown only very gradually in the twelfth and thirteenth centuries. In the fourteenth century this industry profited from an increased demand for the lighter silks, now within reach of the urban upper middle classes.⁴⁹ By the end of the century Italy had become a net exporter of silk fabrics, buying raw silk in the Middle East and offering tissues in return.⁵⁰ Especially in the fifteenth century silk manufacturing expanded rapidly. By the end of the Middle Ages silk manufacturing had become one of Italy's most important urban export industries: Italian silks completely dominated the markets of all of Europe and of the Levant.⁵¹

Two conclusions can be drawn. Firstly, while textile manufacturing in the Low Countries and Italy at times encountered serious problems and witnessed periods of strong decline, the industries proved flexible and resilient: through adaptation to changing markets and product innovation they managed to regain their footing and initiate renewed growth. The industries in Iraq and Egypt on the other hand do not display this pattern of renewal; both had their era of prosperity, but after decline had set in they did not switch to new products or search out new markets; no new cycle of growth was initiated. Secondly, it seems that the foundations for Europe's superior efficiency in textile manufacturing were laid as early as the twelfth century, while in the fourteenth century European preponderance over the Middle East was a fact. The problems in fifteenth-century Egypt no doubt pushed the process even further, but by that time it already had a long history.

It is hard to reconcile these conclusions with Maya Shatzmiller's assertion that in the later Middle Ages textile manufacturing in the Islamic world displayed not only stability and continuity, but even growth and an increasing division of labour.⁵² Shatzmiller bases this statement on an analysis of occupational terms derived from a total of 26 medieval sources and modern works from two broad periods, the eighth to eleventh and the twelfth to fifteenth centuries. Her claim that the textile industry continued to do well rests on the assumption that the greater number of references to occupations in textile manufacturing in the second period (145 against 128 in the first period) indicates a greater share of textile manufacturing in the labour force, while the greater number of unique occupations (90 against 80 in the first period) is signals a

⁴⁷ Sabbe, *Belgische vlasnijverheid*, esp. 125-134, 249.

⁴⁸ Goldthwaite, *Economy of Renaissance Florence*, 267-279; Munro, 'Medieval Woollens', 262-266. The quantitative information in these works is mainly based on the detailed study by Hoshino, *L'arte della lana*.

⁴⁹ Dini, 'L'industria serica', ***.

⁵⁰ Balard, 'Relations économiques', 216-217.

⁵¹ Molà, *Silk industry of Renaissance Venice*, xv, 3-4.

⁵² Shatzmiller, *Labour*, 240; cf. Shatzmiller, 'A misconstrued link'.

higher degree of specialization. However, both assumptions are questionable.⁵³ The fact that Shatzmiller's sources reflect the purpose for which the documents were made rather than actual economic practice in itself does not pose an insurmountable problem: it might still be possible to draw conclusions about an increase of the share of textile manufacturing or the degree of specialization if the sources for the early period were similar in nature to those for the second period. This, however, is not the case.

For the later period almost half of all references to occupations in textile manufacturing (71 out of 145) are derived from *hisba* manuals: the manuals for the *muhtasib*, the urban inspector of industry and trade, which naturally pay a great deal of attention to crafts. For the early period only very few of these manuals have been preserved: it is therefore not surprising that the few that have, render only 23 references to textile-related occupations. Shatzmiller's most important source of occupational terms for the early period is the modern study of Hayyim Cohen on the economic background of religious scholars.⁵⁴ Even though most scholars came from mercantile families and only a minority were artisans or sons of artisans, this study still provides a total of 51 references to occupations in textile-manufacturing. The closest comparison that Shatzmiller uses for the later period is Carl Petry's work on the elite in fifteenth-century Cairo, which is also largely based on biographical information of religious scholars. But although Petry's study contributes a large number of occupational cases to Shatzmiller's database, only eleven of these occupations are related to the textile industry.⁵⁵ If anything, this suggests a decline of textile manufacturing in the late Middle Ages rather than growth or even continuity.

3. State and entrepreneurs

The active involvement of the state in manufacturing is certainly a distinguishing characteristic of the Middle East: institutions comparable to the *tiraz*, the state workshops of the Islamic states, were unknown in late medieval Europe. They had existed in the later Roman empire, when imperial factories producing woollen or linen cloth (*gynaecea* and *linyphia*) and dyeworks (*baphia*) had been established in a number of towns in Italy, Gaul and even in Britain. These factories made uniforms for the army and high-quality garments for the imperial court, although they never produced more than a fraction of the state's requirements. They were managed by state officials and staffed, at least originally, by state slaves.⁵⁶ *Gynaecea* also existed in Carolingian Europe, but in somewhat different form: the Carolingian *gynaecea* were workshops on large estates—royal, but also aristocratic or ecclesiastical—where groups of villein women were engaged in weaving as a compulsory labour service. However, the *gynaecea* had disappeared around the eleventh century, when textile production moved to the towns.⁵⁷

Notably, the *tiraz* were not an Arab invention. The Byzantine and Sassanian rulers of the pre-Islamic era had levied part of the taxes owed by the textile-producing provinces of their realm in cloth produced in state-dominated workshops. It seems that the Umayyads adopted this system and gradually extended it. By the late eighth century

⁵³ For a critique of Shatzmiller's method see the review by Lawrence Conrad, *International Journal of Middle East Studies* (31) 1999, 120-124.

⁵⁴ Cohen, 'Economic backgrounds'.

⁵⁵ Petry, *Civilian Elite*.

⁵⁶ Jones, *Later Roman Empire*, 836.

⁵⁷ Verhulst, *Carolingian Economy*, 74-75; Herlihy, *Opera Muliebria*, 78-92.

the *tiraz* system was fully operational: state workshops supplying the court with large quantities of valuable textiles existed in all textile-producing regions in the empire.⁵⁸

In the introduction a hypothesis has been formulated about the contribution of the state manufactories to both the early rise and the later decline of the Middle Eastern textile industries. Initially the *tiraz* may have stimulated specialization and furthered the easy diffusion of new techniques and designs; afterwards they may have become so dominant that they stifled private entrepreneurship, while their own position was eroded by corruption and mismanagement. This section investigates both sides of this hypothesis, beginning with the possible contribution of the *tiraz* to the success of textile manufacturing in the early medieval Middle East.

As a starting point some indication of the respective sizes of the state and the private sectors is helpful. It is often suggested, although usually implicitly, that in terms of output and employment the share of the state workshops in textile manufacturing was considerable.⁵⁹ Maya Shatzmiller has shed doubt on this assumption by pointing out that the admiration of contemporary authors for the voluminous stocks of beautiful fabrics in the royal store rooms cannot be taken as a reflection of the contribution of state workshops to total textile production. However, she has not ventured a quantitative assessment.⁶⁰ Because of the scarcity of data this is indeed a difficult task, but for 'Abbasid Baghdad we do have a few snippets of information that suggest at least an order of magnitude.

Because later generations saw the government of caliph al-Mu'tadid (892-902) as exemplary, the eleventh-century historian Hilal al-Sabi included a copy of the expenditure budget of the court of al-Mu'tadid in his *Book of Vizirs*. It shows that about 3,000 dinar per month was spent on the maintenance of the craftsmen employed in the royal store rooms and workshops in Baghdad. These included artisans in professions not related to textiles, such as goldsmiths, carpenters, perfume makers, cobblers, and armourers, but also tailors, fullers, menders, furriers, embroiderers, upholsterers and makers of trimmings.⁶¹ Notably, weavers are not mentioned; the palace workshop seems to have focused on finishing, tailoring, decorating and repairing garments and furnishings. The textiles themselves were probably commanded from *tiraz* in other parts of the empire or purchased from private producers in Iraq; another post in the budget mentions the expenses for the store rooms of clothing and tapestry, which include the costs of linen for tents, brocades and curtains.⁶²

The budget mentions that the artisans in the royal workshop were paid every 50 days. The term of payment was an indication of rank: the highest court functionaries were paid every 30 days, the humblest every 120 days. With their 50-day payment term the artisans at the workshop ranked at the same level as another group mentioned in the budget: the newly arrived Turkish *ghilman*, who were to be trained as military men. These *ghilman* received an initial monthly allowance of 5 dinar for the young and 10 dinar for the more experienced. If the artisans in the workshops received the same allowance, the monthly budget of 3,000 dinar paid for the services of 600 workers at

⁵⁸ Serjeant, 'Islamic Textiles' I, 62-63, 69.

⁵⁹ E.g. Ashtor, *Social and Economic History*, 150; Ben Abdallah, *L'Iqta*, 75-76.

⁶⁰ Shatzmiller, *Labour*, 244.

