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THE · SILK INDUSTRY



FRANK · WARNER

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THE SILK INDUSTRY OF
THE UNITED KINGDOM.

Its Origin and Development.

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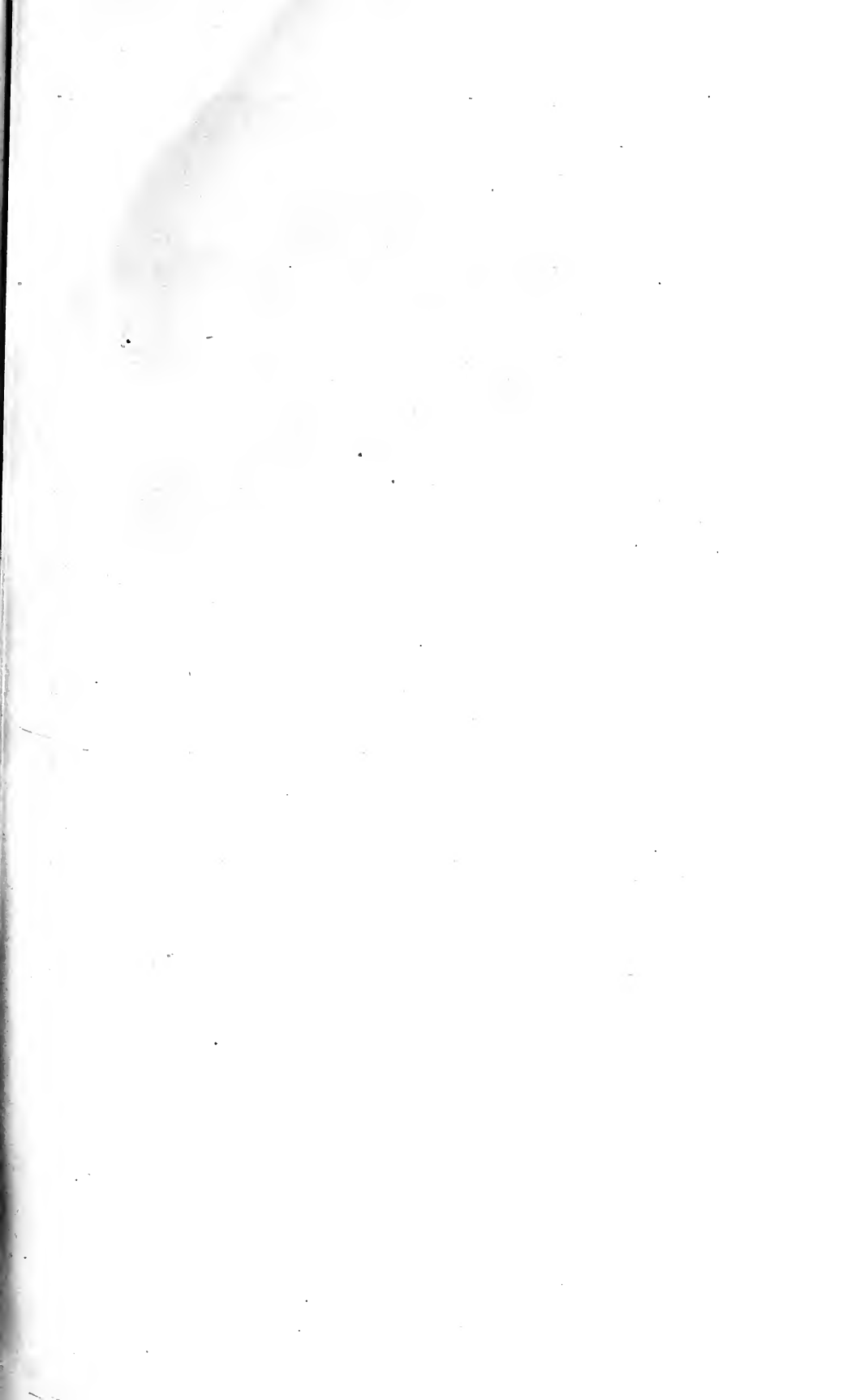




Plate I.

H.M. The King in Coronation Robes.

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THE SILK INDUSTRY OF
THE UNITED KINGDOM.

Its Origin and Development.

BY

(Sir) FRANK WARNER, K.B.E.
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25. 1. 40

LONDON:
DRANE'S
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NOTE BY THE AUTHOR.

It was originally intended that this work should be entitled "The History of the Silk Industry of the United Kingdom," and it was believed that quite a small volume would suffice to contain all the information procurable, but enquiries begun in the early months of the year 1911 have resulted in establishing the fact that the Silk Industry was at one time and in one form or another carried on in a very wide area and at places hitherto unsuspected of having had any connection with it.

Seeking, as was natural, in the early days of its development localities which provided water power and a supply of cheap labour, the industry became scattered, and it has remained so ever since.

How far this disintegration and consequent lack of cohesion and unity of effort, political, economical, technical and educational, has led to the decline of the industry in this country it is impossible to estimate, but it is undoubtedly a source of weakness, whether judged relatively to the prosperity of silk workers in other countries or to those engaged in the other branches of the textile industry in Great Britain and Ireland.

It is not the object of this work to attempt to prove that our past or present fiscal policy has been either the salvation or the ruin of the silk industry in this country. The facts must be left to speak for themselves. The author has no intention other than to provide for the lovers of silk, and they are universal, and for those who take an interest in its welfare in this country, and they are many, a book which is a record of the origin and development

of the silk industry in the United Kingdom, as far as it has been possible to collate it, in the hope that its publication may be the means of eliciting much more fully facts which are not here recorded, and of substantiating others, concerning which there is an element of doubt. The main part of the book was, it should be mentioned, written during the early part of the War period, but for reasons which will be readily appreciated its issue has been deferred until now.

For all failings both of omission and commission the author takes the fullest responsibility, for the rest, all the credit is due to those who have collaborated with him ; and it is his desire to place on record his deep indebtedness to Mr. Luther Hooper, Mr. J. A. Hunter and Mr. H. A. Slack, who, from the first, have borne the main burden of the vast amount of work which the production of this volume has entailed. Valuable assistance has also been rendered by Miss M. F. Billington, Mr. W. H. Manchée, Mr. R. Snow, Major Geoffrey R. Y. Radcliffe, Mr. Fred Richards and others, amongst whom Mr. James Cramp for the chapter on "Coventry," Mr. Walter R. Rudd, Hon. Secretary of the Norfolk and Norwich Archæological Society, for "the History of the Old Norwich Silk Industry," and Mr. R. S. Swirles, who contributed the chapter on "Ireland," are especially worthy of mention.

The colour prints of the Coronation of the King and Queen, reproduced from the original drawings by Mr. S. Begg, appear in the book by Royal permission. The author respectfully acknowledges his gratitude for the gracious assent to his request, and takes this opportunity of expressing his thanks for the deep interest which Their Majesties have ever taken in silk, and their kindly solicitude that the most beautiful of all the textiles should become a great and prosperous industry in the United Kingdom.

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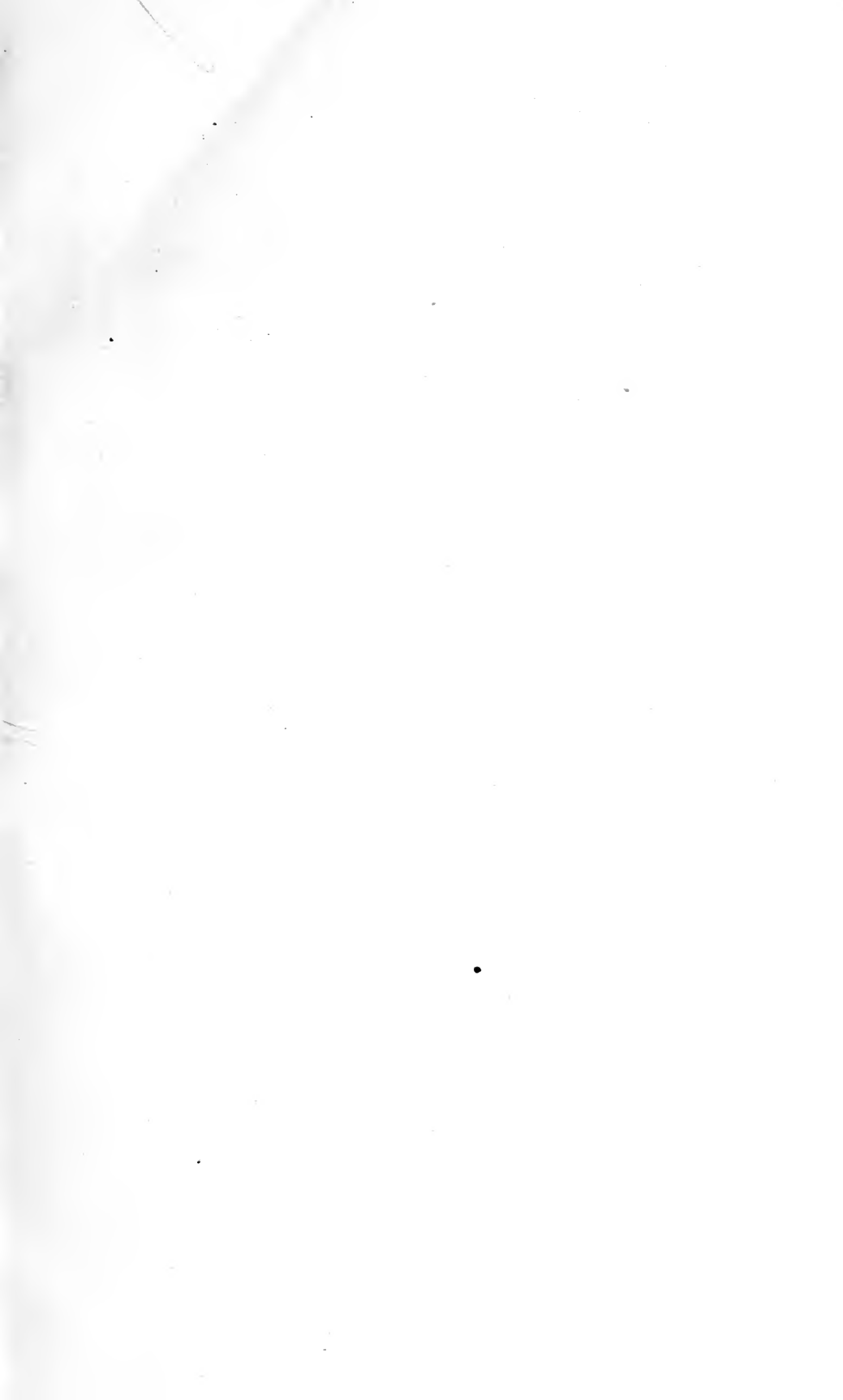




Plate II.

H.M. The Queen in Coronation Robes.

BOOK ONE.

CHAPTER I.

BEGINNING OF INDUSTRY.

Except for the most primitive arts of life Great Britain owes to foreigners, who have chosen or been compelled by various circumstances to settle on her shores, almost all the numerous branches of Industry and Commerce which she has, in the course of time, been able to develop. Amongst the occupations thus introduced to England by Alien artists, artificers and merchants, the manipulation of Silken Thread, Silk Weaving and Commerce in Silken Fabrics rank with the most important.

The
Origin
of Art
and
Craft.

It is not necessary to go back further than the Norman Conquest, in the eleventh century, to find England, as the invaders did, inhabited by a primitive people chiefly employed in agriculture, and intermittently engaged in warfare of more or less importance and extent. The simple life led by the Anglo-Saxons did not call for any high degree of perfection in the handicrafts which ministered to their daily needs. Objects of great excellence of design and workmanship or richness of material, such as gauzy silken robes or sumptuous embroideries, elaborately wrought gold or silver ornaments, or highly tempered steel weapons, were almost unknown, but when occasionally seen or told of, were popularly supposed to be the work of fairies and necromancers, or made by artificers under some kind of supernatural influence.

It is true that in the religious houses, where learning was so much cultivated that several English scholars attained European fame and became friends and councillors of popes and kings, some knowledge of art and craft was not uncommon: but it was, for the most part, confined to such institutions. There is good authority for stating, that, in every region where a religious

The
Mona
steries
and
Artis
Hand
crafts

The
Monas-
teries
and
Artistic
Handi-
crafts.

order wanted a new church or convent, it was an ordinary thing for the Superior, the Prior, the Abbot, or even the Bishop himself, to give the design, and for the monks to fulfil, under his direction, every department of the execution of the work, from the meanest to the highest.* Illuminated writing and needlework were also practised in the monasteries and convents by the monks and nuns. These works were, however, mostly for church use, and were designed and executed by the religious, who from time to time were sent from Rome to prevent the people of England from relapsing into paganism. These works were at first, therefore, quite distinct from the ordinary life and occupations of the English people, and until they came to be practised by native artists and artificers, as they eventually did, cannot be considered as English art, craftsmanship or manufacture.

In times of peace the chief occupations of the common people were husbandry, the breeding and tending of animals, the making of farming implements and rude domestic furniture, the preparation, spinning and weaving of wool and flax, and a limited amount of local and export trading.

Wool the
Chief
Product.

The chief product of the country was wool, which very early became an article of commerce especially with Flanders. To that country it was exported in considerable quantities, in exchange for finer and better finished cloth than the less skilful English weavers of that time could produce, as well as for other foreign goods.

Except at the Royal Court, and even there only occasionally, luxury or refinement were entirely absent from secular life. The nobles spent their time in hunting and rough hospitality, whilst their ladies (convent taught) busied themselves with simple embroideries, useful needlework or domestic duties. The dress materials, embroideries and household textiles of flax and wool, for daily wear and decoration, were made of homespun thread, whilst the festival garments were fashioned from cloth woven and dyed in Flanders. Silk and cotton were rarities,

* Hope's *Historical Essay on Architecture*, chapter 21.

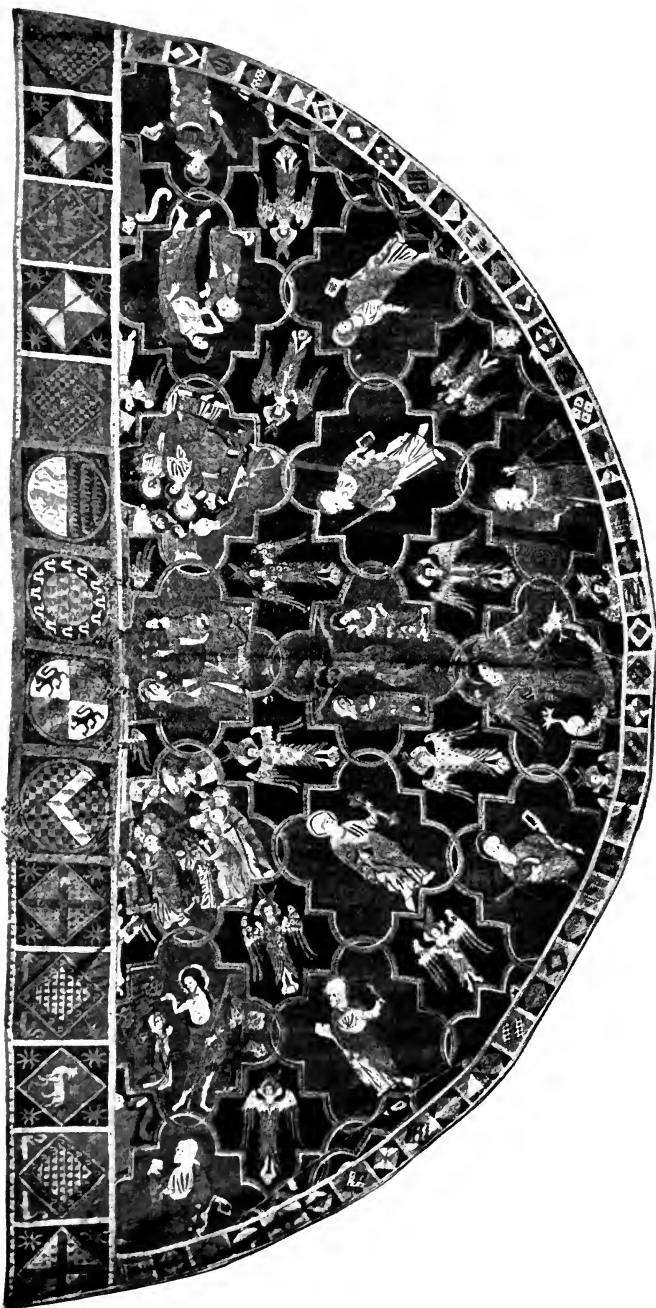


Plate III. *Specimen of Old English Embroidery, the Syon Cope, in South Kensington Museum.*

unknown except as royal treasures, or in the embroidery on some of the most precious vestments of the clergy.

One of the earliest records of silk mentioned in the Saxon chronicles is that "Offa, King of Mercia, received a present of two silken vests from the Emperor Charlemagne in 790." King Alfred also is said to have had amongst his royal treasures a few garments embroidered with silk, or woven of that material.

Silk in
Saxon
Times.

It is often erroneously supposed by students of the poetry and romance of antiquity and the Middle Ages, that the glowing descriptions of the dress and decoration of these periods are to be taken as literally true. A modern author, to quote one example out of many which might be chosen, contrasting the present time unfavourably with the past, says: "The love of beauty among the early races was not a narrow cult, nor was it the exclusive possession of a privileged few. It was the native gift of every human being." In proof of this assertion the author cites a passage from an ancient romance which, though very beautiful, is manifestly misleading as a picture of real life. "It is recorded in the history of Cuchulain that when a certain King Eochaid was going one day over the fair green of Bri Leith he saw, at the side of a well, a woman with a bright comb of silver and gold, and who was washing in a silver basin having four golden birds on it and little bright purple stones set in the rim of the basin; a beautiful purple cloak she had and silver fringes on it, and a gold brooch; and she had on her a dress of green silk with a long hood embroidered in red gold, and wonderful clasps of gold and silver on her breasts and on her shoulders. The sunlight was shining on her, so that the gold and the green silk were shining out. Two plaits of hair she had, four locks in each plait and a gold bead at the point of every lock, and the colour of her hair was like the yellow flags in summer or red gold after it is burnished."

Literary
License.

This description is as beautiful as a design by the late Sir Edward Burne-Jones, which it suggests, but all that the sober historian can gather from it is, that, at the time the story was written, gold and silver combs and brooches,

silver fringes to purple garments, green silken webs, gold embroidered, and beautiful women with golden hair, which it was customary to wear in plaits, were to be seen. But to suppose that at the time to which the legend refers women exquisitely clad were commonly seen washing themselves by the roadside or that the materials and details of such dresses as that described were the productions of local handicraft, or that the whole scene ever existed except in the imagination of the romancer, is absurd. Such theories, moreover, are contradicted by the actual specimens of handicraft which have been preserved. The few really fine works which remain are of periods, and by artists, belonging to peoples known to have attained a high degree of culture.

After the Norman Conquest, delicacy and richness, both of material and workmanship, seem to have characterised the dress and furnishings, not only of royalty but of the nobles and gentry. Chronicles of the twelfth, thirteenth and fourteenth centuries abound with graphic descriptions of sumptuous pageants and elegant banquets, in which gorgeous clothing of silk and cloth of gold, and flashing jewels, as well as delicately prepared food and ingeniously decorated dishes, are described in minute detail and with evident appreciation. These things are set forth, not only, as hitherto they had been in fiction, by poets and romancers, but as sober descriptions of actual fact by veracious historians.*

Several centuries elapsed, however, before the articles of luxury thus described came to be of English manufacture. Such wares were mainly introduced into Northern Europe by foreign traders, who brought them from the East by way of Italy and Spain. In the twelfth century the settlement of Oriental silk weavers in Italy and Sicily took place, and rendered that country not only the market, but the manufactory, of silken webs for the rest of Europe.†

The account by Matthew Paris of the festivities at the marriage of the daughter of Henry III. to Alexander,

* Even in these descriptions much allowance must be made for rhetorical exaggeration.

† It is necessary to note here that the work of embroidery, as distinguished from woven fabrics, must be excepted. A great deal of embroidery was no doubt executed during the twelfth, thirteenth and fourteenth centuries in England, but the materials on which it was wrought were imported: and, moreover, the names of the artists recorded are mostly of foreign origin, such as Cheiner, Fitzode, Courteray and others.

Oriental
Silk
Weavers.

King of Scotland, in 1251, shows that the wearing of silk had then become general. He states that a "thousand knights appeared in vestments of silk. These were changed on the following day for similar garments of different colours." Also that "even citizens were present wearing *cyclades* worked with gold over vestments of silk."

One of the provisions of the Great Charter, made by Henry III. in 1225, and confirmed by Edward I. and several succeeding monarchs, deals with the treatment the purveyors of foreign goods were to receive in order to encourage them to bring their costly wares more confidently to the English market. The section of the Charter referred to is as follows:—

The
Great
Charter.

Cap. xxx.

"Merchant strangers coming into this realm shall be well used.

"All merchants (if they be not openly prohibited before) shall have their safe and sure conduct to depart out of England, to come into England, to tarry in and go through England, as well by Land as by Water, to buy and sell, without any manner of evil tolls, by the old and rightful customs except in time of War. (2) And if they be of a Land making war against us, and be found in our Realm at the beginning of the wars, they shall be attached, without harm of body or goods, until it be known unto us, or to our Chief Justice, how our merchants be intreated there in the Land making war against us. (3) And if our merchants be well intreated there, their's shall be likewise with us."

There is ample evidence to prove that these travelling merchants found a ready sale for their attractive goods in the various parts of the country they visited. Most of them were no doubt small dealers who carried their stock of goods in a pack, whilst the more important retailers opened shops, and had warehouses in London and the principal seaport towns.

Protec-
tive
Laws
for
Aliens.

There is extant a tax-gatherer's account, of the time of Edward I., giving an inventory of the stock of a

mercator, most likely one of these travelling merchants, but whether English or foreign does not transpire.

	£	s.	d.
Item. A piece of woollen cloth	0	7	0
„ Silk and fine linen [probably thread].	1	0	0
„ Flannel and silk purses	1	4	0
„ Gloves, girdles, leather purses, and needlework	0	6	8
„ Other small things	0	3	0
	<hr/>		
	£3	0	8
	<hr/>		

The fact that it was considered necessary in 1225 to make a law for the protection of the merchant strangers suggests that a considerable number of English people had by that time themselves become dealers in these foreign commodities, and that they were disposed to quarrel with the strangers and prevent their doing business. This is the more probable as the different types of tradesmen and handicraftsmen were generally adopting the custom of gathering themselves together into trade guilds and fraternities for mutual protection and benefit.

Statutes
Regula-
ting
Trade.

A perusal of the English statutes from the time of Henry III. forward demonstrates how curiously Royal and Parliamentary opinion fluctuated between protection and freedom, both as regards trading and manufacture. Although in a subsequent section these statutes will have to be considered in detail, it is necessary here briefly to notice those which bear particularly on the matter of the immigration of foreign workers in silk, such as thread twisters or throwsters, embroiderers, braid and ribbon makers and broad silk weavers, as well as merchants dealing in all these costly wares. There can be no doubt that by the end of the fourteenth century a considerable number of foreigners who dealt in and manipulated silk had settled in England.

During the reign of Edward III. more than a hundred Acts of Parliament were passed for the purpose of regulating manufacture, trade and commerce. A very large proportion of these statutes dealt with textile manufactures and raw materials, and although silk is but rarely specifically mentioned, it cannot be doubted that silk workers, embroiderers, throwsters, cord and braid-makers, if not weavers, would be included in such statutes as Cap. v., 11 Ed. III. It is entitled:—

“Clothworkers may come into the king’s dominions and have sufficient liberties.”

“Item.—It is accorded that all clothworkers of Strange Lands of Whatsoever Country they be, which will come into England, Ireland, Wales, and Scotland, within the King’s power, shall come safely and surely, and shall be in the King’s protection and safe conduct, to dwell in the same lands choosing where they will. (2) And to the intent the said clothworkers shall have the greater will to come and dwell here, our Sovereign Lord the King will grant them Franchises as many and such as may suffice them.”

Then again in 1344* :—

“The sea shall be open to all manner of merchants to pass with their merchandise when it shall please them.”

And in 1353† :—

“Merchant strangers shall be taken in the King’s protection for their wrongs shall receive double damages.”

This last statute seems to suggest that the strangers still met with determined opposition, in their trading journeys or settlement, from the already established tradesmen.

The first actual reference to silk in the statute book is in 1363,‡ when it was enacted that :—

“Handycraftsmen shall use but one mystery, but handycraftsmen may work as they did.”

* Cap. iii., 18 Ed. III.

† Cap. xx., 25 Ed. III.

‡ 37 Ed. III., Cap. VI.

Regulation of Trade in the Reign of Edward III.

First reference to Silk in Statute Book.

Begin-
nings of
Silk
Weaving
Industry.

By this Act the different artificers, merchants, and retail tradesmen were forbidden to deal in or work at more than one particular class of goods or manufacture. They had to make their choice and declare it before a Justice of the Peace by a specified time, the penalty for neglecting to do so was imprisonment, or a fine, at the discretion of the judge. The exceptions to this rule were: "female brewers, bakers, weavers, spinsters and other women employed upon works in wool, linen, *silk* or embroidery, etc." It is added that "the King and Council had no intention to hinder these persons working as they will."

Although not impossible, it is improbable that broad silk weaving was practised in this country at an earlier period than the fourteenth century. In fact, were it not for the evidence of a single drawing in a manuscript of that period, in which a weaver is depicted at work weaving a web which in the text is described as silk, it might be supposed that the art was not introduced till the fifteenth century. But, whether there were few or many weavers of silk then at work in England, it is certain that they were only employed in weaving the plainest kind of fabrics, for it cannot be doubted that the rich velvets, figured silks and damasks, on which the embroiderers exercised their skill, were imported from Italy by the merchant strangers so often mentioned in the statutes.*

Employ-
ment of
Women.

It would appear that very little broad silk weaving was attempted, but there is evidence that spinning thread from raw silk, twisting and plaiting the threads together, and preparing gold and silver threads for the use of embroiderers, as well as the twining of braids, ribbons, cords, purses, girdles and trimmings of all sorts, were done by English workers, and that their goods were in very great demand. This branch of silk manufacture, as well as the embroidery itself, gave employment to a large number of persons, particularly women and children, and had done so increasingly from the time of the Norman Conquest.†

* 2 Rich. II., Cap. i. Aliens may sell wholesale, where they will, cloth of gold and silver, silk, sendal napery, linen cloth, canvas, and other such great wares etc. *See also* note in Appendix, where the whole of this important act is transcribed.

† Silk weaving has always been divided into two distinct branches, the Broad and the Narrow. All dress and furniture fabrics belong to the Broad branch, whatever their width may be, whilst all braids, ribbons, cords, galloons, etc., belong to the Narrow branch. These latter gave employment in the Middle Ages to vast numbers of people, as all braids, ribbons and narrow goods were made in single widths.



Plate IV. Primitive Weaver, from MSS. in British Museum.



At first, no doubt, English embroidery consisted of rude designs in outline, worked quite simply in coloured wools on plain linen grounds. Precious threads of silk and gold were, later on, sparingly used for very special works, on the fine cloth obtained from Flanders. Hardly ever, if at all, were silken fabrics used as grounds until the eleventh century, and it was not until the fourteenth century that, as revealed by the concise and formal entries in the Exchequer accounts, the embroiderers of apparel and furniture revelled in the use of cloth of gold and silver, curiously prepared threads of precious metal and silk, gems and pearls, and the woven silks, satins, damasks and velvets of Italy, Spain and the Orient.*

Begin-
nings of
Silk
Weaving
Industry.

In 1455 the second reference to silk is found in the recorded statutes†:—

“No wrought silk belonging to the mystery of silk women shall be brought into this realm by way of merchandise during five years.”

“It was shewed in the said Parliament by the Silk Women and Spinsters of Silk within the City of London, that divers Lombards and other Aliens, Strangers, imagining to destroy their Crafts and all such virtuous occupations for Women within this land, to the intent to enrich themselves and put such occupations into other lands, daily bring into this realm wrought Silk, Wrought Ribbands and Laces, falsely and deceitfully wrought, corses‡ of silk and all manner of other things touching the same mysteries and Occupations ready wrought, and will not bring in any unwrought Silk, as these were wont to do, to the final destruction of the said mysteries and occupations. It is therefore ordained and established that all such goods, if brought in, shall be forfeited, and that every seller of them shall, for every default, forfeit ten pounds (x £).”

Protec-
tion of
English
Workers.

* See *Extracts from the Issue Rolls of the Exchequer from King Henry III. to King Henry VI.*, ed. F. Dixon; also *Catalogue of English Embroidery exhibited at the Burlington Fine Arts Club*, A. F. Kendrick.

† 33 Henry VI., Cap. v.

‡ Generally supposed to signify stay laces. *Original Document in Record Office, London.*

Protec-
tion of
English
Workers.

This Act was extended eight years later (1463), and again in 1482, when the prohibition of wearing such foreign wrought small silk goods was added.

Bacon, in his *History of Henry VII.*, says that all these small articles "the people of England could then well skill to make," but that all other silken fabrics were permitted unrestricted importation, "for that the realm had of them no manufacture in use at that time."

This statement is correct in the main, but that there were more exceptions than the following single instance which is recorded in the *Proceedings in Chancery in the Reign of Edward IV.*, 1461, cannot be doubted:—

"George Damico, an Italian, *v.* John Burdean and others."

"Plaintiff, because he exercises the art of weaving cloths of damask, velvets, cloth of gold and silver and other cloths of silk, by the King's high commandment in a house assigned to him at Westminster, and instructs others in the same mystery, is arrested on several feigned actions of debt and trespass taken out against him by certain merchant Strangers, wherefor he prays a Corpus cum causa to be directed to the Sheriff of London."

It is interesting to notice in the above plea that the Italian weaver under the King's protection at Westminster not only practised his trade, but claims to have instructed others in the same.

Introduc-
tion of
Broad
Silk
Weaving.

The introduction of broad silk weaving into France took place at about the same time as the event recorded above shows it to have been practised in England. The secrets of sericulture and the handicraft of broad silk weaving seem to have been successfully retained in Italy for more than three centuries after being brought to that country from the East. It is said that attempts to induce silk weavers to remove from Italy to France were made as early as 1480, but that the establishment of the manufacture was not really successful until 1521, when noblemen, returning from the conquest of the Duchy of Milan, brought with them not only the Silk Weavers, but persons having a knowledge of sericulture. Towards the

A s porcel calpial li oro uoue guoz
 Par le plus d'oro de min e ple manoz
 On un coe le diero li luete e li auroz
 Des bons oueuurs des dials de seie.



Ses tout en la fin de ynde la maaur
 Pief de guano occatu seantur d'ore en leur
 O lient dials de seie de diuis se colur
 A cloze dun avdre moullent d'une liur
 E pusa c'atpissent com contre enginneau
 Cie en font meruilluse coe diero li plusur
 He seuent ble gannev ne ne sont coquur
 Des dials de seie sont a bon laburur
 H aq'itent rien d'aurun uil ne vendent le lur
 E de lur marche buent com diero g'astineur
 E r'ayent na ch'entone il nen sont vendur
 a' et'ant li marchanz de la terre de labur

et t'at sot
 Hapvoev
 H vien y couen
 ay et quo li uar
 J l'la bono mau
 ay o'z contre mi
 li l'la stuv i'elli
 E seie e entent
 J anen ero en
 O'it pur a'rich
 H equedent fin
 C'it font le pa
 C'it moultre
 H ar'pus nen et
 E n'atun ai oi s
 P av plusur li
 H av emre tel ce
 P av tel porcel e
 A' l'and're ne l
 S i'v'it' se bou
 J l'le sil'v'ent
 C'oment les se



Plate V. *Medieval Silk Weaver*—from an Early English MSS. belonging to Trinity College, Cambridge.

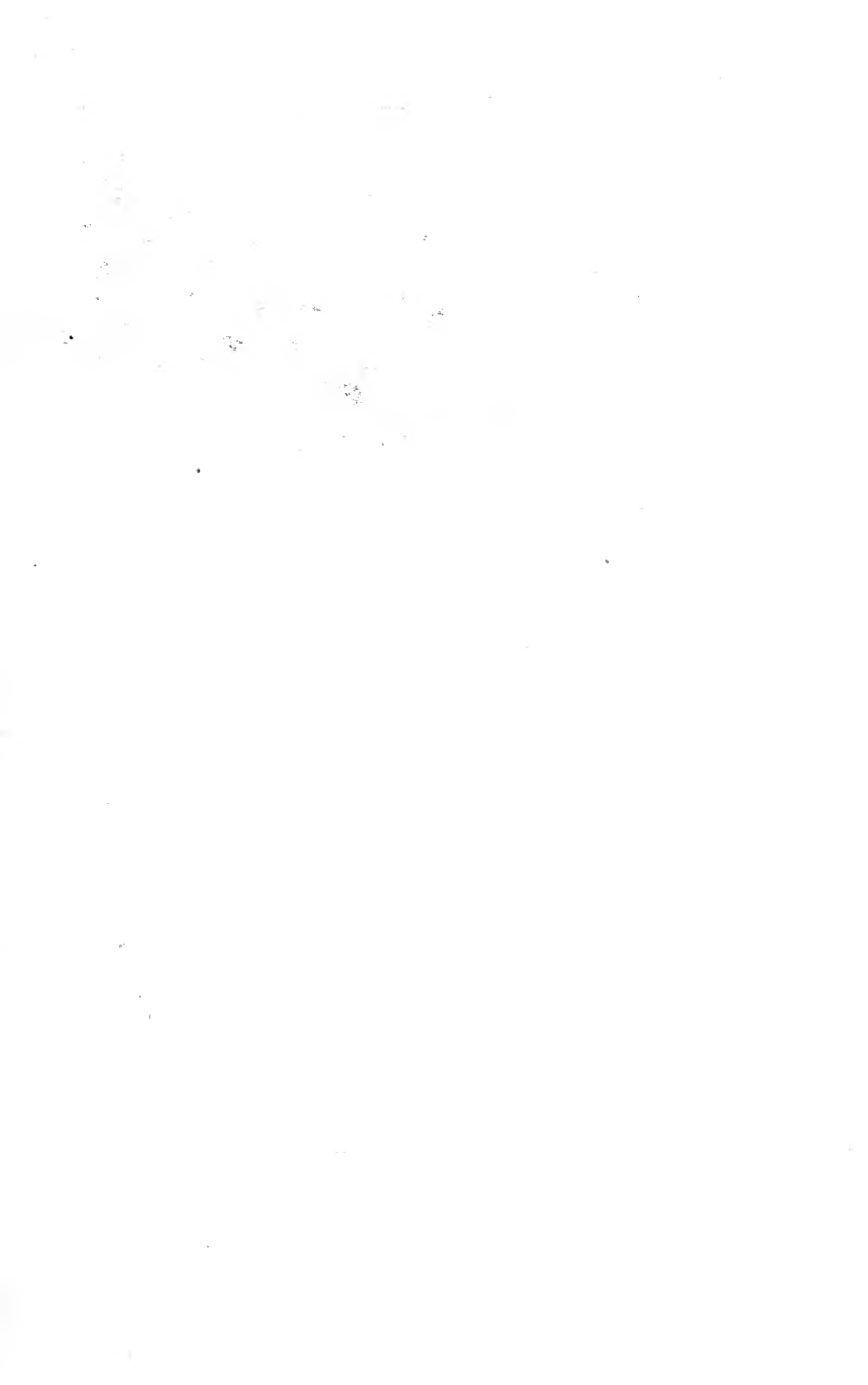




Plate VI.

