Immigrants and the diffusion of skills in early modern London : the case of silk weaving

Les immigrants et la diffusion des savoir-faire à Londres à l'époque moderne : le cas de la soierie

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Immigrants and the diffusion of skills in early modern London: the case of silk weaving*

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ABSTRACT

London in the 16th and 17th centuries was a place of phenomenal change and growth. This paper argues that immigration from Europe played a pivotal role in this economic change, as the arrival of merchants and artisans prompted rapid technological development in many trades and crafts, particularly silk weaving and beer brewing. The process of technological transfer in these crafts spanned over a long period of time and did not take place in a linear step. It was reliant on migrants to develop, share and in some cases, adapt their skills, to exploit the burgeoning economic opportunities afforded by the enormous consumer demand in London.

Résumés et mots clés en français sont regroupés en fin de volume, accompagnés des mots clés anglais.

In the period between 1550 and 1750 London experienced a remarkable economic transformation, emerging from a relatively peripheral European city to become an important centre of industry. This transformation was reflected not only in the physical and massive demographic expansion of the city, in the proliferation of the number of crafts within its borders, but also in the display of confidence and beliefs in their abilities and skills. In the Middle Ages London had only some 180 trades, but by the 1690s it could boast at least 721 different occupations within the City. The true figure was undoubtedly higher as many industries were situated outside the city walls. This rise in the number of crafts reflected increased

specialization and the growing importance of London as the centre of industry and manufactures in England, with existing industries experiencing major structural changes and new ones established. Existing industries like brewing shifted away from ale brewing to focus on beer production, and in the process revolutionized the coal industry, coastal transport and the national diet, and transformed the labour force from a female to a male-dominated industry. Industrial growth was also stimulated by the establishment of new industries, some of which were devoted to import substitution like glass making, metal working and silk weaving, while others were catered to the new consumers of luxury commodities such as jointed furniture, coaches and clocks, helping to reinforce further the capital's significance as the centre of conspicuous consumption. London's efforts in promoting luxury industries such as silk industry were met with spectacular success and by the early eighteenth century the industry employed 40,000 and 50,000 people in the capital. These successes led to increasing display of confidence of their industrial excellence.

* For further details of this topic please see my book on *Immigrants and the industries of London, 1500-1700*, Aldershot, Ashgate, 2005, and for an excellent general discussion see Hilaire-Pérez L. and Verna C., "Dissemination of technical knowledge in the middle ages and the early modern era: new approaches and methodological issues", *Technology & culture*, July 2006, vol. 47, pp. 536-565.

Massive internal migration to London in the early modern period has been recognized by historians as the motor of demographic and economic change in the capital. However, what has been under-explored is the contribution of continental migrants, commonly known as aliens or strangers, in the transformation of London. The first wave of mass immigration into England occurred in the spring and summer of 1567 with the pending arrival of the Duke of Alva from Spain to suppress the revolt in the Netherlands. It has been estimated that between 60,000 and 100,000 people may have fled the southern Netherlands in this period, among whom were some of the wealthiest and skilled.¹ The second wave of massive immigration occurred after 1585 when the southern Netherlands was recaptured by Spanish troops, typified by the fall of Antwerp. Perhaps as many as 100,000 to 150,000 people may have uprooted between 1585-87 in search of a better life in the Dutch Republic, Germany and England.² In total, in the three and half decades between 1550 and 1585 forty or fifty thousand foreign refugees may have come to England³, or about a quarter of the total number of people leaving the southern Netherlands, with the majority gravitating towards the English capital. The third wave of refugees came in the late seventeenth century, when some forty or fifty thousand Huguenots may have fled France to England.

The contribution of foreign immigrants then needs to be considered in any analysis of economic change. In the sixteenth century there were some 10,000 foreign immigrants in the capital, rising to some 20,000 by 1700. These figures were likely to underestimate the true figure as the more transient migrants were likely to have been excluded. Due to London's enormous expansion, the foreign community, however, declined in proportional terms, from some 12.5% in 1553, to 10% in 1570, to 4% by 1700. However, their tendency to concentrate

in certain geographical areas as well as in certain crafts enabled them to exert a far reaching impact. Foreign immigrants formed a highly heterogeneous community and fell broadly into three groups. The first consisted of economic migrants, typified by the beer brewers and coopers, who arrived via chain migration at a young age and who concentrated overwhelmingly in the eastern and southern parts of London. Their influx tended to be small in scale and thus the associated diffusion of skills was slow. The second group consisted of "career builders", as exemplified by the goldsmiths whose primary motive for migration was to broaden their craft training. Until the late seventeenth century, they tended to be more invisible as many did not settle permanently in London. The religious refugees and exiles formed the third group. This type of migration was regarded as particularly important in terms of diffusion because the scale of migration was often much greater and also because it "carried with it a whole set of institutions". They were much more visible because of their en masse immigration, their stronger identity and organization, and their presence had a more dramatic effect on crafts. Those who arrived in London from the 1560s, for example, played a signal role in the introduction of many new and luxury trades, and their settlement in the capital enabled it to produce many goods which previously had to be imported from abroad to satisfy consumer demand.