⁶¹ Busse, 'Hofbudget', 11-12, 24 (item 13); cf. Serjeant, 'Islamic textiles', I, 73

⁶² Busse, 'Hofbudget', 22-23 (item 10).

most.⁶³ Admittedly, this level of remuneration is high in comparison to the average wage of two dinar per month for craftsmen at this time, but the workers in the royal workshops were no doubt highly qualified specialists and may well have been rewarded accordingly.⁶⁴ Even if they should have been paid at standard artisan wage levels, the budget would have covered the wages of no more than about 1500 artisans. Considering the wide range of crafts represented in the workshop, there can hardly have been more than a few hundred of them employed in textiles.

The total number of people engaged in textile manufacturing in Baghdad was certainly much larger. According to Claude Cahen there were thousands of textile workers in the city in the late tenth century.⁶⁵ Cahen's statement is probably based on the tax data mentioned earlier, which indicate that at that time the value of the silks and cottons annually produced in Baghdad was about 600,000 dinar. Even if we assume that no more than 25% of this sum should have been spent on labour costs and that all workers were paid at rates customary for skilled craftsmen, this sum implies that there would have been at least 4,000 people employed in silk and cotton manufacturing in Baghdad at the end of the tenth century.⁶⁶ Around 900, when the population of Baghdad was at its peak, the number must have been larger still.

In short, both the focus on finishing and embellishing instead of weaving and the scarce information on the number of artisans employed suggest that the palace workshop in Baghdad constituted only a small part of total textile manufacturing in that city. In terms of employment and output volume the private sector must have been far more important. Moreover, with the possible exception of Samarra during the years when this town was the location of the 'Abbasid court, there seem to have been no state workshops elsewhere in Iraq.⁶⁷ Admittedly, in the Egyptian Nile delta and other major textile-producing regions such as Khuzistan, Fars, and Khurasan (all in present-day Iran) this was different: there state workshops were also found in other places than the capital. However, these regions were also concentrations of private manufacturing. When in the early ninth century the Christian patriarch Dionysios of Tell Mahre visited Tinnis in the Nile delta, the Coptic weavers complained to him about the merchants who exploited them. From other sources we know that there also was a state workshop in Tinnis, but the chronicler that described the visit of Dionysios made no reference to it.⁶⁸ Even if in towns like Tinnis the share of state-dominated production was higher than in Iraq, private production no doubt still dominated the scene.

Admittedly, the fact that the state sector was modest in size does not automatically exclude a leading role in the rise of textile manufacturing: if the *tiraz* contributed to the diffusion of skills and techniques, they might still have made a difference. There is evidence that in the Sassanian era this may indeed have been the case. In the third and the fourth centuries CE the Sassanian kings followed a policy of extending and consolidating their power by 'founding' cities; usually existing towns were renamed

⁶³ Busse, 'Hofbudget', 24 (item 12), 31-32; on the *ghilman* of al-Mu'tadid, cf. Kenney, *Armies of the caliphs*, 151-152, 156-159. I am grateful to Maaïke van Berkel for her help with the interpretation of al-Sabi's text.

⁶⁴ For the average monthly wage for skilled craftsmen in early tenth-century Iraq, see Ashtor, *Social and Economic History*, 154.

⁶⁵ Cahen, *Der Islam*, 168.

⁶⁶ The estimate of 25% is based on an estimate for silk production in Florence around 1500 (Dini, *L'industria serica*, 113). For cotton the share was probably higher because the raw material was cheaper. The average wage for skilled craftsmen in early eleventh-century Iraq was about 3 dinar (Ashtor, *Histoire des prix*, 112-113).

⁶⁷ Serjeant, 'Islamic Textiles' I, 72-73.

⁶⁸ Michel le Syrien, *Chronique* III (tr. Chabot), 63-64 ; Serjeant, 'Islamic Textiles' IV, 91-94.

after the ruling sovereign and brought under direct control of the crown. In these royal cities the kings settled groups of skilled artisans, partly drawn from conquered Roman (Byzantine) lands.⁶⁹ An illustration is provided by the story of the fourth-century Christian martyr Phusik, who was the son of such a deportee. A specialized silk brocade weaver himself, Phusik was put to work in one of the royal workshops in the city of Karkha-de-Ledan in Khuzistan (present-day western Iran) as one of the ‘artisans of the court’.⁷⁰ It has been suggested that the introduction of the draw loom that gave a major impetus to silk-weaving owed much to the forced transportations of Christian artisans, like Phusik and his father, from the Levant.⁷¹

References to forced resettlement of textile workers by the Umayyad and ‘Abbasid rulers are scarce, but we do know that on occasion (and perhaps more often than that) they applied the same methods. The Christian chronicler Michael the Syrian records that caliph al-Mu‘tassim (d. 842), returning from a military campaign in Egypt, took a group of Egyptian captives with him to Baghdad, some of whom were later put to work as weavers to make embroidered linens in the Egyptian fashion. Apparently these captives had skills in textile manufacturing that were not known in Baghdad.⁷² Of course long-distance transfers of knowledge of this kind would only have been beneficial to the textile industry as a whole if the newly imported skills did not stay in the *tiraz*, but trickled down to a wider group of producers. In this light it is important to note that Maya Shatzmiller’s analysis of occupations has failed to bring to light any manufacturing occupations specifically related to the *tiraz*. According to Shatzmiller state manufactories were not distinguished by a superior level of specialization and expertise; sometimes the same individuals worked in the state workshops and in the private sector.⁷³ This suggests that in cases of forced resettlement the skills that artisans brought with them could indeed spread to other craftsmen.

However, both the need and the possibilities for forced long-distance transportations probably declined over time. By the tenth century examples of specialties from one region being imitated elsewhere are frequent. Garments originally from Baghdad were, for instance, successfully copied in a village in Khuzistan and Baghdad silks were imitated in Isfahan (both in present-day Iran); Baghdad in turn produced *dabiki*, an imitation of a fabric from Dabik in the Nile delta.⁷⁴ Apparently by this time most designs and techniques were widely known throughout the Middle East. Moreover, possibilities for enforced long-distance transportation of skills must have diminished with the disintegration of the ‘Abbasid caliphate, at least until the arrival of the Mongols in the thirteenth century. The Mongol rulers applied coercive policies on an extensive scale: they registered all textile workers and put them to work in newly founded workshops under the direction of imperial commissioners. This probably did contribute to an interregional transfer of skills, but only in an eastward direction: Muslim artisans were resettled in China to produce garments for the Mongol court.⁷⁵

In summary, while in the Sassanian era and perhaps in the early stages of Islamic rule the *tiraz* may well have contributed to the dispersion of skills and techniques and

⁶⁹ Gyselen, ‘Economy in Sassanian Iran’.

⁷⁰ Pigulevskaya, *Villes*, 159-160.

⁷¹ Allgrove, ‘Sassanians’, 154; Allgrove, ‘Arts of Persia’, 152.

⁷² Michel le Syrien, *Chronique* III (tr. Chabot), 84. The chronicle also mentions that the Egyptian captives were accustomed to water and were very good swimmers. This, in combination with their weaving skills and the fact that al-Mu‘tassim had been fighting the Copts in Egypt, suggest that the captives may have come from Tinnis.

⁷³ Shatzmiller, *Labour*, 244-245.

⁷⁴ Serjeant ‘Islamic Textiles’, I, 83; II, 78; III, 107

⁷⁵ Allsen, *Commodity and exchange*, esp. 33. ***

thus to the success of textile manufacturing in the Middle East, it is unlikely that this contribution was still important after the ninth century. This suggests that the *tiraz* may have played a part in the early rise of textile industries in Iraq: as we have seen, these industries had already acquired a certain international name in the eighth century. For the Egyptian linen industries, which boomed in the ninth and tenth centuries, a vital role of the *tiraz* is much less likely.

This certainly does not mean that private entrepreneurs had no part in the early development of textile manufacturing in Iraq. Cohen's analysis of the biographies of scholars in religion and law—a popular genre in Islamic literature—has shown that in the first 470 years of Islam 22% of these scholars made a living in textiles, or stemmed from families engaged in textile-related occupations. Some were artisans, but the great majority were merchants or sons of merchants. Although Cohen's data are relatively poor for the seventh and eighth centuries—the biographies from that period often lack occupational information—for Iraq he does mention several eighth-century examples of theologians and jurists who had a background as drapers in Baghdad, Kufa or Basra.⁷⁶ Even if the *tiraz* should have contributed to the diffusion of techniques and skills, commercial production of silks and cottons for the international market depended on entrepreneurs like this.