Indenture of Apprenticeship, dated February, 1519—from the original in the British Museum.

end of the century sericulture became acclimatised in France, but that country has always to a great extent, as England has altogether, depended on Italy and the Orient for her chief supply of raw silk.

Whether the Italian silk weaver, Damico, was successful in obtaining protection against his enemies, and was able to continue his handicraft in Westminster is not revealed; but there is a further record that cloths of gold, silver and silk, were being woven in London in 1473.* As the mystery was also, in the fifteenth century, introduced from Italy and Spain into the Netherlands, where it was quickly developed into an important branch of manufacture, it is probable that from this time forward, seeing there was a great deal of intercourse between England and Holland, an increasing number of handicraftsmen, both native and foreign, found remunerative occupation in the art and mystery of Broad Silk Weaving in Great Britain.

* Barton's *History of Weaving*.

CHAPTER II.

IMMIGRATION FROM THE NETHERLANDS.

Rise of
British
Textile
Industry. At the beginning of the sixteenth century the manufacture of all kinds of textile fabrics had attained to a very important position in England. She not only supplied the greater part of the home demand, but provided a large quantity of goods for exportation. This was especially the case as regards the manufacture of linen and woollen stuffs. The weaving and finishing of the latter, in particular, had been carried to such perfection, that, not only was English wool preferred to that of any other country, as heretofore, but the wool dyed and woven into cloth by the English manufacturers was acknowledged as the best obtainable, and was readily purchased in all the markets of Europe.

The first improvements in the primitive manufacture of woollen cloth in England are said to have been owing to the methods of weaving introduced by a party of Flemish immigrants, who had been driven out of their own country by an inundation of the sea in the time of William the Conqueror. They craved the protection of the Queen, who was their countrywoman, and the King, influenced by her, permitted them to settle at Carlisle. There they and their successors laid the foundation of the woollen cloth weaving trade of Great Britain, which, during the eleventh and twelfth centuries, became localised in different parts of the country.

This development was assisted from time to time by further immigrations of alien craftsmen, and more and more proficiency in the art was made. Sometimes these foreign weavers came in response to invitations of royal or noble patrons, and sometimes they were influenced by the spirit of mercantile adventure; but, whatever the cause of their advent, it was generally opposed by previous settlers or the native weavers, who

regarded them as objects of hatred and malice, and in their short-sighted ill-will dubbed them, as is recorded, "cursed forrainers."*

It has been shown that during the five centuries succeeding the Norman Conquest, in which the manufacture of woollen cloths was being developed, the art of embroidering in silk, the manufacture of silken thread, the twisting, twining and weaving of cords, ribbons and braids of silk, and broad silk weaving had been introduced and improved intermittently by missionaries, traders, artists and craftsmen coming from Italy. The result was that all these branches of silk manufacture had become British industries of greater or less importance. The sixteenth and seventeenth centuries are however distinguished by two events which did more than all else to establish the manufacturing arts, particularly that of silk manufacture and broad silk weaving, in Great Britain. These events were the immigration and settlement of great numbers of skilful handicraftsmen from the Netherlands in the sixteenth century, and from France, in even greater numbers, in the seventeenth.

In order to ascertain the cause of the first of these important events and justly to estimate its effect, it is necessary to make a brief enquiry into the history, condition, industry, and politics of the confederate cities and States of the Netherlands; this confederacy being at that time the busiest and most prosperous country in the whole of Europe. The early history of the portion of Europe now known as Holland, but anciently called Batavia and Friesland, lying beyond the boundary of the Roman Empire, and washed on the north by the North Sea, furnishes a remarkable instance of the supremacy of man in conflict with nature and circumstance. This enthralling story has been told by other modern authors, and need not be repeated.† It cannot be doubted, however, that the indomitable spirit of the

Importance of British Textile Industry.

Industrial Supremacy of the Netherlands.

* "John Kempe," *Barlow's History of Weaving*. John Kempe and his company of cloth workers established a manufactory of fine woollen cloth in 1369. They were bitterly opposed by native cloth weavers, and had to be taken under the special protection of Edward III.

† *Rise of the Dutch Republic*, Motley.

Industrial ancient people, whose laws declared that "the race should be free as long as the wind blows out of the clouds and the world stands," survived. After centuries of development, the united cities and provinces of the Netherlands, having become supreme in Europe in art, science, manufacture, and commerce, made their gallant fight for civil and religious liberty against royal prerogative, and religious intolerance. At the time when the long and bitter conflict of the Netherlands with the Emperor Charles V.* and his son Philip II. commenced, a conflict which, in 1509, left Holland free and victorious and the centre of European commerce and finance, the Netherlands consisted of the Flemish and Walloon provinces, now known as Belgium, as well as those of Holland and Friesland. These provinces contained about three million inhabitants, who, for the most part, had gathered themselves into fortified cities. The cities were independent of one another and were governed by local municipalities, the officers of which were usually elected by the deans or wardens of the various guilds of Freemen of the town. The numerous dukes and counts, who had been nominally their rulers, had from time to time granted charters of privilege to the municipalities in exchange for a fixed rent charge, or special subsidies, secured on the revenues of the city and the goods of the citizens. These overlords were not slow to discover that the prosperity of their subjects was a matter of profound interest to themselves, and that the concession of privileges to the cities was a plentiful source of riches and strength. In this manner the communities had practically become little republics. In provincial matters, the towns took common council together, and their deputies met the nobles in the assemblies of the general government. Thus the free cities of the Netherlands had gradually become familiarised with Parliamentary action.† It is remarkable that in this Netherlands' Parliament the clergy, as clergy, had no part. The

A
Group
of
Small
Republics.

* Born in 1500, in 1506 he became Count of Flanders and Duke of the Netherlands, in 1516 King of Spain, in 1519 Emperor of Germany and afterwards King of Jerusalem, and, by the grant of Pope Adrian the Sixth, lord of the whole new world.

† *History of Holland*, Professor Thorold Rogers.

Netherlands did not intrust their liberties to the Church. They were however quite devout and built magnificent churches and decorated them most lavishly, as indeed they did the streets of their cities and both public and private buildings.

By the middle of the fifteenth century the cities of the Netherlands not only rivalled but surpassed those of Italy as manufactories and markets of commodities of artistic merit and intrinsic value. The merchants of Bruges, Ghent, Brussels, Mechlin, Ypres, Mons, Amsterdam, Leyden, Haarlem and other cities, but above all others Antwerp—whose port received two thousand five hundred ships at one time—gathered into their warehouses, and distributed to all parts of Europe, the richest raw materials and artificial productions from near and far. Raw and manufactured silks and sparkling jewels came from the East, spices and rare woods and precious metals from the West, wool and hides from Britain, and furs from the North, as well as all the raw materials for the use of their native craftsmen and the necessaries of life for their teeming populations. The painters of pictures, the architects, and the engineers of the Netherlands equalled in design, whilst they surpassed in technique and invention, the artists of Italy and Spain; the schools of tapestry workers wove gorgeous sets of hangings and carpets excelling any that had been previously wrought; the goldsmiths and workers in less costly metals were second to none in Europe. The weavers, the most numerous and powerful of all the craftsmen in the Netherlands, who had always been famous for the fine weaving and finishing of woollen cloth and the strength and delicacy of their linen fabrics, had at length learned from Italy and Spain the mystery of manipulating silk, so that in Mons, the capital of Hainault, as well as in Mechlin, Bruges and other cities, silk weaving, probably in all its branches, was practised on a very large scale. The fact that Mons was a great silk weaving centre is established by the town records referring to a revolt of the city, in which it is stated that “many of the rich proprietors

The Rise
of
Antwerp.

Mons a
Weaving
Centre.

of the great cloth and silk manufactories, for which Mons was famous, raised and armed companies of volunteers at their own expense." Also that "De Leste, a silk manufacturer, who had commanded a band of volunteers, and sustained during the siege the assaults of Alva's troops with remarkable courage at a very critical moment, was one of the earliest victims to be executed by order of the commission of troubles after the recovery of the city by the Spaniards."*

Grant of
the
"Great
Privi-
lege."

To return to the circumstances leading to the revolt of the United Provinces. Early in the fifteenth century, Philip—surnamed the Good—partly by purchase and partly by inheritance, had acquired the position of overlord of the seventeen States of the Netherlands. He at once endeavoured to curtail their liberties, although he had previously sworn to maintain them. Philip died in 1467, and his son, Charles, succeeded in completing the work begun by Philip, and made himself absolute monarch, forcing many of the Flemish cities to resign their municipal rights. At the death of Charles in 1496, his daughter, Mary, succeeded him in the Netherlands, and the Netherlanders seized the opportunity of her need for their help in defending her inheritance against Louis XI. of France, to obtain from her the Magna Charta of the Netherlands called the "Great Privilege." It was this constitution which Mary's grandson, Charles V., violated, and for the recovery and maintenance of which the Netherlanders took up arms against him and his son, Philip II.† Charles V. succeeded his father, Philip, as Count of Flanders in 1506. In 1516 he became King of Spain, and when only nineteen years of age—1519—he was elected Emperor of Germany.

The points of the charter which the Emperor Charles sought to over-ride were two, viz., that providing for the popular control of taxation, and the freedom of religion. During the revolt, which lasted fifty years, thousands of the most learned, respected and industrious inhabitants of the dismayed provinces fell victims to the gallows,

* *Mons : sous les Rapports Historiques et Statistiques, etc.*, par. F. Paridaens. (Mons, 1819.)

† The fifty years' struggle and its result is graphically told by Motley in *The Rise of the Dutch Republic* and *The History of the Netherlands*.

the sword, the stake, the living grave, unmentionable horrors of torture and banishment.* The number of victims can never be accurately known, as it far outstripped the possibility of record. Some of the perpetrators of these crimes have an unenviable reputation such as Alva, who, after his administration, which only lasted five years, boasted that he had caused eighteen thousand six hundred inhabitants of the provinces to be executed; and Noircarmes, President of the Blood Council, who condemned victims to torture and execution in batches of fifties and hundreds at a time without trial, and enriched himself with their confiscated property.

The
Crime
of Alva.

During this period of revolt and persecution, thousands of Netherlanders came to England for sanctuary. They brought with them their several arts, many of which had been little, if at all, practised in England before that time. The drawloom for silk and linen pattern weaving is said to have been introduced into Norwich by Netherlandish refugees. It is certain that many of the lighter kinds of silk mixed fabrics were almost unknown previous to the immigration of the Flemings and Hollanders. Although they were not always made welcome by native craftsmen or previously established settlers, or allowed to begin work without opposition, the municipal records of the principal towns on the Eastern seaboard of England bear witness to the benefits conferred on the country of their adoption by the industrious refugee craftsmen. For instance, it is recorded that the trade of Norwich at the time of the immigration was in a very depressed state, as owing to the decay of the worsted manufacture, many weavers had been forced to leave their homes and go into the country to earn their bread. The Mayor and Corporation, being anxious to restore the prosperity of the community, waited upon the Duke of Norfolk, who was then at his palace in that city, and it was decided to invite to Norwich some of the strangers of the Low Countries, who, by leave of the Queen, had come to Sandwich and London for refuge from Alva's persecution. Upon application to the Queen by the Duke, she gave

Refugees
invited to
Norwich.

* See note, Appendix, Motley, p. 489.

Refugees letters patent to thirty master weavers, each with ten invited to servants, to settle in the city of Norwich. These weavers set up the making of baises, serges, arras mochades, currelles and such like goods, *mingled with silk and linen yarn*, which gave employment to a great many hands. Houses which had fallen into decay were now repaired and inhabited, and both the city and the country grew rich—the latter by the great demand for farm produce, and the former by the profits from this new introduction of manufactures.”*

The baises and serges mentioned in the above record were light woollen materials, and probably only an improvement of stuffs already made in England, but the *arras mochades* were a fabric unknown to English weavers although probably familiar to the drapers or mercers. Mochado or *mockado* is frequently mentioned in sixteenth and seventeenth century literature, and, from this source, we learn that it was a material woven of silk, and wool, linen, or cotton, having a design woven in tufts and cut in imitation of silk figured velvet. The name often appears in inventories of the sixteenth century and later, as in the following:—

“ A piece of redd mockadowe 21.s.

iiij yeards of duple redd mockadowe 6.s.

v $\frac{1}{2}$ yeards of mockadow, black and redd 9.s. 6.d.

xix yeards of mockadow, blewe and browne.”

Some new Fabrics. The two latter items suggest a figured material in two colours; the former might be either plain or self-coloured. Pattern is suggested in a curious quotation. “ My dream of being naked and my skin all overwrought with works like some kind of tuft mockado, with crosses blew and red.”† Currelles, currelles or carrells, are mentioned with bays, fustians, and mockadoes as “ works mixed with silk, worsted or linen yarn,” in the *Book of Drapery*, 1570, belonging to the hall at Norwich.

We also learn that *Bombazines*,‡ were first made in this country at Norwich, for, “ In 1575 the Dutch

* Blomefield's *History of Norfolk*.

† Doctor Dee's *Diary*.

‡ Dress material having a silk warp, and cotton, linen, or woollen weft; similar to Irish poplin, but thinner and lighter. It became very general for summer wear.

Elders presented in Court a new work called *Bombazines*, Intro-praying to have the 'search and seal' of them to their duction of use, exclusive of the Walloons, who insisted that all white Bomba-works belonged to them; but the Dutch, as the first zines. inventors, had their petition granted." Pepys, in his *Diary*, May 30, 1668, writes: "Up and put on a new summer black bombazine suit." Bombazine, spelt Bombazeen, is quoted in a weaver's list of prices printed in London 1821.

In the year 1570 the Bailiffs of Colchester, in Essex, wrote to the Lords of the Privy Council as follows:—"Whereas of late a number of Dutchmen have come to this town of Colchester, about eleven households, to the number of fifty persons, small and great, where they made their abode longer than other strangers have been accustomed. We therefore called the best of them to know the cause of their coming, who answered they were a part of the dispersed flock of late driven out of Flanders, for that their consciences were offended with the Masse, and for fear of the tyranny of the Duke of Alva—they came into this realm for protection, and that there were more of them at Sandwich, who wished to be permitted to come also—with such sciences as are not usual with us, but weave sackcloth, make needles, parchment, weavours, and such-like, so that they shall not be any hindrance to any man or occupation here. We dare not presume to give them license of ourselves, but great profit might arise to the common estate of this town, greatly decayed, etc., and therefore we have given them friendly entertainment until we might signify the same to your Honours. And we cannot but greatly commend them—to be very honest, godly, civil, and well-ordered people not given to outrage or excess, etc."

Col-
chester
wel-
comes
Alien
Weavers.

To this a reply was given (24th March, 1570):—"As ye do acknowledge your towne to be benefited by their being there, we are right glad that we first commended them unto you, and cannot but allow their conformity, your gentle handling of them, and the concord betwixt you, the which we trust God will increase with benefits

towards you, etc.” Signed by N. Bacon, O.S., T. Sussex, R. Leicester, and dated from Greenwich.*

Norwich
con-
spiracy
to
banish
Flemings.

In 1570, Norwich was disturbed by a conspiracy of John Throgmorton and others to drive out the Flemish weavers. The plot was, however, discovered, and several persons were arrested and condemned. It was the intention of the malcontents to proceed, after collecting forces at Harleston Fair, Bungay and Beccles, “to Norwiche in such a sodeyne as at the Mayre’s feaste to have taken the whole cupborde of plate to have mayntayned the enterpryse and by sound of trumpet and beat of tabour to have expelled the strangers from the city and realm.”

In 1578 Queen Elizabeth visited Norwich, and a pageant was arranged in her honour. In the procession various looms were “pourtrayed”: “Looms for worsteds, for russets, for darnix,† for mockads, for lace, for caffia,‡ and for fringe; and upon a stage at one end stood eight small women children spinning worsted yarn, and at the other end many knitting worsted hose.”

Other records speak of “the perfection obtained in weaving tufted taffeties, cloth of tissue, wrought velvets, branched satins, and other kinds of curious silk stuffs”; also of cloths called *mildernix* and *powledavis*,§ and the statement is made that these were “altogether brought out of France and other parts beyond the sea, and the skill and art of weaving the cloths was never known or used in England, until about this year (1587), when perfect art was attained thereto.”||

Royal
Patron-
age.

Most of the English monarchs appear to have had a lively appreciation of the advantage the introduction of new arts and improved methods of manufacture would be to their realm. With the exception, perhaps, of

* Morant’s *History of Essex*.

† Durnix, darnex, dornex, darnec, dornock, darness. Table damask of checker and other patterns for which Tournay, or Dorneck, which was the Dutch name of the city, was famous, and from whence it was brought to Norwich.

‡ Caffa. In a cotton MS. of the 16th century, “caffa damask” and “caffa diaper” are spoken of. Also in Cavendish’s *Negotiations of Thomas Woolsey* (pub. 1641) is a description of a gallery where “There wes set divers tables, whereupon a great number of rich stuffs of silk, in whole pieces of all colours, as velvet, satin, damask, caffia, grograine, sarcenet, and of others not in remembrance.”

§ Linen sail cloths, first manufactured in Brittany, introduced into England in the time of Elizabeth.

|| That this is not altogether true is proved by evidence in the preceding chapter, but the statement clearly shows the rarity of broad silk weaving before this time.

Edward III., Queen Elizabeth was the most eager of all the sovereigns to foster British industry. As soon as the troubles began, many merchants and manufacturers of the Netherlands, who had agents and business correspondents in this country, left the disturbed provinces, and, bringing their households and servants with them, took up their abode in, and transferred their businesses entirely to England.

Royal Patronage encourages immigration.

By the third year of Elizabeth's reign (1561), there had grown up a large colony of Flemish textile manufacturers at Sandwich, then a seaport, and the Queen caused "letters patent to be passed, sealed, and directed to the Mayor and Corporation of that town, to give full liberty to the strangers to inhabit the place, for the purpose of exercising their manufactures, which had not before been used in England." It was to Sandwich, therefore, that the fugitives from Alva's persecution came, in increasing numbers, as it grew more and more fierce. Some of those exiles were able to bring much of their wealth with them, but great numbers found it barely possible to escape with their lives. From Sandwich they were drafted, as invitation or convenience prompted, to London, Maidstone, Colchester, Ipswich, Norwich, Manchester, and many other town and country districts.

But the most important immigration from the Netherlands took place in 1585. Its immediate cause was the infamous sack of Antwerp by the mutinous Spanish troops. The soldiers had received no wages for three years, so, electing a leader, they marched to the city of Antwerp, purposing to help themselves. Their action was connived at by the Spanish authorities. In this event, justly known in history as the Spanish Fury,* the most fearful atrocities were committed, no less than eight thousand unarmed people were slaughtered, four millions in hard cash stolen, an incalculable amount of valuable merchandise carried off and wasted, and irreparable injury done to all the public and private buildings. In addition to this about a third part of the manufacturers and merchants are said to have fled to England and other

The Sack of Antwerp.

* Motley's *Dutch Republic*.

The Sack of Antwerp. places of refuge. Many of these, like their predecessors, were most skilful weavers of damasks, and all varieties of silk, linen, and woollen fabrics, so that all chroniclers agree in ascribing the great development of the textile arts in Great Britain in the sixteenth century and the early part of the seventeenth, to their immigration.

CHAPTER III.

THE HUGUENOT IMMIGRATION.

The arts of sericulture and silk weaving were slowly but steadily developed and carried to a high pitch of perfection in France after their first introduction from Italy at the end of the fifteenth century. In several districts mulberry trees were planted and cultivated successfully, and the rearing of silk worms, as well as the reeling and manipulation of silken thread, suitable for the different processes of silk manufacture, formed the principal occupation of large numbers of the inhabitants of the southern provinces of France.

Italian
Influence
on Lyons
Industry

Many refinements of texture, richness and permanence of dye, and grace of design in the webs produced, also improvements in the mechanism of the loom and the various appliances for silk weaving, were devised by the French craftsmen and manufacturers during the two centuries which followed on the setting up of a few looms by the fugitive Italian silk weavers, who, in 1480, settled in France either at Tours or Lyons. The unremitting care and attention to minute details, necessary for the culture of silk and its use in textile art, made the manipulation of the gossamer yarn a task well adapted to the genius of the artificers of France, who have always been notable for delicacy of hand and aptitude of invention, both artistic and mechanical.

For a considerable time after the industry was commenced at Lyons by Italian weavers, the silken webs used as well as the appliances for weaving them, naturally continued to be similar to those of Italy; in fact, until the second half of the sixteenth century the silk textiles of France cannot be distinguished, with certainty, from those of Italy. By that time, however, the French webs began to vary considerably from the

Perfection of French Work.

Italian type, both in design and elaboration of texture. The improved technique gives evidence that the looms, on which they were woven, had been rendered more perfect in their mechanism, and that their capacity for varying the interlacements of the fine threads of warp and weft had been much improved. It is the fact that the silken webs of France woven in the latter part of the sixteenth century, and the seventeenth century, surpass for intricacy of technique, perfection of texture, purity of dye, harmony of colour, and gorgeousness of general effect, all the most notable works of silk weaving of any previous or succeeding age. It was in the southern provinces of France that silk weaving and sericulture were first introduced, and it was there also that these industries were developed into proportions giving occupation to hundreds of thousands of the population.

It was also in that French province that the reformed religion, Calvinistic in its doctrines, took root and flourished; it was consequently amongst the workers in the sericultural and silk manufacturing industries that the tragic effects of the persecutions of Protestants were most likely to be felt.

The first persecution of the Huguenots, as the French Protestants were called, culminated in the massacre of St. Bartholomew, in 1572, and continued intermittently until 1599, when Henry of Navarre, notwithstanding the fact that he had for political reasons become a Roman Catholic, promulgated his famous Edict of Nantes. By this Edict, comparative liberty of conscience and freedom of worship were allowed to all French subjects. From the date of this Edict until it was revoked by Louis XIV. in 1685, persecution for religion, was less in evidence, and the various arts, crafts and manufactures of France revived and made extraordinary progress. It was during this period that the great industry of silk weaving reached the perfection to which reference has been made.

Statesmanship of Richlieu.

In 1622 the young King, Louis XIII., called to his councils Armand Duplessis de Richlieu, who had recently been made a Cardinal by the Pope. He soon became supreme in the affairs of Government, and succeeded in breaking the power of the various political factions by

which the realm of France had been disturbed for many States-years. Under his regime the Huguenots ceased to exist as a political party, and as soon as this end was attained he advised the King to issue the "Edict of Pardons." By this Edict, which was promulgated in 1629, the Protestants were confirmed in liberty of worship and equality with other French subjects before the law.

Although these liberties had been amongst the provisions of the "Edict of Nantes," and had not been revoked, Protestantism and political parties had got so inextricably mixed that the Huguenots were punished partly as political rebels and also on account of their religion. Richlieu was wise enough to realise that the merchants, manufacturers and skilled artisans of France, who were for the most part Protestants, were necessary to the well-being of the State. When, therefore, all armed rebellion was overcome, Richlieu advised the King to grant religious toleration by issuing the "Edict of Pardons." Cardinal Mazarin, Richlieu's successor, favoured the same policy, and during his ministry also the Protestants had liberty and rest. After his death however persecution was again in evidence although Colbert did his best to prevent its revival.

Louis XIV., at the commencement of his reign, formally thanked the Protestants for the consistent manner in which they had withstood the invitations of powerful chiefs to resist the royal authority, and confirmed them in the enjoyment of their religious freedom. They also found, until his death, which took place in 1683, as stated above a protector in Colbert, the powerful and liberal minister of Louis XIV.

During these years all historians, even their enemies, agree in describing the French Protestants as the best agriculturists, and the provinces chiefly inhabited by them as the best cultivated and most productive in the land; the Protestants of the towns were equally industrious and enterprising. At Tours and Lyons they practised silk manufacture with great success. They made taffetas, velvets, brocades, ribbons, and cloth of gold and silver, of finer qualities than were produced in any other European country. They also carried on the

French
Protest-
ants and
Trade
Expan-
sion.

weaving of fine cloth in various parts of France, and exported their production in large quantities to Germany, Spain and England. They established linen manufactories at Vire, Falaix, and Argentine in Normandy; manufactures of bleached cloth at Morlaix, Landerman, and Brest, and of sailcloth at Rennes, Nantes, and Vitte, in Brittany—the greater part of these latter productions being exported to Holland and England. Baviile, one of the Huguenots' bitterest enemies and persecutors, wrote of them: "If the Nismes merchants are bad Catholics, they at any rate have not ceased to be good traders," and to be as "honest as a Huguenot" passed into a proverb.*

Revoca-
tion of
Edict of
Nantes.

The enlightened minister, Colbert, died in 1683, and Louis fell more and more under the influence of his numerous courtesans and the ingratiating Jesuit fathers who surrounded him and flattered and threatened him by turns. By their advice, constantly given, the *forcible conversion* of the Protestants to the King's religion was resolved, and the Edict of Nantes was finally revoked. This took place in 1685, and the most stringent period of persecution followed immediately. At this time notwithstanding the severity of enactments against it, the most extensive emigration took place. Multitudes escaped, and the fugitives found their way to Switzerland, England, Holland and even to America.

This persecution in France of the most skilful and industrious element of her population continued with more or less severity until 1775, when the last two victims of religious bigotry were released from the galleys owing to the influence of Voltaire. There is good authority for stating that during that time more than a million persons either left the kingdom, or were killed, imprisoned or sent to the galleys for life, whilst incalculable numbers suffered the indignity of forcible conversion. The brutal Dragoons of Louis were the missionaries who effected these conversions. They suspended their victims with ropes, blowing tobacco smoke into their eyes and nostrils, and practised upon them a variety of nameless tor-

* Smiles.

tures until the sufferers promised everything required in order to rid themselves of their persecutors. Louvois, the commandant, in September, 1685, reported to headquarters that "sixty thousand such conversions had been made in the district of Bordeaux alone." Revocation of Edict of Nantes.

A pleasanter phase of the subject is the reception accorded to the homeless refugees who sought asylum on British ground. The first incursion of the French immigrants to Great Britain took place a year after the arrival of the Flemings at Sandwich. One day the inhabitants of the little seaport of Rye, on the Sussex coast, were thrown into a state of commotion by the sudden arrival of a large number of destitute French people from the opposite shore of the Channel. Some of them came in open boats, others in sailing vessels. They were of all classes and conditions, and amongst them were many women and children. They had fled from their country in great haste, and were nearly all destitute. They were followed daily by others, who, braving the winter storms, crossed the Channel, and when they reached the English shores would often fall upon their knees and thank God for their deliverance.*

In May, 1562, the Mayor of Rye wrote to Sir William Cecil, Queen Elizabeth's chief secretary:—"May it please your honour, there is daily great resort of Frenchmen here, insomuch as already there is esteemed to be 500 persons; and we be in great want of corn for their and our sustentation by reason of the country adjoining is barren Also may it please your honour, after night and this day is come two shippes of Dieppe into this haven full of many people."† French immigration to England.

During the following summer and for many years there were successive landings of immigrants at Rye. In 1572, between the 27th of August and the 9th of November, the Mayor wrote to Lord Burleigh informing him that "641 Frenchmen had landed." The town records of the period are full of references to the landing of the more or less destitute refugees, and the charitable arrange-

* *The Huguenots*; Smiles.

† *Domestic State Papers, Elizabeth, 1562, No. 35.*

First
French
immigra-
tion to
England.

ments made for their sustenance and comfort. Not only at Rye, but at Sandwich, where their co-religionists, the Flemings, were already flourishing; at Winchelsea, at Dover, and all the southern seaports, the French immigrants from time to time landed in large or small parties, until the Edict of Nantes gave the Protestants a breathing space for a time.

Most of the immigrants settled down at once to the practice of their several avocations, and soon became self-supporting, useful citizens of their adopted country. Very few seem to have returned to France, especially of those belonging to the industrial classes, although for half a century after the Edict of Nantes there was nothing to prevent them doing so.

Cordial
Welcome
in
England.

These pioneer immigrations fall into insignificance, however, when compared with that which immediately followed the revocation of the Edict of Nantes in 1685. In spite of the severe measures which were taken to prevent the escape of fugitive Protestants from France, immediately after the renewed persecutions began, vast numbers succeeded in getting away. Within the next two years more than a hundred thousand immigrants of all classes found refuge in England alone. They were welcomed with extraordinary cordiality, although in many cases they arrived quite destitute of money or goods. Being for the most part industrious and skilful artisans, well practised in the manufacture of goods for which there was a great demand in Britain, these immigrants soon became self-supporting, and, greatly prospering, assisted materially in founding or developing the various industries which eventually placed Great Britain in the supreme position in manufacture and commerce which she attained in the nineteenth century.

It is gratifying to record that the immigrants on their arrival were treated most generously.* Sums of money were voted by Parliament for their assistance, and private subscriptions amounting to over £200,000 were made and administered for their benefit. Within a year, as shown by the accounts of the funds, fifteen thousand persons had

* See Appendix, *Assistance to Destitute Huguenots.*

been helped to settle in London, and a proportional number in other parts of the country. The help given to the refugees was only required at the outset, owing to the vigorous efforts they made to help themselves and each other. They sought about in all directions for employment; and, being ingenious, intelligent and industrious, generally obtained it very readily. Those who had been able to escape with money or goods, started large or small manufactories or workshops, and employed as many workpeople as they could. Several districts of London became, and remained for many years, more French than English. French was spoken in the workshops, in the schools, churches and streets.

This was particularly the case in Spitalfields, where many houses were specially built for the accommodation of the silk weavers. Other districts in which the immigrants settled were Aldgate, Bishopsgate, Shoreditch, Thames Street, Broad Street, Long Acre, Seven Dials, and the network of streets about Soho. Some opened retail shops, such as Le Mann, the famous biscuit baker of Cornhill. There were also immigrants in the Strand, near Temple Bar, who made and sold mathematical and surgical instruments, as well as others who sold clocks, watches, and jewellery, made by their compatriots in Clerkenwell.

Settle-
ments in
London.

At the time of the immigration, France had long been the leader of fashion, and all the world bought dress, and articles of *virtu* in Paris. It was a saying of Colbert's that "the Fashions were worth more to France than the gold mines of Peru to Spain." The English customs reports of the time show that two and a half millions sterling worth of goods of this description were annually imported from France, and that owing to the immigration of the Huguenots, the greater part of this business was henceforth retained in London.

The principal articles imported from France before the revocation were velvets and satins from Lyons; silks and taffetas from Tours; silk ribbons, galloons, laces, gloves, and buttons from Paris and Rouen; serges from Chalons, Rheims, Amiens and various towns in Picardy; beaver and felt hats from Paris, Rouen, and

Import-
ance of
French
Imports.

Import-
ance of
French
Imports.

Lyons ; paper of all sorts from Auvergne, Poitou, Limosin, Champagne, Normandy ; linen cloth from Brittany ; and feathers, fans, girdles, pins, needles, combs and many other household requisites from other places. As soon as the French craftsmen were settled in London, they began, therefore, to make and introduce all the manufactures connected with the fashions, so that English customers became supplied with French-made goods without having to send abroad for them. A writer of the time observed that "the English have now so great an esteem for the workmanship of the French refugees that hardly anything now vends without a Gallic name."*

The French beaver hats, which had before been imported from Caudebec, were now made in the borough of Southwark, and at Wandsworth several hatmakers commenced operations on a large scale, and obtained almost a monopoly of a trade which for forty years remained dormant in France. So much was this the case that all persons making pretensions to dress, even to the French nobility, and the Roman Cardinals, obtained their hats from the celebrated factory at Wandsworth. Manufactories for making silk and metal buttons, the printing of calicoes, the weaving of tapestry and many other articles for dress and furniture were started by the immigrants, but the most important of all branches of manufacture to which they devoted themselves, and in which they achieved both fame and wealth, was the working and weaving of silk in all its branches.

Begin-
nings of
English
Silk
Manu-
facture.

The English Government had long envied France her possession of the silk manufacture, which gave employment to large numbers of people, and was a source of much wealth to the country. Many attempts had been made, especially during the reign of Elizabeth and James I., to establish it on a large scale in England, but it was not until the fugitive Protestant silk weavers of Tours and Lyons brought with them the skill in the arts—which had raised the textile manufacture in France to such a height of prosperity—that silk weaving in England became a great industry. They erected their looms in

* *History of Trade in England* ; London, 1702.

Spitalfields, and introduced their superior methods of Beginning-weaving. They turned out large quantities of lustrings, nings of velvets, brocades, damasks, and delicately woven stuffs English of finest silk in infinite variety and of such excellence Silk as to insure them a ready sale everywhere. From this Manu-time forward Spitalfields enjoyed a very large share of facture. the trade which Lyons and Tours had hitherto almost monopolised.

CHAPTER IV.

ORIGIN OF THE SILK INDUSTRY.

Before quitting the subject of Alien Immigration, and its effect on the British silk manufacture, it will be interesting, and is indeed necessary, to take a general survey of the arts connected with silk, and briefly to describe their ancient origin as well as their introduction to, and development in the countries whose emigrants brought the several branches of the trade, at various times, to England.

Founda-
tions laid
in China.