Silk weaving was one example of such spectacular economic success, and it affords important lessons regarding technology transfer. This case study shows that the processes of diffusion were protracted and non-linear, and that establishing a new industry often took a long time. In addition, the exodus comprised people from all social groups, and from heterogeneous occupational backgrounds. For many, life in a new environment necessitated confronting economic constraints and embracing new opportunities, and often learning a new trade to earn a living. Modern studies show that the mismatch of skills is a fundamental problem facing many migrants and refugees to the West in the twentieth century⁴ and that economic opportunities in the

1 Geoffrey Parker believed that this estimate was too high, perhaps deliberately exaggerated to alarm Philip II. He calculated that perhaps 60,000 people left between 1567 and 1573, the period in which the Duke of Alva ruled the Southern Netherlands, see Parker G., *The Dutch revolt*, London, 1977, p. 119. The best estimates suggest a figure of 30-50,000 for the period 1567-73, see Briels J., *De Zuidnederlandse immigratie, 1572-1630*, Haarlem, 1978, p. 11. Briels believed about half of these went to England.

2 Israel J., *The Dutch republic. Its rise, greatness, and fall, 1477-1806*, Oxford, 1995, p. 308.

3 Pettegree A., *Foreign protestant communities in sixteenth century London*, Oxford, 1986, p. 299.

4 In Britain the Chinese and the Italians who arrived in the 1950s are strongly associated with businesses such as restaurants, fish and chip shops and ice cream vans. Yet many of these 'entrepreneurs' came from a rural background and had not practiced these trades in their homeland. See Palmer R., "The Rise of the Britalian culture entrepreneur", in Ward R. & Jenkins J. eds, *Ethnic communities in business: strategies for economic survival*, Cambridge, 1984, pp. 89-104 ; Watson J. L., "The Chinese: Hong Kong villager in the British Catering Trade", in Watson J. L. ed.,

host environment, rather than their geographical origins, are more crucial in determining the occupational patterns of immigrants. The situation was no different in the early modern period.

The establishment and Anglicization of silk weaving in London shows that there were in fact three stages of diffusion: the first involved the transfer of the industry from Europe to London; the second involved the wider dissemination of skills within the immigrant community; and third, the transfer of skills from immigrants to the native population. This paper will explore these aspects and examines the obstacles and opportunities presented in each stage.

Diffusion from Europe to London

The international diffusion of silk weaving was long and protracted, spanning over several centuries. Silk was manufactured in China in 2700 BC but it was not until the XIth or XIIth centuries before it took roots in Italy. Despite intense efforts by the English Crown to import the industry from the fourteenth and fifteenth centuries, it was not until the mid-sixteenth century that the industry reached England, pointing to the formidable obstacles in the path of technology transfer. There were several reasons why there was so much interest in establishing a silk industry. The first relates to the universal appeal of silk as a textile fabric. Beautiful and lustrous to the eye, soft to touch, and elegant to wear, silk had been long regarded as an exotic luxury. However, partly due to the climatic difficulties of cultivating mulberry trees in Europe and partly to the lack of skills, silks had long been imported from abroad and as such were expensive. Silks came from the Far East, the Near East and later Italy. The second reason why there was an intense desire to establish the industry in England relates to concerns over the balance of trade and the drain of national wealth. The demand for silk goods expanded enormously in England in the reign of Queen Elizabeth. In 1559, silk fabrics were the sixth largest item of import, with an estimated value of £32,000 and this rose to £117,000 by 1634. The third possible reason relates to the need to create jobs for the poor. It was understood in governmental circles that establishing

new textile industries could create much needed employment opportunities for the old and the poor.

The diffusion of silk manufacture outside Italy faced considerable obstacles as Italian cities actively sought to prevent the spread of the industry by forbidding the emigration of skilled weavers, but it is difficult to ascertain the effectiveness of legislation in this. However, trade indirectly promoted diffusion outside Italy, and merchants therefore may have played a crucial role in the spread of the industry to northern parts of Europe in the fifteenth and sixteenth centuries. Domenico Sella, for example, has explained how merchants occupied a nexus between demand and migration: "by bringing to a country manufactured goods produced in another, [merchants] created, when successful, a demand for them; and once a sufficiently large demand had been created, it became possible and indeed attractive for artisans to come and set up shop in that area".⁵ Although largely speculative, Sella further pointed out that "it is no mere coincidence that long before it harbored refugee silk-makers from Italy and long before it emerged as a major centre of the silk industry, a city like Lyons had served as the headquarters of Italian merchants and as the distributing centre of Italian silk goods in France".⁵ Thus prior to the transfer of the industry it was necessary to cultivate demand for a product and this was often stimulated by trade.

Bruges was one of the first northern European cities to successfully establish a silk industry in the fifteenth century. Venetian and Genoese merchants brought silk to Bruges to trade, and it appears that local weavers, partly necessitated by a declining traditional cloth industry in Flanders,⁶ and partly encouraged by the presence of a large number of wealthy consumers in Bruges, developed a native silk industry by copying. But rather than imitating high quality and expensive Italian silks to substitute imports, native weavers wisely developed a different and cheaper product – satin – woven with a mixture of wool and silk. This pragmatic move by Bruges weavers to develop a differentiated product at a lower cost and lower risk aiming at the mass market reflected the recognition of their inability to compete with Italian goods at the embryonic stage. It is uncertain when the process of imitation began, but

Between two cultures: migrants and minorities in Britain, Oxford, 1984, pp. 181-213; Waldinger R. D., *Through the eye of the needle: immigrants and enterprise in New York's garment trades*, New York, 1986, pp. 1-2.