Events in other parts of the Middle East suggest that the role of entrepreneurs increased in the ninth century. In an intriguing study Richard Bulliet describes the unfolding of a cotton boom on the Iranian plateau in the ninth century. Bulliet focuses mainly on the production of raw cotton. Cotton cultivation, he claims, was stimulated by the initiatives of wealthy entrepreneurs, many of them Muslims of Arab descent, who organized the reclamation of until then barren land by initiating irrigation works and founding new villages. The result was a significant increase of cotton production and of the trade in cotton cloth. Bulliet notes a strong increase of the number of dealers in cotton cloth in the town of Nishapur in Khurasan (northeastern Iran) in the ninth century. He also points out the presence of a large group of merchants in cotton cloth in Baghdad.⁷⁷

Bulliet does not discuss the role of either cotton growers or cloth dealers in the actual manufacturing of the cloth, but the analysis made by Gladys Frantz-Murphy of developments in the Egyptian linen industry suggests that both groups may have been involved; in fact, they may well have overlapped. Frantz-Murphy argues that in the second half of the ninth century investments in the cultivation of flax and the manufacturing of linen increased markedly, laying the foundation for Egypt's prosperous international linen trade in the Fatimid era. The entrepreneurs making the investments were often government officials who had been granted land on contract and were increasingly successful in withholding the tax revenues they were supposed to collect for the government.⁷⁸ More details about the actual operations of the Egyptian merchants and their relation to production is provided by a collection of papyri of the Banu 'Abd al-Mu'min, a family of merchants in the Fayyum district in the ninth century. The documents show that the family regularly commissioned textiles from a number of local weavers, which were then marketed through the family's agent in the town of Bahnasa.⁷⁹ For Egypt then, as for Iran, it seems clear that the rapid expansion of the

⁷⁶ Cohen, 'Economic background', 26-28.

⁷⁷ Bulliet, *Cotton, Climate, and Camels*, esp. 4-5, 44-45, 64-65, ***.

⁷⁸ Frantz-Murphy, 'New Interpretations', esp. 278-279.

⁷⁹ Ragib, *Marchands d'étoffes I*, 6-29, ***. The documents of the Banu 'Abd al-Mu'min family will be discussed in more detail below.

textile industry in the ninth century was initiated and carried by an emerging class of entrepreneurs; there is nothing to indicate a positive effect of the Egyptian *tiraz*.

For an investigation of Ashtor's hypothesis on the detrimental role of the state in the late Middle Ages we first turn to tenth-century Iraq. An expansion of state-managed production at this stage is unlikely. Admittedly, the Buyide emir 'Adud al-Dawla (d. 983) is reported to have founded a town in Fars (south-western Iran) and to have "transferred to the city the woolworkers, the silkmakers, the brocade manufacturers, so that all *barrakan* [a fine cloth] is made there today". However, this was apparently not a great success: in 985 the town was already in ruins.⁸⁰ In fact, Ashtor himself claims that in the tenth century the private industry expanded at the expense of the state sector: some of the earlier state workshops were farmed out or sold to wealthy businessmen.⁸¹

Taxation is another issue. The attempt of 'Adud al-Dawla's successor Simsam al-Dawla to introduce a ten per cent tax on the manufacture of silk and cotton fabrics in Baghdad has already been mentioned. The new tax triggered fierce protests. People gathered at the great mosque and disturbed Friday worshipping. Under the threat of a popular rising the plans were withdrawn; temporarily, as it turned out, for thirteen years later they were re-introduced. New riots broke out, but although this led to a modification—the tax was to be levied on silks only—remaining protests were crushed and an organization to collect the tax was set up.⁸² It is, however, doubtful if this measure can by itself be held accountable for the demise of Baghdad's textile industry, not just because it was revoked afterwards, but also because in Iraq demographic and economic contraction had already set in in the early tenth century. In fact, returns of the land tax indicate that the first signs of decline were already present in the ninth and possibly even the eighth century.⁸³ Nevertheless, the imposition of new taxes on textile production no doubt did make matters worse.

In Fatimid Egypt state workshops probably had a more prominent role than in 'Abbasid Iraq. For Cairo, for instance, the Egyptian historian al-Maqrizi mentions several state-managed production facilities: a 'house of brocades' where brocades and silks were woven, a 'wardrobe of robes' where garments were made for distribution among the servants and dependants of the caliph, an upholstery and furnishing store where the caliph sometimes visited to watch the progress of the work, and a tent store where at a certain time 150 craftsmen were at work on a luxurious and very large tent for the caliph.⁸⁴ There is another important difference between Fatimid Egypt and 'Abbasid Iraq: the Egyptian *tiraz* seem to have produced both for the court and for the market. This can be concluded from a comment by the tenth-century geographer Ibn Hawqal. According to Ibn Hawqal the managers of the workshops in the Fayyum were state employees, but besides orders from the sultan and his functionaries they also received commissions from merchants from "all corners of the earth".⁸⁵

A description of the *tiraz* system by the early thirteenth-century historian and government functionary Ibn Mammati illustrates how state control and production for the market were combined. Ibn Mammati described the *tiraz* not as a production facility,

⁸⁰ Muqaddasi, *Best Divisions*, 381-382.

⁸¹ Ashtor, *Social and Economic History*, 151; however, the French translation of Ibn Hawqal's work renders this section in the present tense (*Configuration de la terre*, II, 293).

⁸² Abu Shuja Rudhrawari, *Experiences of the Nations* VI 119-120, 361-362; Ben Abdallah, *L'iqta*, 166-167; Serjeant, 'Islamic Textiles' I, 82; Cahen, 'Y a-t-il eu', 57.

⁸³ Ashtor, *Social and Economic history*, 63-66, 168-177; (check: Campopiano, State, Land Tax, and Agriculture ***)

⁸⁴ Serjeant, 'Islamic Textiles', IV, 104, 110-113 (quoting al-Maqrizi, *Khitat*), ***

⁸⁵ Ibn Hawqal, *Configuration de la terre* I, 157.

but as a government service with an inspector, an overseer, a controller and two accountants. When the court was in need of a certain type of fabric, an order was sent to one of the state workshops, together with the money and the gold thread required for the production. When the cloth was finished, it was delivered to the palace, where the officials checked it against the orders.⁸⁶ It is easy to see how this procedure left room for production for the market: when a workshop was not working on a commission from the court, orders from others could be taken on.

But while this indicates that the state sector in late medieval Egypt was greater than in early medieval Iraq, it must also be concluded that this situation already existed in the Fatimid era. Al-Maqrizi wrote in the early fifteenth century, but he described the situation in the twelfth century, making use of twelfth-century reports: apparently the state workshops in Cairo he described already existed at that stage. Al-Maqrizi also notes that the budget spent by the Fatimids on gold (probably gold thread) for the *tiraz* doubled from 31,000 to 62,000 dinar annually in the last decades of the eleventh and the first decades of the twelfth centuries, suggesting that at that stage an expansion of state-controlled production took place.⁸⁷

In fact there is nothing that signals an increase of the role of the state in the Ayyubid and Mamluk eras; a reduction is much more likely. The *tiraz* in the Tinnis and Damietta district had probably ceased to exist with the destruction of the two towns in the early thirteenth century.⁸⁸ The *tiraz* in Alexandria was still in existence around 1370: there is a report of a visit by the sultan, who was intrigued and amused by the intricacies of the weaving process.⁸⁹ However, according to Ibn Khaldun the system of state workshops had at this stage all but disappeared; even in Egypt the court relied on the services of independent craftsmen. This is moreover in keeping with a remark by al-Maqrizi, who mentioned that in his own time the court bought large amounts of clothing at a busy market in Cairo.⁹⁰

Data on taxes and monopolies point in the same direction. According to al-Maqrizi, Saladin, the founder of the Ayyubid dynasty, introduced a stamp-tax on fine linen and brocades; but there are also reports about heavy taxation dating from much earlier than that. Ibn Hawqal, for instance, reported that the linen industry of Tinnis suffered from the “vexatious impositions, exactions and continued severity of the workers” of vizir Abu ‘l-Faradj ibn Killis; this was in the tenth century.⁹¹ Concerning monopolies: there was certainly no state monopoly on the ubiquitous flax on which the Egyptian linen industry was based. Around 1200 the Egyptian state did have monopolies on two minerals won in Egypt: natron, used in bleaching, and alum, for the fixation of dyes. However the alum monopoly was not late medieval: it had been introduced at the end of the ninth century. The origins of the natron monopoly are not clear, but we do know that in the time of al-Maqrizi it had fallen into disuse.⁹²

In summary, while Ashtor is right that in late medieval Egypt the role of the state in textile production was dominant, his dating is inaccurate: state control was already prominent in the Fatimid era, usually seen as the heyday of Egyptian linen production. Notably, it was at the end of the Fatimid era that trade exports from Europe to the

⁸⁶ Serjeant, ‘Islamic Textiles’ IV, 104 (quoting al-Mammati, *Kitab Qawanin al-Dawanin*, 24-25).

⁸⁷ Serjeant, ‘Islamic Textiles’, IV, 104-105 (quoting al-Maqrizi, *Khitat*). ***

⁸⁸ Ashtor, *Social and Economic History*, 246.

⁸⁹ Hassan and Hill, *Islamic Technology*, 188-189 (quoting al-Nuwairi, ***).

⁹⁰ Ibn Khaldun, *Livre des Exemples*, 584-585; ***.

⁹¹ Serjeant, ‘Islamic Textiles’ IV, 97, 94: ***.