In the first place, there can be no doubt that the original discovery of the utility of silk and the practice of silk manufacture took place in the ancient Empire of China. From China it was communicated to Persia, India, Japan, and to the East generally. In the sixth century sericulture and silk weaving were practised in the Byzantine Empire; and in the ninth century the Moors, when they conquered Spain, carried with them, together with many other ingenious Arabian arts, a knowledge of sericulture and silk weaving. In the twelfth century Oriental silk weavers and silk farmers settled in Italy, and that country became the chief source of supply of silken thread and wrought silk of all kinds for the rest of Europe for three centuries. Afterwards, as occasion served, returning soldiers, travellers, and wandering merchants, brought silk, both wrought and raw, from the East direct to other countries of Europe, especially to England and Flanders.

Italy
the
Pioneer
in
Europe.

Probably a knowledge of the processes of throwing, doubling and twisting silk into thread, and silk weaving both broad and narrow, only came, in early times, by way of Italy; but the importation of raw silk and manufactured silken goods direct from the East certainly took place in England and Flanders, with increasing frequency, from the thirteenth century onwards. The

ancient form in which raw silk was universally sold by the producers was that of skeins reeled from the cocoons as soon as the silk worm had finished spinning, and before the emergence of the moth from the chrysalis. It is customary now, in countries where sericulture is practised commercially to fumigate the cocoons in such a manner as to kill the moth, before it is ready to emerge, and then to sell the cocoons in bulk to dealers, who convey them to factories where they can be reeled, with great exactitude, under strict supervision. This insures more evenness and uniformity in the size of the thread than it is possible to guarantee by domestic reeling. A great deal of Chinese silk is still reeled by the silk farmer from live cocoons ; it is said to be on this account that China silk is generally more brilliant in lustre than European silk, which is reeled from dead cocoons.

The Moors, when they established sericulture in Spain, used the simple methods of throwing and weaving thread which they had derived from Arabia. They seem to have communicated little, if any, knowledge of the art or results of their labour to the rest of Europe. Specimens of their weaving may have been occasionally carried to other countries, but there is no record of this being the case. It is, therefore, certain that Spain had little, if any, direct influence on the development of silk weaving in Great Britain. The later Spanish and Portuguese manufacture probably owes as much to Italy, as do other European countries, for improvements in the preparation of silken thread and the mechanism of the loom for weaving it, notwithstanding the fact that certain characteristics of Spanish design are traceable to early Moorish traditions.

In Italy, on the contrary, soon after its introduction from the East, silk weaving became quite assimilated. Oriental and Mediæval ideas of design were fused into a characteristic original style, and the technique of silk manufacture rapidly advanced as various inventions and improvements were made in the loom and in the appliances for weaving. The Italians proved to be particularly successful in the culture of mulberry trees,

Italy and
the Art
of
Sericul-
ture.

the leaves of which were required as food for the silkworms, as well as in the rearing of the worms themselves, and the manipulation of the fine lustrous thread which they produce. They devised new methods of reeling silk from the cocoons, and invented complicated machinery for throwing silk of any desired size and twist. By these means they advanced the arts of sericulture and silk weaving far beyond the primitive stage to which they had been previously carried. In short, Italy attained during the twelfth century, and retained for about three hundred years, supremacy in the art of silk manufacture, and most jealously guarded the secrets of its technique.

It was not until the eighteenth century was well advanced that the scientific methods of throwing silk, invented by the Italians, became known out of Italy,* and similar machinery for the purpose was successfully erected in England.† Previously, all *organzine*—as the fine, hard, twisted silk used for warp is called—had to be imported from Italy.

English
Silk
Throw-
ing.

The throwing of the looser kinds of silk, suitable for twisting into embroidery thread and for webbing silk mixed goods, had been practised in England in quite early times. The first silken thread used in English embroidery came from Italy; also the raw silk and the knowledge of the methods of twisting and doubling it, which make it into practical thread. It appears certain that some persons connected with the monasteries, which the Italian missionaries founded, first brought the raw material and communicated the methods of preparing it to their British pupils. At a later period, however, the knowledge of Eastern methods, and even Eastern practitioners themselves, may have been brought into England by returning travellers or merchants from the Orient. More and more frequently, no doubt, small quantities of both raw and wrought silk, the latter of brilliant Eastern dye, would be in the same manner imported and eagerly purchased by the members of the "Mystery of Silk Women," so frequently mentioned by the old chroniclers.

* Even the French, who became the most advanced practitioners in the art in the 17th century, obtained their best *organzine* silk from Italy.

† The story of its discovery, by John Lombe, is told in the chapter on Derby.

Until near the end of the sixteenth century it is certain English however that by far the greater part of the raw silk, and reliance what thrown silk, of the finer sorts, was required, came on into England from or by way of Italy.* It is clear, Italian then, that to occasional immigrants and merchant Supplies. strangers from Italy, Great Britain was, for the most part, indebted for the knowledge of the art of silk throwing, and the interesting and extensive manufacture of silk into twists for embroidery, cords for girdles, braids for trimming, and small silk goods of all kinds, which employed no inconsiderable number of persons from the time of the Norman Conquest onwards.†

The extensive manufacture of silken webs, both plain and ornamental, which must have been carried on in the Netherlands during the fifteenth and sixteenth centuries, has been overlooked by historians of the textile industries. The splendour and interest of the world-famous Flemish tapestries of that period have perhaps prevented a due amount of attention being given to the less striking, but equally excellent, productions of the more mechanical art of the hand-loom weaver. The vast extent also of the woollen cloth manufacture, to which reference has already been made, is probably, in a measure a cause of this oversight with regard to silk weaving. The great similarity of the details of Flemish, Italian, and Spanish design at that time may also be a contributing cause of this oversight. Although, however, there is not much direct reference to silk weaving in the records of Flanders, there is sufficient to show that it was a very important branch of manufacture and that it gave employment to a great number of people. There are numerous references to silk manufacturers, who raised Nether- lands from their own workpeople companies of volunteers for Industry. military service at the time of the revolt. The ordinary

* In the seventeenth century, the trade in silk from China and India gradually increased in importance and became very considerable. As the demand increased, the "Book of Rates" shows, that, not only from Italy and the East was raw and wrought silk imported, but from Granada, Spain, Bruges, France, and Poland. It also states that English thrown silk of a coarse kind was exported.

† By 1661, the trade of silk throwing had so greatly increased in England that according to the preamble of an Act of Parliament, no less than "40,000 men, women and children were employed in the work." This is probably an exaggeration, but it shows that a very large number of persons found employment.

dress of the prosperous burghers of the cities of the Netherlands is said to have been of silk and velvet, and it seems probable that the output of the silk manufactories was disposed of mostly for local use. Works of tapestry were however in great demand for exportation to the Royal Courts of all the countries of Europe, and, consequently, won greater notoriety.

Commerce in the Netherlands. The magnificence of the Free Cities of the Netherlands in the fifteenth century has already been the subject of comment. All historians agree in according to Antwerp the first place, commercially, amongst the cities of Europe, and there is ample evidence that its public and private buildings, as well as their decorations and furnishings, were unsurpassed by any of the world-renowned cities of Italy, where art had flourished when almost the whole of Europe was steeped in comparative barbarism. Nor were Bruges, Ghent, Brussels, Ypres, Louvain, Mechlin and other cities far behind Antwerp as centres of art and commerce. The chronicles of the Netherlands teem with descriptions of the beauty and wealth of the cities, the pomp of their civic and religious pageants and functions, as well as with details of the extravagant richness of the costumes and domestic arrangements of the wealthy Flemish burghers. The same chronicles are, however, singularly reticent regarding the arts and crafts which were carried on in their midst. It is only incidentally, therefore, that certain cities, such as Brussels, Mechlin, Bruges, Valenciennes, and particularly Mons, the beautiful capital of Hainault, are referred to as notable local centres of silk manufacture in the sixteenth century.

Silk Manufacture in Confederated Provinces. With regard to the various kinds of silk manufactures practised in the Netherlands, at the time the Confederated Provinces were at the height of their prosperity, it is impossible to write with certainty; but there are certain probabilities which may be pointed out and which further research may confirm or refute, as the case may be. No doubt the greatest number of persons were employed in the throwing and doubling of silk by hand, as in England, and in the plaiting and weaving of "small wares," as the ribbons, braids and cords, so much in use,

were named. The special spinning and dyeing of waste silk for the use of the weavers of the Arras tapestries, in which it was mixed with wool in order to add brilliance to the colouring, must have employed a considerable number of people. It was probably however in the weaving of plain and ornamental fabrics, for their own domestic and ceremonial use, that the most prosperous handicraftsmen, who wrought in silk, were occupied. An examination of the pictures and figure-subject tapestries of the fifteenth and sixteenth centuries will show that a certain class of fabrics, woven of silk, mixed with other thread, was commonly worn. Such stuffs as these pictorial designs represent are commonly supposed to have been supplied from Italy; but as the materials indicated are such as are usually woven of mixed thread, and, moreover, as the silk in them need not be of the finest thrown quality, it seems likely that they were of home production. The designs of these fabrics were, for the most part, inspired by those of Italy and Spain, as was, indeed, most of the Flemish art work of the period.

Silk
Manufac-
ture in
Con-
federated
Provinces

Velvets, with cut or uncut pile, both plain and figured, are often represented in the pictorial designs referred to, as are also brocades of silk and linen, or wool, or metal covered thread. Heavy stuffs of plain weaving, falling in stiff folds, and having a sheen of silk interwoven in their woollen texture, are also shown. Many other varieties of fabric are depicted in use, but seldom, if ever, are such stuffs indicated although pure silks were then being woven in France. It seems probable that many of the specimens of Renaissance weaving, which in the National and other collections of textiles are attributed to Italy and Spain, are of Flemish workmanship. This probability is strengthened by the fact that many of the ornamental fabrics, especially of a large class of tissue woven stuffs, made of linen and red and gold silk, which are usually labelled Spanish, have, worked in their designs, features and emblems peculiar to Flanders and Germany.

Flemish
Velvets
and
Mixed
Goods.

This evidence, together with the records of the kinds of textile fabrics introduced into England by refugees from the Netherlands, seems to prove that it was to the

Flemish
Velvets
and Silk
Mixed
Goods.

manufacture of *silk mixed* goods that the Flemish weavers of the sixteenth and seventeenth centuries chiefly devoted their skill and energy, and that it was to their initiative that the cities of the East coast of England, at the head of which stood Norwich, owed the success in the silk-mixed branches of the textile trades for which they became famous in the eighteenth century.

With regard to the characteristics of the silk manufactures of France, there can be no uncertainty. After the firm establishment of sericulture and silk weaving at Lyons and other cities in the Southern provinces, refinement of design, improvements in weaving technique, and in the preparation and dyeing of the thread, gradually took place. This progress was largely due to the fostering care and patronage given to the industry by the Government, as well as to the natural aptitude which the French operatives seem to have had for this delicate work in all its branches.

Nearly a century elapsed before the French so far developed the art of silk weaving as to give evidence in the character of their work, of an advance in the methods of technique, improvements in weaving appliances, and freedom of design, on those derived, in the first instance, from Italy. At the end of the sixteenth century, however, such evidence is given by the many specimens of French silk textiles which have been preserved and may be studied in the National Collection at the Victoria and Albert Museum, where the superb and unequalled work of the French silk weavers, both of the seventeenth and eighteenth centuries, is particularly well represented.

Charac-
teristics
of
French
Goods.

These examples of pure silk weaving, with the descriptions and beautiful illustrations of weaving appliances contained in the elaborate technical books, so many of which were published in France when the craft was in its prime, bear out the assertion already made, that the art of pure silk weaving in France at that time reached the highest pitch of perfection it has attained at any previous or subsequent period. It was when the art was thus in its prime that the great exodus from France of her most skilful artisans which has been described, took place.

It was this which extended and firmly established the silk manufacturing industry of Great Britain, and which gave such an impetus to the advance of all branches of textile and kindred manufactures.

Thus, entirely as the result of Alien immigration, by the beginning of the eighteenth century the Silk Industry became one of Great Britain's most flourishing trades. Sandwich, as well as Canterbury, had become the home of many weavers, but as numbers increased they gathered more and more to the great centre of commerce, the City of London. The suburban district of Spitalfields was made prosperous and cheerful by the great and thriving settlement of the enterprising and ingenious French Protestants and the professors of the different branches of handicraft which assisted in and depended for their occupation on the silk weaving industry. It was at Spitalfields that the pure silken fabrics, then so much in fashionable demand, were woven and all authorities agree in commending the excellent character of the operatives themselves, their refined tastes and thriftiness, the beauty and purity of the fabrics produced by them, and the great advantage and profit their settlement had proved to the city of their adoption. Contemporary estimates of the number of silk looms in Spitalfields at this time vary from fifteen to eighteen thousand.* In a petition presented to Parliament by the Weavers' Company in 1713, the silk trade of London was affirmed to be twenty times greater than it was before 1664, and it was also stated that in the black silk branch alone three hundred thousand pounds' worth of goods were made at home which had hitherto been imported from France. Amongst the pure silk goods then made in Spitalfields mention is made of satins, alamodes, lustrings, black and coloured mantuas, black and coloured paduasoyes, ducapes, watered tabbies, plain and figured velvets, satin damasks and brocades, and cloth of gold and silver plate.

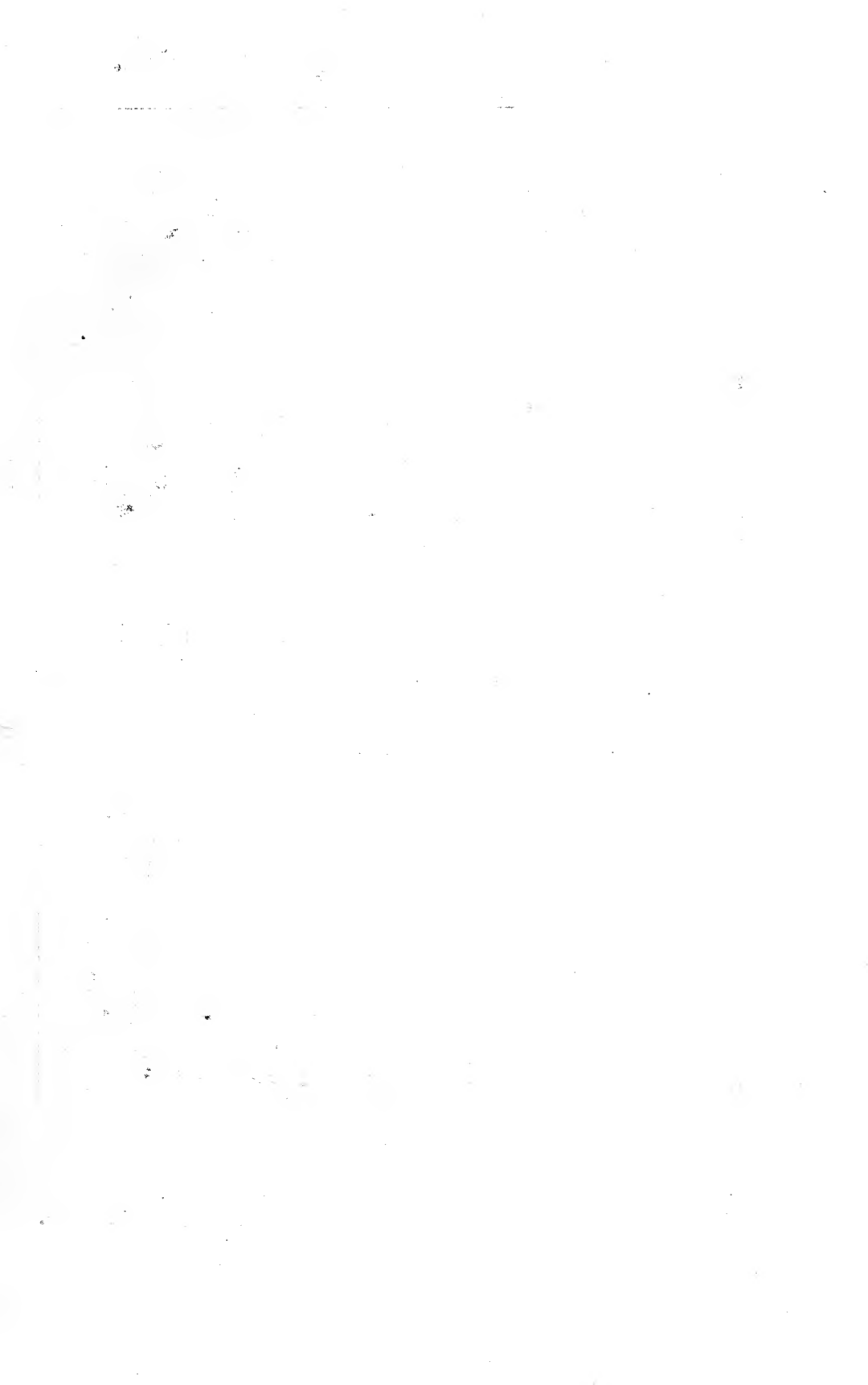
Outside Spitalfields the largest settlement of silk weavers from France had taken place at Canterbury, where practically the same classes of silk textiles were produced.

English
Debt to
Alien
Immi-
grants.

Canter-
bury
Weavers.

* Each loom giving employment to three or four persons.

Canter- The number of looms in that town increased at
bury one time to about a thousand, but as the demand for
Weavers. weavers in London became urgent, the settlement of
 silk weavers in Canterbury dwindled and finally became
 extinct.





Houses in Spital Square.



Plate VII.

Church Passage, Spital Square.

CHAPTER V.

FOUNDATIONS OF THE LONDON SILK TRADE.

The Story of Spitalfields.

There is no more interesting chapter in the history of the silk trade than that which tells the story of Spitalfields and its long association with the industry, a connection which has been maintained in unbroken sequence down to the present day. The writer will at the outset endeavour to draw a pen picture of Spitalfields as it appeared in that stirring period of our island history—the Elizabethan Age. In subsequent chapters the history of this famous silk manufacturing district will be carried down to the present time.

It is clear from descriptions and plans of London in the time of Queen Elizabeth that, on stepping out of the east gate of the City, called Bishopsgate, the traveller found himself at once in pleasant fields, with trees and hedgerows, where the city lads and lasses went a-Maying in the springtime, and where sportsmen amused themselves with fowling in the autumn. This was Spitalfields. The actual boundaries of the old parish are not easy to determine. It is known to have formed part of Stepney—a district which was linked to both town and country, and which was likened by Stow to “a province rather than a parish.” Bethnal Green and Mile End, the former once a part of the great forest of Epping, may also be included in the district of Spitalfields. It was at once city and country. Near the city gate, both outside and within, were large and imposing houses, built and inhabited by nobles and gentry, or, as Stow calls them, “worshipful and honourable men.” These included Lord Bolingbroke (who had a residence in Spital Square itself), Lord Morley, Lord Powis, the Countess of Dudley, and Sir Thomas

Ancient
 Priory
 and
 Hospital.

Gresham at Bethnal Green, where the Bishop of London also had a rural seat. To these may be added the name of Sir Walter Raleigh, who lived at Mile End, and that of the Marquis of Worcester, who had a house in Stepney. Stow, in his *Survey*, mentions an ancient Priory and Hospital dedicated to the Virgin Mary, which stood near to the City gate of the district. It was founded in the year 1197 by Walter Brune, citizen of London, and his wife Rosia, and this foundation was afterwards called St. Mary Spittle. Various references in early chronicles show that the hospital was also for the purpose of sheltering poor travellers and other persons in sickness and distress. In the year 1534 the hospital was dissolved by Henry VIII, and it is recorded that besides ornaments for the church, and other goods, there were found standing one hundred and eighty beds, well-furnished, for the use of the poor in charity, "for," says the chronicler, "it was a hospital of great relief." The Spitalfields area was a fashionable suburb, and it may be recalled in this connection that Devonshire Square, Bishopsgate, acquired its name from the town house of that distinguished family. It was in the Spitalfields district, at a later period, that David Garrick, himself of Huguenot descent, achieved his early success. Queen Elizabeth was also acquainted with Spitalfields, it being recorded that she went to visit the Spanish ambassador on April 5, 1559, he being at that time lodged in one of the mansions of the district. She was accompanied, says the old record, by a large train of "gentry, masquers, morris dancers, and two bears in a cart." There, too, the Lord Mayors and City Fathers, with many noble guests, proceeded in great pomp and ceremony at Easter to listen to the *Spital* sermon. This sermon, which was preached from an open air pulpit standing in the space now occupied by Spital Square, is now preached every year in Christ Church, Newgate Street, and is still attended in state by the Lord Mayor and Aldermen.

Memories
 of
 Queen
 Elizabeth.

Queen Elizabeth preserved the amenities of the district, and it was not until 1660 that an Act of Parliament was obtained at the instance of Sir William Wheeler, granting

permission for him to build on the east of Spital Square, an enactment which probably marks the beginnings of the quarter which formed the settlement in later years of the French silk weavers. At various times during the 17th and 18th centuries, while excavations were being made for the houses, some of which still remain in and about Spital Square, portions of the priory ruins were discovered, as well as Roman and other remains.

The street now called Middlesex Street, formerly Petticoat Lane, leading from Spitalfields to Whitechapel, was originally known as Hog Lane; and Maitland, writing in 1755, says of it:—"In ancient times this lane was bordered on both sides by hedgerows and elm trees, with pleasant fields to walk in, insomuch that gentlemen used to have their houses there for the air." He also says that "Many French Protestants fled their country for their religion and planted themselves here, living in the part of the lane near Spitalfields, to follow their trade being generally broad weavers of silk." He also speaks of "Wide, or Whitegate, Street as being inhabited by substantial tradesmen and dealers, chiefly in the silk way."

Apart from the fact that there was a large weaving A Colony for the settlement here of the refugees. It was a Non-conformist quarter, and it was not unnatural that these Nonconformists. Dissenters, who in spite of the sympathy of local constables, wardens, and beadles, had been fined for the practise of their religious belief, should give a welcome to refugees who were also victims of religious persecution. Further than this, Frenchmen had already settled in the locality, and it is believed that one of the several places in London including a Westminster area called "Petty Fraunce" for this reason, was on the site of the modern New Broad Street. The Hall of the Weavers' Company was situated in Basinghall Street, and the district to Bishopsgate and beyond was mostly occupied by weavers and other tradesmen, whose work depended on them, such as dyers, thread-makers, throwsters, and dealers in weavers' materials of finished woven goods, who were at that time

A
Colony
of
Noncon-
formists.

called mercers. It was natural, therefore, that when the Huguenot silk weavers arrived in London they should be attracted to the weavers' quarters and settle there. The demand for house accommodation in this district, at the end of the 17th century, became so urgent that all the open ground near Bishopsgate and beyond became covered with a network of streets, courts, and alleys, specially built to suit the requirements of the industrious immigrant weavers, embroiderers, and craftsmen of kindred trades. The more or less complete maps of the period show this development distinctly. The names of many streets suggest the nationality and, it may be added, the refined tastes of the first occupants. Fleur de Lys Street, French Court, White Rose Court, Greenwood Alley, Swallow Alley, Fashion Street, Sweet Apple Court, Blossom Street, Flower and Dean Street, Rose Alley, Mermaid Alley and Pearl Street are a few of the names which occur to the writer. There is also evidence that this silk weavers' quarter was then a pleasant place in which to live, and carry on the exquisite handicraft with which its denizens had enriched the country of their adoption.

The kind of houses of which the first streets in Spitalfields were composed, and in which the weavers dwelt, may be seen in the two illustrations taken from Knight's *History of London* (1842). A few indeed of such houses still stand but not very many remain unaltered. A portion of one of these may be seen in Pelham Street, and a fine specimen is to be seen in Mape Street, Bethnal Green. In this case the characteristic upper floors have been weather-boarded, whilst the more ordinary lower floors remain the same. All these houses necessarily had their workshops at the top, and these had double floors to keep the noise of the work from reaching the domestic rooms below. Pleasant gardens were attached to these houses in which mulberry and other fruit trees grew, and flowers and vegetables were cultivated by the cheerful inhabitants. This garden suburb was close to the open fields of Bethnal Green, Hackney and Old Ford, and was freshened by the cool breezes from the meandering River Lea, the Essex Marshes, and the reaches of the Thames beyond. The

Weavers
Quarters
in
London.

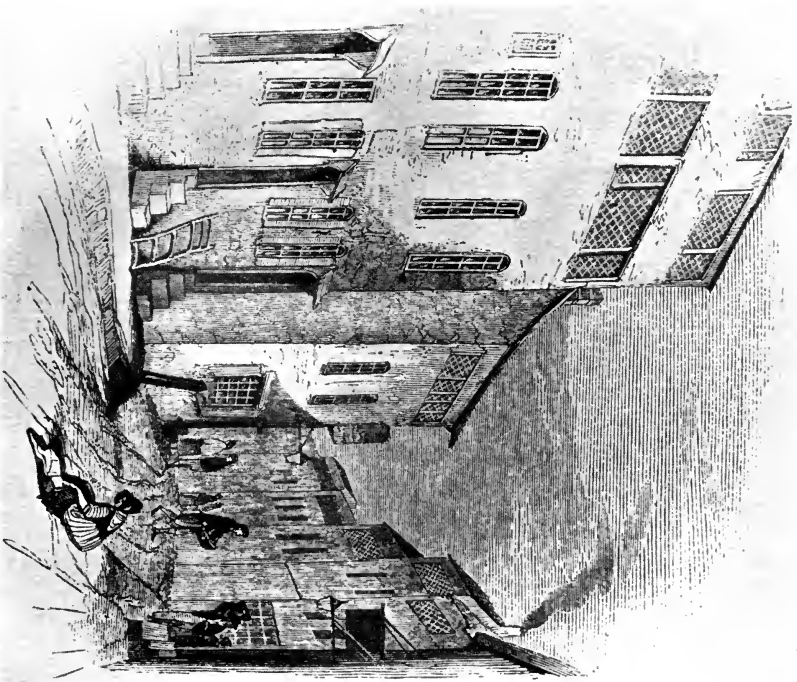
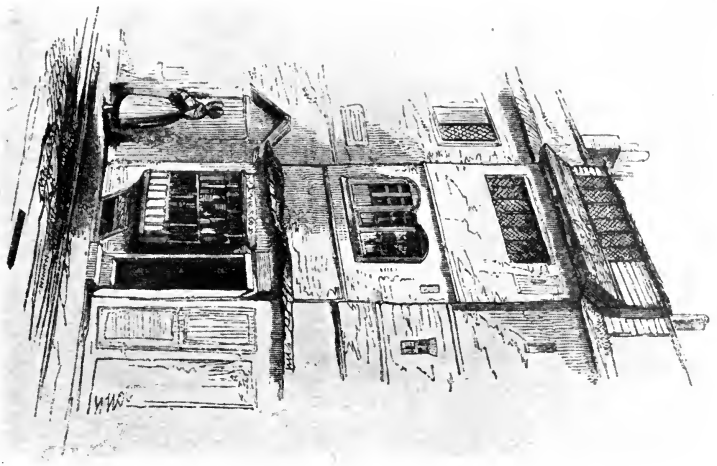


Plate VIII.


Pelham Street, Spitalfields.

From Knight's "London," 1842.



House in Booth Street, Spitalfields.

From Knight's "London," 1842.


This Indenture Witnesseth, That John
Warner son of Elizabeth Warner of Quail Passage
Street in the Parish of Rotherhithe Green, St. Vincent
Stitchfield Misnor
doth put himself Apprentice to William Clarke of Long Street
to learn his Art, and with him (after the Manner of an Apprentice) to serve, from the
Twenty-third Day of Aug 1799
until the full End and Term of Seven Years, from
thence next following, to be fully complete and ended. During which Term, the said Appre-
ntice his said Master faithfully shall serve, his secrets keep, his lawful Commands every
where gladly do. He shall do no Damage to his said Master, nor do as to be done of
Others, but that he to his Power shall let, or forthwith give Warning to his said Master of the
Same. He shall not waste the Goods of his said Master, nor lend them unlawfully to any. He
shall not commit Fornication, nor contract Marriage, within the said Term. He shall not
play at Cards, Dice, Tables, or any other unlawful Games, whereby his said Master may have
any Loss. With his own Goods or Outlets, during the said Term, without Licence of his said
Master, he shall neither buy nor sell. He shall not haunt Taverns or Playhouses, nor absent
himself from his said Master's Service Day nor Night unlawfully. But in all Things, as a
faithful Apprentice, he shall behave himself towards his said Master, and all his, during the said
Term. And shall William Clarke with good firmness
by the Aids of his Wife Elizabeth Warner
his said Apprentice in the Art of Messing which he useth, by
the best Means that he can, shall teach and instruct, or cause to be taught and instructed;
sending unto his said Apprentice sufficient Meat, Drink, and other Necessaries, during the said Term.
Messing
Wife
And, for the true Performance of all and every the said Covenants and Agreements, either
of the said Parties bind themselves unto the other by these Presents. In Witness whereof, the
Parties above-named in these Indentures interchangably have set their Hands and Seals, the
Seventy-third Day of Aug 1799 in the Seventh Year of
the Reign of our Sovereign Lord GEORGE the third by the Grace of God, of
Great-Britain, France, and Ireland, King, Defender of the Faith, and in the Year of our Lord
One Thousand Seven Hundred and Ninety Seven

B. *(Faint vertical text, possibly a registration mark or stamp edge)*

Sold by
W. & G. H. WERARAWAN
Sons, Stationers,
No. 9, BIRCH-LANE.

Scalded and Delivered (being first
duly stamped) in the Presence of
Charles Cluff
M. Glude

William
Clarke
Wife



Plate IX. Indenture of Apprenticeship, dated August 1799— in the possession of the Author.

conditions under which the original Spitalfields' weavers pursued their handicraft were as idyllic as their domestic surroundings. The householders were for the most part small master weavers. They sold the productions of their looms to the mercer or draper, who in his turn retailed them to his private customers in his City shop.

Each master weaver, who had served the legal seven years' apprenticeship, was entitled to keep two or three journeymen weavers, engaged by the year, who seldom left his workshop for another unless it were to set up in business for themselves. In cases of dispute the rates of wages would be fixed by the Justice of the Peace, and were supposed to be regulated from time to time according to the cost of living. When unmarried the journeyman usually formed part of the master's household together with the proportional number of apprentices which the master was legally allowed to keep. The quality of the webs produced was examined into and guaranteed either by the officer of the Livery Company of the craft or by officers appointed by the Government.

Each master weaver had his own traditional designs, and his goods would naturally display special personal qualities. The elaborate brocades, damasks, velvets and other rich fabrics produced in Spitalfields were in great demand for furniture and costume. The mercers who sold these goods were in direct touch with the weavers themselves and could order at first-hand exactly what was required. At this time there was little competition with France, but, if at any time it was anticipated, temporary Acts of Parliament were passed to prohibit the introduction of foreign goods into Spitalfields, Canterbury or elsewhere.

Towards the end of the eighteenth century the operative weavers in the East of London had largely increased in number. Various estimates are given by old writers of this increase, but it may be safely assumed that there were not less than thirty thousand persons engaged in the work.*

Old
Customs
of the
Craft.

Increase
in
number
of Opera-
tives.

* The population of London in 1801 was 958,863, Census of Great Britain, Population Table, 1851. "The advance of some 200,000 beyond the estimated population of 1699—which the Census of 1801 showed—had probably been made in great part after 1790 when the health of the Capital began to improve and the births again to exceed the deaths."—C. Creighton, *London Pamphlets*, 1890.

Exten-
sion into
Bethnal
Green.

In order to provide house accommodation for this increased number of inhabitants, the weavers' quarter had been gradually extended outward from Spitalfields into Bethnal Green, a hamlet of the large, thinly-populated parish of Stepney. The houses provided for the weavers in this quarter although built on French lines were of a much meaner description than those of Spitalfields, and matched the less prosperous condition to which the majority of the silk weaving operatives had undoubtedly fallen at the time of their building. This lamentable decline in the status of the operative weaver at the end of the eighteenth century was owing to two causes:—

(1) The increase in the number of workers was out of proportion to the demand for silk fabrics and although silk weaving continued to be one of the best paid branches of industry, the workers could not obtain full employment. This naturally gave rise to competition amongst the weavers themselves for what work there was, and the result of this was a gradual lowering of the price of labour, especially in the simpler branches of the craft.*

(2) The inevitable tendency then, as now, in all branches of industry for mastership and capital to be acquired and monopolised by the few most capable persons in the trade. Both these causes of depression were in active operation in the silk trade during the second half of the eighteenth century, and at the beginning of the nineteenth they were augmented by two others; the competition of the cheaper labour of Macclesfield and other provincial towns, and the utilisation of steam power in the lower branches of silk weaving.

The
Evidence
of
Old
Maps.

Maps, drawn at the beginning of the nineteenth century, show the Bethnal Green Road closely built as far as the Green, where the Church of St. John was afterwards erected. It was connected with the parish of Spitalfields on the one side, and Shoreditch on the other.

The Act of Parliament for constituting the hamlet of Bethnal Green a separate parish and building the parish church of St. Matthew supplies a reliable estimate of

* Some believe that it was the Spitalfields Act of 1773, repealed in 1824, which drove the skilled artizan to where there was no limit to wages.

the population and throws some light on its character.* The number of houses is estimated at 1,800, and the population at fifteen thousand. The most thickly populated portion of the district is spoken of as "immoral and dissolute, especially as regards the younger and poorer sort; insomuch that many of the better sort of people have removed from their habitations in the said hamlet to the great impoverishment thereof."†

During the early part of the nineteenth century almost all contemporary references to Spitalfields and Bethnal Green are of a pitying or derogatory character, and represent the operative weaver as poverty-stricken, improvident and riotous, and the district in which he lived and worked as squalid, over-crowded and unsanitary. The plight of the operative weavers became gradually more distressing, and at the same time their numbers continued to increase. "All witnesses concurred," as a Parliamentary report states, "in representing the houses and streets occupied by the East London weavers as of the poorest and most unwholesome description. The small houses are generally of two storeys, built of brick, and have damp foundations. The streets are mere unpaved roadways, composed of earthy and soft rubbish, and destitute of common sewers or drains." The report goes on to say that, "living in such places and insufficiently fed, the weavers of Spitalfields exhibit a physical condition marked by general feebleness and liability to disease."

Weavers' descent into poverty.