⁵ Sella D., "European Industries, 1500-1700", *The Fontana economic history of Europe: the sixteenth and seventeenth centuries*, vol. 2, Cipolla C. ed., Hassocks, 1977, p. 404.

⁶ Van der Wee H., *Urban industrial development in the Low Countries during the late middle ages and early modern times*, Working papers in economic history, 179, 1994, p. 2.

it was not until 1496 that the satin weavers were sufficiently numerous and powerful to organize themselves into a guild in Bruges. After the satin industry had been consolidated, efforts were then made to develop the manufacture of costly, pure silk goods, and it was only at this stage that Italian silk weavers were employed, indicating the inability to imitate the higher level of skills. In 1538 the local council granted a Milanese resident in Bruges, Francesco de Prato, a loan of 500 Flemish pounds with the prospect of a further 2000 pounds, provided that 100 looms were in operation manufacturing velvet and satin within a year and a half. However, Prato went bankrupt, unable to set up even 25 looms.⁷ In the second half of the sixteenth century, Bruges still manufactured a great quantity of fustians, says, satins and silks, but the industry appears to have declined by 1566.

The relative decline of silk manufacture in Bruges was in part due to the migration of the industry to Antwerp, which by the mid-sixteenth century had eclipsed Bruges as the international centre of commerce. As in Bruges, the silk industry in Antwerp was initially confined to the manufacture of satin. Once satin weaving was firmly established, attempts were then made to produce more expensive silk products, and these endeavours at product differentiation became more apparent in the 1530s and 1540s. It is uncertain whether these preceded attempts in Bruges, but in 1536 the Antwerp magistrate agreed to give financial support to a damask weaver from Beauvais, Niclaus Davidt. In 1546 the merchant-entrepreneur Jan Nuyts also received a state subsidy to manufacture expensive silk stuffs.⁸ In 1555, a Genoese Étienne de la Torre, was employed by the city to promote the manufacture of silk.⁹ It appears that the troubles affecting the southern Netherlands in 1566-67 did not affect Antwerp. Indeed, the silk industry in Antwerp received a boost due to the substantial influx of immigrants from Walloon provinces in the 1570s and

1580s. In 1582, of the 800 masters recorded in Antwerp, nearly a quarter were those who had fled from Flanders and the area around Tournai between 1579 and 1582.¹⁰ In 1584, the silk industry in Antwerp employed some 4,000 people, producing satins, damasks, bourats, grosgrain, velvets and armoisin.¹¹ After the fall of Antwerp in 1585, many silk weavers fled the city and settled in the Dutch Republic, particularly Amsterdam, while some left for London.¹² Religious and political factors, then, helped to speed up the pace of diffusion of the industry from the Netherlands.

Silk manufacture was quickly and successfully transferred to London from the Netherlands after 1560s when a large number of immigrants arrived from there. In a space of 40 years, immigrants had successfully established production and by 1600 great quantities of mixed silks were made in London by the strangers. Over the next two centuries the industry gradually spread from London to other parts of England. By 1713 England had become a significant centre of silk production, based in Spitalfields, Canterbury and Norwich and employed more than 300,000 people. This raises the question of what factors were responsible for its successful diffusion. There were three long term factors which facilitated the diffusion: the existence of a large opulent market in London, the presence of an intense desire to establish the industry, and the existence of an established weaving industry.

London offered a fertile environment for the silk industry to take roots as it had the largest and wealthiest market in England. The presence of the royal household in London provided a powerful stimulus to luxury industries. The large size of the royal household meant that it possessed an enormous spending power (in the 1630s it is estimated that it numbered 2,500 persons) on its own. Besides this, the royal household also played a

7 Vermaut J., "Structural transformation in a textile centre: Bruges from the sixteenth to the nineteenth century", in Van der Wee H. ed., *The rise and decline of urban industries in Italy and in the Low Countries*, Leuven, 1988, pp. 187-203, pp. 191-192.

8 See Thijs A.K.L., *Van 'Werkwinkel' tot 'Fabriek': De textielnijverheid te Antwerpen, einde 15de- begin 19 de eeuw*, Antwerp, 1987; *De zijdenijverheid te Antwerpen in de zeventiende eeuw*, Pro Civitate, Historische Uitgaven, Reeks in 80, Nr 23, 1969; "De zijdenverheid te Antwerpen in de zeventiende eeuw", *Tijdschrift voor Geschiedenis*, 79, 1966, pp. 386-406.

9 Goris J., *Étude sur les colonies marchandes méridionales à Anvers de 1488 à 1567*, Leuven, 1925, p. 441.

10 Van der Wee H., *The Growth of the Antwerp market and the European economy*, vol. 2, Hague, 1963, p. 258.

11 Thijs A.K.L., "Les textiles au marché anversois au xvie siècle", in Aerts E. & Munro J.H. eds., *Textiles of the Low Countries in European economic history: proceedings of the tenth international economic history congress, Leuven, August 1990*, Leuven, 1990, pp. 76-86, p. 80.