⁹² Serjeant, ‘Islamic Textiles’ IV, 115-117 (quoting al-Mammati, *Kitab Qawanin al-Dawanin*, 23-24). ***.

Middle East began their rapid expansion. The co-incidence suggests a connection: in the twelfth century European producers and merchants may have profited from marketing opportunities in the Middle East that opened up because textile manufacturing was geared to the needs of the court and its officials rather than to those of the market. Nevertheless, the fact that European producers were able to take advantages of these opportunities suggests that part of the explanation for the change lay not in the Middle East, but in Europe.

4. Entrepreneurs and artisans

Whereas Western Europe between the tenth and thirteenth centuries, exactly at the time when the region began its ascent to economic prominence, witnessed a proliferation of bottom-up, self-governing bodies for collective action, such as urban communes, universities, merchant guilds and also craft guilds, in the Islamic world corporative bodies of this type were very much limited in scope and in number. It has been argued that as a result Muslim societies lacked both the stimuli and the mechanisms for a flexible adaptation of rules and practices to changing needs and circumstances. The absence of corporations moreover prevented the rise of a strong civil society that could offer protection of property rights from predatory rulers or elites.⁹³

Some years ago Abbas Hamdani has argued that such images are biased by a narrow definition of the concept 'guild' as a corporative body with autonomy and a formal legal status, based exclusively on European experience. Hamdani suggests to broaden the scope of study to the loose associations of workers in the same profession that he claims did exist and can be retraced in the literary sources of the era.⁹⁴ There is indeed no reason to doubt the existence of informal contacts between artisans in the same profession. Geographical proximity alone must have stimulated such contacts. Specialized *suqs* (markets) often combined commercial and industrial activities in a sector. In Basra, for instance, there were *suqs* connected with the making and selling of silks, cottons, cloaks, and mattresses; there was also a *suq* of the tailors.⁹⁵

In fact, there are also indications for a certain internal organization. The hisba manual of the Spanish town of Sevilla mentions that from each craft an experienced and honest man should be appointed to deal with any conflicts between the craftsmen and supervise their adherence to the rules prescribed by the *muhtasib* for the craft.⁹⁶ The *amin* or *arif*, as this person was called, is also mentioned in later hisba manuals. It has been argued that the *arif*, because he was appointed by the authorities, only served as an instrument of government policing.⁹⁷ That is probably too harsh a judgment. In practice the *arif* must have enjoyed a certain freedom in his supervisory tasks and especially in his role as an adjudicator in conflicts; and as Cahen remarks, is it hard to imagine that the authorities would have appointed an *arif* who did not already enjoy the respect of his fellow craftsmen.⁹⁸ However, what the Middle Eastern crafts lacked in comparison to

⁹³ Kuran, 'Why the Middle East'; Greif, *Institutions and the Path to the Modern Economy*, 389-400; Van Zanden, *Long Road*, 60-64. On the absence of corporations in the Islamic world: Stern, 'Constitution of the Islamic City'.

⁹⁴ Hamdani, 'The *Rasa'il Ikhwan al-Safa'*'.

⁹⁵ Naji and Ali, *Suqs of Basrah*, 308.

⁹⁶ Ibn Abdun (tr. Levi-Provençal), *Seville musulmane*, nos. 44, 91-93, 120, 187. Levi-Provençal translates *amin* as *prud'homme de la corporation* but at the same time states that the manual does not mention guilds (xxi-xxvii ***).

⁹⁷ Stern, 'Constitution', 43-44; Baer, 'Guilds', 13-16.

⁹⁸ Cahen, 'Y a-t-il eu', 60; cf. Hamdani, 'The *Rasa'il Ikhwan al-Safa'*', 162-164.

the European guilds, is the recognition by the authorities of the artisans' right to appoint their own representatives and issue and enforce rules of their own making. This section explores the possible consequences of this difference between East and West for the diverging performance of the textile industries in the two regions.

In the literature the term 'factory' is frequently employed to describe the textile manufactories—both state and private—in the medieval Middle East. Serjeant and Ashtor use it consistently, and they are certainly not the only ones.⁹⁹ The term evokes the image of a large-scale production facility, gathering many weavers, dyers, embroiderers and other textile workers under one roof. This image is misleading. As Shatzmiller has shown, spinning, for instance, was often carried out by women working in their own homes. Sometimes the spinners were commissioned by a merchant or a tax farmer to deliver a certain quantity of yarn.¹⁰⁰ In other cases they seem to have worked for their own account, buying raw materials themselves and selling their yarn in an open market.¹⁰¹

Ashtor discusses putting-out as a feature of textile production in just a few regions: Egypt, Khuzistan and Fars.¹⁰² However, it was probably also common practice in Iraq. In the tenth century commercial textile manufacturing had apparently spread out from the urban production centres into the surrounding districts. Most reports come from the southeast of the country, the region between the three large production centres Baghdad, Kufa and Basra. A type of cloth referred to as 'Narsi' was produced along the canal of Nars, while the district of Maisan produced brocaded silks called 'Maysani'.¹⁰³ Curtains were manufactured in the surroundings of Wasit.¹⁰⁴ That merchant-entrepreneurs were the driving force behind this development is suggested by two paragraphs in Yakut's geographical encyclopaedia, dating from the early thirteenth century. They state that in two villages in the surroundings of Baghdad garments were woven 'which merchants carry to other lands': course cottons in Harba and fine muslins in Hazira.¹⁰⁵

Putting-out was not restricted to the countryside: it must also have been common in the cities of Iraq. The riots that broke out in Baghdad in 985 in reaction to the introduction of the new tax on the manufacture of silks and cottons were initiated by the people of the Attabiya quarter. This quarter was a centre of silk production: it was where the Attabi silks, one of Baghdad's primary export product, were made. The fact that the people of this quarter took the lead in the protests shows that small producers were involved in the manufacture of a commodity traded by international merchants.¹⁰⁶

For Egypt more detailed information is available, showing that artisans working in their own homes or in rented workrooms were employed by merchant-entrepreneurs. A tenth or eleventh-century tax record from the town Bahnasa for instance gives a list of persons in possession of a weaving loom. Most of the thirteen weavers on the list had only one loom, some had two or three. The list thus demonstrates that the weavers

⁹⁹ E.g. Xinru Liu, *Silk and Religion*, 141-153; Wheatley, *Places*, 142-143, 147-149, 194-196.

¹⁰⁰ Ashtor, *Social and Economic History*, 150; Shatzmiller, *Labour*, 3357-359.

¹⁰¹ Ben Abdallah, *L'Iqta*, 78.

¹⁰² Ashtor, *Social and Economic History*, 150.

¹⁰³ Nars: Mas'udi, *Les prairies d'or* II, 115, transl. Barbier de Meynard and Pavet de Courbeille (Paris 1863). Maisan: Al-Jahiz, 'Al-Tabassur', transl. Pellat, *Arabica* 1/2 (1954) 153-165, 158; cf. Serjeant, 'Islamic Textiles' I, 86.

¹⁰⁴ Muqaddasi, *Best Divisions*, 370.

¹⁰⁵ Serjeant, 'Islamic Textiles' I, 91 (quoting Yakut, *Mu'djam al-Buldan* II, 292 and VII, 322).

¹⁰⁶ Abu Shuja Rudhrawari, *Experiences of the Nations* VI 119-120, 361-362; Ben Abdallah, *L'Iqta*, 166-167; Serjeant, 'Islamic Textiles' I, 82; Cahen, 'Y a-t-il eu', 57.

worked alone or with their family and that they owned their own equipment.¹⁰⁷ The contracts of the Banu ‘Abd al-Mu‘min family with the weavers that worked for them tell us more. These documents take the shape of obligations: each contract states that the weaver has received payment for a future delivery of a certain number of linen cloths, specifying the time of delivery (often one piece per week) and the type and dimensions of the cloth to be produced. The contracts do not mention a transfer of raw materials from merchant to weaver.¹⁰⁸ The weavers probably either grew flax themselves—in which case weaving would have been a part time occupation—or they obtained it at the local market. This means that here we are looking at a ‘buying-up system’: producers acquired their own raw materials, but for the sale of their products they depended on merchants.