An early Victorian writer,‡ describing his walk through the weavers' district, says: "On passing through most of the streets a visitor from other parts of the town is conscious of noiselessness, a dearth of bustle and activity. The clack of the looms is heard here and there, but not to a noisy degree. It is evident at a glance that in many of the streets all the houses were built expressly for weavers; and in walking through them we noticed the short stature and not very healthy appearance of the inhabitants. It was rather painful to remark the large number of 'Benefit Societies,' 'Burial Societies,' 'Loan

An Early Victorian record.

* 13th year George II. (1740).

† Maitland's *London*, page 1275.

‡ Knight's *London*, 1842.—Chap. xlix.—Spitalfields.

An
Early
Victorian
Record.

Societies,' etc., whose announcements are posted down the streets ; for it is well-known to those who have studied these subjects that the poor generally pay ruinous interest for any aid which, as generally managed, they receive from societies of this kind. Here and there we met with bills announcing that coals were to be had at twelve pence per cwt. at a certain place during the cold weather ; and at some of the bakers' shops were announcements that 'weavers' tickets were taken in exchange for bread" (an allusion to tickets given out by a benevolent institution). "In one street we saw a barber's shop, at which, in addition to the operations usually conducted in such places, persons could have 'a good wash' for a farthing. In another street a flaming placard announced that at a certain public-house the advertiser would attend every evening to match his bird against any linnet or goldfinch in the world for a '*thousand guineas.*' Here we espied a school at which children were taught to 'read and work at two pence a week' ; there a chandler's shop, in which shuttles, reeds, quills and other smaller parts of weaving apparatus were exposed for sale in a window, together with split pease, bundles of wood and red herrings. At another place was a bill announcing that the inhabitants were liable to a penalty if they kept their houses dirty and unwholesome. In one little shop patch work was sold by the pound ; and in another astrological predictions, interpretations of dreams and nativities were to be purchased 'from threepence upwards,' as also extracts from 'Moore's Almanack' for the last seventy years. In very many houses the windows exhibited more sheets of paper than panes of glass, and no inconsiderable number of houses were shut altogether."

The same author gives the following sketch of the average home and general circumstances of the operative silk-weaver of his time :—

"In my visits to the districts inhabited by the weavers with an endeavour to view the processes of the manufacture, our enquiries were too often met by the sad reply—'I have no work at present,' but at one house we mounted a dark staircase to the upper floor occupied by an elderly



Plate X.

Weavers' Houses in Menotti Street, Bethnal Green.

weaver and his wife. The room formed the entire upper storey and was approached, not by a door, but by a trap in the floor, opening a communication with the stairs beneath. At each end of the room, front and back, were windows of that peculiar form so characteristic of the district, and which are made very wide in order to admit light to all parts of the loom adjacent to them. At each window was a loom, the husband being at work at one, and the wife at the other. Near the looms were two quill wheels used for winding the weft or shoot on to the quills for filling the shuttles. In the middle of the room was a stump bedstead, covered with its patchwork quilt, and near it—some on the floor, some on shelves and some hanging on to the walls of the room—were various miscellaneous articles of domestic furniture, for the room served as parlour, kitchen, bedroom, workshop and all. A few pictures, a few plants and two or three singing birds, formed the poetical furniture of the room. The man was weaving a piece of black satin, and the woman a piece of blue. In reply to enquiries on the subject, we learned that they were to be paid for their labour at the rate of sixpence and fourpence halfpenny per yard respectively. This at close work would yield about seven or eight shillings per week each. The man was short in stature, as most Spitalfields weavers are, grey-haired, depressed in spirits, but intelligent and communicative. When, after descending from the room, we looked around at the mass of weavers' houses in the vicinity, we could not but feel that most of them bore a saddening similarity to that which we had entered."

A
Weaver's
Home.

During the first quarter of the nineteenth century the plight of the Spitalfields silk-weaver seems to have been at its worst, and the degradation of the district at its lowest point. The average weekly earnings of a weaver, according to evidence contained in Parliamentary reports, did not exceed five shillings, if periods of waiting were taken into account. At the same time, the number of persons employed in the handicraft was at its highest between 1820 and 1830. In the evidence taken before a Committee of the House of Commons on the silk trade

Spital-
fields a
Century
ago.

Spital-
fields a
Century
ago.

in 1831-2, it was stated that "the population of the districts in which the Spitalfields weavers resided, comprising Spitalfields, Mile End New Town, and Bethnal Green, could not be less, at that time, than one hundred thousand, of whom fifty thousand were entirely dependent on the silk manufacture, and the remaining moiety more or less dependent indirectly." Mr. Porter,* writing on the subject, estimated that there were 17,000 looms at work in the East of London. The same authority, speaking from the point of view of the manufacturer, claims that the silk trade in England was then in a more flourishing condition than it had ever been before. He supported this claim by giving statistics of the importation of raw and thrown silk from the year 1819 to 1828, during which period the figures rose from 1,782,578*lbs.* weight per annum, to 4,547,812*lbs.*

A survey taken in 1830-40 would have shown not only Spitalfields and Bethnal Green, but the whole district between Shoreditch, Hackney Road, to the point where it is intersected by the Regent's Canal, the course of the canal itself as far as the Mile End Road, Whitechapel Road, Aldgate, Houndsditch, Bishopsgate Street Without and Norton Folgate, chiefly occupied by operative weavers, a large percentage of whom were in abject poverty, and were herded together in the meanest of habitations. In striking contrast to these were the houses of the weavers' employers, the manufacturers, who, not only had their offices, but lived in good style, like most city merchants of the time, in and about Spital Square, Devonshire Square, Great St. Helen's, White Lion Street, Norton Folgate and the main road of Bethnal Green or in the more suburban neighbourhoods of Bishop Bonner's Fields or Old Ford.

A well-
to-do
Middle
Class.

Occupying a position between the wealthy manufacturer and the indigent operative weaver, there was a numerous class of persons who maintained a prosperous position as long as the district continued to be the headquarters of the silk trade. These were the makers of the different parts of the weaving apparatus such as loom mountings,

* "Silk Manufacture in England," Lardner's *Cabinet Cyclopædia of Useful Arts*, 1831.

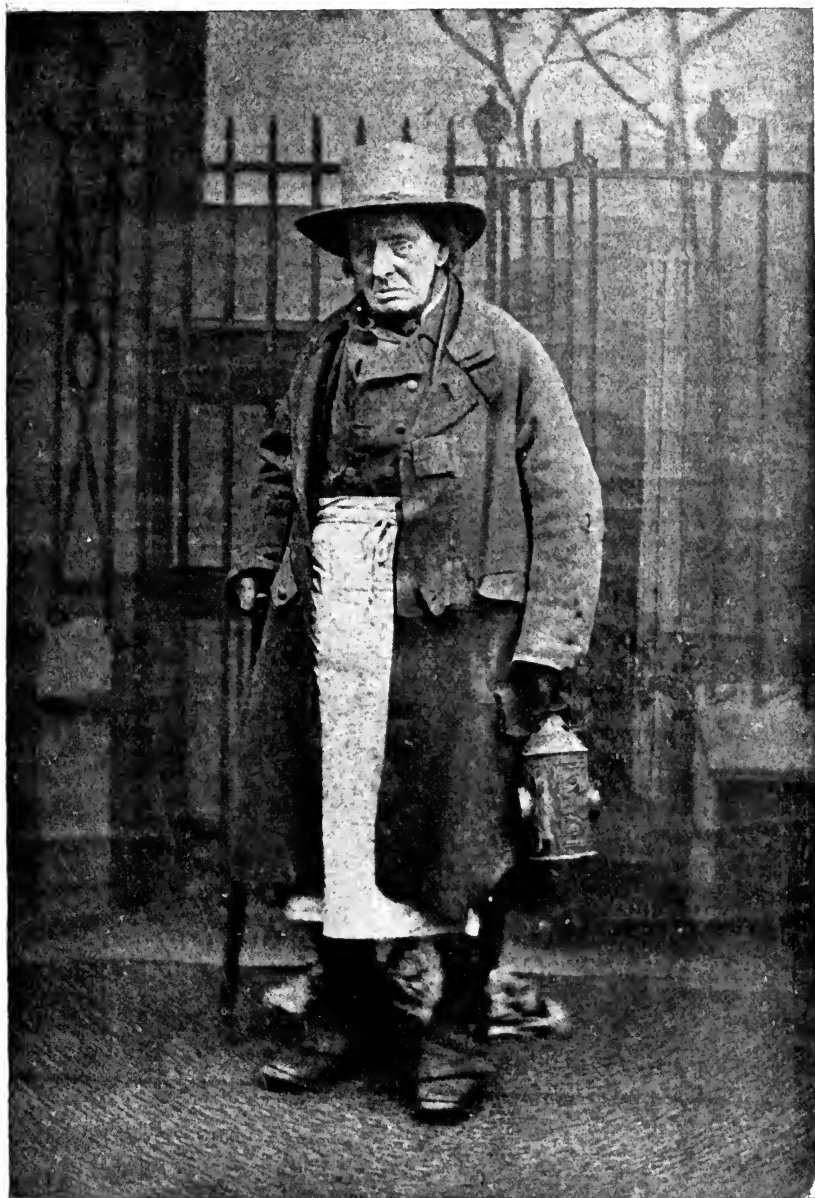


Plate XI. Wm. Anthony, 50 years night-watchman in the Neighbourhood of Spital Square, Norton Folgate, "The Last of the Charlies."

Jacquard machinists, designers, draughtsmen, Jacquard A well-
 card cutters, as well as warpers, turners on, winders, pre- to-do
 parers of yarn, dyers and others. There was also a small Middle
 number of operative weavers who were able to maintain Class.
 the traditional position of the original craftsmen, owing
 to their ability to manage the Jacquard machine and to
 weave on handlooms, by its means, high-class furniture
 silks, which have always continued to be in more or less
 demand, and which, even to the present time, have not
 been successfully woven by power. The foremen, clerks
 and other permanent employees of the manufacturers,
 who of course lived in the neighbourhood, also added to
 this well-to-do middle-class, whose livelihood depended
 on the silk industry. During the first half of the
 nineteenth century, this middle-class maintained their
 position in spite of the prevailing distress of the ordinary
 weaver. It was amongst this class that many of the
 pleasant traditional manners and customs of the Huguenot
 silk-weavers still lingered. It was also amongst this
 aristocracy of the district that so many families bearing
 distinguished French surnames were to be found.

Still another class of persons who, in circumstances,
 were above the level of the operative weaver, and whose
 livelihood was earned in the neighbourhood, consisted
 of the retail dealers in provisions, clothing and other
 domestic necessities, whose shops were located in the
 main streets. These tradesmen supplied the well-to-do
 inhabitants, while the mass of the people bought their
 provisions in minute quantities of the itinerant dealers
 who hawked their wares from door to door or at the tiny
 general shops, one or two of which were to be found in
 almost every lane or alley.

The retail dealers purchased their goods wholesale Shops
 from the three local markets, one of which was situate and
 at Mile End, one at Spitalfields, and one which was said Markets.
 to be the most important market in London, in Leadenhall
 Street. These markets were of very ancient foundation,
 and are known to have existed in pre-mediæval times.
 Leadenhall Market was the oldest, and was originally
 founded for the sale of canvas and sailcloth and woollen

goods of various kinds. It was afterwards enlarged and utilized for the sale of all kinds of provisions and household goods.

Some
Archi-
tectural
Features.

Of public buildings, with the exception of those for religious worship, the district was singularly devoid. Two hospitals, one French and one English, two endowed schools, six Church of England schools, two French and two Dissenting charity schools, and twenty groups of almshouses, mostly very small, seem to comprise the whole.

Three large and two small buildings, of which the newly erected Christ Church, Spitalfields, was the largest and finest, represented the Church of England. Nine meeting-houses had been erected by the French refugees, and were still in use. One of these is said to have been capable of seating 1,500 worshippers. But with the lapse of years the congregations had become, for the most part, very meagre, although it was the custom for many of the well-to-do inhabitants to attend one service in the French meeting-house and one in the parish church regularly every Sunday.

Weavers'
Benefit
Clubs.

With the exception of the churches and chapels, the only meeting places of the inhabitants for public or social purposes were the taverns or public-houses, as they were beginning to be called. There were a great number of these in the Spitalfields district, and they were largely used by the weaving fraternity for the various trade societies, benefit clubs* and clubs for social amusement, which were constantly being formed and dissolved amongst them. The more thrifty of the operatives formed Box Clubs; of these, Maitland gives an interesting description. "These clubs," he says, "erected by mutual consent, are supported by an amicable contribution of two, or three, or more pence per week, by each member, who weekly or monthly meet at a certain ale-house, when they spend twopence or threepence each; and, wherein

* England has just cause to be grateful for the many things introduced by the Huguenots, and particularly the introduction of the present Benefit Society. Its formation among the refugees was due to its members being of foreign birth, and thus having no claim to pensions from the poor rates, thereby giving rise to the foundation between themselves of societies for their mutual relief in sickness and old age. *Memories of Spitalfields*, by W. H. Manchée, published in the Huguenot Society's Proceedings.—Vol. x, No. 2, p. 333.



Plate XII.

Christ Church, Spitalfields.

From Photographs in the possession of the Rector, Rev. C. H. Chard.



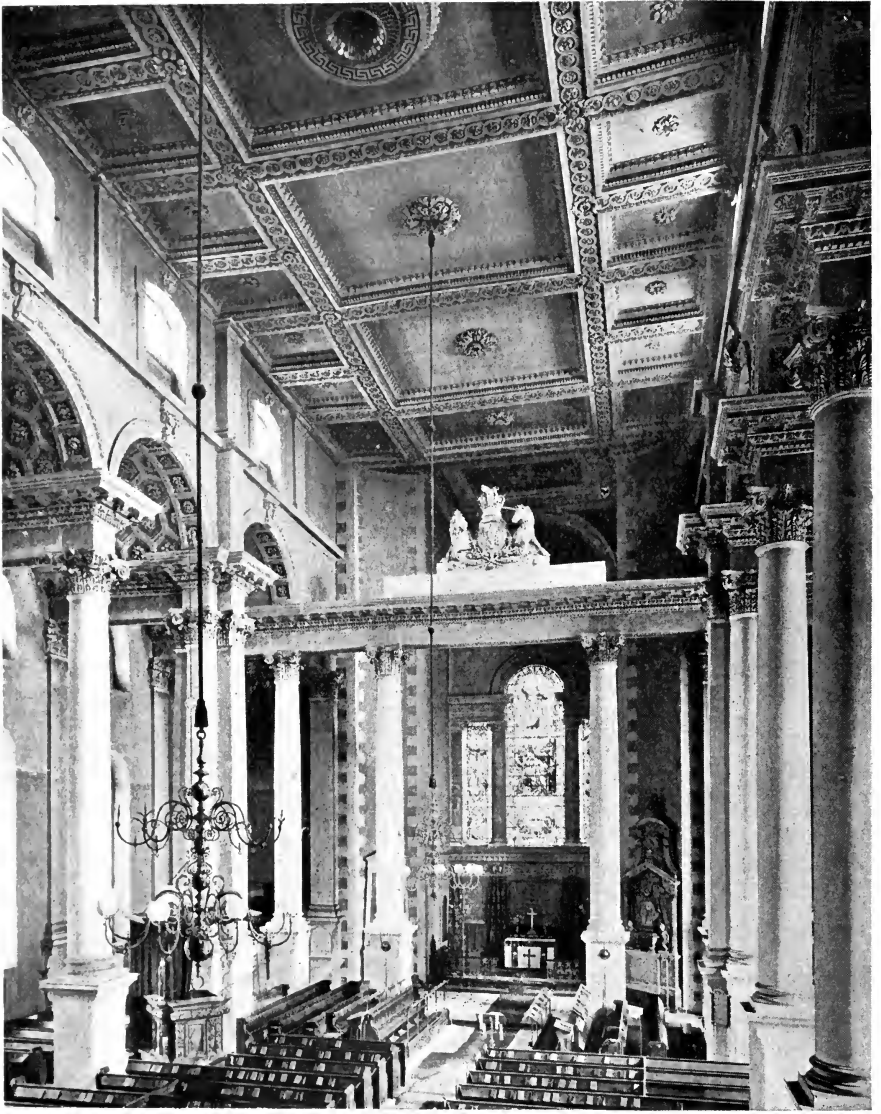


Plate XIII.

Interior of Christ Church, Spitalfields.

From Photographs in the possession of the Rector, Rev. C. H. Chard.

they have Rules for their better regulation, and a strong Box or Chest, with divers locks, for the conservation of their books, cash, etc.”

The mass of operative weavers were, however, too poor to be able to combine for purposes of thrift, but a far larger number belonged, more or less intermittently, and to the trade societies formed on much the same plan, and meeting in the same places as the Box Clubs, for the regulation of prices and the betterment of their position. The working and effect of these societies will be discussed in a succeeding chapter, but it may be noticed here that they were, for the most part, very short-lived, and probably the persons who benefited mostly from both clubs and trade societies were the tavern-keepers in whose houses they were held.*

Recreations
Amusements.

In their amusements and recreations the original French settlers left an indelible impression on the neighbourhood. Floriculture and gardening, the breeding and training of singing birds, natural history and the more or less abstruse sciences have always characterised the Spitalfields weaving population, and even to-day traces of these refining recreations are to be found in the district. The “bloody sports” of pugilism, cudgelling, bull-baiting, bear-baiting and cock-fighting, throwing at cocks and duck-hunting, were according to Maitland, although his testimony is not unimpeached, almost unknown in the East, but were popular in West and South London.

The chronic distress of the weaving population provided an unlimited field for the exercise of charity. We accordingly find that in no part of London, in the early part of the nineteenth century, were there so many benevolent doles and charity societies as in Spitalfields and its district. These charity distributions, although to a small extent alleviating the distress of the weavers, for whom they were intended, had the effect, according to a Parliamentary report, of “attracting to the neighbourhood a large number of casual dock labourers and vagrants of no occupation, who added to the mass

Charity
Organisations.

* The taverns and alehouses at this time were very numerous and badly managed. It was not until 1752 that an Act of Parliament was passed for limiting their number and to a certain extent controlling them.

of poverty and in a measure defeated the work of the charitably disposed."

A family
of Silk
Weavers.

In Porter's book on silk, already referred to, the writer describes the interior of a small house and its busy occupants, who were all engaged in the silk manufacture. The picture is in singular contrast to most of the gloomy ones of the time, and, although evidently true to life, was such as could have but rarely been found at the time he wrote. He says: "It once occurred to the author of this treatise, in the course of his visits among the operative weavers of Spitalfields, to visit a family consisting of a man, his wife, and ten children, all of whom, with the exception of the two youngest girls, were engaged in useful employments connected with the silk manufacture. The father, assisted by one of his sons, was occupied with a machine punching card slips (certain pieces of apparatus in Jacquard weaving) from figures which another son, a fine intelligent lad, was 'reading on.' Two other lads, somewhat older, were in another department, casting, drawing, punching, and attaching to cords the leaden plummets or 'lingoes' which form part of the harness for a Jacquard loom. The mother was engaged in warping silk. One of the daughters was similarly employed at another machine, and three other girls were at three separate looms, weaving figured silks. An air of order and cheerfulness prevailed throughout this busy establishment that was truly gratifying; and, with the exception of the plummet drawers, all were clean and neatly clad. The particular occupation wherein each was engaged was explained most readily, and with a degree of genuine politeness which proved that amid the harassing cares attendant on daily toils of no ordinary degree, these parents had not been unmindful of their duty as regarded the cultivation of their children's minds and hearts."

CHAPTER VI.

A TYPICAL SILK MASTER.

Before describing the changes which took place in the neighbourhood of Spitalfields during the second half of the nineteenth century, which proved to be such an eventful period in British silk manufacture, it will be interesting to give a detailed sketch of a typical master silk-weaver of the old school in his daily life and surroundings. Very few examples of this class of manufacturer survived the first half of the century, but the one here described is representative of these substantial English tradesmen. He had been apprenticed, worked as journeyman, became foreman, and finally succeeded his master in a silk-weaving business. This business he carried on during the first half of the nineteenth century, and, without change of method, well into the second half. There was much to admire in this truly dignified but unaffected master-weaver, who had the portly personality and manners of a dean, or an archdeacon at the least.

The dress in which he was generally seen was an ample suit of black. The swallowtail coat and trousers were of the best broad-cloth, and the vest of the richest satin. Around his neck, in place of the stiffened silk stock of his younger days, which had been discarded with his bottle-green coat and brass buttons, several yards of the finest cambric, spotlessly white, were wound, and his gold watch, carried in his trousers fob, had attached to it a bundle of seals. He had one son and seven daughters, all of whom were brought up to some branch of the silk business, which they industriously practised till they were married and left their father's home for their own.

A Manu-
facturer
of the
old
School.

An
Aristo-
crat of
In-
dustry.

A Manu-
facturer
of the
old
School.

At the time in question between the years 1860 and '70 the household consisted of the son, who, like his father, was a widower, his two children, and the eldest daughter, who remained unmarried. She had been a skilful velvet weaver, but now superintended and assisted the labours of an Irish maidservant, who had grown middle-aged in her first and only situation, and who always spoke with deepest reverence of "the master." The son managed the routine warehouse work, weighed and gave out raw silk to the dyer, dyed silk to the winders and warpers, and warps and wefts to the weavers, received them back again when woven, kept the books, served customers, and attended to all matters connected with the warehouse, seldom leaving it during business hours. The old gentleman attended the silk market and silk sales, and made purchases of raw silk, selected designs and gave instructions to the draughtsmen for carrying them out, called on furnishers and mercers, who were his friends and customers, saw important visitors at home in his private office, fixed prices, settled all disputes and generally directed the business, every detail of which was familiar to him.

The firm had always been noted for doing the best and richest work, and had made a speciality of damasks and brocades for church furnishing. Some of these fabrics of special design were in constant demand. One small design, known as "The Bird," kept two weavers always at work weaving it, and when at last they were too old to continue their occupation, they had saved enough money to purchase four houses near the new Victoria Park, so that, living together in one house, they had the rent of the three others to maintain them.

A Spital-
fields
business
house.

It is pleasant to recall the well-ordered appearance of the old house in White Lion Street, Spitalfields, in which this solid, steady business was developed and carried on. The exterior of the house is shown in the photograph reproduced, and it was easy, on visiting it recently, for the memory to recall in each separate room vivid pictures of the past. The house, like those of Spital Square, which are of a rather earlier date, was panelled throughout, the woodwork being painted white. The ground floor

and basement were used exclusively for the business. A Spital-
The basement, which in earlier times had been the fields
kitchen, was utilised for the storage of machinery and business
cumbrous appliances not actually needed on the moment. house.

The ground-floor rooms were fitted up as a warehouse—
the walls being lined with shelves and bunkers. The
former were filled with rolls of various kinds of woven
silks, and the latter with raw material, designs, drafts
and other things required in the different departments
of the work. There was a mahogany counter, a desk, a
safe for the account books, and a large pair of scales of
the kind used for accurately weighing silk in its various
forms. Over the carved "Adam" mantelpiece hung a
piece of brocaded silk, framed and glazed. It was a
carefully-preserved relic of the material from which the
Coronation robe of Queen Victoria had been made, and
had been woven by the firm for a West-End house.*
The Spitalfields firm also supplied the draperies for
Westminster Abbey on the occasion of Queen Victoria's
Coronation.

There were usually standing about a few baskets con-
taining bobbins of shining silk, and on the counter two
or three hand sticks, with their coils of brilliantly-coloured
or jetty black warps waiting for the warper or weaver to
call for and carry off to his domestic workshop. There
were also rolls or neat bundles of finished webs ready to
be examined and booked to the credit of the weavers.
All was order, and an almost sacred quiet generally
pervaded the warehouse. Business was transacted there
in a leisurely manner, almost as a religious function,
and the demeanour of even the ancient porter, who had
been a soldier in his youth, was as imposing and self-
important as that of a verger at St. Paul's.

Methods
of
Trading.

In the hall, or passage, which was of less ample dimen-
sions than those of similar houses in Spital Square, there
were usually seated, on a movable form, two or three
weavers, or members of weavers' families, waiting their
turn to receive or deliver work. On Saturdays a constant

* The Coronation Robes of Queen Victoria were to be seen at the London Museum, and were there inspected by the writer. This was before the Museum was removed from Kensington Palace. The Coronation Silk was made by Messrs. Stillwell & Sons, of White Lion Street.

Old
Business
Customs
described.

stream of weavers passed in and out of the warehouse, carrying little memorandum books and prepared to give the best account they could of the progress of their work, and take their weekly draw of wages, or it might be occasionally a balance due to them on finishing a job. These humble visitors were strictly marshalled and admitted in due order by the stately porter. A door at the end of the passage admitted the visitor into a rather wider hall where there were three other doors and a wide-balustered staircase, which led to the upper floors of the house. One door opened into the inner sanctum of the warehouse, another to the basement stairs, and a third gave access to a freestone-paved yard, having on one side a broad border of earth, in which lilac trees grew and flowered in the spring-time, and where such hardy plants as will live between close, high walls were, with more or less success, coaxed to grow and blossom.

At the end of this yard, facing the house and connected with its first floor rooms by a covered gallery supported on posts, there was a building of two floors, which in earlier days of the business had been a domestic weaving house. The lower floor of this out-building was now a store place for rough lumber, and the upper floor, which had previously been filled with looms, was now the kitchen of the house, where Biddy, the Irish maidservant, reigned supreme.

A
Victorian
interior
in Spital-
fields.

The furniture of the chief room of the private part of the house, which it will be sufficient to describe, was of the kind usual in the early Victorian period. It consisted of a heavy mahogany sideboard and table, mahogany-framed sofas and chairs, of ample dimensions but clumsy design, upholstered in slippery black horse-hair, stools and small occasional chairs, covered with cross-stitch needlework, a card-table, a what-not with many shelves, and a lady's work-table. The windows had deep window-seats and were curtained with hangings of green silk and wool repp, while the floors were covered with Brussels carpets of a large floral design of many colours. Between the three windows, in the front room, were two tall pier glasses surmounted by carved eagles,

and over the mantelpiece there was a heavy Empire gilt frame of three compartments, which were filled with looking-glass. In the summer-time, white netted curtains replaced the winter use of green repp, and white "anti-macassars" of crochet-work adorned the backs of the sofas and chairs.

A
Victorian
interior
in Spital-
fields.

On the walls were hung characteristic pictures. The chief amongst these were portraits in oil of the master and his wife, painted when they were middle-aged, and a large wool-work picture of "Rebecca at the Well," framed in rosewood. The portraits were in highly ornamental gilt frames and hung above two cupboards, one on either side of the fireplace, on which were baskets of wax fruit and flowers under glass shades, together with Chelsea china figures of Britannia, Falstaff and sundry shepherdesses. There were several old copper-plate engravings in black frames, the subjects being Italian classical landscapes, with ruins. There was also a framed photographic transparency on glass of the master's seven daughters standing in a row, taken in the crinoline and side-spring boot period, and another of the son holding a violin, on which instrument he was an expert performer. The "what-not" with many shelves was ornamented on the top by a china figure of General Abercrombie, surrounded with various emblems and small allegorical figures, whilst on the lower shelves, as well as on the large centre table, were elegantly bound *Books of Beauty*, *Ladies' Annuals*, and the *Art Journal Illustrated Catalogue of the International Exhibition of 1851*.

The latest addition to this characteristic *bourgeoise* ensemble was a tall, upright piano with a highly ornamental front of fretwork and green silk, the latter arranged in pleats, which radiated from a centre rosette. On this instrument the granddaughter of the master accompanied her father when he played the violin, she being the first of the family to take lessons in piano-playing, and also the first from whose education some one branch of the silk-weaving business had been omitted.

Typical
"Gen-
tility."

Outside his business, which absorbed the largest portion of his time and attention, the master's interest did not

Recreations
of the
Victorian
Silk
Master.

widely extend. He was churchwarden and guardian of the poor in his district, and discharged his duties in these offices with great seriousness. He was also on the committees of many of the various benevolent societies with which the district abounded, nor were his sympathies in this direction at all narrow or bigoted, for one of his chief favourites, amongst the charitable institutions to which he belonged, was one for the assistance of the poor Jews, who were then becoming very numerous in the parish. He imbibed his politics from his weekly Tory newspaper, and the *Times*, a copy of which he and other tradesmen subscribed for. The former he read on Sundays, and the *Times*, which came to him in the evening, divided his attention with the management of a long churchwarden clay pipe for an hour or two by his fireside after the labours of the day. His interest in politics was, however, but slight in comparison with that which he took in his business and local affairs.

His recreations were bi-weekly attendances at the Tradesmen's Social Club and a summer holiday. The club was held at a well known tavern, situated at the corner of Fleur de Lys Street. Of this club, he was, by virtue of his great dignity, perpetual chairman. Punctually at each meeting, after a sitting of two hours, the club broke up as the watchman proclaimed the hour of ten.* In the summer-time the master took his family to Margate for a fortnight. For many years they invariably stayed in the same lodging-house, kept by the same landlady, on the sea front. He enjoyed his holiday in the same serene manner as that in which he discharged the business and parochial duties to which he returned with renewed vigour on the appointed day.

An
Interest-
ing
Survival.

Dignified, leisurely, solid and respectable, he was a survival from an earlier time, and the last representative of a class of master silk-weavers, which, at his death in the year 1871, became extinct. The business of this firm being, as has already been stated, of a specially high class, only the best silk goods being dealt with, it will

* Norton Folgate liberty retained the services of a night watchman, by private subscription, to proclaim the time and the state of the weather long after other districts had abolished the office.

readily be understood that it was not a large one. Probably not more than fifty or sixty weavers were "on the books," but these were all kept in regular employment and were of a superior class to those of the manufacturers who were concerned with the lower branches of the handicraft. The contrast between these two classes of operatives was most observable when on Saturdays, the general pay-day, they were to be seen waiting about the doors of the various manufacturers' offices to receive their weekly "draw" of wages.

Two
Classes
of
Opera-
tives.

There were in London, until the middle of the nineteenth century, a very large number of silk manufacturing firms who had offices in Spitalfields, and each employed several hundred families of operative weavers. The weavers worked under the system described in a subsequent chapter. Some of these manufacturers had also branch establishments in Essex, Suffolk and other places, and many acquired large fortunes during the early half of the century, the majority being in the height of their prosperity in 1850-60.*

* It is common in stories and plays of the Georgian and Early Victorian periods, both in England and France, to find the expression, "His, or her, father had made a fortune in the silk trade." It may also be added that the same system of manufacture was in operation in France as in England at that time.

CHAPTER VII.

PICTURES OF THE VICTORIAN AGE.

The
growth
of
London.

During the first half of the nineteenth century the population of London is said to have doubled itself. The maps of 1850-60 show the various main roads, closely built, stretching out into the country like the tentacles of an octopus, and the spaces between them being gradually filled in with smaller streets and lanes. Many of the suburban villages had now become indistinguishable from the town itself. In the East of London this was particularly the case. Between the parishes of Spitalfields, Bethnal Green, Hackney, Whitechapel, Globe Town and Mile End New Town very few open spaces were left, and those which did remain were given over to neglect and abomination. There are persons living who remember the dreadful plight of the poor in these new "jerry-built" streets and lanes. One witness, George Dorée, a weaver, still living, who was born in the year 1845, in a street near the Globe Road, distinctly remembers his birthplace and its miserable surroundings. His father was a weaver of Huguenot descent, as his name testifies, who moved, with his numerous family, out from Spitalfields to a new cottage, one of a row specially built for weavers, in Globe Town. At the time they moved the neighbourhood was pleasantly rural. The cottages stood in an open space divided up into small gardens, which were, for the most part, hired by Spitalfields weavers who lived and worked in the close streets of the town, but spent their leisure time, of which they had too much, in gardening and other rural pursuits. Many of them had built quaint summer-houses in their gardens, in which they always spent the week-ends when

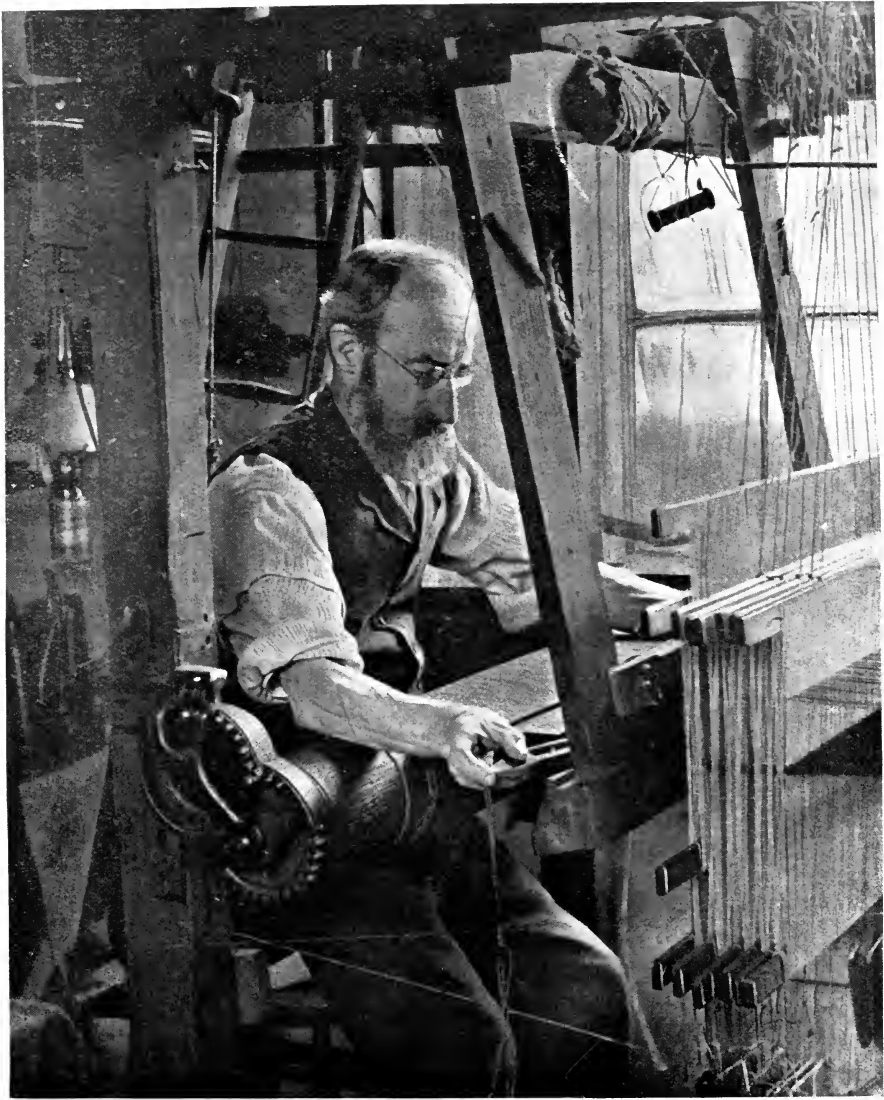


Plate XIV.