12 For further information on the silk industry in Amsterdam, see Van Nierop L., "De zijdenijverheid van Amsterdam historisch geschetst", *Tijdschrift voor Geschiedenis*, 45, 1930, pp. 18-40, 151-172; 46, 1931, pp. 28-55, 113-143; id., "De bruidegoms van Amsterdam", *Tijdschrift voor Geschiedenis*, 49, 1934, pp. 329-344; 52, 1937, pp. 144-162; Hofenk de Graaf J. H., *Geschiedenis van de textieltechniek: lakennijverheid - Sitsen - Zijde-industrie*, Amsterdam, 1992, pp. 131-236.

significant part in drawing to London the provincial gentry, the aristocracy and their wealth. In this period it was common for these groups to spend part of their time in the capital and part of their time in the country. From the 1580s, however, their visits became more frequent and many may have spent as long as nine months of the year in the capital. The presence of the gentry and aristocracy provided a boost to conspicuous consumption, afforded by their wealth and lubricated by their emulative spending. In the 1590s individual courtiers were spending up to £1000 per annum on clothes. London also housed a significant number of wealthy merchants, who may have numbered as many as 5000 in the early seventeenth century. Their presence in turn also helped to fuel demand for luxuries. Changes in fashions, away from heavy woollen cloths and leather, towards lighter, more colorful and fashionable fabrics, also helped stimulate the demand for silks.

The popularity of silks was reflected in the rising level of imports and this caused much governmental concern due to adverse effects on balance of trade. As efforts to restrain consumption by issuing sumptuary legislation proved ineffective, the English Crown realized that promoting production was more effective in dealing with balance of trade. In the sixteenth century two proposals were made, both initiated by merchants, to bring over skilled weavers from Italy to establish production in England. In 1537, an Italian merchant, Antony Gwydot, proposed to introduce silk weaving into Southampton by bringing over eight best silk weavers with their wives and children (totaling 24 people) from Italy, with raw silk to be imported from Antwerp. However, there is little evidence that these Italian workers arrived in Southampton. In 1559, a more detailed and elaborate plan was presented by two merchants to introduce silk manufacture into London. They proposed to bring over workers from Italy, including two chief weavers with their families, one chief spinner, one dyer and one carpenter. This plan involved a smaller number than Gwydot's plan but also included workers in the auxiliary trades. There is no evidence that this plan actually materialized and this illustrates that the greatest barrier to technology transfer lay not in prohibitive legislation but perhaps more in the difficulty in persuading workers to move, despite any financial incentives. It appears that Italian weavers were unwilling to uproot themselves and migrate to another country, probably due to linguistic, climatic and cultural reasons. In addition, a second problem with these proposals was their high and unrealistic expectations. Instead of focu-

sing on developing a low grade product for which there was a large local market, plans concentrated on the manufacture of high quality and expensive silk goods for the upper end of the market, intended to replace imports. Here planners may have overlooked the premium placed on brands.

The silk weaving was eventually established in London in the 1560s, but in the way very different from that envisaged by planners and the ultimate success of the industry was ensured by the presence of a sufficient number of workers to make a difference, their commercial strategy, and the replenishment of skilled labour afforded by continual immigration. The number of migrants was crucial to diffusion. In order to set up a new industry or introduce a new technique, a certain number of workers with the relevant skills was necessary to supply the skilled labour and to teach others. The challenge in technology transfer then lay in the mobility of labour, and this was influenced by both pull and push factors. On the pull side, a satisfactory level of effective demand, political peace and/or religious tolerance, and government policies to attract skilled artisans, could 'pull' craftsmen into a given area. On the push side, factors such as political conflicts, warfare, and persecution were potent, and D.C. Coleman has called these non-economic factors, which he believes, were the only ones capable of forcing a large number of people to uproot and move.

This theory appears to be applicable to silk weaving. Many immigrant silk workers appear to have come for religious reasons, as reflected in their place of origin, time of arrival and church membership. Evidence suggests that stranger silk workers in London in the sixteenth century came predominantly from the southern Netherlands and only a handful from France itself. In 1571 the largest groups, in descending order, originated from Walloon provinces, Flanders, and Brabant. Immigrant silk weavers from France and Italy were also recorded, but these were small in comparison to those from the Netherlands. Particularly striking was the number of silk weavers from Walloon provinces, which increased dramatically at the end of the sixteenth century as a result of continued political and religious upheavals. A significant proportion of silk weavers also came from Flanders. As has been noted earlier, Bruges was once an important centre of silk manufacture but this industry had declined by 1560s. In 1571 19% of silk weavers originated from Flanders, but this proportion fell to 11% by 1593. Over the same period, the share from Brabant increased from 5 to 11%, largely

as a result of the immigration after the fall of Antwerp in 1585. The number from Brabant rose from 9 to 18 between 1571 and 1593, with two-thirds arrived in the period between 1584 and 1593. This insignificant scale of immigration after 1585 reflects the relative unattractiveness of London to many potential emigrants leaving Antwerp. Indeed, many Antwerp silk weavers, along with others, chose to move to Amsterdam instead, laying the foundations of the silk industry there.

The time of their arrival coincided with periods of intense religious and political disturbances in the southern Netherlands, reinforcing the significance of these in precipitating migrations. More than 80% of all the silk workers in London in 1571 had arrived between 1560 and 1571 (63% arrived in the period 1566 and 1571 alone), and only 13% between 1540 and 1559. Several of the silk workers from Walloon provinces escaped to London to avoid persecution. Guillaume Coppin, Wolfgang de Faloize, Pierre Gruel, Bon Raparlier, who indicated in the Return of 1571 that they were silk weavers from Valenciennes, had all been banished from that city, and their goods confiscated by the Conseil des Troubles.¹³ The pre-eminence of religious motives in the immigration of the silk workers is also supported by the patterns of their church membership. Of the 183 silk workers in London in 1571, 88% were members of the Stranger churches, but 65% of these were members of the French church, reflecting the predominance of French-speaking immigrants among the silk weavers.