That in some cases these people were badly exploited is indicated by the complaints of the Tinnis weavers to Dionysios of Tell Mahre when the latter visited Tinnis in the ninth century. The weavers told the patriarch that since their city was surrounded by water they could not grow any crops or have herds, and were consequently entirely dependent on weaving. They made linen cloth from the flax which their wives had spun, but the cloth merchants paid them no more than half a dirham a day, which was not enough to live upon, let alone to pay the heavy taxes. If they were in debt, they were beaten and imprisoned, or they were compelled to give their sons or daughters as security.¹⁰⁹

Putting-out and buying-up systems dominated by merchant-entrepreneurs were also common in late-medieval Europe.¹¹⁰ Unskilled and semi-skilled labour, especially in the countryside, was often organized in this way. Linen manufacturing in late fourteenth and fifteenth-century Flanders, for instance was largely based on a buying-up system. Spinning and weaving was done in the countryside by peasant families who either grew their own flax or purchased it. The fabrics they made were bought by merchants, who had the linens bleached in town and subsequently channelled them to markets at home and abroad. Because these merchants, supported by trade privileges, completely controlled the finishing and marketing stages, the result was a system of ‘exploitation through trade’.¹¹¹

The role of the guilds was largely limited to skilled, urban labour. This does not mean that in the cities putting-out was absent or that exploitation of skilled artisans did not occur. In Italy textile guilds existed in every town, but nevertheless textile manufacturing was usually dominated by entrepreneurs. The Florentine wool industry presents a striking example. The wool guild, the *Arte della Lana*, was not an association of workers: it united the *lanaioli*, the wealthy and powerful drapers who organized and financed the production process, employing weavers and fullers through a system of putting-out. These weavers and fullers could not join the guild, nor were they allowed to install guilds of their own. The *Arte della Lana* set their wages and issued the regulations they were to follow; it also saw to the enforcement of these regulations.¹¹²

The cotton and silk industries usually did include certain categories of dependent workers: in particular the weavers, and in the case of the cotton guilds frequently also

¹⁰⁷ Grohmann, *Arabic Papyri* VI, nr. 387.

¹⁰⁸ Ragib, *Marchands d'étoffes* I, 6-29.

¹⁰⁹ Michel le Syrien, *Chronique* III, 64-64. It should be added that Dionysios may well have exaggerated the miseries of his fellow Christians : cf. Cahen, ‘Fiscalité’, 1.

¹¹⁰ For a survey, see Holbach, *Frühformen von Verlag*, 47 ff.

¹¹¹ Van Bavel, ‘Early Proto-Industrialization’, 1145-1147; Sabbe, *Belgische vlasnijverheid*, 199-203, 212-213, 230-243 ***.

¹¹² Goldthwaite, *Economy of Renaissance Florence*, 298-299, 326-327.

the beaters, who prepared the raw cotton for spinning by beating it. Weavers and beaters enjoyed a certain degree of juridical recognition within the guild, including the right to elect their own officials in the guild hierarchy.¹¹³ Nonetheless the cotton and the silk guilds were also dominated by the entrepreneurs, who, through a system of putting out, employed weavers, beaters and other artisans to work for them. For silk workers in particular subordination to the *setaioli* (silk merchants) was reinforced by indebtedness created by a system of periodical advances and by prohibitions to sell their products to others.¹¹⁴ The only artisans that were often able to evade dependency were the dyers, who were not bound to wool, silk or cotton but worked for entrepreneurs in all textile industries.¹¹⁵

In the late medieval woollen industries of the towns in the southern Low Countries skilled artisans had a stronger position. Here successful and affluent master artisans—many of them were weavers—acted as entrepreneurs themselves. The most common way to do this was through subcontracting: certain tasks were delegated to smaller masters, usually working in their own workshops. All were guild members, although the leading functions in the guild were usually fulfilled by the wealthiest masters. Subcontracting left guild regulations that restricted the scale of individual workshops intact but at the same time offered opportunities for flexibility, expansion and specialization. Although subcontracting could lead to relations of dependency, it more commonly gave rise to complex patterns of interdependency. Small masters could work for more than one entrepreneur, and if they saw opportunities to work for their own account they were free to do so.¹¹⁶ However, these favourable conditions did not apply to the unskilled labour involved in the preparatory stages: carding, combing and spinning usually took place in the countryside through a putting-out system.¹¹⁷

Both in the southern Low Countries and in northern Italy guild structures thus co-existed with putting-out and buying-up systems. Although the relationship between the two differed in significant ways, in both cases guild involvement was most intense in the phases of production where skills and quality standards mattered most. Both in the southern Low Countries and in northern Italy guilds organized training through a system of apprenticeship; and in both regions they helped reduce information asymmetries between producers and consumers through systems of branding and quality control. Hamdani refers to the first of these two issues in his plea to take the role of informal workers's associations in the Islamic world in consideration. He argues that the crafts must have known some sort of organizational principle, "if only for training and the continuity of craftsmanship".¹¹⁸ This is indeed a intriguing issue: surprisingly little is known about the transfer of artisan skills in the Islamic world.¹¹⁹ The assumption that sons were often taught by their fathers or other family members is no doubt valid, but does not answer all questions. In Europe training in the family was supplemented by two other, complementary mechanisms. The first of these two was the apprenticeship contract.¹²⁰ Sources from the Roman era demonstrate that before the arrival of Islam apprenticeship contracts were common Egypt as well.¹²¹ For the Islamic era, however,

¹¹³ Massa, 'Technological typologies', 544-547; Mazzaoui, *Italian Cotton Industry*, 106-109.

¹¹⁴ Dini, *L'industria serica*, 94-95.

¹¹⁵ Massa, 'Technological typologies', 550.

¹¹⁶ Lis and Soly, 'Subcontracting', esp. 84-88, 100-101; Holbach, *Frühformen von Verlag*, 60-68.

¹¹⁷ Van Bavel, 'Early Proto-Industrialization', 147; Holbach, *Frühformen von Verlag*, ***

¹¹⁸ Hamdani, 'The *Rasa'il Ikhwan al-Safa*', 167.

¹¹⁹ Shatzmiller, *Labour*, 66 ***.

¹²⁰ Epstein, *Wage Labour*, 66-67, 103-111.

¹²¹ E.g. Forselv, 'Registration of an apprentice', and the literature cited there; more examples can be found in APIS (Advanced Papyrological Information System),

extant contracts are very scarce. The Geniza collection renders a few examples, one of which concerns a boy who is apprenticed by his father to a weaver in order to learn the craft.¹²² However, the Geniza documents bear on to the Jewish community in Cairo; and although it is generally assumed that on most issues this community did not differ much from its Islamic neighbours, the apparent absence of Islamic apprenticeship contracts suggests that the transfer of skills may have been an exception.

The second mechanism that in Europe structured the transfer of skills were the guilds. In fact, S.R. Epstein has argued that the single most important reason for the existence of guilds in late medieval Europe was their contribution to the development and diffusion of human capital. Guilds were able to fulfil this role through an apprenticeship system that provided an answer to the externalities involved in the training of youngsters. Masters were only prepared to invest time and energy in training if they could be certain that apprentices stayed on long enough to make the investment worthwhile. Apprentices wanted to be sure their masters gave them a solid training completed by a qualification that allowed them to make a living in their profession. Through regulation and formal and informal forms of disciplining, the guild apprenticeship system was able to provide these guarantees.¹²³ It is not clear if in the late medieval Middle East similar guarantees could have been provided by other mechanisms. One option can be ruled out: it is highly unlikely that regulation and enforcement of apprenticeship was the responsibility of the authorities. Although the Seville *hisba* manual stipulates that craftsmen could only call themselves master in their trade if they were knowledgeable and experienced, the manual does not discuss in any sort of detail how the craftsmen were expected to acquire their expertise.¹²⁴

We are slightly better informed on the mechanisms available in the Islamic world for that other important function of the guilds in Europe, the reduction of information asymmetries between producers and consumers. European guilds contributed to this goal in more than one way. Important were the frequent workshop inspections ('searches') in every stage of the production process. Guild officials not just inspected the finished products, but also raw materials and implements. In export-oriented industries, with textiles as a prime example, this was often complemented by branding: as a token that quality standards had been met, the guild attached a mark or seal to the product. In these matters guilds frequently cooperated with the local authorities, who also had responsibilities in this field.¹²⁵

In the Middle East the authorities were also involved in safeguarding the quality of products, in textile manufacturing as well as in other crafts. Branding occasionally seems to have been used as a quality guarantee. Ibn al-Balkhi, writing in the early twelfth century, mentioned that such a system had existed in the town of Kazerun in Fars. There the bales of linen cloth produced by the weavers on the orders of the emir's Treasury were inspected by an overseer and prized and stamped by brokers in the service of the Treasury. The bales were then sold to foreign merchants. Elsewhere the bales could be sold without being opened and examined, since the stamp guaranteed the quality. However, by the time al-Balkhi wrote, this system no longer functioned. Despite the stamp the cloth was often of inferior quality and merchants no longer

<http://www.columbia.edu/cu/lweb/projects/digital/apis/>). Apprenticeship contracts also existed in the Neo-Babylonian and Achaemenid empires (San Nicoló, *Der Neubabylonische Lehrvertrag*; Weisberg, *Guild Structure*, 99-101).

¹²² ENA NS 2, II, 41. Ed. Goitein, typed texts (<http://gravitas.princeton.edu/tg/tt/>).

¹²³ Epstein, 'Craft guilds'.

¹²⁴ Ibn Abdun, *Seville musulmane*, no. 139.