*A Typical Spitalfields Silk Weaver,
George Dorée, at work.*

the weather was favourable. As new cottages encroached The more and more on the open space, the gardens were given growth up and became mere rubbish heaps; the few tenants of that were left took to the breeding and rearing of fowls of London. and pigs in place of vegetables, flowers and canaries. The unpaved streets, in the winter, became sloughs of foul mud, for there was no drainage, and all house refuse was thrown into the road to rot.

Although the district was in this manner being built over and becoming more and more thickly populated, it must not be supposed that it was now (1850) exclusively inhabited by weavers. On the contrary, by that time the number of operative weavers employed in the East of London had, from various causes, begun to decrease. Foreign Jews were gradually ousting the weavers from Spitalfields, and various manufactories were being built hard by in which hundreds or thousands of workpeople were employed on regular, but poorly remunerated work, as well as large works where unskilled labour was in demand more or less intermittently. The number of operative weavers in the district at this time is variously estimated at from fifteen to twenty thousand. Another cause for the decline in number of the silk-weaving population of London, was the development of the railway system, which enabled weavers who had no work or were dissatisfied with London trade methods and restrictions, to remove at little cost to one or other of the provincial districts, which had become great centres of silk manufacture, where work was reported to be plentiful, where there were fewer trade restrictions, and also where, in many cases, the factory system was in full operation, in which, though at low wages, regular employment was offered, especially to children and young people.

In the meantime the factory system, which had, in Intro- the provinces, gradually superseded that of the domestic duction workshop in the cotton and woollen industries, and, to a of certain extent, in the silk industry, had been introduced Factory into East London. System.

Between 1820 and 1830, two firms had established factories in London for weaving the lower grades of silk

Intro-
duction
of
Factory
System.

dress goods, and by the year 1850 there were seven factories of a similar kind in operation, as well as two or three for making narrow braids etc. But these were, for the most part, only subordinate establishments to others which the same firms had already in operation at Sudbury, Kettering and other provincial towns and country districts. The factory system for silk-weavers does not seem to have taken root very kindly in the East of London, except in one case, later in the century, when, owing to the pluck and energy of one master weaver a factory for the weaving of the very highest class of furniture silks was started, and carried on in such a manner that, in spite of the rapid decline of the handicraft which was taking place in the district at the time of its founding, it became the foremost firm, in its particular class of work.

A description of Spitalfields in the mid-Victorian period would be incomplete without mention of the Government School of Design which had been started in Crispin Street, and was afterwards moved into White Lion Street, Spital Square. It lingered there, but cannot be said to have flourished, for some twenty or thirty years. It is natural to suppose that the object of establishing a School of Design in the silk-weaving district was to train students to produce suitable designs for the local handicraft, so that it should be no longer necessary for manufacturers to depend so entirely on foreign artists for the supply of such designs as they required, and for which they had to pay exorbitant prices. This, however, if such was the original intention of the promoters of this school, was, in this particular case, forgotten, for witnesses before a Parliamentary Committee of Enquiry, made in 1849, alleged that—(1) “The headmaster of the Spitalfields School of Art is not at all conversant with the silk processes. (2) The school has made very little progress in the art of designing for silks. (3) The instruction has not had sufficient relation to the requirements of the silk manufacture. (4) The designs made are not capable of being executed.” It requires little imagination, in view of such evidence, to credit the statements of persons who remember the

Government
School of
Design.

school and its management that "it had very little, if any, effect for good or ill on the manufacture of silk in Spitalfields." Government School of Design.

The year 1851 was rendered memorable by the opening of the first great International Exhibition of Art and Industry. It was promoted by the Society of Arts, of which Society H.R.H. the Prince Consort was the President, and in which he took the greatest interest. The silk manufacturers of Spitalfields held aloof from the Exhibition until considerable pressure had been brought to bear upon them not only by the Society of Arts, but by some of their best customers amongst the mercers and upholsterers of the City and West End of London. They seem to have had the idea that the exhibition of their best efforts in design and manufacture would, instead of benefiting themselves, assist their rivals at home and abroad in competing with them. The difficulty was, however, overcome, and allowing themselves to be persuaded to exhibit, a collection of Spitalfields silks was made which, though small, in comparison with the importance of the industry, was creditable and representative, if we may rely on the evidence of the Press reports of the time.

The catalogue of the Exhibition shows a good list of leading Spitalfields firms who sent specimens of their silk-weaving. It confirms the statement already made that most of the silk manufacturers had their warehouses or offices in or near Spital Square.* It is interesting also to note that it contains the names of many firms who have since established and carried on large businesses in other parts of the country. They left Spitalfields at the time of the great downfall of the local industry, which took place during the next decade, the story of which now claims attention. The Exhibition of 1851.

* For list of exhibiting firms, see Appendix.

CHAPTER VIII.

EFFECTS OF FRENCH TREATY OF 1860.

Death-
blow to
Spital-
fields
industry.

The Royal Speech at the opening of Parliament on January 25th, 1860, contained a paragraph announcing the conclusion of a commercial treaty with France, which, after being debated and confirmed during the course of the Session,* practically struck the death-blow to the local industry which had been carried on in the district of Spitalfields for nearly two centuries, and had given employment of a more or less remunerative kind to hundreds of thousands of operative silk weavers during that period.

This fateful paragraph was as follows:—

“I am in communication with the Emperor of the French with a view to extend the commercial intercourse between the two countries, and thus to draw still closer the bonds of friendly alliance between them.”

A perusal of the rather inconsequent and uninteresting debate which followed the announcement of the treaty shows that there was very little opposition in Parliament to its terms on commercial grounds. The leaders of the political party then in opposition complained of the preliminary methods used in preparing the new arrangement, as well as of the innovation of making use of a treaty for a purely commercial agreement. The provisions and details of the treaty itself were very little discussed. There can be no doubt that the prevailing opinion in Parliament and in the country, at the time,

* Lord Palmerston, the Prime Minister, announced on January 28th that the French Treaty had been signed, and only required the confirmation of Parliament.

was strongly in favour of Free Trade, and consequently in harmony with the terms of the proposed treaty.

The *Times*, in leading articles on the subject of the treaty, as explained by Mr. Gladstone in his Budget speech, had the two following sentences which are significant of the trend of public opinion at the time. "Protection, expelled from palaces, has been lurking in comfortable corners, among people who are 'Free Traders with exception,' standing out each for his own little craft. A crowd of small manufactures and petty produce, from silk to eggs, are to be admitted duty free, and henceforth we must equal our neighbours if we would shut them out."*

Again, commenting on Mr. Gladstone's explanations: "It was a long argument against the doctrine of prohibition, which we may pass over, since, to English readers, it is like reasoning against witchcraft, or the Ptolemaic system."†

The text of the treaty was published in full in the *Times* in the same issue in which Mr. Gladstone's introductory speech was reported and commented on—February 11th, 1860.

There seems to have been no opposition to the treaty from any of the great industries, except that of the brewers, who objected to the reduced duty on French wines; but there were several depositions and petitions to Parliament against it from smaller and struggling trades, especially from the silk industry, and particularly from Spitalfields and Coventry. The terms of the treaty, as regards the textile trades, with which only we are concerned, were as follows:—cotton, woollen and silk goods manufactured in France, were to be admitted into this country free of duty, whilst English goods of the same nature were to be subject in France to a duty not exceeding 30 %, *ad valorem*. Hitherto English textiles had been strictly prohibited in France. The Free Traders argued that this was a great concession on the part of the French, which would be of much advantage to the British manufacturers.‡

Death-
blow to
Spital-
fields
industry.

Treaty
with
France.

* *Times*, February 11th, 1860.

† *Times*, February 12th, 1860.

‡ There was a great deal of opposition to the Treaty in France, where it was generally considered that too much concession was made to England.

Effects
of the
French
Treaty.

Early in the debate, Mr. Bright, who had presented a petition from the silk manufacturers of Manchester in favour of the treaty, said that "Communications were made by some of the leading commercial men of France to Mr. Cobden and himself in reference to his proposition, made in a speech the year before; the result of which was this commercial treaty, which he considered was one of the best measures which had ever been effected for the benefit of both countries."

It will have been noticed that in the above quotations from the *Times*, silk is classed with the "small manufactures." That it was small, in comparison with the thriving cotton and woollen industries, which had developed so enormously in the North of England, cannot be denied, and it must also be remembered that not only was it a comparatively small industry, but a sadly demoralised one. Then, again, it was thought by many manufacturers that the power loom could never be adapted successfully to the weaving of silk, and for this reason the silk industry was not worth consideration. English policy at that time tended to substitute handicraft by machine work wherever it was possible. It was to be expected, therefore, that, outside the silk trade itself, very little consideration would be given to its welfare in comparison to that claimed by the more important and prosperous industries in which most of the leading statesmen of the time were interested.

Mr. Cobden's scornful reply to an advocate for the exemption of silk goods from the treaty list: "Let the silk trade perish and go to the countries to which it properly belonged," was quite in accordance with the general feeling in regard to it.

Attitude
of
Free
Traders.

Such references as the following are frequent in books and newspapers of the time:—"The fourteen thousand hand-loom silk-weavers of Spitalfields still struggle on, and in much suffering and privation maintain a feeble competition with the power-looms of the North. This belongs rather to handicraft branch of trade than to manufacture."*

* A *Survey of London's Trade and Manufacture*, 1863, published by John Weale.

During the course of the debate, the probable effect of the treaty on the silk trade was barely mentioned, but on March 2nd the clause relating to it came up for approval in Committee. In accordance with a notice he had previously given, Sir J. Paxton, member for Coventry, proposed as an amendment, "that the present duty on imported silk manufactures should be retained." Mr. Ayrton, member for the Tower Hamlets, supported the amendment in an interesting and pathetic speech. Mr. Bright and Mr. Gladstone followed with popular Free Trade arguments, and further discussion was vetoed by 223 against 28. The amendment was then put, and lost. The majority against it being 122.

Unavail-
ing pro-
test
by the
Industry

The next day a motion was submitted that the duty be retained till October 1st, 1861, but, after a short discussion, this also was negatived by a majority of 128.

The clause of the treaty relating to silk was then allowed to stand. In a few days the debates were concluded, and the French Treaty, without alteration, was approved by Parliament and came into operation at once.

Before attempting to describe the effect of this measure on the district of Spitalfields, it is necessary to realise clearly the actual state of the silk-weaving industry at the time the treaty came into force.

As the enthusiasm for Free Trade has, of late, to some extent diminished, and the event in question has become one of ancient history, it has been assumed by the occasional writers and speakers who have dealt with, and been interested in, the more recent revival and new developments of the silk industry in Great Britain, that the East London silk-weaving trade was in a flourishing condition in 1860, and that it was suddenly ruined by the operation of the Free Trade Treaty. The number of silk-weaving operatives employed in London at that time has however been much exaggerated. Thirty thousand, fifty thousand, or even a hundred thousand weavers are often spoken of as having been "busily and happily employed in this delightful handicraft at the time the disastrous treaty with France was concluded, which at once left them without occupation." That neither of

Effect
of
Treaty
on
Spital-
fields.

these assumptions is correct, but that they are gathered from the biassed impressions and reports of both manufacturers and weavers, many of whom suffered bitter hardships at the time of the collapse which immediately took place when the treaty came into operation, a careful study of the available records of the time clearly demonstrates.

Public
Ignorance of
Silk
Trade
Condi-
tions.

In the first place, as to the trade itself, it has already been shown that it had for many years been in a declining condition, and all contemporary accounts agree in representing the distress of the operative silk weavers as chronic, and as having become acute in 1860. At the time the treaty was being discussed in Parliament, the Rector of St. Matthew's, Bethnal Green, wrote a piteous letter to the *Times* about his difficulties in dealing with the desperate poverty of his parish,* which was chiefly occupied by poor silk weavers.

Briefly summarised, the case may be stated thus. The operative weavers were, with few exceptions, desperately poor and only employed intermittently. A large proportion of the London Silk Manufacturers, whose names appeared in the Directory as such, had no interest in or knowledge of the technics, æsthetics or economics of the silk trade. They relegated all the details of production to managers and foremen, who frequently farmed out the work—which was mostly of a low grade—to petty master-weavers. These made their own terms with the hands they employed in their crowded cottage workshops.† Many, therefore, who posed as manufacturers were merely warehousemen, exploiting the sweated labour of helpless, impoverished weavers, and in many cases growing wealthy on the profits. To such “manufacturers” the proposed change would really prove an advantage, for they would be able to fill their warehouses with low-priced goods from France, at even less cost, trouble and risk to themselves than they had hitherto had.

* *Times*, 17th February, 1860.

† It cannot be denied that there was an immense amount of sweated labour in the silk trade in its lower branches. It was a common practice to give out work to petty masters, who employed several women and young people, and sometimes even men—so scarce work—at half or even one-third the agreed rate of wages. Children were also often taken off the parish, for a consideration, and set to work in these sweaters' dens. It is well known that many of these petty masters saved money and became independent in this manner.

The minority, the genuine manufacturers of Spitalfields,* had been struggling against adverse circumstances and competition between each other for many years, and, like the weavers, had become demoralised and dispirited. It was by this class that what opposition there was to the Treaty was made. A few large firms, who had adopted the factory system, and some few small firms who did very special and high-class work, and were not so likely to be affected, were, for the most part, neutral in attitude, although some, especially in the Midlands and North of England, were believers in Free Trade for themselves as well as for others.

Public
Ignorance of
Silk
Trade
Conditions.

Then, again, it is very difficult to estimate correctly the number of Spitalfields weavers working at the trade in 1860, but it is certain there were not so many as is usually supposed. In 1838 the distress in Spitalfields amongst the weavers had been very great, and a Dr. Mitchell was deputed to investigate and report to Parliament on the matter. His report was most carefully prepared, and was very thorough in detail. The number of families employed, according to Dr. Mitchell, was just under five thousand, and the number of looms at work ten thousand five hundred. If all the persons employed in the business, as well as the weavers, are included, it would be quite reasonable to estimate that each loom gives employment to two persons, and this would make a total of twenty thousand operatives, all told.† In the year 1853, the writer of the *Survey of London's Trade* gives fourteen thousand as the number of handloom weavers in London, and the census of 1851 shows that 130,723 persons, 53,936 of whom were males and 76,787 females, reported that they were engaged in the silk trade of the United Kingdom.

Census of
Employment.

Both Mr. Cobden and Mr. Gladstone have been credited with the heartless-sounding phrase already quoted, "Let the silk trade in England perish, etc." Yet when speaking thus they only voiced the almost universal opinion held

* Spitalfields being under consideration in this section, the local industry only is referred to, but similar economic conditions prevailed in the provincial centres of the trade.

† Dr. Mitchell estimates the number of weavers employed to be the same as the number of looms. It is probable that the total number of operatives dependent on the trade was about midway between 10,000 and 20,000, as the business was in a depressed condition.

Prohibition
and
Protection.

by the public of their time. Long years of prohibition or protection had not only fostered a belief in the public mind that French silk goods must in the nature of things be superior to those of English manufacture, but, by preventing healthy rivalry and comparison by the manufacturers and weavers, had gradually rendered the English weavers inferior to the French in artistic expression. There were, no doubt, other causes contributing to this result, but, whatever these may have been, a comparison of the pattern books of French and English silk textiles of the mid-Victorian period, demonstrates the decided superiority of the French goods in design and colouring, though not in perfection of weaving or purity of silk; for even at that time the French had become past masters in the art of adulterating and degrading silk in the process of dyeing.

Despair
in
Spital-
fields.

The immediate result in the East of London of the completion of the Treaty and its approval by Parliament was helpless despair and a deeper depth of distress than had even formerly prevailed. Business in the silk trade was at a standstill. Many firms, some of whom had hundreds of weavers on their books, had given notice to their employees that, if the Treaty became law, they would cease to give out work, as they would be able to purchase foreign silks at a cheaper rate than they could manufacture them. The retail dealers bought up entire stocks, which had been accumulated by French manufacturers and warehousemen, as well as those of many Spitalfields firms who felt it impossible to go on manufacturing under the new conditions, and advertised them for sale at half their reputed value.* New, attractive, low-grade silk goods, made in haste for the purpose, poured into the English market, with the result that the local manufacture of the lighter and cheaper kinds of silk webs, which had for many years occupied the vast majority of Spitalfields silk weavers, was entirely wiped out.

Two brief stories,† one of an exceptionally thrifty family,

* The advertising columns of the newspapers of the time are filled with such notices as those given in Appendix, Note 2.

† These stories are not given in the actual words of the weavers themselves, but are summaries of conversations in which the facts set down were, more or less, clearly related to the author.

and the other of a family of a more average kind, as told by survivors, are typical of hundreds of weaving families who were at their wits' end in that time of upheaval. It has already been shown that, owing to the fact that children and very young persons could do a great deal of the work of the loom, families—especially where there were several children—could, by their combined efforts, earn sufficient for a moderate subsistence, notwithstanding the low average of individual earnings. It was to such families that the narrators of these stories belonged. The narrator of the first story was still working at his trade in Bethnal Green, and was eighteen years of age in 1860. The second account is by a clever, shrewd, aged weaveress, who was a young woman at the time in question.*

The first story was prefaced by the remark, "You don't see such velvets now as we used to weave when I was young." The family described were engaged in velvet weaving.

"The richest and closest black, cut pile silk velvet was used for gentlemen's coat collars, and my father was one of the very few weavers who could make it. It was very hard work, but by working long hours, if the silk was good, he could make five yards a week. The price paid for weaving and finishing this kind of velvet was 5s. 9d. a yard. The city firm for which he worked usually kept two looms going for weaving this velvet all the winter and spring, but there was a good deal of waiting in the summer, so that to fill up his time my father took work of a lower class from another firm, and this my mother and aunt kept going on, under his superintendence, when he was busy. There were several looms in our workshop, and we children—I was the eldest of five—all learnt to weave when we were quite young. We all went to school till we were eleven years old, and then left in order to help in the workshop. My father had taught me to make velvet, and on my eleventh birthday I finished my first yard, of which I was very proud, and so was he. By the time I was sixteen I was able to take on the same kind of work as my father. When I was

Despair
in
Spital-
fields.

Stories
of the
past.

* The notes for this story were taken in 1895.

Stories
of the
past.

eighteen we had five looms going at home pretty regularly, and the family earnings amounted to from two pounds to two pounds ten shillings a week, if we had not much waiting. But it was hard work, and when we were busy enough to earn so much money we had no playtime. My father never stopped on week-days when he had work, except to eat and sleep. On Sunday we all went to Church, for my father and mother were very religious and particular.

“All our relations were weavers and belonged to an old weaving family. Our name shows that we were connected with the French Protestant weavers who came over in 1685 and settled in Spitalfields.

“As long as I can remember, my father had made the best velvet for the firm that regularly employed him. My weaving, too, soon became good enough for them to employ me also; I have worked for them ever since, as they are one of the firms which have continued to give out work in the East of London, and still have a good deal of silk woven in England at their suburban and provincial factories, although of course since 1860 they have bought from abroad a good deal of what they sell, especially of the cheap kind. At the time the French Treaty was first talked about, we were working for a Spitalfields firm, who gave out lower class velvets, as well as for the firm who kept my father’s loom and mine nearly always going. Of course it soon became generally known that a calamity was threatened, and all was excitement amongst the weavers. The Spitalfields firm sent us notice that if the Treaty was passed by Parliament they would give out no more work in London. This was because they would be able to buy the kind of velvets, and other cheap goods they sold, at less cost and trouble than they could get them made for in England. It did not make much difference to the better classes of work, so my father and I felt pretty sure that the city firm would keep us on. But my father at once set about getting something else for my brothers and sisters to do. The Telegraph Company were advertising at the time for messenger boys: two of my brothers applied and

Politics
and
Trade.

got taken on there. Another got into the Post Office. The girls found other sorts of work to do, and so we managed pretty well. In fact, for my brothers, the turning out was certainly for the best, as they are all in far better positions than would have been possible if they had kept on with the weaving. I am sorry to say there were very few families came out of the trouble as well as we did."

The second narrative, that of a woman weaver, is not such a cheerful one, and is no doubt typical of a much larger number of families than the first.

"I was about sixteen, I think,"—the narrator, like so many illiterate persons, did not know her own age—"when the duty was taken off French silk. I well remember the time of excitement, and how frightened everybody was that we should all be thrown out of work.

"I never went to school, and cannot remember beginning to wind and weave. I always had to work and sleep among the looms in my father's workshop. There were six of us children, and we were all taught to wind quills for the shuttles as soon as we could talk, and to weave as soon as we could sit in the loom. My mother used to weave as well, and only left off to bring up our food to us, so that we should not lose more time than could be helped in eating. We always had a holiday on Sundays, and mother used to clean up the house while we played about outside. On Sundays, too, we had a cooked dinner, but on other days we had only bread and perhaps a red herring or a piece of cheese. How the poor lived.

"My father hardly ever did any work himself after he had taught me to weave fancy silks with a Jacquard machine. When I was, I think, about twelve, I could do the work as well as he could. He used to come in and put the machine right when a needle got bent or anything else went wrong, but mostly he was out talking with other men. He used to pick and look over all our work when it was finished, and take it to the warehouse.

"My mother used to make plain satins, and the younger children used to weave low quality plain silks.

"Sometimes I used to get fidgety and want to get up and move about. To prevent this, father used to tie me to the loom in the morning, before he went out, and

How the
poor
lived.

dare me to leave it till he came back. I have often been tied in the loom all day and eaten my meals as I sat there. When I was so tied, mother had to pick the porry and move the rods if father did not happen to be about. When I was not tired I used to be fond of weaving and proud of my work, which was generally of pretty colours, and every one used to say I was clever at it.

“When the duty was taken off silk, my father had notice that no work would be given out for a long time, if at all. As he was already in debt on the books of his master, he could not, of course, draw any more money so we were in great distress. My brother and I, who were the best weavers of the family, except father, got the offer of work at a factory which had not long been started. My aunt, my mother’s sister, was forewoman of the winders there, and recommended us. She also said we could go and live with her. In the factory we had regular wages, which made us feel very proud.

“My father had heard of some work at a place near Sudbury, and some kind person gave him money to go there and take my mother and the younger children. He worked there at his trade for a little while, then my mother and two of the children were taken ill and died quite suddenly. After mother’s death, father, who had often said he would like to go to Australia, joined a party of emigrants, which the Government were sending out, and took the two remaining children with him. They did not start from London, so of course we could not afford to go and see them off. We just heard that they got to Australia safely, but that was all. I have never heard from father or my sisters since.

Dispersal
of Spital-
fields
workers.

“My brother got to be very clever at weaving, and could always get work. But he soon got tired of London, and went to the North, where he thought he could get on better. There he caught cold, and, as his chest had always been delicate, it turned to consumption, and he never got well again, though he was able to work for some months in his new place. He died in 1870.

“Soon after my brother died, the factory in which I

was moved into the country. Several of the weavers and winders went too, so as to keep with the firm, who treated them well. Just at that time I was offered some good work on a Jacquard loom standing in a friend's house. So, although my aunt was leaving London with the other winders, I accepted the offer and have been working for the same firm in White Lion Street ever since, weaving some of the best figured silks for church work. The firm say they will soon have to give up, for the trade is getting worse. But we must hope for the best."*

Dispersal
of Spital-
fields
workers.

The cases in which the sudden stoppage of silk weaving in Spitalfields proved most pitiable were such as that of the elderly weaver and his wife. Such poor people as these, friendless and alone as they were, could have no chance of taking up a new occupation, when the one they had been bred to, poor as it was, failed utterly. They were without help in the present, and could have no hope for the future. Many industrious aged operatives must have suffered in silence and perished in the general wreck, for they were just such as private benevolence and official charity were certain to overlook.

One result of the commercial treaty which cannot be regretted was, that many, if not quite all, of the petty masters who employed sweated labour could get no more silk given out from the manufacturers for their victims to weave. They accordingly quickly gave up the business and sought profit in other directions. The older people, who had worked for these sweaters unhappily shared the dismal fate of the other hapless weavers who could not take up other occupations, whilst the younger people and children, many of whom had been apprenticed by the parish, were set free, and in time found occupation in the various factories and workshops of new trades which had been started in the locality, and brought new activity and life into what had hitherto been the silk weavers' special district.

The
blow to
Sweated
Labour.

Some extra attention was given during 1860-61 to the emigration scheme, promoted by the Government and various private benevolent societies, which had been

* This was told in 1895. The narrator only lived for a few months, and died in the London Hospital. The firm did not give up before she was taken ill, although it did soon after.

Emigra-
tion
Societies
a failure.

in operation intermittently for several years. The weavers, however, who were distinguished by neatness and dexterity of hand and love of home, rather than muscular strength and adventurous character, were not as a rule either willing or hopeful emigrants.

After the downfall, the aspect of Spitalfields and Bethnal Green, but especially the former, began immediately to change for the worse. This was particularly noticeable in the region of Spital Square and Devonshire Square, where the manufacturers had their offices, and in many cases their residences. The offices and warehouses were given up. Many of the manufacturers could not meet their liabilities, and were ruined; some, who had succeeded in surviving the *debacle*, took warehouses and showrooms in the city, to deal in goods made in the provinces or abroad, and removed their private residences to the suburbs or the West End; some retired from the business altogether with more or less handsome fortunes; a few, more enterprising, built factories in the provinces and transplanted to them the most skilful of the hand-loom silk weavers who still remained, and whose work was yet worthy of the best traditions of old Spitalfields. There had always been a nucleus of such weavers, the aristocracy of the handicraft, for whose work there continued to be a certain demand.* It was from this class, as they became gathered into factories, either in London or, as was more generally the case, in the provinces that the British silk-weaving trade in its higher branches was to experience its *renaissance*, and to rise, like a Phoenix, from the ashes of the decayed system of domestic manufacture which had long outlived its time of prosperity.

Aristoc-
racy of
Handi-
craft
saved.

* These were mostly weavers of rich furniture and dress silks. Such works then continued, and still do so, to be made on Jacquard mounted hand-loom. Power-loom weaving of this kind, even if successful, is more expensive than that of the hand-loom.

CHAPTER IX.

LEGISLATION AND THE FACTORY SYSTEM.

A survey of London taken during the decade of 1880—1890 would show the satisfactory effects of much of the social legislation which had been forced on the consideration of Parliament by partially educated public opinion. The problems to be faced resulted chiefly from the unprecedented increase of the population, new ideas of social responsibility, and the practical application of much scientific discovery and many mechanical inventions. Between the years 1848 and 1890 Parliament had dealt in a more or less satisfactory manner with sanitation and public health, the regulation of the factory system, the definite legal standing of trade unions and other industrial combinations, the civil and municipal government of Greater London, the lighting, paving and keeping clean of the vastly increased urban area, and the education of children.

In concluding this description of the weavers' quarters of the past, it is necessary to note briefly the effect this legislation had on the densely populated district of London east of the City.

The late Sir Walter Besant, who probably knew this district better and has more graphically described it than any of his contemporaries, speaks of it in 1880 as "a town of two million inhabitants, separated by speech, manners and interests, and almost unknown to the rest of London."* The broad highways and main streets in which the best houses of the district were situated,

* *All Sorts and Conditions of Men*, Besant and Rice, 1882.

Besant's
descriptions of
East
London.

had become lined with shops that had, for the most part, been built on the long front gardens which had originally intervened between the roadway and the houses themselves. The smaller streets consisted of narrow avenues of mean dwellings all of one pattern, unlovely and monotonous. Churches, chapels, gin palaces and humble taverns, with here and there a large factory or a small workshop, a large brand-new board school, or a barrack-like block of workmen's dwellings, varied the monotony of the dismal streets. If, however, we may believe Besant's assertion, there were no places of amusement or recreation, except a theatre and a music-hall in the Whitechapel Road, in the whole district.*

Although thus cheerless and dull, the district had, in many respects, very much improved from the condition in which it was steeped in the early part of the 19th century. In the first place the population, taken as a whole, was comparatively well-to-do. Instead of all, or nearly all, being engaged in one occupation, silk weaving, of which there was enough to give constant employment to only one-third of the large number of operatives wanting work, there were now a great variety of industries, altogether new to the district, in which workers could engage. There were half a dozen breweries, several large chemical works, sugar refineries, tobacco factories, clothing factories and the vastly extended docks. There were also rope makers, sail makers, jute weavers and mat makers; there were cork cutters and firework makers, sealing-wax makers, workers in shellac, workers in zinc, sign painters, heraldic painters, makers of iron hoops, combs and sunblinds, pewterers, turners, feather dressers, ship modellers and many others. Numbers of petty trades, at which whole families could work, had come into existence, such, for instance, as cardboard-box making for wholesale houses, pill boxes for chemists, ornamented boxes of all kinds for confectioners, druggists, drapers and stationers. It is true that many of these occupations were but poorly remunerated, but generally there was

Influence
of
industrial
diversity
factor.

* There were, at this time, two theatres in Shoreditch and one in Hoxton. These, although on the border, were not actually in the district.

no lack of work, and on Sundays and other holidays the crowds of people thronging the new Victoria Park and the principal thoroughfares were by no means ill-dressed or unhealthy in appearance.

Influence of industrial diversity factor.

At this time—1880-90—the number of operatives still following the occupation of silk weaving in the East of London is shown by Charles Booth* to have fallen to little more than two thousand. These were employed by about sixteen firms who had succeeded in surviving from the upheaval of 1861, and were able to adapt their products and their methods of manufacture and commerce to more or less modern conditions. The names of these firms appear in the London Directory for 1890,† under the heading of “Silk Manufacturers.” The whole long list of names there given, however, may be misleading, for many of the firms mentioned were merely those of foreign agents, provincial silk manufacturers with showrooms in the City of London, or warehousemen dealing in silken goods but having no work carried on in East End factories or domestic workshops.

In common with the rest of London, this extensive district had greatly benefited by the sanitary arrangements which had resulted from the Sewerage Commission of 1848. The main roads and most of the smaller streets, courts and alleys, had been, or were being, connected with the main drainage system, also the collection of house refuse and periodical street scavenging were in process of being systematised. All the roadways had been either paved with pebbles or granite blocks, or had been macadamised, and the footways paved with flat slabs of stone.

There was also a general system of street lighting by gas, and experiments were being made in the main thoroughfares in electric lighting. In 1870 the first elections for the London School Boards were held. The Boards and their various committees soon got to work. Large picturesque school buildings were erected in every district, and teaching staffs were organised, so that by

Sanitation and Education.

* *Life and Labour of the People of London*, Charles Booth. London, 1891. 2nd Edition.

† *Post Office Directory*, London, 1890.

Sanitation and Education.

1880 many Board Schools were in full operation. Previous to the School Board Act, in Bethnal Green alone, ten thousand children of school age were totally without provision for education of even the most elementary kind.

Although East London as a whole is thus seen to have been at this period more prosperous than it was in the beginning of the last century, the section of the silk-weaving industry left after the downfall of 1860 has steadily declined in importance until only a very small remnant remains. However hopeful, therefore, the prospects of silk manufacture may be in other British centres, it cannot be expected that in the Spitalfields district any real revival of silk weaving can ever take place.

CHAPTER X.

SPITALFIELDS OF TO-DAY.

In spite of all the chances and changes of commercial fortune, the name of Spitalfields still stands for the purest and most skilful productions of the silk-weaver's art. At the present day, however, the parish of Christ Church, Spitalfields, is connected but slightly with the silk manufacturing industry. There have been but few changes in the parish itself. It retains, for the most part, the general plan and topography shown in the maps of Strype's Editions of *Stow's Survey*, and Maitland's *Description of London*. These books were published in the early part of the 18th century. Spital Square, which was known as Spital Yard until the year 1722, was the centre of the district, and that fact is evident to-day, the Square being remarkable in the metropolis owing to the existence of posts at either end to keep out the wheeled traffic. These will, however, disappear in the Spitalfields improvement. As late as the year 1700 the Square contained the house of Lord Bolingbroke, and there are still to be seen many beautiful old Georgian houses, which were built by the master weavers, and in one of which George IV is known to have dined. At the backs of some of the houses even to-day there are good gardens with mulberry trees. Christ Church itself is one of the most prominent features of the district, its spire dominating the neighbourhood. It was designed by one of Wren's pupils, and one of the first additions to it after building was a big tenor bell, which in accordance with a custom, not confined to Spitalfields, was rung from a quarter to

The home of good work.

Memo-
rials of
Christ
Church
Parish.

Memo-
rials of
Christ
Church
Parish.

six until six o'clock in the morning for the purpose of calling the weavers to work. It was also used as a curfew bell.

The interior of the church contains tablets to the memory of several Huguenot families. It was in this church that the Limborough lectures were delivered in place of evening service, and it is believed that the house of the founder, Mr. James Limborough, was afterwards used as the head-quarters of the Spitalfields School of Design. Included in the district over which Christ Church held sway was the Church of La Patente, which is now employed as a Church Room, and the visitor will find the old building practically unaltered except as regards the front. The Royal Arms, which were put up in the church in the reign of James II as a sign of the authority under which it was built, still remains, and a portrait of Charles Dickens has been placed in the church by the Kyrle Society.

The existing association of the parish with the silk industry are (1) its name, (2) the Silk Conditioning* Office of the Port of London Authority is still located there, (3) a few small tradesmen called *job dealers*, who retail trimmings for tailors and other oddments of silk goods, still linger there, (4) the magnificent parish church, built in 1715, and its churchyard which contains several monuments bearing inscriptions. These tell of the virtue and respectability of former parishioners, many of whom were, in one way or another, connected with the fascinating handicraft for which the artificers of Spitalfields were pre-eminent in the 18th century. (5) Amongst the distinguishing signs of the numerous public-houses in the parish may be found the "Crown and Shuttle," the "Weavers' Arms," and others which indicate the occupation of most of their former patrons.