Religious and political factors then helped remove one of the most powerful obstacles in technology transfer: recruitment of a sufficient number of skilled workers. A major problem with the earlier proposals concerned the number of workers. The proposals in 1537 and 1559 involved the recruitment of a total of some 20 workers, a number probably insufficient to exert a quick and visible impact. The industry had a higher chance of success after 1560s because of a sizeable number of workers involved. In 1571, 237 stranger heads of households and their servants were recorded as working in silk manufacture, and by 1593 the number had risen to 522. If their wives and children were also counted, the total was probably 1,000 people or more.

The commercial success of the silk industry also owed to the penetration of the mass market. Instead of making high quality and expensive silks to compete

with Italian silks, the refugees focused on making a lower-grade product, probably making silk goods similar to the kinds developed in the Low Countries. Silk was an expensive raw material, and an innovation developed in the Low Countries was to mix it with other fibres such as linen and wool to reduce the costs. Considered unsuitable for clothing by the elite, these cheaper and mixed silks were probably used by them for linings of expensive garments and fine bed curtains, and other purposes, such as making silk handkerchiefs. Silks made in England then were designed to complement rather than substitute imports of high quality silks, and this product differentiation undoubtedly was a crucial factor in the expansion of the industry. While the wealthy classes may have been willing to buy local made silks for linings and other purposes, they were less likely to switch from wearing Italian silks to those home-made. This may explain why, despite increased silk manufacture in England at the end of the sixteenth century, high quality silks continued to be imported in large quantities. However, over time as the skills built up and the reputation of the English silk industry increased, imports were likely to decrease.

The consolidation and expansion of the silk industry was also ensured by the intermittent influx of skilled weavers in the seventeenth century, some of whom were highly skilled. The records of the Weavers' Company of London show that between 1610 and 1694 at least 891 foreign weavers were admitted and they in turn trained 500 foreign and English apprentices in the capital. This admission represented a significant change in the Weavers' Company's policies towards alien weavers. While in the sixteenth century many alien weavers operated outside the guild, in the seventeenth century they were admitted as members of the Company. Their inclusion was important in the process of Anglicisation because it gave them status, recognition, and security, and provided a formal channel for the diffusion of skills. To obtain admission, aliens were required to show proof of church membership (French and Dutch church), proper qualification acquired here or abroad, and a fee (11s. 10d for journeymen and £4 or £5 for masters).¹⁴ Those with exceptional skills were admitted gratis. The Company also sought to encourage the production of new types of silk. In January 1684 two silk weavers from Nîmes, John Larquier and John Quet

13 Brussels: Archives générales du Royaume (hereafter AGR), Conseil des Troubles, MS 155; MS 315A, MS 315 bis.

14 Waller W.C., *Extracts from the court books of the Weavers company of London 1610-1730*, Huguenot society publications, vol. 33, 1931, pp. xvii-xviii.

requested admission, claiming they could weave and perfect lustrings, alamodes and other fine silks. The Company gave them six weeks to produce a sample piece and appointed a member to supervise the work to ensure that the weavers could do what they claimed. Eight months later, John Larguier produced a piece of alamode silk. The Company considered that the skill would be of great benefit to the nation as no similar products had been made in England, and admitted him gratis upon the condition that he would employ some English persons in making Alamode and lustring silks for one year.¹⁵ In the seventeenth century then there appears to be two important changes: London attracted some of the highly skilled weavers and they came from France rather than the southern Netherlands. This shift in origins and the high level of skills of the silk weavers enabled London to enhance its reputation as a centre of silk-weaving.

The wider dissemination of skills within the immigrant community

Existing studies on technology transfers seem to suggest a deterministic and linear process, and rarely examine the relationship between immigrants' occupations in their home town and new homeland. It is often assumed that there was a direct link between immigrants' new and old trades. This research shows that there was no direct relationship and occupational experimentation and adjustment was quite common with immigrants learning new skills. Economic opportunities in the new home land were probably more critical in determining the occupational patterns than places of origin, and help to explain why immigrants living in different English towns and cities in this period pursued different trades. In East Anglian towns immigrants dominated the New Draperies and in London silk weaving. In the initial period of settlement immigrants were involved in occupational experimentation, trying out new crafts which could give them a means of livelihood. Pieter Seghers, a merchant arrived from Ghent in July 1567, for example, recorded that during his two year stay in London he had no money and subsequently had to work as a button maker and a silk worker, both professions he had learned there.¹⁶ In the eighteenth

century Natalie Rothstein also found that many Huguenots changed to silk weaving from related trades, and concluded that "there is not much evidence to prove that the professions of the majority in France had been silk weaving... Refugees were weavers, but they became silk weavers. In their country of origins they made certain coarse types of woollen cloth".¹⁷

The hypothesis that the skills in silk weaving may have been learned in London can be tested positively in two ways. In the first place, we can compare the occupations of silkweavers recorded in the various Returns of aliens. There are three detailed Returns of Aliens for the period between 1568 and 1571, and these can be used to trace the occupations of strangers in their early years of settlement in London. Second, the availability of valuable documents in the Conseil des Troubles Archive also renders it possible to trace former occupations of aliens in their hometown. This exercise focuses on the silk workers from Antwerp and Valenciennes, cities where a sizeable group of alleged silk weavers originated, and where there are good documents available.