¹²⁵ Gustafsson, 'Rise and Economic Behaviour'; Berlin, 'Broken', Richardson, 'Branding'. ***.

wanted to buy it.¹²⁶ Furthermore, it is not clear if the Kazerun branding system was also used elsewhere: other references to stamps in the sources are related to registration for taxation purposes, not to quality control.¹²⁷

Regulation and supervision of urban manufacturing by the *muhtasib*, other hand, was standard practice in the Islamic world. Textile manufacturing was no exception. The Seville *hisba* manual, for instance, prescribes the use of certain dyestuffs and forbids others because the colour does not hold, prohibits pounding by the bleachers because it damages the cloth, and states that yarn may not be sold in balls because the spinners might put in stones or other objects to increase the weight.¹²⁸ Other *hisba* manuals render similar examples.¹²⁹ Rules like this can also be found in many urban by-laws and guild statutes in north-western Europe. However, although in the enforcement of rules like this the *muhtasib* was aided in by an *arif* for each craft, the intensive, continuous inspections in every stage of the production process as organized by the European guilds were absent.

Can the role of guilds in the transfer of skills and the reduction of information asymmetries explain why the European textile industries outperformed their Middle Eastern counterparts? In order to answer this question a closer look at the chronology of events is needed.

In Italy textile guilds with corporative status appeared on the scene in the beginning of the thirteenth century: the first references, to the wool guild in Florence and the cotton guild in Verona, date from 1212 and 1214. By that time both were probably well established. The source that mentions the Verona guild refers to a dispute before the guild court: apparently this guild was fully incorporated and authorized to adjudicate in conflicts between members.¹³⁰ This suggests that the guild had been formed some time before; however, nothing is known about its pre-history.

For the southern Low Countries more information is available on what Carlos Wyffels, in his study on the origins of the Flemish and Brabantine guilds, has called the 'pre-corporative period'.¹³¹ This is mainly caused by the fact that in the Low Countries incorporation of guilds came late. Most guilds were not acknowledged as self-governing institutions with legal status until the violent uprisings of the late thirteenth or early fourteenth century. Long before that date urban authorities had begun to regulate the manufacturing sector, and textile manufacturing in particular; but the urban patriciate did not allow craftsmen to issue or enforce rules of their own making. Wyffels sees the incorporation of the guilds as the result of the attempts of craftsmen in the last decades of the thirteenth century to gain access to the structures of regulation and enforcement.¹³²

Wyffels does mention a few earlier examples of collective action by craftsmen, but does not give them much weight. In particular, he brushes aside the religious and charitable confraternities of workers organized according to profession that had emerged in thirteenth-century Artois and Walloon Flanders as irrelevant. It is doubtful whether this is justified. The confraternity of the Arras shearers is a good case in point. In 1236 this confraternity issued an ordinance that contains a detailed set of rules on

¹²⁶ Ibn al-Balkhi, 'Description' (tr. Le Strange), 336-337.

¹²⁷ Serjeant, 'Islamic Textiles' I, 82 ; IV, 95.

¹²⁸ Ibn Abdun, *Seville musulmane*, nos. 161, 163, 199

¹²⁹ Serjeant, 'Islamic Textiles' V, 63-65.

¹³⁰ Goldthwaite, *Economy of Renaissance Florence*, 269; Mazzoui, *Italian Cotton Industry*, 107.

¹³¹ Wyffels, *Oorsprong der ambachten*, 18-22.

¹³² Wyffels, *Oorsprong der ambachten*, esp. 85-97.

apprenticeship: it states, for instance, the term of apprenticeship and explains when and how the apprentice has to pay for bed and board. The ordinance also prescribes certain procedures that are to safeguard the quality of the work: cutting, for instance, should always be done by a master and a journeyman together, for nobody can measure well on his own.¹³³ There are in fact signs that confraternities of craftsmen predate the thirteenth century: Arras already had such a confraternity, in which the tailors and cobblers participated, around 1170.¹³⁴

Notably, it was around this same time that cloth from Arras and other towns in Artois and Walloon Flanders first began to appear on Middle Eastern markets. Claiming that the rise of export-oriented these exports became possible because confraternities provided a framework for the transfer of skills and quality control would be jumping to conclusions. For one, we do not know anything about the Arras 1170 confraternity beyond the fact that they made annual payments to St. Vaast Abbey; it is not likely that tailors and cobblers were involved in export-oriented production. Moreover, as we have seen the export-oriented textile industries of Artois and Flanders had emerged long before 1170; they had already acquired a certain international fame by the late eleventh century and early twelfth centuries. It is highly unlikely that this first phase of growth and expansion was driven by workers' associations, even informal ones: we have not a single piece of evidence that they even existed at that stage.

More plausible is the argument that gives credit for the first phase of expansion to local merchants. Admittedly, direct evidence for this assumption is almost as hard to find. Almost all available information about the role of merchant-entrepreneurship dates from the thirteenth century, when the testament of a man like Jehan Boinebroke in Douai (d. 1285/1286) gives insight in the scale and organization of their activities.¹³⁵ However, at least we know that merchants were already active when export-oriented textile industries first emerged. In Arras the merchant class may have evolved from a group of propertied men who had placed themselves under the protection of St. Vaast Abbey in the tenth century; early in the eleventh century they were apparently joined by others, who tried to acquire the same status so as to enjoy the toll exemption that came with it.¹³⁶

In a comparative perspective there is nothing remarkable about this situation: the same group also played an important role in the rise of textile manufacturing in the Middle East. Striking, however, is the fact that the emergence of artisan associations in the late twelfth and early thirteenth centuries—in informal in the southern Low Countries, formal in Italy—coincided with the first advances on Middle Eastern markets. Even more striking, perhaps, is the prolonged era of flexible response to changing circumstances in both the Italian and the Low Countries textile industries that followed. Hard proof awaits further research, but the impression that this flexibility owed at least something to the textile guilds is hard to resist.

¹³³ Espinas and Pirenne, *Recueil de Documents* I, 219-223.

¹³⁴ Verhulst, *Rise*, 131; Delmaire, *Diocèse d'Arras*, 380; Giry, *Histoire de la ville de Saint-Omer*, 279. For confraternities in the southern Low Countries in the high Middle Ages, see Bijsterveld and Trio, 'Van gebiedsverbodering', and Trio, 'Confraternities', ***.

¹³⁵ Espinas, *Origines du capitalisme* I ***; for critical discussions of the nature of Boinebroke's entrepreneurship cf. Derville, 'Draperies flamandes' and Holbach, *Frühformen von Verlag*, 52-58.

¹³⁶ Verhulst, *Rise of cities*, 121.

5. Conclusions

This paper set out to throw more light on an important development in the histories of Europe and the Middle East: the divergence of the industrial performance of the two regions that took place in the Middle Ages. In export-oriented textile manufacturing the first signs of this divergence became visible in the second half of the twelfth century, when European textiles first gained a foothold on Mediterranean markets; in the course of the late Middle Ages the competitive advantage of the European products gradually increased. The paper explored the possible contribution of two institutional elements to the early success of export-oriented textile manufacturing in the Middle East and its later failure to keep up with the West: the prominent position of the state and the absence of craft guilds.

The chronology of events provides clues. Silk manufacturing in Iraq witnessed significant growth at an early stages, in the seventh and eighth centuries. At that stage a modest contribution of state-managed manufactories to the diffusion of new skills, techniques and designs through forced resettlement of artisans was a possibility, although commercial production for international markets ultimately depended on merchant-entrepreneurs. However, it is unlikely that state-managed production had any role in the expansion of linen manufacturing in Egypt; by the ninth century techniques had spread throughout the Islamic world and political fragmentation moreover reduced possibilities for long-distance transportation of artisans.

The decline of textile manufacturing in tenth-century Iraq appears to have little to do with a growing dominance of the state. It is more likely that textile manufacturing simply followed the downward demographic and economic trend that by that time had set in. But then, Iraq was not primarily a manufacturing country. Egypt was; and here there are more indications that the orientation of textile manufacturing on the needs of the court instead of on the market did indeed have negative effects. This situation, however, was not a development of the Ayyubid and Mamluk eras: it is already visible at the end of the Fatimid era. The chronology of events provides another clue here: it suggests that European merchants and entrepreneurs may have been able to take advantage of structural problems in the Egyptian industries from the second half of the twelfth century onwards.

It was probably also in the second half of the twelfth century that in Europe the first associations of craftsmen in textile-related professions appeared. The situation in the southern Low Countries—and Italy was probably no different—makes it clear that these associations did not initiate the rise of export-oriented textile industries. By this time they already existed: the formation of associations is more likely to have been effect than cause of the emergence of textile manufacturing. However, early thirteenth-century documents testify to the role of associations of craftsmen in training the young and maintaining the quality of work. This suggests that these associations may have contributed to the rapid expansion of the textile industries and their success on Mediterranean markets that took place at that stage. It can also be surmised that they improved the capacity of the European industries to respond flexibly to the sometimes very drastic changes in market conditions in the subsequent centuries; a capacity that the Middle Eastern industries seemed to be lacking.