The population of the district of Spitalfields has shown no falling-off in point of numbers, but, on the contrary, has greatly increased. It is also still mainly of alien origin. In place, however, of the French Protestant refugees, who formerly settled there and almost exclusively formed

* Silk conditioning is described on page 441.

its population, there are now Jews of various nationalities. There they, with their swarms of children, practise their religion, and seem very much at home. They are busy, happy, and astonishingly healthy, notwithstanding the unsavoury and over-crowded state of the tenements in which they live. The peculiarly constructed weavers' houses, each with a well-lighted family workshop on its upper floor, which used to form a distinctive architectural feature of the Spitalfields streets, have almost entirely given place to blocks of dreary, meanly-built, industrial dwellings, which exhibit all the squalor, but none of the picturesqueness, of the ancient houses. A few of the substantial dwellings of the master-weavers and manufacturers, with their imposing doorways, ample staircases, panelled rooms, and fine carving, still remind the visitor of the prosperity of the past. But these are now most generally let out in several apartments. Frequently a whole family and sometimes two families are crowded into a single room.

Characteristics of Present Population.

Instead of the skilful weaving of precious silken fabrics, these later denizens of Spitalfields deal in made-up textiles at second-hand, or are employed in making garments of shoddy* material for the cheap ready-made clothing shops. To Spitalfields most of the "old clo'" which are collected from all parts of London are brought, and sold again for renovating, or translating, as it is called. After this process they enter upon a new course of service in a humbler sphere than that for which they were originally made. There is in Petticoat Lane, or Middlesex Street, as it is now called, a regular exchange having subscribing members,† where this eager and absorbing traffic is carried on with as much fervour and excitement as may be witnessed on the London Stock Exchange, the Paris Bourse, or in Wall Street, at times of crisis or panic.

Second-hand Clothing Trade.

Notwithstanding, however, the fact that in the actual parish of Christ Church no silk-weavers are left, the Spitalfields weaving industry is not quite extinct.‡ In

* Shoddy yarn is made from worn-out materials torn to shreds and re-spun.

† The subscription is ¼d. per day.

‡ Since this chapter was written Messrs. B. Cohen and Sons have started a factory in Fashion Street, Spitalfields, for the manufacture of furniture silks.

Remnants of Silk-weaving industry.

their most prosperous days the silk-weaving fraternity overflowed into the parishes of Bethnal Green, Shoreditch, Whitechapel and Mile End New Town. But at the same time they were universally known as the *Spitalfields Weavers*, and the entire district inhabited by them was popularly known as *Spitalfields*. It is accordingly in certain parts of this extended district that the few remaining Spitalfields silk-weavers are to be found.

A very great number, probably the greater number, of the houses in this extensive district show by their large upper rooms with long workshop windows that they were specially built for weavers, who always had their looms in the upper storeys of their houses. Often when these long windows are not to be seen in front they will be found at the back of the dwellings. Very few of these domestic workshops are now furnished with looms or other weaving appliances, and the merry clatter of the weaver's shuttle is seldom to be heard by the wayfarer in the busy street. There is, however, one little group of such houses which still serves its original purpose, and here every upper floor is a silk-weaver's workshop. This little weaving colony occupies the greater part of Alma Road and Cranbrook Street, Bethnal Green. There is no thoroughfare through these streets, as their ends are blocked by the Regent's Canal, and from their workshop windows the weavers can see, and eagerly point out to the visitor, the perspective of the Canal and the nearest green country beyond it. They can also sometimes, especially in the springtime, inhale the freshness of that East End Paradise, Victoria Park, which is close at hand.

As it is only too probable that in a few years, at most, the silk-weaving industry in London will become extinct for lack of weavers, and as nothing quite like the methods and traditional arrangements of Spitalfields are to be found elsewhere, it will be useful to give a somewhat detailed description of a typical weaver's dwelling and workshop, and also to explain the methods of carrying on the work. These have remained the same for a century and a half in this interesting part of London.

Links with the past.

There are forty-six workshops in this neighbourhood

still occupied by weavers, thirty-eight being in the group just referred to. At No. 42, Alma Road, a strange-looking object is hung out as a sign. It is what is called by weavers a *Hand Stick*. This implement is used for winding the coil of warp upon, when it is ready to be transferred from the *Warping Mill* to the *Turning-on*, or warp-spreading machine.* This sign therefore indicates that warp-spreading is done here. To this house the weavers bring their prepared warps, in order to have them evenly spread out on the back rollers belonging to their looms. Fifty years ago more than 60 of these signs might be seen in the neighbouring streets, but this is now the only one remaining.

Links
with the
past.

The warp-spreader† in Alma Road, a descendant of an original Huguenot craftsman, is cheerful, alert and courteous. He is looked upon as the representative and champion of the remnant of the Spitalfields silk-weavers. Before the Union of London Operative Silk Weavers was finally given up, for lack of subscribing members, he was its secretary. Moreover, when in 1900 the little colony was threatened with destruction in order to make way for an Electric Power Station, he it was who represented the case, for himself and his neighbours, to a Committee of the London County Council, and succeeded by his representation in averting the impending calamity. This successful championship was gratefully acknowledged by the colonists, as is recorded in an illuminated address which may be seen in the little parlour of this typical weaver's dwelling.

Modern
Weaver's
dwelling
and
work-
shop.

The house contains four rooms on the ground floor, and a passage from front to back divides it in the centre. As one enters this passage, there can be seen through the open door at the opposite end of it, a small back-yard, gay with flowers in bloom and furnished with a large, neat aviary, in which a few specimens of a delicate prize breed of pigeons coo and strut in the summer sunshine in all the pride of their pencilled iridescent plumage.

* For a description of the process of warping and beaming or warp-spreading, see *Handloom Weaving*, by Luther Hooper.

† Mr. George Dorée—velvet weaver and warp-spreader. This description was written in 1914. Mr. Dorée died in 1916.

Modern
Weaver's
dwelling
and
work-
shop.

Besides the illuminated address, already referred to, the weaver's little parlour contains many objects of interest. There is, for instance, a small case in which are preserved three samples of rich velvet made by the warp-spreader himself, who was originally a velvet weaver. Two of these samples are cuttings from the velvet made, in this very room, for the Coronation robes of King Edward VII. The third cutting is from a piece of crimson velvet made for His Highness the Rajah of Jhalawar, who, one day descended on the weaver, accompanied by his gorgeous suite, and seeing the Coronation velvet, desired a length exactly like it for his own use. After some negotiations with the weaver's employers, a City firm, His Highness was able to have the velvet made and sent to him, greatly to his satisfaction.

A Master
of his
Craft.

Referring to these pieces of velvet, Messrs. Bailey, Fox and Company, than whom there could be no better judges, certified in a letter to the weaver that in their opinion these webs were the richest and most perfect specimens of the art of velvet weaving that had ever been made. It is remarkable that the latest productions of the velvet weaver's craft in London should thus be adjudged the best ever woven, and that such is the case goes to prove that though the London silk industry is, to a certain extent, a decayed business, the English weaver's art is not by any means a decadent one. Examples in other branches of silk weaving might be also instanced to prove the same fact, and it may be affirmed that, whatever may have contributed to the piteous plight, first of the operative weavers in the earlier portion of the 19th century, and of the manufacturers afterwards, want of mechanical skill in the handicraft was not the cause.

On the walls of the parlour in Alma Road is also displayed a framed certificate on which the Coat of Arms of the Weavers' Livery Company of London is emblazoned. This, dated 1893, certifies that Mr. George Dorée was awarded a medal in a weaving competition promoted by the Company, and that he was made a Freeman of the Weavers' Company at the same time. This achievement also constituted him a Freeman of the City of London.

On leaving the parlour, by ascending a short but steep flight of stairs, the visitor emerges, through a trap door, on to the upper floor, and finds himself in a large workshop, flooded with light. This light is admitted through a casement window which extends across the whole width of the room at the back, and from three ordinary windows at the front. In most of the similar workshops of Bethnal Green and the district, the whole available space is filled with looms fitted up for various kinds of work, and often, when the weaver's family is large, a bed or two may even be seen squeezed into a corner. In the present instance, however, the front half of the shop, near the three windows, is fitted up with the warp-spreading machine.

A Master
of his
Craft.

As the warp-spreading machine occupies so much space in this particular workshop, there is only room for two looms to be kept in working order. At one, Mrs. Dorée, whom a newspaper interviewer once likened to a Dresden china figure, may generally be found weaving a rich, black silk of an extraordinary solid texture. The tops of the looms are lumbered, in true weaver's fashion, with parts of various machines and mountings for different classes of work, which may be required at any time to take the place of those in the loom frames. The looms and machines for this class of work in all its branches remain practically the same as have been in use in Spitalfields for a hundred years or more.

A brief reference must be here made to the method of carrying on the business of silk weaving which has been in vogue in London for more than a century. It has been already mentioned but may now be discussed so that it may be compared with the system which it followed, as well as that by which it has been superseded in the silk trade generally.

Domestic
System
of
Manu-
facture.

The manufacturer, as he was by courtesy called, had an office and a warehouse, but no factory. He had a certain number of weavers on his books, that is weavers who worked exclusively for him. Each of these weavers, or family of weavers, had a domestic workshop as already described. Any expensive fittings or mountings for the

The Domestic system explained. loom were supplied by the manufacturer who usually charged the weaver for the hire of them when in use. When a certain length of silk had to be made, the manufacturer calculated the quantity of silken thread of two sorts, organzine and tram,* required for the warp and weft respectively. He then weighed and gave them out to the dyer and, subsequently, to the winder; the former to dye them while in skein form, and the latter to wind them on to reels of convenient shapes for the warper's and weaver's use.

The dyed organzine, after being wound, was sent to the warper, who had to lay the threads, of the exact length required for the piece of silk to be woven, in regular order, and, by a clever device, which is a prehistoric invention, so arranged them that they could not easily get entangled no matter of how many threads of finest silk they consisted. This length of threads was called a *warp*, and was next wound off the warping mill on to a hand stick already referred to on *page 99*.

In this state, on the hand stick, it was given out to the weaver after being carefully weighed, with the instructions necessary for making the kind of web required. The weft, wound on bobbins, was also weighed out to him at the same time. The weaver next took the warp on the hand stick, carefully protected by a large blue handkerchief, and a roller, from the back of his own loom, to the warp-spreader, who returned it to him smoothly spread out and tightly wound on to the roller. The warp was now ready to be placed in the loom and joined, thread by thread, to the ends of silk left for the purpose from the last piece woven.

The Domestic system explained. The cost of *warp-spreading*, the joining the threads of the new warp and *winding* the quills or spools for the shuttles, are some of the little expenses which the weaver had himself to pay out of the arranged per piece price he was to receive for the completed work.

When woven, the weaver took the length of material to the warehouse of his master, who measured and

* Organzine and tram. Organzine is hard, twisted silk, and is used for making the longitudinal threads of a web called *warp*. Tram is the same silk fibre more loosely twisted, and is for the *weft* or lateral intersecting thread. See *Silk*, by L. Hooper, Pitman, London.

examined the work, weighed it, together with the surplus weft which the weaver returned at the same time, and settled the amount of wages due to the workman. Masters and Workmen.

Under this system, as the weaver only worked for one master, the latter, in order to retain his full complement of weavers, allowed each man to draw a small amount of wages weekly, although, too often, he had no work. This weekly *draw* was debited to the weaver's account, and he had subsequently to work it out and make his book balance. The invariable effect of this arrangement was that each manufacturer had on his books a great many more hands than the number for which he could find employment, and the majority of operatives only had sufficient work to occupy a portion of their time.

During the latter half of the eighteenth century and the first part of the nineteenth, this system was in full operation, and there can be little doubt that it was one of the causes of the extremely low average of the Spitalfields weaver's earnings during that period. Authorities differ as to the average, some placing it as low as 4s. per week, and none higher than 8s., even when the upholstering and other elaborate branches of the figure-weaving trade, for which very high wages were paid, were included.*

It is not easy to obtain exact statistics of the number of weavers and other operatives employed at the present time in the silk industry of East London; but a careful enquiry has resulted in the following figures:—There are now engaged in weaving silk on hand-loom 76 males and 54 females, in all 130. Of these, 16 work in factories, under factory conditions. Two factories employ six and two 2 hand-loom weavers. One hundred and fourteen silk weavers still continue to work, more or less, under the system already described as prevailing in Spitalfields for over a century and practically at the same rate of wages.† This would, of course, be impossible, were it not for the fact that, silk weaving being a home industry, at which both men and women can work and in which children can largely assist, the combined earnings of a family may average from 20s. to 25s. per week. This Employment Statistics

* See Note 1, in Appendix.

† See list of prices issued in 1821.

Employment Statistics. however depends on the class of work and if done for a manufacturer or a middleman.

A large proportion of the East London hand-loom weavers are elderly and old people, and, as there are practically no learners, when they die off, or become incapacitated for work, there will be none to take their places. The word "dispirited" used by Matthew Arnold in his *Sonnet on East London*, written in the mid-nineteenth century, is quite as applicable to the Spitalfields weaver to-day as it was then.

" 'Twas August and the fierce sun overhead
Smote on the squalid streets of Bethnal Green,
And the pale weaver, through his windows seen
In Spitalfields, looked thrice dispirited."

The 114 silk weavers, who work in their own homes, are employed by six City firms, who, for the most part, only manufacture a proportion of the goods in which they deal. Some have power looms in factories, one in Bethnal Green, and others more or less distant from London, but most of them buy, in the general market, finished goods either of British or foreign weaving, and merely take a profit for handling them in their course from the manufacturer to the consumer.

Silk Weaving in London. The following table shows the number of operatives employed in the different branches of silk weaving in East London :—

TABLE I.

MALES.			FEMALES.			TOTAL.
Plain Harness	Fancy Harness	Figured Jacquard	Plain Harness	Fancy Harness	Figured Jacquard	
7	6	64	2	3	48	130

Of the 112 weavers employed, as shown above, in figure weaving, very few now make furniture silks, which is the best paid branch of the trade. A good furniture silk-weaver, employed in regular work in a well-organised factory, can earn as much as the best paid skilled

mechanics in other trades. Most of the East London Silk figure weavers, however, now weave handkerchiefs, tie silks, scarves and wraps of rich quality which sell for a high price when retailed as Spitalfields silk, but their earnings are small owing to the frequent delays between orders which are common to this class of trade. Weaving in London.

Of the various trades depending on silk weaving, which used to be carried on and give occupation to great numbers of the inhabitants of the East of London, but very few are left. Their present number is shown by Table 2:—

TABLE II.

Winders in Factories.	Winders at Home.	Warpers in Factories.	Warpers at Home.	Cane Spreaders.	Harness makers and Enters.	Monture Builders.	Card Cutters and Draughtsmen.	Winding Machine and Shuttle Makers.	Skein Dyers.	Total.
32	5	11	4	1	8	2	2	1		66

So far consideration has only been given to the weaving of *broad silk*, as it is called, in order to distinguish it from the narrow webs used for dress and upholstery trimmings, etc., to which the French gave the general name of *passementerie*. In this narrow weaving, owing to the fact that a very large proportion of the trimmings made, especially in the upholstery branch of the trade, are for special purposes, and are usually ordered in short lengths, the hand-loom and the hand-winding wheels and appliances still hold their own against power-driven machinery. The making of laces, galloons, gimps, fringes, braids, etc., is, however, no longer a home industry, but is carried on in factories under ordinary factory conditions, notwithstanding that many of the looms in use are of exactly the same construction, and the weaving is identical with the looms and methods of the *passementerie* weavers of the eighteenth century. In some cases, indeed, the actual looms in use at that time are still at work. On these

The
Narrow
Branch
of Silk
Weaving.

Narrow
Silk
Weaving
in
London.

ingenious structures of string and wood, the weaver himself ties up the design and weaves it without the use of the Jacquard or any other machine.

There is a characteristic difference, however, between the eighteenth century narrow weaving and that of the present time. This consists in the kind of materials used. In this respect, modern work compares unfavourably with that of former years; weavers now use all kinds of threads, cotton, jute, imitation silk and other materials, some of which by various processes, whilst new, appear even brighter and more attractive than genuine silk. Real silk, although still used for the best work, only forms a very small proportion of the material employed in the weaving of modern *passementerie*.

The narrow weaving industry, in its best branches, is almost peculiar to London. This is owing to the fact that the work is of a special character, so that the weaver needs to be in touch with the upholsterer who requires the product of his skill. It is true that there are factories in other parts of the country, for making narrow braids, cords, etc., but these seldom have occasion to use much silk. They only produce narrow webs by the mile, or hundreds of miles, and weave less expensive threads than silk for common coach and dress trimmings, lamp wicks, etc.

The factories for weaving both broad and narrow silk by power in other places will be described in their due order, but at present we are only dealing with London. Here there are four large, and a few small, factories where more or less silk is used, and where several hundreds of hands—mostly young girls—are employed in the work. The conditions of labour in these factories, which are, of course, under Government inspection, are about on a level with those of other trades where young people are employed, and where a certain amount of manual dexterity is required.

Number
of
Factories.

BOOK TWO.

CHAPTER XI.

THE COVENTRY RIBBON TRADE.

Coventry industry has up to the present date undergone so many metamorphoses that it may be rather expected to undergo others. Of its relations with watches, bicycles, motor-cars and aeroplanes, the writer is not now concerned, but the frequent references to Coventry and its ribbons in literature gives assurance that the association of the city with ribbon weaving will not readily be overlooked, be the further changes in the industrial progress of Coventry what they may.

While it is for ribbons that the Coventry trade was famous, it should be mentioned that before its manufacture of narrow goods the manufacturers of the city had won a reputation for the production of broad silks. These varieties were being manufactured in the year 1627, and upon a scale which warranted the Manorial Court by an Act of Leet to order the formation of the silk-weavers into a distinct company. The trade survived in this distinct form certainly until 1672, when an order was issued which may be read to denote some shortage of employment. The order forbade any silk-weaver, unless he had been a freeman of the Company for two years at least, to take a second apprentice until the first apprentice had served seven years. At a subsequent date, which cannot be fixed with accuracy, the silk-weavers appear to have united themselves to an older body, the worsted weavers. This association continued for a number of years, but in 1703 it was agreed that the silk workers should again form a distinct Company.

Broad
Silk
Manu-
facture
in
Coventry

In 1680, according to Alderman Hewitt, who was Mayor of the city in 1755, cloth was the principal production of Coventry. The cloth in question was, at all events, something other than silk, but was not necessarily made wholly of wool. The manufacture of mixed wool and cotton stuffs is an old one, and the local tammies (linings for women's dresses) were doubtless of this composition. In the Coronation procession of George III., the tammy-weavers took precedence even of the silk-weavers, an incident which suggests the relative importance of their trade at that date—1761.

Effect
of
French
Immigra-
tion.

The ribbon, or—as it used to be called—the riband, trade of Coventry did not emerge until after the revocation of the Edict of Nantes. French influences are to be traced in several directions, including the lineaments of the people. In bygone days a strong facial resemblance could be found in many silk-weaving families to the people of south-eastern France. The family names of the district are reminiscent of France; “Beaufoy,” or “Beaufoi,” for example, is common, and still commoner are Anglicised forms of French names. “Burgess,” “Weir,” “Cockerell,” “Higgins,” quoted by Smiles as instances of French family names in an English form are all found in Coventry. The immigrants in some cases boldly translated their names into the English equivalents: “L'Oiseau” becoming “Bird”; “le Jeune,” “Young”; “Leblanc,” “White”; “Lacroix,” “Cross”; “Leroy,” “King,” and so forth, and all these are familiar local names to this day. Going back to the early days of the French immigration, records show that sixteen years after the date of the Revocation occurs the name of the Mr. Bird, who manufactured ribbons in Coventry in 1701. In 1705 he finds his place among the list of Mayors, and *The Coventry Mercury*, of January 13th, 1756, stated:—“On Monday last died at his house in this city, Thomas Bird, Esquire, one of the most eminent silk manufacturers in England, in which branch of business he daily employed over two thousand workpeople.” It is safe to assume that this was the son of the Mayor; and probably the pioneer of the industry. Whether the first Mr. Bird was

French
descen-
dants in
Coventry.

a M. L'Oiseau, who had translated his name, it is impossible to decide, nor is it possible to tell the history of the trade through the eighteenth century with any high degree of accuracy. For seventy years after the introduction of the industry all ribbons were made, as many wider goods are woven to-day, in looms that only weave one breadth at a time. Here is the explanation of the statement that Mr. Bird employed 2,000 hands. These old looms still exist in considerable numbers, and although they become fewer year by year, there are still several hundreds in the villages to the north and north-east of this city. In 1861, when the census was taken, there were 2,469. As late as 1886 one Coventry firm employed between four and five hundred of these so-called "single-hand looms," though "single-space looms" would be a more exact description. Rudimentary in form and construction, they have considerable utility, as the weaver's whole attention is given to the manufacture of one article, and the weft can be manipulated with the fingers to any extent. In these looms bead work was largely made, as also were chenille fringes, both impracticable in the ordinary power-looms, or even in a hand-loom of more than one space, for the weft or shute requires placing or adjusting with the fingers every time the shuttle crosses. Forty years ago the whole of the so-called Petersham belt ribbons were made in these looms. The goods being woven with eight, ten or twelve ends of cotton, the shuttle in the large looms could not contain sufficient quantity of weft, and neither were the shuttle springs strong enough to pull it up into its place and make a good edge. These two difficulties have been overcome by looms specially constructed, but, although perfect goods are now made by power, they cannot surpass the article woven in a single hand-loom by a skilled hand. This branch of the business has always been managed through the instrumentality of the undertakers. The "undertaker" comes to the warehouse, receives instructions from the manufacturer, takes away the materials, agrees as to price—then winds, warps, prepares the loom, sees the pattern properly started,

Hand
loom
work
in
modern
era.

Hand
loom
work
in
modern
era.

collects the work, brings it in and draws the wages. His remuneration used always to be one-third of the price paid at the warehouse, and in view of the nature of his services being properly taken into account, the division was fair. As of late years much has been written in the Press respecting cottage industries, it may not be out of place to call attention to the value of the single hand-loom for employment of this character. The loom itself occupies but a very small space, scores of women can spare from two to four hours per day from their domestic work, and the employment can be discontinued or resumed without any detriment to the article produced. The work is cleanly and almost noiseless, it entails no physical stress upon the weaver, and a very sensible addition can be made to the weekly earnings of a cottage household by adopting this form of employment.

The hand-loom making more than one breadth were introduced about 1770, and were first called "Dutch Looms," but whether they came from Holland there is no evidence to show.

"Dutch engine loom" is the name given to them by Porter, who further describes them as "worked by the hands and with treadles for the feet, in the same way as a common loom; each warp occupies a separate shuttle, which, unless the weaver were furnished with as many arms as Briareus, cannot, it is evident, be passed from hand to hand. The apparatus for impelling the shuttle to and fro is, owing to a resemblance in its form to the implement, called a ladder. This ladder slides horizontally in a groove made in the batten; and the whole being put in motion by the reciprocating action of a handle situated near the middle of the lay-cap, each cross-bar of the ladder is made to strike in the manner of a driver alternately right and left, upon one of the two shuttles between which it is placed . . . With one of these looms a diligent workman may weave one yard in an hour of as many narrow ribbands as the loom is qualified to produce at the same time."

Hewitt has a few more lines in his journal concerning the trade. Following some interesting particulars



Plate XV.

Hand Loom in Workshop at Foleshill, Coventry.



relating to his first period of office as Mayor, he says :—
 “ At this time I gave out some ribbons to be made, and I also sent materials to undertakers, both in Congleton and Leek, to be made up into ribbons.” This would be in about 1760, or perhaps a little earlier. Enquiries made in Staffordshire have failed to elicit any information as to former industrial relations between Coventry and the towns named.

Before commencing the story of the development of the trade in the nineteenth century, a few general observations may be made. Firstly, the manufacture of ribbons has perhaps been more influenced by fashion than any other great industry. This arises as a natural consequence from the fact that the article is almost exclusively employed in articles of millinery, which are subject to greater variations in shape, material and ornament than any other portion of feminine attire. Fluctuations in demand were accordingly both frequent and considerable. When fashion was in its favour, consumption became very large, prices rose quickly, and money could be made easily. The converse of this was also true. No effort on the part of the manufacturer to produce cheaper goods, no skill in designing or colouring, could assist the sale of the article if the fiat of the fashionable world had gone forth that ribbons were not to be worn.

It was in its very essence a “switchback” trade—a ribbon could never be a necessity. In course of time, various substitutes have appeared competing for public favour, and as a consequence, the periods of alternate inflation and depression have become more and more pronounced. The question of tariffs has also largely influenced the industry. From 1765 to 1826 the importation of silk goods woven abroad was prohibited. In the history of the Birmingham hardware district, edited by Samuel Timmins, 1866, the writer says that “So long as French ribbons were admitted into this country, the Coventry manufacturers maintained a very high degree of excellence. From 1765, when the importation of French ribbons and silk fabrics was again prohibited, a marked decadence is perceptible, both in quality and

Fashion
and the
Ribbon
Trade.

Foreign
Competi-
tion and
Home
Industry

Foreign taste ; and it was not till 1826, after which year foreign
 Competi- competition was again partially permitted, that the
 tion and Coventry fabrics regained their former standard.”

Home Little importance can, we think, be attached to this
 Industry. statement, and the writer gives no clue to his authority.

“ One of the most eminent manufacturers of that city ”
 is said, however, by Porter, to “ have declared that he
 should, at this day, blush for the work that even his best
 hands used to furnish ” in the times before the legalised
 importation of foreign manufactured silks. It is quite
 probable that the technical excellence improved under
 the spur of emulation and competition, and this manu-
 facturer was satisfied that by 1831 or earlier Coventry
 patterns and productions were fully equal to those of the
 foreign rivals, and “ qualified to come in successful com-
 petition with the most beautiful ribands wrought by the
 Lyonnaise weavers.”

Before the introduction of the Jacquard machine the
 limitations were so great that no great skill in designing
 could be shown, and patterns produced in Coventry
 thirty years before the withdrawal of prohibition, and
 still extant, exhibit very considerable ingenuity on the
 part of the weaver.

In 1801 the population of Coventry numbered 16,049
 inhabitants, residing in 2,930 houses. In the next decade
 the increase was barely 1,200, a slow growth not indicating
 prosperous commercial conditions. All the goods were
 still produced by hand-looms, which were also plain looms,
 in which any pattern, however simple, was made by an
 arrangement of the shafts and leases, which was
 technically called “ tying down.” The alteration of a
 loom took from four to six weeks, and in consequence
 the power of variation was confined within very narrow
 limits.

In 1801 Jacquard completed his great invention ; but
 Sir Thomas Wardle states that even in 1823 there were
 only five of these machines in Coventry. The number
 had increased to six hundred in 1832. By this beautiful
 machine every lease was lifted independently ; the
 question whether it should be raised or not was decided

Popula-
 tion
 in
 1801.

Jac-
quard's
Inven-
tion.

by a perforated card upon a four-sided wooden cylinder, and the whole of the preparatory process was undertaken by a draughtsman and his ally the card-stamper.

A bouquet of flowers could now be woven with far less expenditure of time than a simple geometrical figure could be "tied down" in the plain loom. Mr. Timmins' remarks, quoted above, as to the influence of the tariff, may explain in part the apathy of the manufacturers in availing themselves of the invention, but it is only fair to add that the machine was useless until a foreign draughtsman could be obtained, or a native instructed in this preliminary art. During the years 1813 to 1815, the trade experienced one of those fortunate periods which recurred from time to time. It was known as "the big purl time," and was still often referred to in the boyhood of the writer. A purl is simply a loop formed on the edge of the ribbon by the weft passing round horse-hairs or cottons outside or beyond the natural edge. The *Coventry Mercury* says that the fashion lasted from February, 1813, to the autumn of 1815. Manufacturers could, during this period, obtain almost any price that they chose to ask for their goods, and, as they competed against each other for the available labour, wages rose to an extraordinary level. The prosperity of the silk-weavers was great and, according to a story current half a century ago, the weavers advertised for fifty poor watch-makers to come and shell peas for them on Saturday night.

The story of the trade in the ensuing thirty years makes a somewhat melancholy history. It was a time of strikes and troubles, of attempts to introduce uniform lists of weaving prices, and of efforts to repair the dissatisfaction that these measures caused. One list, the first of its kind, was made in February, 1813, and it was succeeded by various amended lists, the last one to be published being that of 1859, carrying 82 signatures. The lists, it is clear, served no useful purpose. The simple fact is, that the variations in the article are so numerous and diverse that a list is of no value. The quality of the silk employed may increase or diminish a weaver's power of production from

33 to 50 *per cent.* Every price should have been settled by discussion between manufacturer and weaver, and this was the arrangement eventually adopted. Following infractions of lists or disputes about wages, there were strikes in 1822, 1831, 1834 and 1835. The first strike recorded was in 1819, and was occasioned by the employment of a woman upon a hand-loom, it having been the trade custom for women to work only upon "single" hand-loom.

It is pertinent to point out that the industrial miseries of this period were by no means confined to Coventry or to the trade in silk. The reversion from a long war to a state of peace and the badness of harvests conspired to aggravate the lot of working people in all parts of the country. The contemporary investigations by Parliament show that the expansions of trade did not provide for all who needed work during the seasons in which consumption of silk was increasing. When full of work the weavers were embarrassed by want of money, and under the necessity of working exorbitantly long hours in order to keep body and soul together. This condition, general throughout the country, was accentuated in the silk ribbon trade by the adversities peculiar to itself. Coventry trade was dependent upon the home market, and followed its ups and downs, lacking alternative branches of trade to which to turn in periods of short demand.

Coventry
and pro-
hibition
policy.

In the years intervening between 1823 and 1827, the industry went through a troublous period, in many ways analogous to that experienced in later times. In 1824 it became known in the City that Government intended to remove the prohibition excluding foreign silk goods of all kinds from the English market. During this and the following year there was a constant succession of appeals, memorials and petitions addressed to the House of Commons or to Government Departments. Mr. Ellice, and later Mr. Fyler, the Members for the City, came before the House on several occasions to advocate the claims of their constituents for consideration. A public meeting of the manufacturers drew up a memorial to the Board of Trade, asking that entire prohibition should be continued.

The memorial stated that there were 9,700 looms employed in Coventry, of which 7,500 were the property of the weavers. The prayer of the memorialists was refused. Coventry and prohibition policy.

In 1826 the distress appears to have become so severe that in May the Mayor convened a meeting to consider means of relief. At this meeting Alderman Whitwell stated that "the scenes of distress which he had witnessed were really appalling and almost beyond conception." The result of the meeting was the opening of a subscription, the Corporation heading the list with fifty guineas, while Mr. Ellice, the Member, subscribed one hundred guineas. In 1828 a petition carrying five thousand signatures was presented to the House of Commons, asking the House for the repeal of the Act passed in the last Session of Parliament, forbidding candidates to give ribbons to their friends at elections. Mr. Fyler, who presented it, only had the support of nine members in a House of a hundred. In 1828, one of the petitions to the House assumed a singular form. The weavers at a large meeting unanimously agreed to ask the House of Commons to pass what they called a "Wages Protection Bill." This measure was to make a scale of prices agreed upon by weavers and manufacturers legally binding upon all employers. The constant stream of appeals and petitions seem to have reached a climax in 1829, when a deputation which waited upon the Board of Trade was plainly told that it was not the intention of the Government to receive any more communications on the subject of the silk trade.

It may be interesting here to quote from some of these petitions a few particulars as to the number of persons employed in the industry. For instance, in 1826, the number of manufacturers in the City is given as 120, finding employment for 20,000 people, and this figure is to a certain extent confirmed by a directory for 1822, in the possession of Mr. Andrews, which gives the number of manufacturers as 95. Statistics of Employment.

Assuming these statements to be correct, it is manifest that men with a comparatively small number of looms supplied goods directly to the trade. And that this was

Statistics of Employment.

the case is known from records of manufacturers who were living in the middle of the last century. The writer was personally acquainted with a manufacturer of this type who, having two large shops containing some ten or twelve looms, employed no assistants in the warehouse except his own family, and saved eventually a very considerable fortune. It is worthy of remark in connection with these statements that the trade was carried on principally with shops, the exclusively wholesale houses not then having been established.

From the outcry that the proposal of the Government had raised, it might be assumed that they were going to ante-date the removal of Protection altogether. Such, however, was far from being the case, as a very considerable duty was still levied on all silk goods made abroad. It is almost impossible to state with accuracy what the percentage of the duties levied on the value of the goods amounted to, as the import duty was charged on the weight. After the admission of the goods in 1826 figured satin ribbons were rated at eighteen shillings per pound, and four years later this was reduced to fifteen shillings. This would seem to be a very adequate protection, because, assuming the weight of a piece of ribbon three inches wide at about eight ounces, even reckoned on the lower scale, this would yield a tax of 7s. 6d. per piece of 36 yards, or 2½d. per yard in addition to freight.

The actual amount of the duty abolished in 1860 remains nebulous for the same reasons. Mr. Alderman Andrews, a good authority, says that it was believed at the time to have amounted to 15 per cent, but it will be evident from the method of collection that an absolutely precise estimate is impossible.

Discontent among the Weavers.

During the whole of the period briefly reviewed, there was continued uneasiness and discontent among weavers. This led several times to outbreaks very nearly approaching riot, but the magistrates of the day behaved with commendable tact and vigour, and no great harm resulted.

The year 1831 marked the first appearance of steam power in the trade, and its introduction was attended by circum-

stances which had, for some concerned, consequences almost tragic. Mr. Josiah Beck was a competent manufacturer, and the inventor of what was known as the "peg batten," a method of driving the shuttles by upright iron pegs, which was in almost universal use until it was superseded by the rack and pinion brought from the Continent. Advent of power looms.

Mr. Beck erected a factory in New Buildings, filled it with looms, and put down an engine to drive them. On November 7th, after an earlier meeting in the morning, the weavers, at about three o'clock in the afternoon, rushed down to the new factory, forced their way in, brutally treated Beck, cut out the warps, threw the silk into the river, commenced at once to demolish the machinery, and ended by setting fire to the building. In those days, in an emergency like this, the authorities were rather helpless; there was no police force and no effective means of extinguishing fire. St. Michael's parish had an old hand-engine, which was sent, but though it arrived in the afternoon, the report states that it was not put to work till about eight o'clock, after the roof had fallen in: it seems to have been used principally to cool the embers. Luckily there were detachments of two light cavalry regiments in the city, and they quickly made their appearance and cowed the rioters.