Did silk workers from Antwerp experience occupational change during their stay in London? The findings show that two broad occupational changes seem to have occurred. In the first place, some immigrants from Antwerp may have adapted their skills from trades related to silk weaving. Claude Dottegnie, for example, was recorded in 1571 as a silk weaver from Italy. He had in fact lived in Antwerp for several years before moving to London some time after 1559. In Antwerp, he is known to have been a wool comber and when he moved to London he became a schoolmaster in 1561, a button maker in 1568 and a silk weaver by 1571. It is possible that he learnt the skill in silk weaving in Antwerp,¹⁸ but if so he was unable, or chose not to

17 Rothstein N., "The silk Industry in London, 1702-1766", University of London MA thesis, 1961, p. 28 In a recent study of the Huguenot silkweavers in Spitalfields, Mary Bayliss also shows that many changed their occupations, see "The unsuccessful Andrew and other Ogiers: a study of failure in the Huguenot community", in Vigne R. & G. Gibbs G. eds., *The Strangers' progress: integration and disintegration of the Huguenot and Walloon refugee community, 1567-1889, Proceedings of the Huguenot society*, 26, 1995, pp. 230-240, p. 231.

18 Marnef G., "Antwerpen in Reformatietijd: Ondergronds Protestantisme in een internationale handelsmetropool, 1550-1577", University of Leuven Ph.D. thesis, 1991, vol. 2, p. 112, see also his book on *Antwerp in the age of Reformation: underground Protestantism in a commercial metropolis, 1550-1577*, London, 1996.

15 Guildhall Library, London, MS4655/9/ f. 12, ff. 37-38.

16 I am grateful to Raymond Fagel for this reference. Degryse K., *Pieter Seghers. Een koopmansleven in troebele tijden*, Antwerp, Baarn, 1990, pp. 110-111.

practice it on his first arrival in London. The second occupational adjustment concerns the shift from silk weaving to other, sometimes unrelated, trades. Denis Bonange, described as a silk weaver in 1568, appeared to have found lace making a much more profitable trade, as by 1571 he was recorded as "weaver of onell lace". Francois Marquin, on other hand, gave up weaving altogether, and by 1583 had become a schoolmaster.¹⁹

The previous occupations of immigrants from Valenciennes indicate that many who had stated that they were silk weavers in London in 1571 had in fact been well-to-do merchants in Valenciennes,²⁰ and had changed their occupation to silk weaving during their stay in London. So what are the possible explanations for this occupational mobility? One probable factor relates to the constraints operating in London, as many former merchants could not resume mercantile activities, due in part to the disruptions to trade caused by the troubles in Valenciennes, and in part to the prohibition by the Privy Council of trading with the Low Countries. The Port Book for 1571 indicates that few merchants from Valenciennes were able to resume trading in London.²¹ The second probable explanation lies in their destitute economic condition which may have forced them to find a handicraft occupation to earn a living. Many of the refugees from Valenciennes had been banished from the city, and their goods and properties had been confiscated by the Conseil des Troubles. Some arrived with very little money. Guillaume Coppin, once a well-to-do merchant from Valenciennes, lost a great deal of his possessions when he was banished from his home city, and this may have forced him to take up silk weaving in London. In his will in 1572, some six years after his arrival in England, Guillaume Coppin still hoped to recover his goods in Valenciennes "when liberty shall be in the low countries and that

profit and sale of my goods which are at Valenciennes may be made"²² – a hope that failed to materialise. When he fell ill, he had to rely on poor relief from the French Church, and in December 1572 the London deacons also gave his wife two shillings to buy a blanket.²³ But why did these refugee merchants change to silk weaving? Silk weaving was a lucrative trade and offered plenty of opportunities to make a living. Furthermore, some of these merchants may have been involved in trading high quality textiles in their hometown, and were probably familiar with some aspects of silk manufacture. Merchants-turned-silkweavers had an additional advantage: the knowledge of where to obtain raw silks. In the Return of 1593, the wife of Danyell Gislinge, a merchant, was recorded as a silkweaver. Her husband may have supplied her with raw materials as well as acting as an agent for her products.²⁴

If occupational change did occur, this raises the crucial question of how skills were acquired by immigrants. There are two possible sources. Social networking in the Stranger churches may have facilitated the process of inter-group diffusion. An overwhelming majority of immigrant workers (88%) were members of the Stranger churches, with the majority belonged to the French church (65%), and a smaller proportion (23%) to the Dutch church. The proportion of all French-church goers who were silk weavers was also greater: 24% in 1571 and a third in 1593, in comparison with only 8 and 11% of Dutch-church members, respectively. This evidence helps us to understand why silk-weaving became closely identified with the French-speaking community.²⁵

The spatial concentration of strangers in particular areas further encouraged the consolidation of skills and their rapid spread among the immigrants. The main concentrations of stranger silk weavers were in the Wards of Bishopsgate and Cripplegate, and in Southwark. In 1571, out of a total of 128 stranger families in the Ward of Bishopsgate, more than a third was classified as silk workers. In 1571, 8% of the 366 households in Bridge Without Ward were engaged in silk weav-

19 AGR, Conseil des Troubles, MS 19, f. 113, 134; MS 21(2), f. 302, 317, 317v, 400, 402; Antwerp Stadsarchief, Certificatieboeken 28 (1568), 30 (1569); Satijn-, Caffa- en Boratwerkers A 4424, A4425. The names of silk workers from Antwerp have also been checked in sources such as the summon lists in the *Conseil des Troubles* Archive, *Certificatieboeken* and records of the guild *Satijn-, Caffa- en Boratwerkers* in the Antwerp Stadsarchief, to establish their previous occupations in Antwerp. However, none of the names listed could be traced in these records.