Obviously this paper leaves many questions unanswered. It has looked at the organization of textile manufacturing and at its performance, but it has not systematically analyzed how the first affected the second; it also has not systematically weighed the role of institutional versus non-institutional factors. For the Middle East the source material unfortunately restricts possibilities for such an analysis. However, a

more detailed investigation of possible links between the transfer of skills and technological innovation—preferably for a ‘high-tech’ sector, for instance shipbuilding—may open up new avenues. Also, the inventarisation of thousands of papyri from the early Islamic era that is currently carried out at Leiden University may render until now unknown source data on such issues as apprenticeship, putting-out and perhaps even informal associations between craftsmen.¹³⁷ For Europe the issue that comes to the fore is the scarcity of research on the informal associations of craftsmen of the ‘pre-corporative period’; Wyffels’ study is virtually the only one on what seems to have been a vital era. Admittedly, source material is scarce for this period; but the sources that do exist deserve more detailed study.

References

(NB: not all titles are in the list of references yet; to be completed!)

- Abu Shuja Rudhawari. *Experiences of the Nations VI*.
- Adams, R. M. 1965. *Land Behind Baghdad. A History of Settlement on the Diyala Plains*. Chicago.
- Ahsan, M. M. *Social Life Under the Abbasids, 170-289 AH, 786-902 AD*. London: 1979.
- Allgrove-McDowell, Joan. "The Sassanians, AD 224-642." In *The Cambridge History of Western Textiles I*, edited by David Jenkins, 153-158. Cambridge, 2003.
- . "Textiles." In *The Arts of Persia*, edited by R. W. Ferrier, 151-170. New Haven, 1989.
- Allsen, T. T. *Commodity and Exchange in the Mongol Empire: A Cultural History of Islamic Textiles*. Cambridge: 1997.
- Ashtor, E. *A Social and Economic History of the Near East in the Middle Ages*. London: 1976.
- Ashtor, Eliyahu. "L'Exportation De Textiles Occidentaux Dans Le Proche Orient Musulman Au Bas Moyen Age (1370-1517)." In *Studi in Memoria Di Federigo Melis*. Vol. 2, 303-377. Naples, 1978.
- . *Histoire Des Prix Et Des Salaires Dans L'Orient Médiéval*. Paris: 1969.
- Baer, Gabriel. "Guilds in Middle Eastern History." In *Studies in the Economic History of the Middle East*, edited by M. A. Cook, 11-30, 1970.
- Balard, Michel. "Les Relations Économiques Entre l'Occident Et Le Monde Islamique à La Fin Du Moyen Age. Quelques Remarques." In *Relazioni Economiche Tra Europa e Mondo Islamico, Secc. XIII-XVIII*, edited by S. Cavaciocchi, 193-218. Florence, 2006.
- Ben Abdallah, Habib. *De l'Iqta' Étatique à l'Iqta' Militaire. Transition Économique Et Changements Sociaux à Baghdad, 247-447 De l'Hégire / 861-1055 Ap. J*. Uppsala: 1986.
- Bijsterveld, Arnoud-Jan A. and Paul Trio. "Van Gebedsverbodering Naar Broederschap. De Evolutie Van Het *Fraternitas*-Begrip in De Zuidelijke Nederlanden in De Volle Middeleeuwen (I)." *Jaarboek Voor Middeleeuwse Geschiedenis* 6, (2003): 7-48.
- . "Van Gebedsverbodering Naar Broederschap. De Evolutie Van Het *Fraternitas*-Begrip in De Zuidelijke Nederlanden in De Volle Middeleeuwen (II)." *Jaarboek Voor Middeleeuwse Geschiedenis* 9, no. 7-46 (2006).
- Borsch, Stuart J. *The Black Death in Egypt and England: A Comparative Study*. Austin: 2005.
- Bosker, Maarten, Eltjo Buringh, and Jan Luiten Van Zanden. "From Baghdad to London: The Dynamics of Urban Growth in Europe and the Arab World, 800-1800." *CEPR Discussion Paper Series no. 6833*. London, Centre for Policy Research (2008): 11 August 2010, www.cepr.org/pubs/dps/DP6833.asp.
- Bosworth, C. Edmund, ed. *Historic Cities of the Islamic World*. Leiden, 2007.
- Bulliet, Richard W. *Cotton, Climate, and Camels in Early Islamic Iran: A Moment in World History*. New York: 2009.
- Busse, Heribert. "Das Hofbudget Des Chalifen Al-Mu'tadid Billah (279/892-289/902)." *Der Islam* (1967): 11-36.

¹³⁷ The project is titled ‘Late Antiquity and early Islam; continuity and change in the Mediterranean’ and is supervised by Petra Sijpesteijn.

- Cahen, Claude. "Fiscalité, Propriété, Antagonismes Sociaux En Haute-Mésopotamie Au Temps Des Premiers 'Abbasides." *Arabica* 1, (1954): 136-152.
- . *Der Islam I: Vom Ursprung Bis Zu Den Anfängen Des Osmanenreiches*. Frankfurt: 1968.
- . "Quelque Mots Sur Le Déclin Commercial Du Monde Musulman à La Fin Du Moyen Age." In *Studies in the Economic History of the Middle East*, edited by M. A. Cook, 31-36. London / New York / Toronto, 1970.
- . "Y a-t-Il Eu Des Corporations Professionnelles Dans Le Monde Musulman Classique?" In *The Islamic City*, edited by A. H. Hourani and S. M. Stern, 51-63. Oxford, 1970.
- Cohen, Hayyim J. "The Economic Background and the Secular Occupations of Muslim Jurisprudents and Traditionists in the Classical Period of Islam: (Until the Middle of the Eleventh Century)." *Journal of the Economic and Social History of the Orient* 13, (1970): 16-61.
- Conrad, Lawrence I. "Review of Maya Shatzmiller, *Labour in the Medieval Islamic World*." *International Journal of Middle Eastern Studies* 31, (1999): 120-124.
- Delmaire, Bernard. *Le Diocèse d'Arras De 1093 Au Milieu Du XIVe Siècle I*. Arras: 1994.
- Derville, Alain. "Les Draperies Flamandes Et Artésiennes Vers 1250-1350." *Revue Du Nord* LIV, (1972): 353-370.
- Dini, Bruno. "L'Industria Serica in Italia. Secc. XIII-XV." In *La Seta in Europa Sec. XIII-XX. Atti Della "Ventiottesima Settimana Di Studi" 4-9 Maggio 1992*, edited by Simonetta Cavaciocchi, 91-123, 1993.
- Duplessis, Robert S. and Martha Howell. "Reconsidering the Early Modern Urban Economy: The Cases of Leiden and Lille." *Past & Present* 94, (1982): 49-84.
- Epstein, S. R. and Maarten Prak, "Introduction: Guilds, Innovation and the European Economy, 1400-1800." In *Guilds, Innovation and the European Economy, 1400-1800*, 1-24. Cambridge, 2008.
- Epstein, Steven A. *Wage Labor and Guilds in Medieval Europe*. Chapel Hill / London: 1991.
- Faroghi, Suraiya and Randi Deguilhem, eds. *Crafts and Craftsmen of the Middle East: Fashioning the Individual in the Muslim Mediterranean*. Tauris, 2005.
- Forselv, Inger Louise. "Registration of an Apprentice, P. Osl. Inv. no. 1470." *Symbolae Osloensis* 73, (1998): 116-124.
- Frantz-Murphy, G. "A New Interpretation of the Economic History of Medieval Egypt." *Journal of the Economic and Social History of the Orient* 24, (1981): 274-297.
- Goldthwaite, Richard A. *The Economy of Renaissance Florence*. Baltimore: 2009.
- Greif, Avner. *Institutions and the Path to the Modern Economy*. Cambridge: 2006.
- Grohmann, A. "Tiraz." In *First Encyclopaedia of Islam VIII*, edited by M. Th Houtsma, A. J. Wensinck, H. A. R. Gibb, W. Heffening and E. Lévi-Provençal. Vol. VIII, 785-793. Leiden, 1993 [1913-1936].
- Gyselen, Rika. "Economy in Sassanian Iraq." [www://iranchamber.com/history/articles/sassanian_economy_php](http://www.iranchamber.com/history/articles/sassanian_economy_php).
- Hamdani, Abbas. "The *Rasa'Il Ikhwan Al-Safa'* and the Controversy about the Origin of Craft Guilds in Early Medieval Islam." In *Money, Land and Trade. an Economic History of the Muslim Mediterranean*, edited by Nelly Hanna, 157-173, 2002.
- Hanna, Nelly. "Guilds in Recent Historical Scholarship." In *The City in the Islamic World 2*, edited by S. K. Jayyusi, 897-921, 2008.
- Hassan, Ahmad Y. and Donald R. Hill. *Islamic Technology: An Illustrated History*. Cambridge: 1986.
- Herlihy, David. *Opera Muliebria: Women and Work in Medieval Europe*. New York: 1990.
- Holbach, Rudolf. *Frühformen Von Verlag Und Groszbetrieb in Der Gewerblichen Produktion (13.-16. Jahrhundert)* 1994.
- Hoshino, Hidetoshi. *L'Arte Della Lana in Firenze Nel Basso Medioevo*. Florence: 1980.
- Ibn Khaldun. *Le Livre Des Exemples*. Translated by A. Cheddadi. Paris: 2002.
- Ibn Hawqal. *Configuration De La Terre*. Translated by J. H. Kramers and G. Wiet. Beyrouth: 1964.
- Jacoby, David. "The Economic Function of the Crusader States of the Levant: A New Approach." In *Relazioni Economiche Tra Europa e Mondo Islamico, Secc. XIII-XVIII*, edited by S. Cavaciocchi, 159-192. Florence, 2006.
- Jones, A. H. M. *The Later Roman Empire, 284-602. A Social, Economic, and Administrative Survey*. Oxford: 1973.
- Kennedy, Hugh. *The Armies of the Caliphs. Military and Society in the Early Islamic State*. London/New York: 2001.
- . "Military Pay and the Economy of the Early Islamic State." *Historical Research* 75, (2002): 155-169.
- Krueger, Hilmar C. "The Genoese Exportation of Northern Cloths to Mediterranean Ports, Twelfth Century." *Revue Belge De Philologie Et d'Histoire* 65, (1987): 722-750.