A guard was mounted at the Gas Works, and the streets patrolled most of the night. The mob appears to have met with no sympathy from the citizens generally, as we are told that when a detachment of the cavalry appeared to protect the premises of another manufacturer, believed to be obnoxious, they were loudly cheered. The crier was sent out asking citizens to present themselves to be sworn as special constables, and the magistrates were busy till eleven o'clock at night administering the oath to the stream of volunteers. No one appears to have been arrested on that day, but eventually some five or six ringleaders were tried, three of whom were convicted and sentenced to death, a sentence commuted at the solicitation of Mr. Ellice, the Member, to transportation for life. The destruction of Beck's factory had serious consequences for the trade. Mr. Timmins says that it Hostile attitude of Workers.

Hostile
attitude
of
workers.

put back the employment of power in Coventry for five years. In 1832, and again in 1838, it was confidently asserted that steam power could never be economically applied to the manufacture of good ribbons, and it was not until Coventry felt the competition of Congleton, Leek and Derby, where steam power had been employed, that the manufacturers began to use it generally.

Commencing from the date 1838, Coventry may be said to have followed a normal course for the next twenty years, and the city was well established as the "Ribbon Market" of England. The towns to the north-east, already mentioned, could never claim such a position. Many minor improvements in looms were introduced, and not only were factories built and equipped, but the looms were continually being increased in size, so that sixteen, eighteen and even twenty ribbons of the width known as "24 dy" (about $2\frac{1}{2}$ inches) were made at once. In private houses, where the machinery generally belonged to the weavers, steam was applied by placing an engine in the rear of houses built in rows or blocks. The charge for power was collected weekly with the rent; at one time the rate was as low as two and sixpence per loom per week, but after considerable advances in the price of fuel this was increased to three and sixpence and sometimes four shillings per week.

High
water
mark of
pros-
perity.

It is difficult to ascertain the actual return in the most prosperous years of the industry; it certainly exceeded one million, and probably reached nearly two million pounds. It is known that in one year a single manufacturer delivered to a London wholesale house a hundred thousand pounds' worth of plain ribbons, and there were at least five or six other firms whose productions would reach similar figures. The years of the Russian War (1854—1856) were times of prosperity. A check was experienced in the Autumn of 1857 due to a financial panic following grave American losses, but this passed away in the following Spring, and up to the close of 1859 no commercial cloud darkened the prospects of the trade. This year may be regarded as the culminating point in the industry, and the population of the city, which

numbered 47,000 in 1851, must have risen to at least 50,000 in 1859. High water mark of prosperity.

The news that a commercial treaty with France was in course of preparation broke somewhat abruptly on the world early in 1860. When its provisions became fully known, the announcement that all manufactured silk goods were to come into England duty free created something like a panic in this neighbourhood. Appeals for reconsideration, and for delay, were of no avail, and in the course of a few months the Treaty was signed.

Taking a calm retrospect of the measure, and its various consequences, it may be urged with justice that Coventry was treated with a lack of consideration which was most unstatesmanlike. This statement is based on a knowledge of the system on which the trade was worked, and of the losses which the sudden announcement of the free entry of foreign goods caused the manufacturers. Before the passing of the Treaty, the trade was to a great extent speculative. Goods were very largely prepared in anticipation of customers' wants, and a rough census taken at the time showed that something like £1,000,000 worth of ribbons was ready for the Spring trade. With the prospect of foreign ribbons entering untaxed, no buyer would operate freely, small purchases only were made to cover immediate needs, and a few weeks' delay in selling articles for fashionable wear may mean goods reduced to half their price. If the wider interests of the nation demanded that the silk trade should be sacrificed, common justice should have delayed the free entry until the commencement of the Autumn season, say October the 1st. A motion to this effect was made by one of the Members for the county in the House of Commons, but was defeated. Only the houses with considerable capital could stand the losses that ensued. Stock after stock was tendered, failure after failure announced, until thirty to forty firms had succumbed in the terrible depression that followed. There is no evidence that the French statesmen would have made the immediate admission of their goods a *sine qua non*, and failing that condition, the course taken by the Government appears indefensible. Effects of the French Treaty.

Coventry manufacturers, by subscribing to a Paris firm, obtained packets of French patterns several times yearly. The cuttings showed evidences of design, colouring and production beyond the power of the Coventry manufacturer to achieve, and the fear was that the goods finding their way to the market at a reduction of 15 per cent must monopolise the trade. This was an erroneous inference resulting from a too limited view of the circumstances, and showed that the home manufacturers had not yet realised the real source of their coming danger. It must be considered unfortunate that their inability to compete with their foreign rivals was so loudly proclaimed. The Silk Manufacturers' Association held frequent meetings in the Spring of 1860, and it was eventually decided to send a deputation to the Continent to visit the leading centres of the silk manufacture and to report upon machinery and methods.

Superiority of Continental Industry.

Members of this deputation were furnished with introductions, both official and personal, and from their own account their reception everywhere was cordial in the extreme. Journeying first to Paris, they had an interview with Mr. Cobden, the leading negotiator of the Treaty. Reading the report after the lapse of half a century, one cannot fail to be struck with their account of what took place. Not a word appears respecting the continuance of any duty on French silks exported to England, but there was insistence on the injustice of the imposition of any tax on their own goods sent to France. Mr. Cobden is reported to have said that "He quite fell in with our views and thought the visit a wise and proper one, as it would enable us to speak from facts and observation, and when the settlement of the silk duties came before the French Government, we should be able to show the many advantages which France possesses, and the impolicy of retaining any portion of the duty unless they are prepared to declare themselves to the world as being worse manufacturers than we are, to the extent of the duty they are determined to impose." French manufacturers might well have permitted the duty to lapse, but they could not be led to agree to this. Considered in conjunction with the English fear of foreign

competition at home, the urgent demand of the deputation for remission is so incongruous that it is not devoid of humour.

St. Etienne, St. Chamond, Lyons, Zurich, Basel were visited in turn, and methods, machinery, wages, hours of labour carefully noted and described.

The summary of the report shows that in system, machinery, trained labour, the Continental industry was far in advance of anything existing in England, and the competition which had to be faced on equal terms was really formidable.

Soon after the passing of the Treaty, or even before it was an accomplished fact, disputes between the manufacturers and their workmen commenced. There were constant complaints of infractions of the list. As early as March, 1860, meetings were held to discuss these complaints, and after several abortive attempts to effect a settlement, the masters threw down the gauntlet by issuing an address signed by forty-four firms, of which the following is an extract:—"In consequence of the recent remission of the duties on foreign ribbons, and the altered position of the trade from this and other causes, we find it is no longer possible to maintain the lists of prices to which our names are attached, and we hereby withdraw our names from those lists." On the following Monday morning, July 9th, 1860, a large body of weavers met on Greyfriars Green and passed a resolution requesting the manufacturers to consider a revision of the list; in case of refusal the meeting pledged itself to strike.

The masters refused to consider the question of revision, and on Tuesday, July 17th, the strike commenced. It was to continue until the masters should sign a uniform list for both the factory and out-door trade, but from the first the men were beaten. The time was most inopportune, and a large number of the manufacturers were determined to be relieved altogether of the incubus of a list. As already pointed out, the articles woven had so many and such minute variations that uniformity in the price for weaving was well-nigh impossible.

Superiority of Continental Industry.

Trade disputes and a strike.

Trade
disputes
and a
strike.

most serious consequence that ensued from the strike was not felt till some years had passed.

It has been pointed out that Coventry in 1860 did not recognise where her real danger lay. Those leading the industry failed to show that it was the plain ribbon that must always be the backbone of the trade. It is true that St. Etienne was at the forefront of the figured and fancy department (though to-day Basel is sharply disputing this), but the fancy trade is casual and ephemeral; a good demand for one year and stagnation for three describes the situation in a single phrase, while, if ribbons are fashionable, plain satins or taffetas or gros-grains often sell well for five or six seasons in succession. In the plain article the competition with St. Etienne has never been acute, as the French goods are mostly of the better class, and below a certain price Paris provides herself from Basel. Before the year of the strike the Swiss ribbons were for the most part light, flimsy, gauze textures, that had a place in the market but did not seriously compete for the great middle-class English trade. During the delay caused by the strike, cuttings of Coventry productions were sent to Basel for quotation; sample orders were placed, and a start made in a competition that destroyed the trade in England. The strike lasted until the end of August and during the time it continued £3,460 was withdrawn from Savings' banks. It was settled by a resolution appointing a committee of arbitration composed of employers and weavers, to whom any offer of employment was to be submitted and without whose approval the work was not to be accepted. Not only was the so-called settlement clumsy and unworkable, but there is no evidence that the manufacturers ever consented to take a share in the decisions. It may truly be described as still-born.

A futile
settle-
ment.

For the next three troublous years a few lines must suffice. They were periods of sadness, depression and gloom, attended by the ruin of manufacturers, the breaking up of homes, the expatriation of workmen, and the sale of thousands of looms for less than the cost of the wood and iron used in their construction.

The population, which was 47,000 in 1851, would at the normal rate of increase have reached 52,000 in 1861 ; it had decreased to 41,638. The depression was greatly increased by the trouble in America, which first diminished the power of the United States as a large purchaser, and then caused her to raise her duties on imports to the point of prohibition. This again injured the English trade indirectly, throwing upon this market a heavier weight of Continental competition from manufacturers deprived of American export trade. As early as April, 1861, relief committees were formed, and in the autumn a national subscription was opened ; people were assisted both to emigrate and immigrate ; and the sufferings of destitution relieved as far as possible.

Enterprise in the shape of new industries was also abundantly shown. The weaving of elastic webbing, the manufacture of woollen materials, the building of a mill for spinning and weaving cotton, the manufacture of cotton frillings, the weaving of ornamental book-markers, portraits, etc., all took their rise at this time, and last and greatest, a small factory was started to construct sewing machines, which proved the commencement of the very considerable cycle and motor-car industry of to-day.

The older trade was, however, by no means yet dead. Towards 1863 Coventry settled down to the new conditions, and from that time forward the business again increased.

One important determination was rigidly adhered to by all manufacturers, and that was that no coloured goods should be made without a definite order and sufficient time for delivery.

Coventry had still circumstances in its favour that secured the old industry for a time from a complete collapse. Perhaps the most important was that five leading wholesale houses still maintained a "Coventry Ribbon Department," with a buyer and a complete staff, and these departments had to justify their existence solely by the sale of Coventry goods, as side by side with them was a foreign ribbon buyer, prepared to contest

A futile
settle-
ment.

Estab-
lishment
of New
Indus-
tries.

Establishment of New Industries.

their right to purchase anything abroad. This assured to the city five large and regular customers.

Again, the city had a great advantage in her power of quicker delivery. This arose partly from the system. The Swiss method of thoroughly cleansing the silk, tying out all defective threads, getting rid of knots, etc., takes some days longer than the old Coventry plan. This fact, added to a shorter time required for transit, and the power to send small quantities urgently wanted, every few days, was, in the case of a fashionable article, a very great help to business. Every season, the purchasers from abroad (allusion is made to the houses with single departments) found themselves short of some colour, and very frequently of some particular design, and they hastened to avail themselves of the home production to supply immediate needs.

One old Coventry plain ribbon had a long life, and for some reason was never seriously interfered with abroad. This was the "Coventry Souple Oriental." For years every house made a staple of this, and a large and regular trade was carried on. It gave way at last, and was superseded by a brighter article, and although never attaining to its old dimensions, the business again flourished, and gradually increased, until, from 1865 to 1874, a very considerable turnover was effected, a good deal of money saved, and several large fortunes made.

The hold on home trade.

This period includes that of the Franco-German War, and Coventry shared to the full the general prosperity of the country.

In 1872—1875 watered goods were in demand, and this proved a very useful freak of fashion, clearing out a large quantity of stock in the hands of the dealers, and making room for newer goods.

The year 1876 provided an opportunity of earning a little money in fancy ribbons. For some years after there was no special demand to chronicle; manufacturers probably held their own, but fashion provided no chances of increased trade. In 1884 a Technical School was started with a well equipped textile department, which is still providing instruction for those desirous of competent

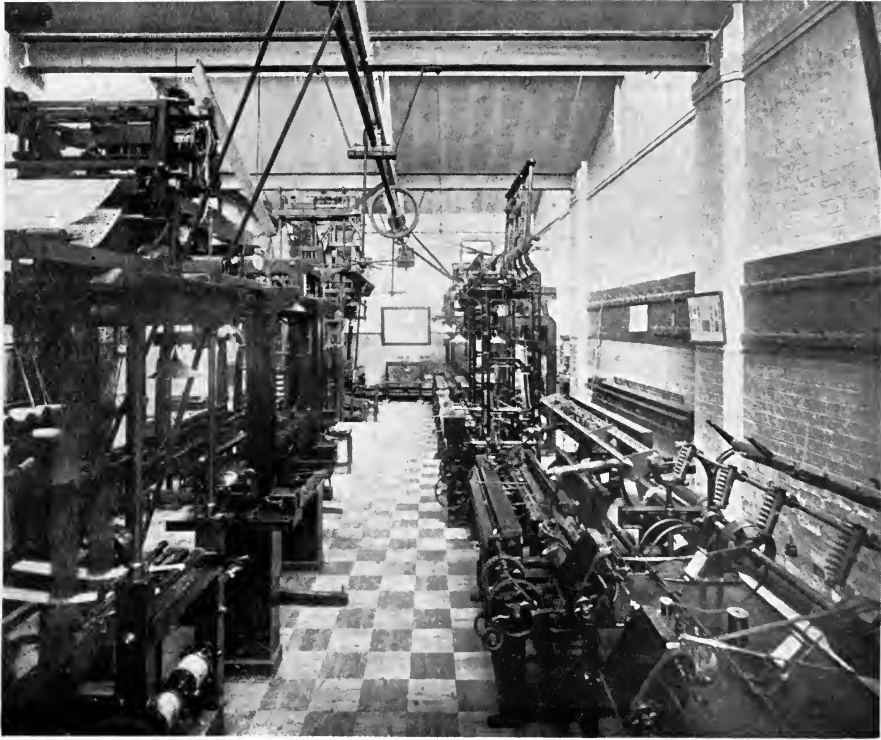


Plate XVI. Weaving Room at the Coventry Technical School.

training in the industry. The last really good spell of business was from 1886 to the autumn of 1889, the latter being a specially good and profitable season. Meantime, in the period from 1880 to 1890 the Coventry Ribbon Departments had one by one been given up, the last, that of the Fore Street Company, disappearing in 1890. From 1890 onwards the trade every year showed signs of decay; there were a few months of good business in 1892 and 1895, and a short demand for fancy ribbons in 1896. The hopes held out of business in the Jubilee year of 1897 proved a delusion, and by 1903 every manufacturer remaining had sought some other means of employment for his capital and his industry: the ribbon trade was dead.

It might lead to erroneous impressions if this record failed to add that the Coventry textile trade generally must not be confounded with the special branch for ribbons. The former is still a considerable industry, looms can be counted by hundreds, and many woven articles of utility are produced in Coventry. Coventry frillings, Navy hat ribbons, Masonic ribbons, woven labels of many kinds, elastic webs, and brace webs are still made, and there is no probability of any decrease in the demand for these articles.

Coventry does not however now make millinery ribbons properly so-called, and it is the production of these goods that has always been understood as a "ribbon trade." Competition was intensified by the successful introduction of weighting coloured silk. This process, discovered some ten or fifteen years ago, has been exclusively used abroad, and now the prices at which ribbons are sold reveal the presence of a considerable quantity of material other than silk. The ribbon loses nothing in lustre, and durability is not demanded.

In concluding this chapter, the writer would like to record his opinion of the Coventry weavers as he knew them personally for many years. Alderman John Gulson truly said: "The old Coventry weaver was a gentleman," and there was no exaggeration in the statement. Not one of these men would come to the warehouse without

Refining
influence
of
artistic
employ-
ment.

having first washed, shaved and donned his black Sunday coat. Nearly all wore the tall silk hat, often somewhat threadbare, but always neatly brushed. They were all small capitalists; two or three large power-looms well mounted (often four or five) were to be found in their shops, representing an average value of eighty pounds each. Steam power having in many cases been withdrawn as unremunerative, some of them towards the close of the century possessed their own gas engines. When properly treated, they were courteous and respectful, civil and obliging; in short, excellent types of the class of workman that a thriving silk industry tends to draw towards itself.

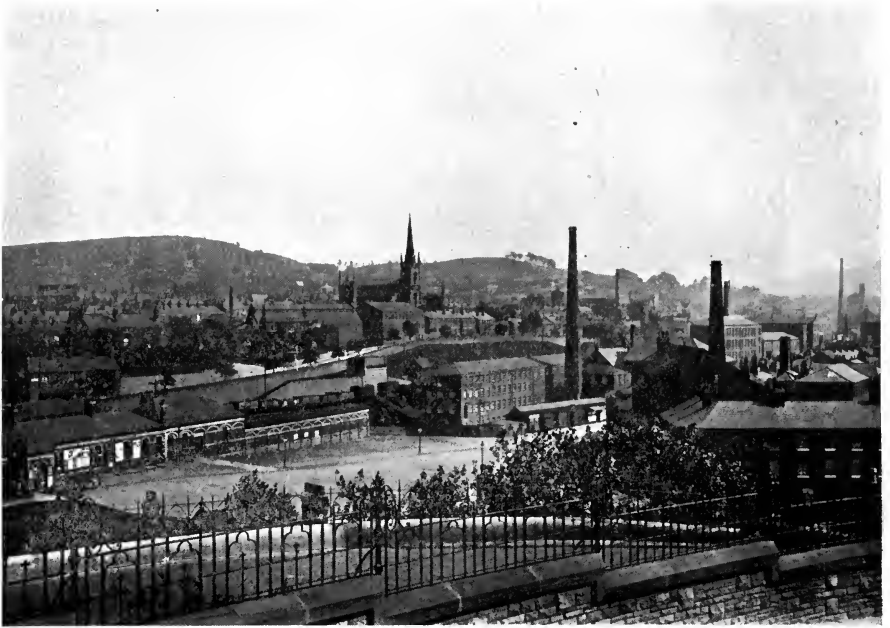


Plate XVII.

A View of Macclesfield.

CHAPTER XII.

MACCLESFIELD.

Macclesfield, the town that has the best claim to be regarded as the present headquarters of the British silk industry, was called by a topographer of the mid-sixteenth century "one of the fairest towns in Cheshire" and its surroundings are still beautiful. In his *Vale Royall of England* the Herald, William Smith, said: "It standeth upon the edge of Macclesfield forest, upon a high bank, at the foot whereof runneth a small river, named Bollin." Its associations with the manufacturing industry date from 1756, the year in which its first silk-throwing mill was started, but before that date the town had an intimate connection with silk. The epitaph upon the founder of the first mill sets forth that he had previously carried on the button* and twist manufacture in the town, and accounts agree that the making of fancy buttons was the staple occupation of the inhabitants in times earlier than the mid-eighteenth century.

Capital of
British
Silk
Trade.

The old
Button
Trade.

Dr. Aikin, in *A Description of the Country from Thirty*

* A will dated 1573, in which the testator leaves "unto Strowde my frize jerkin with sylke buttons," and unto Symonde Bisshoppe, the smyth, my other frize jerkin with stone buttons," is cited by Beck in *The Draper's Dictionary*. The same work quotes an inventory of equal period in which there are detailed:

		s.	d.
V grosse of sylke buttons	8	3	
iiij sylke buttons	0	20	
iiij grosse of sylke buttons	5	8	
Quick sylver and brase buttons	0	6	
iiij grosse of sylke buttons	4	6	
half grosse of glasse buttons	0	7	

Silk buttons, it will seem, were not expensive articles. Some light may be thrown upon the nature of the "stone" or "glass" buttons by a quotation from Ephraim Chamber's *Cyclopædia*. It is there said that the name Button-stone was given "to a peculiar species of slate found in the marquisate of Bareith in a mountain called Fichtelberg; which is extremely different from the common sorts of slate, in that it runs with great ease into glass or other foreign substance, to promote its vitrification as other stones require The Swedes and Germans make buttons of the glass produced from it, which is very black and shining."

The old
Button
Trade.

to *Forty Miles around Manchester*, published in 1795, gave clear evidence upon the point, writing :

“ With respect to the trade of Macclesfield, that of wrought buttons in silk, mohair and twist is properly its staple. The history of this button trade affords some curious particulars. The use of them may be traced 150 years backwards ; and they were once curiously wrought with the needle, making a great figure in full-trimmed suits. Macclesfield was always considered as the centre of this trade, and mills were erected long ago both there and at Stockport for winding silk, and making twist for buttons and trimming suitable to them.”

Silk buttons were said still to be a considerable article of trade in 1795 and they had been in use for at least two centuries.

Their importation had been prohibited in 1662, under Charles II, in an Act that aimed also at “ Forreigne Bonelace, Bandstrings, Needle-worke, Cut-worke, Fringe Silke and Imbroiderie.” The effect was apparently to stimulate trade in buttons covered with hair, for the preamble of an Act of 1692 said that since (1662) “ Hair Buttons are chiefly used and worn.” As the “ Button Makers of England do make better Haire Buttons then any are imported and are able to supply greater quantities of them then they can make use,” it was enacted that hair buttons should be placed under the same ban as those trimmed with silk. Further details as to the nature of these articles and the origin of the materials used in manufacturing them are contained in an Act of 1709 :

The
Act of
1709.

An Act for employing the Manufacturers by encouraging the Consumption of Raw Silk and Mohair Yarn.

Whereas the Maintenance and Subsistence of many Thousands of Men, Women and Children within this Kingdom depends upon the making of Silk Mohair Gimp and Thread Buttons and Button-holes with the Needle and great Numbers of

Throwsters, Twisters, Spinners, Winders, Dyers and others are employed in preparing the Materials. . . . The Act of 1709.

And whereas the Silk and Mohair is purchased in Turkey and other Foreign Parts in Exchange for the Woollen Manufacture of Great Britain an Act was made in the Tenth Year of the Reign of His late Majesty King William the Third (of glorious Memory), intituled an Act to making or selling Buttons made of Cloth Serge Drugget or other Stuffs . . . but that the intended encouragement by the said Act has in a great measure been rendered ineffectual by a late and unforeseen Practice of making and binding of Button-holes with Cloth Serge Drugget or other Stuffs to the great Discouragement of and Abatement in the consumption of Raw Silk and Mohair Yarn and the utter ruin of numerous Families. Be it enacted that no Taylor and other Person whatsoever . . . shall make, sell, set on use or bind . . . on any Clothes or Wearing Garment, any Button or Button-holes made of or used or bound with Serge Drugget, Frize Camblet or any other Stuff of which clothes are usually made upon Forfeiture of the Sum of Five Pounds for every Dozen of such Buttons and Button-holes.

Aikin refers with some indignation to attempts made as late as 1779 to apply the restriction upon buttons with rigour. He says: "Hired informers were engaged in London and the country—an odious and very uncommercial mode of enforcing a manufacture! The result of which was rather to promote the use of metal and horn buttons."

The buttons made in Macclesfield and district were distributed to the public by pedlars, who have always found small articles of decoration and utility convenient objects for their purposes. One band of these pedlars, known far and wide as "The Flashmen," may be supposed at least to have contributed towards the significance that the slang word "flash" has acquired. According to Aikin: Pedlar Button Sellers.

Pedlar
Button
Sellers.

“ In the wild country between Buxton, Leek and Macclesfield, called the Flash, from a chapel of that name, lived a set of pedestrian chapmen, who hawked about these buttons, together with ribands and ferreting made at Leek, and handkerchiefs with small wares from Manchester. These pedlars were known on the roads which they travelled by the appellation of Flashmen, and frequented farm-houses and fairs, using a sort of slang or canting dialect.”

The gang “ paid ready money for their goods, till they acquired credit, which they were sure to extend until no more was to be had ; when they dropped their connections without paying, and formed new ones.”

The same kind of thing is recorded of the pedlar gangs inhabiting the wilder parts of West Yorkshire. The strength of the law asserted itself over them at last, although :

“ They long went on thus, enclosing the common where they dwelt for a trifling payment, and building cottages, till they began to have farms, which they improved from the gains of their credit, without troubling themselves about payment, since no bailiff for a long time attempted to serve a writ there. At length, a resolute officer, a native of the district, ventured to arrest several of them ; whence their credit being blown up, they changed the wandering life of pedlars for the settled care of their farms. But as these were held by no leases, they were left at the mercy of the lords of the soil, the Harpen family, who made them pay for their impositions on others.”

There was still another group with a significant name, of whom Aikin writes :

Famous
Gangs.

“ Another set of pedestrians from the country, whose buttons were formerly made, was called the Broken-cross Gang, from a place of that name between Macclesfield and Congleton. These associated with the Flashmen at fairs, playing with thimbles and buttons, like jugglers with cups

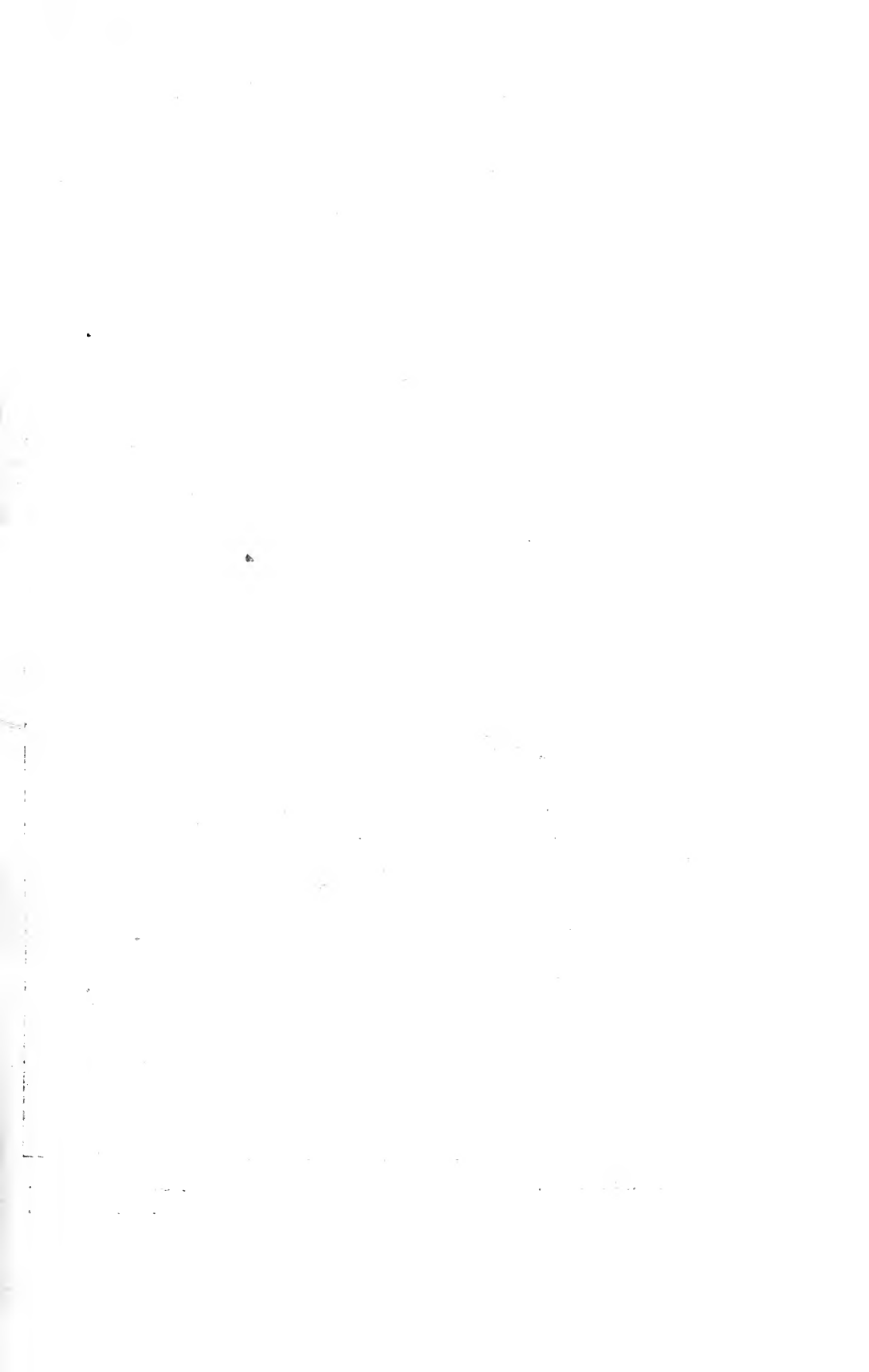




Plate XVIII. Memorial to Charles Roe in Christ Church, Macclesfield.

and balls, and enticing people to lose their money by gambling. They at length took to the kindred trades of robbing and picking pockets, till at length the gang was broken up by the hands of Justice." Famous Gangs.

Charles Roe, the founder of the silk-throwing industry in Macclesfield, is said to have been a native of Derby, and as he was born in 1717, the example of the famous Lombe must have been prominently before his eyes. It is to be judged from the inscription to his memory in Christ Church, Macclesfield, that his button-making business (said to have been started in 1740) prospered, for Roe was Mayor of the town in 1747-8. The throwing-mill erected on Park Green achieved sufficient success to prompt competitors to follow Roe's example, and in a short while the town had a dozen such mills. The circumstances all mark out Roe as a man of exceptional energy and ambition. The opening of the mill could have been no inconsiderable venture, but two years after its opening the founder embarked upon a further enterprise. He had partners in the silk business, and traded as Roe, Robinson and Stafford, and in 1758 he induced partners to join him in exploiting an Anglesey copper mine.

The machinery at Park Green was copied from that of Lombe at Derby, like the machines in other mills erected after the expiry of Lombe's patent in 1732. The copying was a somewhat simple task because it had been made a condition of the Parliamentary grant to Sir Thomas Lombe that he should place a model of his machine upon public exhibition.

Roe was 67 at the time of his death in 1784, and his survivors erected in the church that he had founded a bust over the altar and an inscription, headed by a figure of Genius, holding in one hand a cog-wheel. Of this inscription a copy follows :

“Whoever thou art,
whom a curiosity to search into the monuments of the dead,
or an ambition to emulate their living virtues,
has brought hither,
receive the gratification of either object, in the example of
Charles Roe, Esq.

The
Founda-
tion of
the Silk-
throwing
Industry.

The
work of
Charles
Roe.

“A gentleman who, with a slender portion on his entrance into business, carried on the button and twist manufacture in this town with the most active industry, ingenuity and integrity; and by an happy versatility of genius, at different periods of his life, first established here, and made instrumental to the acquisition of an ample fortune, the silk and copper manufactories, by which many thousands of families have been since supported. The obstacles which envy and malevolence threw in his way retarded not his progress; enterprizing, emulous and indefatigable, difficulties to others were incitements to action in him. His mind was vast and comprehensive, formed for great undertakings, and equal to their accomplishment. By an intuitive kind of knowledge, he acquired an intimate acquaintance with the mineral strata of the earth; and was esteemed by competent judges greatly to excel in the art of mining. In that line his concerns were extensive; and the land-owners, as well as proprietors of the valuable mine in the Isle of Anglesea, are indebted to him for the discovery.

“It pleased the Almighty to bless his various labours and benevolent designs. His grateful heart delighted to acknowledge the mercies he received. God was in all his thoughts. And actuated by the purest sentiments of genuine devotion, which burnt steadily through his life, and the brighter as he approached the Fountain of Light, he dedicated to the service of his Maker a part of that increase His bounty had bestowed, erecting and endowing, at his sole expence, the elegant structure which incloses this monument; and which, it is remarkable, was built from the surface of the ground, and completely finished, both inside and out, in so short a space of time as seven months.

“Reader, when thou hast performed the duties which brought thee hither, think on the founder of this beautiful edifice, and aspire after the virtues which enabled him to raise it.

A
remark-
able
Epitaph.

“He died on May 3rd, 1784, aged 67 years, leaving a widow and ten children (who have erected this monument as a tribute to conjugal and filial affection) poignantly to

lament a most indulgent husband and tender father and a general loss."

The Macclesfield weaving trade is dated by Mr. Helsby, in a footnote to Ormerod's *History of Cheshire*, from about 1790, so that for more than thirty years Macclesfield throwsters were preparing yarn for outside consumption. Their main outlet is said to have been the London market, where their silk was bought for the supply of Spitalfields. Their twists and sewing silks were sold to mercers and woollen drapers; Manchester became an important market for weaving yarns later, and in 1834-35 (*vide Manchester*, p. 158) Manchester looms consumed some 8,000lbs. a week of Macclesfield thrown silk.

The Silk-weaving Trade.

In 1785 a cotton-spinning mill was opened on Water Green, and derived its power from the Bollin, but cotton proved less attractive locally than silk. There are cotton mills at points outside the town, but there remains only one within Macclesfield to-day. The instance is perhaps the single one in this country in which silk has not fared the worse in a contest with cotton. Silk-weaving prospered until the external competition of the distressed hand-loom weavers of Lancashire became pressing, and in 1815 the relatively highly-paid Macclesfield weavers had to submit to a reduction in wages of 25 per cent. A further sign of uneasiness in trade conditions exhibited itself in the riots of discontented workpeople in 1824, which were serious enough to require the presence of troops from Manchester and Stockport.

This was the year of a reduction of duties upon raw and waste silks, and the prospects of obtaining raw material more cheaply doubtless influenced the insertion in the Macclesfield Press of a couple of advertisements, which were quoted with some effect in debate in the House of Commons, as indications of the profits then to be made in the trade.

Industrial unrest.

1825. Advertisement at Macclesfield, 19 February.

"To overseers, guardians of the poor and families desirous of settling in Macclesfield.

Wanted immediately from 4—5,000 persons from seven to twenty years of age to be employed in

High
Wages
and loss
of trade.

the throwing and manufacture of silk. The great increase of the trade having caused a great scarcity of workmen, it is suggested that this is a most favourable opportunity for persons with large families and overseers, who wish to put out children.

Applications to be made, if by letter post-paid, to the printer of this paper."

1825. Advertisement at Macclesfield.

"Wanted to be built immediately one thousand houses."

The change in duties necessitated an inquiry into the quantity of silk on hand, and the relative position of Macclesfield in 1824 is seen to have been a commanding one. There was warehoused at Macclesfield £53,000 worth of silk, as against the £19,000 of Coventry, and £7,000 of Leek.