20 AGR, Conseil des Troubles, MS 18, ff. 9v-11v; MS 20, ff. 153-154; MS 155, ff. 116-117.

21 National Archives of the United Kingdom (hereafter NA) : E190/5/5 (1571), f. 12, 12v, 41.

22 NA : Prob 11/55 (1573).

23 Quoted in Spice A., *The French-speaking reformed community and their church in Southampton 1567-c.1620*, Huguenot society, New Series, n° 3, London, 1997, pp. 38, 114n.

24 Scouloudi I., *Returns of strangers in the metropolis 1593, 1627, 1635, 1639*, Huguenot society publications, vol.57, 1985, p. 82.

25 Luu L., *Immigrants and the industries of London 1500-1700*, op. cit. note 1, chapter 6, pp. 219-258.

ing, a much smaller proportion than in Bishopsgate. In Cripplegate Ward, of a total of 82 stranger families, 23% were engaged in silk weaving.²⁶ Before the large influx during the 1560s, there were already stranger silk workers in the Wards of Bishopsgate and Cripplegate who had lived there for a number of years. In Bishopsgate Ward, for example, there were Domyrick Bewxer, a silk weaver from France, who may have been living there since 1546, and Peter Foye, a silk weaver from Tournai, who had been there since 1560. The skills in silk weaving may have been originally developed and perfected by these established residents, who later passed them on to their fellow-countrymen. The clustering of stranger silk workers followed ethnic lines. The majority of the stranger silk workers in St. Botolph parish in Bishopsgate came from Walloon provinces. In 1571, of the 31 stranger silk worker households in the parish of St. Botolph Bishopsgate, nearly 65% were of Walloon origin. The silk weavers in St. Olave in Southwark, on the other hand, were largely Dutch-speaking. In 1571, of the 15 stranger silk weavers living there, 80% were from Flanders, Brabant or Holland. These patterns of ethnic distribution played a critical role in the development of the silk industry in these areas. As Bishopsgate housed many French-speaking immigrants, it was able to attract later arrivals from French-speaking areas, particularly the Huguenots in the seventeenth century. With the injection of a considerable amount of skills and capital by the Huguenots after 1685, the original "Bishopsgate silk industry" expanded and became the "Spitalfields silk industry". The silk industry in Cripplegate and Southwark, on the other hand, fizzled out as immigration dried up.

The transfer of skills from immigrants to the native population

Native weavers were aware of the tendency of immigrants to share skills with each other and greatly resented this. In 1595 they bitterly complained against alien weavers who did not share with them the skill and yet did "not refuse to teach their countrymen, which new come over, the art of silk weaving, though before they were a tailor, a cobbler, or a joiner".²⁷

Immigrants' perceived unwillingness to share skills stemmed partly from cultural and linguistic reasons,

partly from the existence of discrimination and apprenticeship laws and partly from the disincentive effects – today their apprentices were their servants, but tomorrow they may become potential competitors.²⁸ This fear was exacerbated by the occupational mobility enjoyed by English freemen, allowing them to practice even trades which they had not been apprenticed in. This naturally aroused concerns among some aliens that once some native citizens had learnt the skills formerly taught by them, they could forbid aliens from practising these to reduce competition. These fears were clearly stated in a petition by strangers to Parliament in 1571.²⁹

Aware that this aroused a lot of indignation among native population, both the Crown and the civic authorities sought to promote the diffusion of skills to pacify resentment against aliens. In 1573, London's city authorities decided that a key criteria for the settlement of immigrants in the city was that they had to "teach their arts to Englishmen and set no strangers on work but their own children".³⁰ However, this did not seem to have much effect, and the strangers' continued unwillingness to impart their skills engendered much native indignation. In the face of this mounting hostility, the strangers were increasingly advised by those in government to employ English servants to pacify resentment and foster goodwill. In May 1586, a time when feelings against aliens were running high, Francis Walsingham advised the Dutch church to prepare "a catalogue or register of all the names of born Englishmen, who are employed by strangers of your community or elsewhere".³¹ The Dutch church was grateful, and recorded that "Her Majesty's Secretary, Sir Francis Walsingham, was always our good friend, who gave us excellent advice to shun the ill-will of the common people, and among other things, advised our people to employ the inhabitants of this country".³² This advice appears to have been taken seriously by the strangers. In 1593, in response to rising complaints against aliens as a result of deteriorating economic and social conditions, the Privy Council ordered a survey to

²⁶ This is compared to only 4% of native Londoners.

²⁷ Consitt F., *The London Weavers' Company*, Oxford, 1933, p. 313.

²⁸ Persson K.G., *Pre-industrial economic growth: social organization and technological progress in Europe*, Oxford, 1988, p. 9.

²⁹ Hessels J. H., *Ecclesiae Londino-Batavae archivum, epistulae et tractatus*, Cambridge, 1889-1897, Vol. 3 (1), [157], pp. 126-8.