- Kuran, Timur. "Why the Middle East is Economically Underdeveloped: Historical Mechanisms of Institutional Stagnation." *Journal of Economic Perspectives* 18, (2004): 71-90.
- Le Strange, G. *The Lands of the Eastern Caliphate. Mesopotamia, Persia, and Central Asia from the Moslem Conquest to the Time of Timur*. Cambridge: 1905.
- Lévi-Provençal, E., ed. *Séville Musulmane Au Début Du XIIIe Siècle: Le Traité d'Ibn Abdun Sur La Vie Urbaine Et Les Corps De Métiers*. Paris, 1947.
- Lewis, Bernard. "The Islamic Guilds." *Economic History Review* 8, (1937): 20-37.
- Lis, Catharina and Hugo Soly. "Ambachtsgilden in Vergelijkend Perspectief: De Noordelijke En De Zuidelijke Nederlanden, 15de-18de Eeuw." In *Werelden Van Verschil. Ambachtsgilden in De Lage Landen*, edited by Catharina Lis and Hugo Soly, 11-41, 1997.
- Lombard, Maurice. *Les Textiles Dans Le Monde Musulman, VII-XIIe Siècles*. Paris: 1978.
- Lopez, Robert S. *The Commercial Revolution of the Middle Ages, 950-1350*. Englewood Cliffs: 1971.
- Massa Piergiovanni, Paola. "Technological Typologies and Economic Organisation of Silk Workers in Italy, from the XIVth to the XVIIIth Centuries." *Journal of European Economic History* 22, (1993): 543-564.
- Massignon, Louis. "Les Corps De Métiers Et La Cité Islamique." In *Opera Minora I*. Vol. 28, ?-?. Beirut, 1963.
- . "La Futuwwa Ou Pacte d'Honneur Artisanal Entre Les Travailleurs Musulmans Du Moyen Age." In *Opera Minora I*, ?-?. Beirut, 1963.
- . "Islamic Guilds." In *Encyclopaedia of the Social Sciences VII*, 214-216. New York, 1931.
- Mazzaoui, M. F. *The Italian Cotton Industry in the Later Middle Ages, 1100-1600*. Cambridge: 1981.
- Michel le Syrien. *Chronique*. Translated by J. B. Chabot. Vol. III. Paris: 1905.
- Molá, Luca. *The Silk Industry of Renaissance Venice 2000*.
- Munro, John. "South German Silver, European Textiles, and Venetian Trade with the Levant and Ottoman Empire, c. 1370 to c. 1720: A Non-Mercantilist Approach to the Balance of Payments Problem." In *Relazioni Economiche Tra Europa e Mondo Islamico, Secc. XIII-XVIII*, edited by S. Cavaciocchi, 905-960. Florence, 2006.
- Munro, John H. "Medieval Woollens: The Western European Woollen Industries and their Struggles for International Markets, c. 1000-1500." In *The Cambridge History of Western Textiles I*, edited by David Jenkins, 228-323. Cambridge, 2003.
- Muqaddasi, Al-. *The Best Divisions for Knowledge of the Regions. A Translation of Ahsan Al-Ta'asim Fi Ma'Rigat Al-Aqalim*. Translated by Basil Anthony Collins; Reviewed by Muhammad Hamid Al-Tai. Reading: 1994.
- Naji, A. J. and Y. N. Ali. "The Suqs of Basrah: Commercial Organization and Activity in a Medieval Islamic City." *Journal of the Economic and Social History of the Orient* 24, (1981): 298-309.
- Petry, Carl F. *The Civilian Elite of Cairo in the Later Middle Ages*. Princeton: 1981.
- Pigulevskaja, Nina V. *Les Villes De l'État Iranien Aux Époques Parthe Et Sassanide: Contribution à l'Histoire Sociale De La Basse Antiquité*. Paris: 1963.
- Pirenne, H. "Une Crise Industrielle Au XVIe Siècle. La Draperie Urbaine Et La "Nouvelle Draperie" En Flandre." *Bulletin De La Classe Des Lettres Et Des Sciences Morales Et Politiques Et De La Classe Des Beaux Arts* (1905): 489-521.
- Polo, Marco. *The Travels of Marco Polo*. Translated by R. Latham. Harmondsworth: 1958.
- Ragib, Yusuf, ed. *Marchands d'Étoffes Du Fayyoun Au IIIe/XIXe Siècle d'Après Leurs Archives (Actes Et Lettres) I*. Cairo, 1982.
- Sabbe, E. *De Belgische Vlasnijverheid, I, De Zuidnederlandse Vlasnijverheid Tot Het Verdrag Van Utrecht (1713)*. 2nd ed. Kortrijk: 1975.
- . "L'Importation Des Tissus Orientaux En Europe Occidentaux Au Haut Moyen Âge." *Revue Belge De Philologie Et d'Histoire* 14, (1935): 811-848, 1261-1288.
- San Nicolò, Mariano. *Der Neubabylonische Lehrvertrag in Rechtsvergleichender Betrachtung*. SBAW Phil.-Hist. Kl. Vol. 3. Munich: 1950.
- Sénac, Philippe. "Les Carolingiens Et Le Califat Abbasside (VIIIe-IXe Siècles)." *Studia Islamica* 95, (2002): 37-56.
- Serjeant, R. B. "Material for a History of Islamic Textiles Up to the Mongol Conquest." *Ars Islamica* 9-15, (1942-1951): vol 9 (54-92), vol 10 (71-104), vol 11 (98-145), vol 13 (75-117), vol 15 (29-85).
- Shatzmiller, Maya. ———. "Economic Performance and Economic Growth in the Early Islamic World." *Journal for the Social and Economic History of the Orient* (forthcoming).
- . *Labour in the Medieval Islamic World*. Islamic History and Civilization. Vol. 4. Leiden The Netherlands ; New York: E.J. Brill, 1994.

- Soly, H. "The Political Economy of European Craft Guilds: Power Relations and Economic Strategies of Merchants and Master Artisans in the Medieval and Early Modern Textile Industries." *International Review of Social History* 53, supplement, (2008): 45-72.
- Stern, S. M. "The Constitution of the Islamic City." In *The Islamic City*, edited by A. H. Hourani and S. M. Stern, 25-50. Oxford, 1970.
- Udovitch, A. L. *Partnership and Profit in Medieval Islam*. Vol. 1970. Princeton:.
- Van der Wee, H. "Structural Changes and Specialization in the Industry of the Southern Netherlands, 1100-1600." *Economic History Review* 28, (1975): 203-221.
- Van Zanden, Jan Luiten. *The Long Road to the Industrial Revolution. the European Economy in a Global Perspective, 1000-1800*. Leiden: Brill, 2009.
- Verhulst, Adriaan. *The Carolingian Economy*. Cambridge: 2002.
- . *The Rise of Cities in North-West Europe*. Cambridge: 1999.
- Vogelsang-Eastwood, Gillian. "The Arabs, AD 600-1000." In *The Cambridge History of Western Textiles I*, edited by David Jenkins, 158-165. 2003, 2003.
- Weisberg, David B. *Guild Structure and Political Allegiance in Early Achaemenid Mesopotamia*. New Haven / London: 1967.
- Wheatley, Paul. *The Places Where Men Pray Together. Cities in Islamic Lands, Seventh through the Tenth Centuries*. Chicago: 2001.
- Wyffels, Carlos. *De Oorsprong Der Ambachten in Vlaanderen En Brabant. Oorsprong Der Ambachten*. Brussels: 1951.