³⁰ Corporation of London Records Office, London, Repertories of the Court of Aldermen. Vol. 18, ff. 148v-49v.

³¹ Hessels J. H., *op. cit.* note 30, vol. 2, [220], pp. 794-5.

³² *Ibid.*, pp. 794-795.

find out the number of strangers who had violated the laws of the city by plying their craft, and how many employed poor English persons.³³ It was found that many families did not employ any servants. In 1593, for example, of the 1,040 alien households recorded, 516 families had no servants and relied totally on their own labour, 212 households employed only English servants, and a further 149 households employing both English and stranger workers.³⁴ The survey showed a total of 1,671 English servants were employed, in comparison to 686 stranger servants. The silk weavers employed a small percentage of English servants. Of the total 1,671 English servants employed in 1593, only 7% (or 120) were employed by silk workers. This is quite surprising and may be due to cultural and linguistic factors. As we know many silkweavers interviewed in 1593 indicated that they had only arrived in London recently, it is probable then that many could not speak English, as indicated by the presence of church ministers to act as interpreters in conducting the surveys, and this may explain why some did not employ any English servants.

In the seventeenth century, the employment of English servants was no longer optional but made compulsory by the Weavers' Company. Aliens were also required to employ a greater number of English servants among their workforce, a policy rigorously enforced. On 30 March 1685, after several members of the Weavers Company complained that many foreign members now employed more French than English "contrary to the Ordinances", the Company instructed them to give the names of offenders who were ordered to appear before the Court. Henry Hess appeared and "was very sorry for his offence and pretending his ignorance by his not understanding English". He was fined ten shillings and promised to conform. Peter Marishall declared he employed seven journeymen, four of whom were English but he claimed two of them went away "of their own accord".³⁵

Between 1662 and 1694 a total of 443 English and alien apprentices were bound. Of the 238 alien apprentices recorded, the largest number (143 or 60%), as expected, was bound to other alien masters, a fair proportion (14%) received training from their own fathers, and a significant proportion with English masters (61 or nearly 26%). Alien silk weavers also provided

training to some 205 English apprentices in this period. If these figures are added to the 891 alien masters and journeymen working in London, then the total number of aliens working or were under training in the seventeenth century constituted more than 1,334 people. This official figure was likely to underestimate the total number involved in the industry as it did not include the "unlicensed" weavers who operated outside the guild and who could not prove their skills and formal training. This was partly because they, like their predecessors in the sixteenth century, may have responded to the economic opportunities in the capital by turning to silk weaving to earn a livelihood and therefore had no formal qualifications and training. London silk weaving industry, therefore, was operated by two groups: a small number of skilled silk weavers and a large number of silk weavers who had only acquired the skill on arrival in the capital. These workers then may have catered for the different sections of the market: the skilled weavers for the aristocratic consumers and the less skilled for the mass market.

Conclusion

The diffusion of silk weaving to London involved three sub-stages: the transfer from Italy via the Netherlands to London, the wider dissemination of skills within the immigrant community, and the diffusion of skills to the native population. The first stage took the longest because of barriers in the mobility of labour and because skills often traveled in stages via intermediary centres. Skills often came from areas in close geographical proximity and where there was a strong social and economic link, and in the process of dissemination the skill was often adapted to suit the new local economic circumstances, leading to the creation of new products and skills. The process of diffusion was speeded up by political and religious disturbances engulfing the southern Netherlands and France in the sixteenth and seventeenth centuries.

The second stage occurred quite quickly because of strong social and economic networks, economic necessity by refugees to find a means of livelihood, and segregation. The inability of alien children to learn a craft trade with English masters, for example, may have strengthened economic ties among aliens, as some may have turned to their own fellow-countrymen to provide work or training to their children, and thus reinforcing the perceived economic separatism. It may also have promoted inter-generational transfer of skills, as

33 *Acts of Privy Council, 1591-1592*, Dasent J. R. ed., 32 vols, London, H.M. Stationery Office, 1890-1907, pp. 507-8.

34 Scouloudi I., *Returns of strangers*, op. cit. note 24, p. 82.

35 Guildhall Library, London, MS 4655/9/, ff. 61-62.

aliens were forced to teach their own children their craft skills, and thus perpetuating their domination in certain trades. Historians believe that migration was an effective method of diffusion because of its selective nature. The hardships involved in uprooting from one's homeland meant that only the most resourceful, energetic and courageous would move. To this we can add that out of all the immigrant groups, the refugees were probably the most adaptable and resilient, as their dire economic circumstances often propelled them to create new opportunities to gain a livelihood, and in the process cultivate a virtue of adversity.

The third stage involved the diffusion of skills from immigrants to native English, and contrary to common belief, this was not automatic but faced considerable obstacles in the sixteenth century. This was partly due

to discrimination facing immigrants, their inferior status, their exclusion from guilds, as well as linguistic and cultural barriers. Civic and governmental pressure on them to employ and train English servants led to the reluctant employment of servants but it is difficult to establish whether skills were taught. In the seventeenth century, their incorporation into guilds provided a more effective means in promoting diffusion. This gave them status, recognition, and legal rights, and paved the way for the institutional diffusion of skills.

A study of diffusion of industries, then, requires not only a bird's-eye, abstract examination of their long-term developments but also a personal, human focus on the migrants, the carriers of industrial technology and know-how, and the critical influences upon their behavior.