Further riots broke out in 1826, and in 1829 a prolonged strike of weavers involved such distress that a grant of £1,000 for the relief of Macclesfield operatives was made by the King. The tenacity with which Macclesfield workers held to the principles of trade unionism has since been demonstrated, and the relatively high rates of wages have not been maintained without a surrender of weaving and dyeing business to the competing home and foreign centres of these trades.

The export business in bandanna handkerchiefs, of which accounts are given in the chapters on "The Smuggling Trade" and "Waste silk," brought work to Macclesfield, and by the middle of the 19th century there were tabulated in the local Directory the following merchants and manufacturers: silk brokers, 9; dyers, 18; manufacturers, 86; silk-men, 30; silk merchants, 3; printers, 2; trimming manufacturers, 1; makers of gimps, fringes, etc., 17; silk throwsters, 56; twistors, 3; waste dealers, 4; and silk-weavers with looms in their own houses, 540.

Effect
on
Export
Business.

The population of the town has remained stationary over several later decades, but meantime the conditions and prosperity of the workers have improved equally with

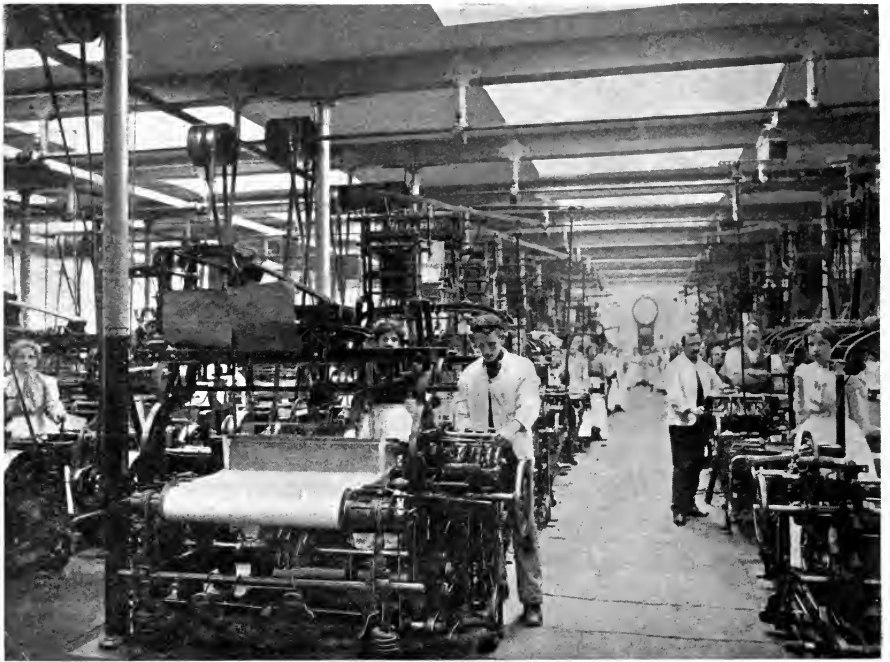


Plate XIX.

Silk Weaving by Power in Macclesfield.

those in the neighbouring town of Leek, where a somewhat different class of trade is carried on. The French Treaty, by opening the door to the influx of foreign goods, proved a great blow to the manufacture of the broad silks, which occupied a large number of Macclesfield looms previous to that date, and subsequent changes of fashion have adversely affected the business in silk scarves and handkerchiefs upon which Macclesfield additionally relied. A demand has sprung up in recent years for confections for ladies' wear made up from Japanese silks and fabrics of Continental origin, and Macclesfield men have addressed themselves to this new line of business. As one consequence, women's labour is in great demand, and good wages are paid for skilled workers.

Trade
with
Japan.

A good sign of the vitality remaining in the manufacturing trade of Macclesfield is the increase of power-loom weaving. Several firms have built new sheds and equipped them with the most modern machinery, and hand-loom weaving is year by year being discontinued. The town has always paid special and devoted attention to art and technical training, and designers and managers trained there have found excellent openings in other towns where mixed silk and other goods are manufactured. Their competence at this work is beyond question.

Many of the firms in existence 50 years ago have ceased to exist, the members having retired with the gains of previous years, but some few new and enterprising manufacturers and makers-up have succeeded in establishing a fairly flourishing trade under modern conditions.

Among firms in existence half a century ago and still pursuing a vigorous attempt to keep up the prestige of the manufacturing interests of Macclesfield, we may name a few and describe the nature of their operations.

The firm of J. and T. Brocklehurst and Sons was founded in 1745 by John Brocklehurst, the father of the John and Thomas Brocklehurst whose names the firm at present bears. Members of the same family continued the business up to the year 1911, when it was transferred to a limited liability company, under new management and directorship. Up to the period of the French Treaty

Notable
Maccles-
field
Manu-
facturers.

Messrs. Brocklehursts' manufactures embraced every class of broad fabric then known for dress and other purposes. The changed conditions inspired the proprietors to make new developments, especially in spinning silk waste, although a department for this work had been begun long before. During the prosperous years of the lace trade in the early '70's, their yarns attained a fame second to none, and proved profitable almost beyond expectation. The firm employs at the present time about 1,300 workpeople engaged in silk-throwing, silk waste spinning, and in manufacturing goods of various kinds. In all-silk goods they have a reputation for foulards, satins, dress goods, mufflers, fancies, crêpes, linings and waterproofings; and in mixed goods for moirettes, unions, silk and wool cloths, silk and cotton cloths and fabrics of artificial silk. The firm of Brocklehurst first obtained the Government order for handkerchiefs for the Navy in 1883, at which period the goods were woven in hand-looms. With the perfection of the power-loom, they have succeeded in retaining the whole or part of these orders, almost without intermission, from year to year up to the present time.

Notable
Maccles-
field
Manu-
facturers.

Messrs. Frost occupy the oldest mill in Macclesfield, and except for certain enlargements and internal improvements the structure remains as it was in 1785. Their Park Green Mills were built in that year, and were driven by water power until 1811, when the contemporary owners, Daintry and Ryle, installed a steam engine. The proprietors were bankers and manufacturers, and Mr. Ryle had one grandson who became Bishop of Liverpool, and a great-grandson who is Dr. J. C. Ryle, the present Dean of Westminster. The property passed later into the ownership of Mr. H. W. Eaton, who afterwards became Lord Cheylesmore, who sold it to the firm of William Frost and Sons, Ltd., in 1881. This firm was founded in 1858, and has since continuously carried on silk throwing, so that in point of years it ranks next in its own line to that of the Brocklehursts. Their mill is one of the extremely few that have survived the change from water to steam as a propulsive power and from steam to electricity.



Plate XX.

Park Green Mills, Macclesfield.

Mr. John Birchenough founded a silk-throwing and manufacturing business in 1848, and in company with his sons* carried on the business until the year 1905 when this also became a limited company, and in 1912 it came under the direction of the late Mr. Bradley Smale. The Company has been successful at various periods in securing a share of the Navy contracts, in addition to its ordinary trade in rich silk cut-ups for gentlemen's wear, mufflers, scarves, vestings, dress cloth and knitted neckwear. Notable Macclesfield Manufacturers.

The founder of the firm of Josiah Smale and Sons, which came into existence between the years 1830 and 1840, was Josiah Smale. It was carried on successfully by his sons as Josiah Smale and Sons up to a recent period, and is now conducted by grandsons of the original founder in two separate businesses under the titles of Josiah Smale and Sons and Jonathan Smale and Bros. The firm of Josiah Smale and Sons came under the sole direction of Mr. Bradley Smale, a most enterprising man, who introduced successfully a large business in knitted neckwear fabrics.

Mr. Smale, who died at the close of the year 1913, was founder and first President of the Macclesfield Silk Trade Employers' Association, formed in 1909, to negotiate labour difficulties with the trade unions, and had thus a large share in formulating the price list for power-loom weaving which came into force in 1912.

The firm of J. F. Jackson is probably as old as either of the two before mentioned, and its present proprietor is Mr. William Jackson, son of one of the founders.

All the firms that were contemporary with the founder of the Brocklehurst concern have ceased to exist, but several new concerns have commenced business during the last 30 years, and are doing a good trade in competition with the older ones, much to the advantage and well-being of the working population. New Firms.

* One of the sons, Mr. Henry Birchenough, is now Sir Henry Birchenough, K.C.M.G.

CHAPTER XIII.

LEEK.

Huguenot
Rela-
tions.

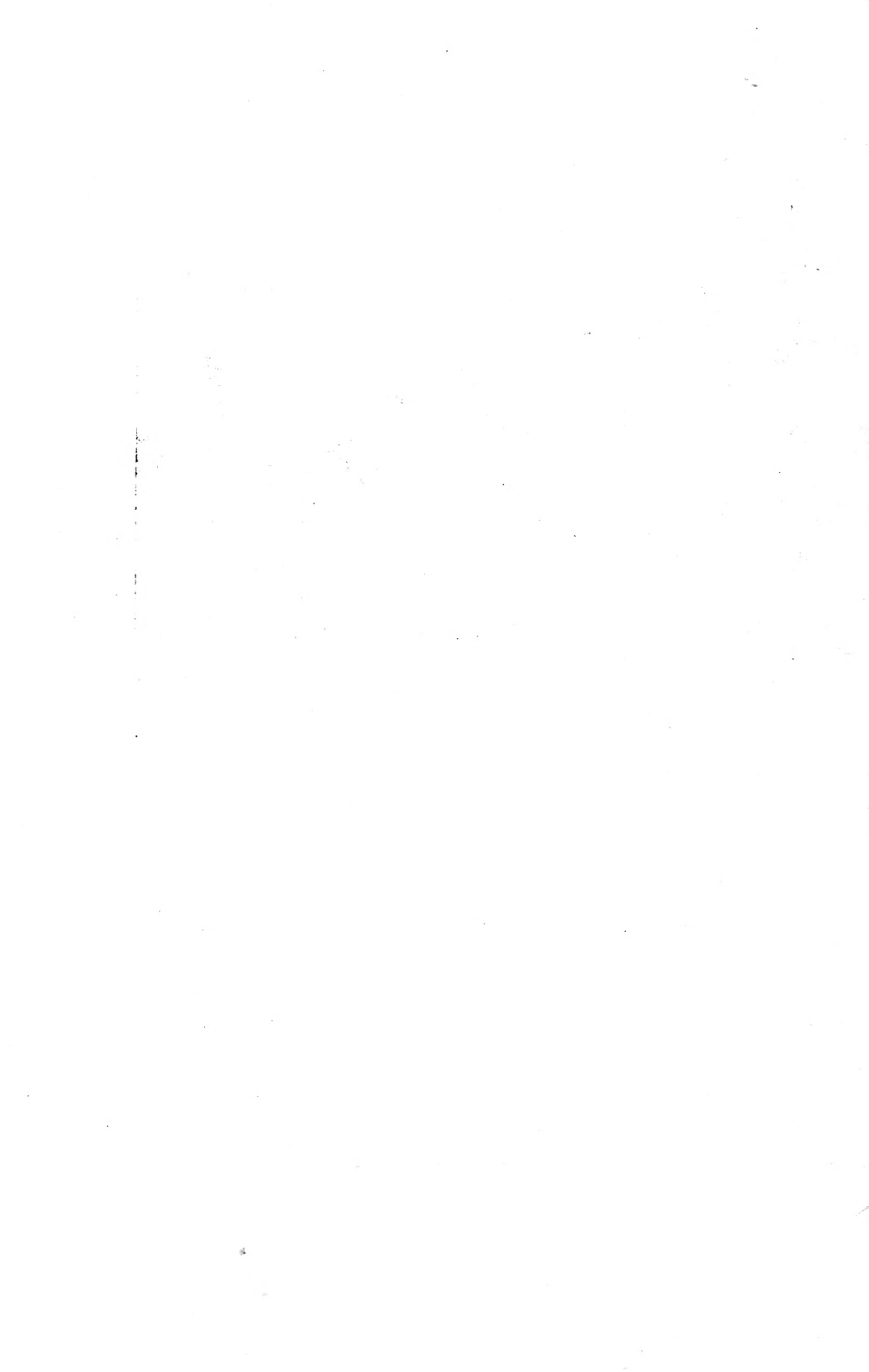
Leek is picturesquely situated almost on the borders of Cheshire and Derbyshire and close to the foot of the end of the Pennine range. It has been designated "The Metropolis of the Moorlands," and its high altitude and bracing climate have no doubt in some measure been responsible for the energy and business enterprise shewn by its inhabitants. It possesses a fine church of ancient Gothic design, and under the shadow of its tower there is to be found a small district commonly known as "Petite France," the former abode of the French settlers. It was doubtless owing to their early training in branches of the silk industry that Leek ever became a silk centre of any note.

It is difficult to indicate the exact dates when the manufacture of silk in any form was originated in particular towns and districts and to identify the small beginnings from which the industry in the various centres took a greater importance. However from a *History of Leek (Staffordshire)*, written by a Mr. Jno. Sleigh, Barrister, of that town, and published in 1883, we learn that sympathy was shewn to a number of French refugees who settled there about the year 1685, when a collection made in the Parish Church on their behalf realised the sum of £6 5s. 0d. These workmen breaking away from the town of Coventry, introduced ribbon and ferret weaving (narrow bindings) both in Leek and Derby. Another branch of industry which was introduced about the same period was the manufacture of silk, mohair, and twist buttons



Plate XXI.

*St. Edward's Church, Leek,
dating back to the year 1400.*



worked with the needle, in a variety of patterns, and used in the decoration of full-trimmed suits. It was one of the chances of Trade that the horn and gilt buttons of Sheffield and Birmingham made a greater appeal to the popular taste, and superseded the productions of Leek and Macclesfield. The foundation, however, had been laid for the manufacture of other fabrics and an old Staffordshire ballad, which asks—

“ For silken fabrics rich and rare,

What citie can with Leek compare ?”

serves to show how Leek goods were regarded.

James Horton, a Coventry man, introduced the making of figured ribbons in 1800, and about the same period an old man named Ball commenced operations in the twisting of sewings by hand in a shed or shade in a field now known as Ball's field, and so laid the foundation of a trade in silk sewings and twist, which has made Leek a prosperous town, and won for it a world-wide renown for these and other threads. The weaving of silk goods for the first half of the 19th century was a progressive branch of trade, and proved remunerative both to employer and employed. From Samuel Bamford's *Life of a Radical*, an impression of Leek as seen in 1842 may be quoted :

“ In passing through the streets of Leek, we noticed a number of weavers at their looms, and obtained permission to go into their weaving places. The rooms where they worked were on the upper floors of the houses ; they were in general very clean ; the work was all in the silk small-ware line. Many of the weavers were young girls, some of them good-looking, some neatly attired and many with costly combs, ear-rings and ornaments of value, showing that they earned sufficiency of wages and had imbibed a taste for the refinements of Society. The sight of these females sitting at their elegant employment, approached by stairs with carpets and oil-cloth upon them, the girls all being dressed in a style which 200 years before would have been rich for a squire's daughter, was to me very gratifying.”

Pioneer
Weavers.

Progress
of the
Town.

The account seems to show that conditions in Leek at this stage of the development of its industry were not unfavourable to the workers in the trade. Their condition in the past is, however, surpassed by that which prevails at the present day.

Of recent years the old Leek industry has suffered to a certain extent through the inroads made into it by spun silk and mercerised cotton, and had it not been for the introduction and clever application of the wood and cotton pulp fibre (technically known as artificial silk), from which artistically knitted articles of apparel are made, Leek would not have been in so prosperous a condition at the present time.

It is interesting to note the difference between past and present as traced recently by a member of one of the largest and oldest silk firms in the town. "The old silk industry of the town was mostly carried out in garrets by men, who worked for the silk manufacturers, and these employed their wives and families and a few others. This system was radically bad and has ceased to exist. Fifty years ago bowed legs and knock knees were very numerous amongst the silk workers, but the health and physique of the population are now, owing to better conditions of work, and housing accommodation much improved. Most of the old slums having disappeared, the death-rate has been lowered from 29 per thousand to 18, while the expectation of life has increased from 24 to 38 years. The population of Leek has almost doubled during the last 50 years, and the rateable value has more than doubled.* Wages in the silk trade have risen 30%, hours are of course shorter, and the people generally are far more prosperous. The class of raw silk used has improved, and the machinery is altogether of a superior character. The hand twister is gradually disappearing,†

Popula-
tion and
Wages.

* Pitt's topographical History of Staffordshire says "Leek in 1817 has been indebted for much of its present prosperity to silk manufacture which has been successfully carried on in this town for at least half a century." The total inhabitants are 4,413 and about two thirds of them are employed in the various branches of silk manufacture which consists principally of shawls, handkerchiefs, ribbons, ferrets, twist and sewing silks. Now the population is 17,000—a century after.

† Expression is given to an individual and informed opinion, but the fact of the disappearance of the hand twister is in some dispute. Machine twisting extends continually, but as hand work remains superior the manual twister maintains his place in the economy of the Leek trade.

his place being taken by machines of various sorts, although there are very many more men and boys, as well as women, employed in the various branches of the Leek trade than in the days before the advent of machinery. During the half century which has elapsed, a number of old names have disappeared from the list of silk manufacturers in Leek: Alsop, Carr, Gaunt, Ellis, Russel and Clowes, etc.; yet many representatives of the older houses remain, viz.: Brough, Nicholson and Hall, Ltd., Hugh Sleigh and Co., A. Ward and Co., Ltd., A. J. Worthington and Co., Ltd., and Whittles Ltd. Then a number of new and important firms have come into existence, notably Wardle and Davenport Ltd., Myatts, Slannards, W. Watson and Co., W. Broster and Co., and many others."

Progress
of the
Town.

As typifying the spirit of enterprise actuating the manufacturing interest of the present period, it may not be out of place to give a short résumé of the history and operations of a few of the leading firms.

Brough, Nicholson and Hall, Ltd., commenced in the year 1815, and their business was converted into a private limited company in 1907. The number of people employed by them is slightly over 2,000. Their productions are varied, and include sewing silks, embroidery silks, tailors' twist, and twist for sewing machines, together with such manufactured articles as braids, cords, bindings, webs, trimmings, woven named labels, bootlaces, silk and artificial silk ties, scarves, motor scarves and ladies' coats. They have a spun silk spinning mill, and two dye houses, in which they dye their various goods.

Anthony Ward and Co., Ltd., was founded in the year 1819 by the late Anthony Ward who was succeeded in 1840 by his son, John Ward, J.P., Staffordshire, who, retiring in 1876, was followed by his son, Anthony Ward, also a J.P. for the county. The concern was transformed into a Limited Company in 1905, the first directors being John and B. T. Ward, the two sons of the late proprietor. The firm manufacture all descriptions of sewing silks, braids of silk, artificial silk and mohair bindings, but the original trade was the manufacture of silk serges, hand-

Some
early
Silk
Firms.

Some
early
Silk
Firms.

kerchiefs, velvets and ribbons; a business that was destroyed by the Commercial Treaty with France in 1856.

The firm of A. J. Worthington and Co., Ltd., dates back to a very early period of the last century, and has been in the successive ownership of members of the family of that name. They employ about 400 people, and are reputed to be the first who put sewing silks on reels of wood. They were very early makers of silk buttons, and button cloths, beside military braids and binding of all kinds. At the present day they have a reputation as makers of silk fishing lines, together with the ordinary classes of sewing silks that are a speciality of the Leek trade, and are the patentees of a process for obtaining Moiré effects on knitted fabrics. During the last ten years they have enlarged their business by the addition of new premises.

Amongst a number of the firms established at a later date is that of Wardle and Davenport Ltd., which after being carried on for some years as a private manufacturing firm, was incorporated as a public company on October 30th, 1899. For many years this firm had the highest reputation for the manufacture of mercerised cotton embroidery sewings, sold under the trade name of Peri-lusta. About 1,800 people are employed in their principal manufactures of sewing and embroidery threads, costume braids, and knitted neckwear.

The spinning of waste silk into sewings and embroideries was established some 34 years ago by the firm of Watson and Co., Ltd., and this branch has since been worked under a limited company which has built an up-to-date mill to carry on the industry.

Sir
Thomas
Wardle.

The connection of Leek with the dyeing industry has been made historic by the enterprise and genius of the late Sir Thomas Wardle, and Leek lost one of the greatest of its citizens when, full of years and honours, he died in 1909. He had been all his life connected with the local silk industry, although, as is well known, his activities ranged over a much wider field. He was the eldest son of Mr. Joshua Wardle, of Cheddleton Heath,



Plate XXII.

Sir Thomas Wardle.



Sir
Thomas
Wardle.

near Leek, the founder of the silk dye works at Leek Brook in 1831, in which year Thomas Wardle was born. The boy, who afterwards became so well known, received his early education at Macclesfield and Leek, and entering his father's business while still quite young, soon made his influence felt. At all stages of his useful career Thomas Wardle evinced a desire to carry his activities into a wider sphere, an inclination which led to his establishment of a silk and cotton printing business near Leek, where beautiful block printing work was carried out. An interesting feature in connection with this printing business was the association with it, to the great benefit of the artistic side, of William Morris, who, on one of his visits to Leek, worked out designs with his own hands, in order to obtain the necessary colour effects. The marriage of Mr. Thomas Wardle, as he then was, with the daughter of Hugh Wardle, of Leek, in the year 1857, provided him with a wife who not only possessed the artistic temperament in a high degree, but had a gift for organisation which is not often met with in women. It was due to her efforts that the Leek School of Embroidery was founded, and many are familiar with the excellent work from the standpoints of both colour and design which emanated from that school, and from those associated with it. A fine copy of the celebrated Bayeux tapestry, worked under Lady Wardle's supervision by 30 ladies of Leek, may be inspected in the Art Gallery at Reading.

Sir Thomas Wardle will long be remembered for the work he did in India. His early efforts in connection with the Dependency had for their object the utilization of Tussur silk, the wild silk of India, which he succeeded in so bleaching and dyeing as to make it a marketable fabric. The result of his work was illustrated in the British Section of the Paris Exhibition of 1878. Seven years later, at the request of the Government, Sir Thomas paid a visit to India, partly to make a report on sericulture, and partly to make a collection of silk fabrics and native embroideries for the Silk Culture Court of the Colonial and Indian Exhibition. At this period Bengal silks had fallen into low repute, and one result of the

His
work in
India.

His work in India.

visit was to demonstrate that the decline in the reputation of Bengal silk was largely due to preventable causes, and steps were taken on his initiative to remedy this condition of affairs. In 1887, when the Manchester Jubilee Exhibition was held, Sir Thomas, chairman of the Silk Section, arranged for a comprehensive display of silk manufacturing processes. It was in connection with this Exhibition that the Silk Association of Great Britain and Ireland, which is the subject of a separate chapter, was formed, and until the year of his death Sir Thomas Wardle occupied the position of President.

In 1896, in connection with attempts to place the Kashmir silk industry on a sound basis, Sir Thomas resumed his active association with the silk industry of India. At the request of the India Office, he visited France and Italy to select the species of silk worm eggs which would best suit conditions in Kashmir. He next made arrangements for the best reeling machinery to be sent to India, and recommended a practical expert to plan and superintend operations. For this useful work, and for other labours in connection with the silk industry, he received in 1897 the honour of Knighthood. His work on behalf of Kashmir was soon reflected in the increased output of raw silk from this territory, and in the year 1903 he again visited India to give advice as to the best methods of placing these raw silks on the European market. Sir Thomas did more than this; he not only advocated that an attempt should be made to establish silk weaving in the State, but arranged for the plant to be sent out from England, and for the skilled supervision by English weavers, which was essential to the success attending this venture.

His contribution to literature.

Among the other honours which fell to Sir Thomas Wardle may be mentioned the honorary freedom of the Weavers' Company which enabled him to acquire the freedom of the City of London. He was a prolific writer on various phases of the industry for which he did so much. His publications include such subjects as, *Silk Power-Loom Weaving in France*, *The English Silk Industry*, *Tasar Silk*, *The Wild Silks of India*, *Dyes and Tans*

of India, Adulteration of Silk, and The Silk Industry of Kashmir. In the year before his death he published a monograph on the *Divisibility of Silk Fibre*; writing at other times upon geological questions with the authority which came of real knowledge of his subject. The

The
Dyeing
In-
dustry.

The firms with which he was so long connected have made strides in the local branch of dyeing, and have held their own in competition with Continental opponents in dyeing heavy-weighted colours and blacks in organzine and tram silks, and in dyeing and finishing silk piece goods. The reputation of the beautiful æsthetic vegetable dyes, as also of the Leek Raven black dyes has been well sustained by Messrs. Wardle, who at present employ over 300 hands in constant work.

CHAPTER XIV.

CONGLETON.

Gloves
and
Buttons.

In the course of its long history, Congleton has had other light employments than those connected with silk. It was at one time "noted for the making of tagged leather laces, called Congleton points," an industry which had apparently passed away before Dr. Aikin wrote of it in his *Country round Manchester* (1795). At that date it had a "manufactory of gloves," and at an earlier time had associations with button-making. The first of the Cheshire county historians, William Smith, Rouge Dragon Poursuivant, referred to it only as a market town :

"Congleton, a fair market town, standeth upon the river of Dane, six miles south-west from Macclesfield, within two miles from Staffordshire, and in Astbury parish ; which methinketh is a diffused thing, that most of the market-towns of the country, although they have fair churches of themselves, yet they are accounted but Chapels. . . . It hath a market every Saturday and yearly two fairs."

A market charter was granted to Congleton by Edward I, and its fairs, which were being held thrice a year by 1819 (Ormerod's *History of Cheshire*), were "chiefly for the sale of woollen cloth, horses and cattle." Some of the woollens were doubtless of district production, for Aikin says of the neighbouring town of Sandbach : "formerly worsted yarn and some stuffs for country wear were made here, but its trade has much declined."

Ormerod calls the manufacture of wrought buttons made with silk and mohair the original trade of the town,

and says it remained the staple trade until about 1730. Congleton is in this respect to be grouped with Macclesfield and Leek.

Mr. John Clayton, of Stockport, established the first silk-throwing mill in the town in 1752, in emulation of the successful mill at Derby, and a grant from the Corporation gave Clayton rent free for 300 years as much water as would pass through a ten-inch culvert from the Corn-mill Pool. With the consent of the Corporation, Mr. Nathaniel Maxey Pattison, of London, who had obtained his experience under Mr. Richard Wilson, proprietor of the Derby silk mill, was taken into partnership. A brother of Mr. Pattison's was also brought upon the scene, and an inscription upon a marble tablet in the Chapel of Congleton records his virtues and incidentally the date at which the work, begun in 1752, was brought to a satisfactory completion. The inscription is as follows:—

“Here lyeth interr'd

the body of Samuel Pattison, late of London, merchant,
a person of unspotted integrity, of exemplary virtue,
and endowed with every amiable quality that can adorn
human nature,

therefore universally regretted by his family and friends.

He resided during a year before his death in this town

as Director of the Silk Mills,

when by his great abilities

and unwearied application,

he rendered the most important services ;

and enjoyed the satisfaction of living to see

all the works compleated and the manufacture

brought to perfection.

Obiit. 27 May, 1756. Aet. 30.”

The mill in question still exists, and is used by a manufacturer of hosiery. Even measured by modern standards this mill, with its 240 feet of length, 80 feet of breadth, and 390 windows, is a large one, and in earlier times it was capable of turning out 15 to 20 bales weekly of China silk in organzine and tram. Aikin called it “a very capital silk mill,” and said that from this source and from “the manufactory of silk ribands on account of the Coventry Decline of Silk-weaving.

Decline
of Silk-
weaving.

merchants," the Congleton poor derived their chief livelihood. Aikin's reference to the making of "some ferreting," suggests that this article was of subsidiary importance in his day. Ormerod is the authority for saying there were 28 ribbon-weaving factories in 1819, in addition to "numerous silk and cotton mills." Silk-throwing and weaving were carried on in conjunction by certain firms, and for a time both industries prospered. In 1846 the throwing mills numbered 27, employed 3,072 hands, and produced about 9,300lbs. of silk weekly. By 1886, under the gradual change of circumstances that had affected the whole British silk industry, the number of throwing mills had been reduced to 12, and by 1905 to two. Of the silk-weaving trade, nothing now remains but a small manufacture of silk and cotton bindings.

One department only of the local silk industry has survived the stress successfully, and this is the business of waste silk-spinning. This trade was introduced about 1829, when the firm then styled George Reade and Sons who had been throwsters and weavers since 1784, began to spin silk in the same manner as cotton. In 1834 they erected a large building for this work only, and this, together with older premises, is still used for silk-spinning by the descendants of the founder. After the death of Mr. George Reade, Mr. John Fielder Reade carried on the business until 1842. Mr. Arthur Solly, son-in-law of Mr. J. F. Reade, was a partner from 1851 to 1890, and since then the direction has rested with Mr. Arthur John Solly, great-grandson of the founder. The name of the firm was changed in 1850 to Reade and Co., and in 1907 the present limited company was registered.

Survival
of Silk-
spinning.

Another old-established mill—the Forge Mills—carried on by Messrs. Peter Wild and Co., Ltd., was in the occupation formerly of Mr. James Holdforth, junior, of Leeds, son of the James Holdforth, who established a large silk mill in that city, and whose career is traced in the chapter upon Leeds.

Elsewhere in Cheshire the silk industry flourished at detached points. There was a crape mill at Mobberley; a mill was founded also about 1761 at Havannah, and the name Silk Mill Street points to the existence at one time of a mill in Knutsford.

CHAPTER XV.

MANCHESTER.

The varying fortunes of silk in Manchester may be illustrated by reference to other changes in the commercial life of the city. Silk is not the only textile industry which has suffered decay ; as late as 1788 the *Manchester Mercury* could write of the woollen trade as the chief industry of Lancashire. Independently, as well as in conjunction with wool, and with cotton, linen was once an important manufacture, and until 1773 Lancashire cottons were always woven with a linen warp. At least eleven Manchester and Salford testators between 1648 and 1791 were described as silk-weavers, but their names, Lilly, Bayley, Edgeley, Smith, Thorpe, Goring, Budworth and Hill convey no marked evidence of foreign origin, such as characterises those of many London silkmen of the same period. Silk was certainly woven in Manchester at the time of Defoe's visit, although no mention is made of it by that extraordinarily observant writer.

Cotton may actually be junior to silk in Manchester in point of years, as it manifestly is in England generally, and this now dominant industry was of small importance in the 18th century. Cotton was not spun by machinery until a later date than silk was so spun. Lombe brought his throwing machine to practical success in 1718, but it was not until 1767 that the jenny was invented by Hargreaves, and 1785 before Arkwright patented the mule. Not until 1781 was the first cotton mill erected in Manchester. Industries which grow up side by side exert an influence over each other even in the absence of such links of similarity as exist between industries of the same group. The influence

Early
Textile
Indus-
tries.

of cotton upon silk was considerable, even if exact means of measuring it are lacking. Cotton, the cheaper article, no doubt diverted attention, which might in other circumstances have been bestowed on silk, and have made Manchester a formidable rival to Lyons. More than one Manchester firm, beginning mainly or wholly in the silk trade, has evolved into a cotton manufacturing concern following apparently the line of least resistance. Silk business has gone to those quarters, British and foreign, in which silk manufacture has been specialised. Silk-throwing, spinning, and weaving, after flourishing apace, have almost disappeared from Manchester industry. The silk-weaving of the 17th century, of which little is known beyond the names of certain weavers, sank below the trade horizon, and probably the looms were applied to the fustians, vermillions and dimities of which Roberts and Defoe have written. The trade re-appeared at Middleton, on the outskirts of the present city, where it was revived, according to Mr. Knoop's finding, by a family named Fallows in 1778. Once again silk fared ill in its conflict with the developing trade in cotton, and in 1795 Aikin wrote of "silk-weaving giving way to the more profitable branches of muslin and nankeen." The business reared its head again in 1816, when Messrs. Tootal began business in weaving handkerchiefs and mixed silks. Thus at this date cotton was being impressed into the service of silk. The import duties were re-arranged in 1824, and William Harter began business as a manufacturer in 1825. It was in 1822, according to Wheeler's *History of Manchester*, that the weaving of Gros de Naples (*i.e.* repps) and figured sarsnets was introduced into the town.

A momentous change then in progress facilitated the introduction of silk-weaving. Cottons were being produced by power-looms in place of hand-looms, and as a result a great number of trained weavers found their labour superfluous. In Wheeler's words:—

"Silk-weaving . . . came providentially to break the fall of the hand-loom weavers. The starving producers of cotton goods abandoned that impoverished and glutted market for Labour and

Cotton
and
Silk.

had recourse to silk-weaving, which varies chiefly Cotton
in requiring greater skill and care.” and
Silk.

Some of the dispossessed cotton-weavers turned their hands to a “reed of coarse silk shot with worsted”; a description not incompatible with an assumption that spun waste silk was used in Manchester for warps, as later it was in Bradford.

The hand-loom weavers inhabited a number of out districts, of which some were wide of Manchester:—Gorton, Newton Heath, Harpurhey, Middleton, Stand, Radcliffe, Pendlebury, Worsley, Eccles and West Leigh. Wheeler wrote that at Moston and Middleton the cloth was mainly silk, and at Newton, Failsworth, Hollinswood, Alkrington and Tonge was silk with a few cottons. Cope, a weaver who gave evidence in Parliament in 1832, returned this account of his research into the extent of the hand-weaving industry:—

	<i>Looms.</i>
Manchester (including Salford and Harpurhey)	950
Middleton (including Boardman-Lane, Jumbo-Tongue, Chadderton, Whitgate, and Moston)	2,721
Failsworth (including Hollinwood, Taunton, Droylsden, Woodhouses, Newton, Gorton Swinton and Eccles)	2,623
West Leigh (including Leigh, Pennington, Beaford, Atherton, Tildsley and Astley)	3,000
making about 8,700, of which not quite 6,000 were employed in the “neat silk trade.”	

It is a present custom of the trade to distinguish spun Some
from thrown yarn by calling the latter net or neat silk, Trade
but Cope’s reference doubtless implies fabrics unmixed Statistics.
with cotton or worsted. The number of looms both on
mixed and pure silks increased between 1819-1823,*

* Figures quoted from Doxat by Wheeler point to a relative growth larger in the silk than the cotton industry at this period. The comparative method of statement is open to objection, but the averages ascertained are given for what they are worth. Taking the average of three years 1815-17 as a base it appears that in

1818-20 the increase in the cotton trade was	22%	and in silk	31½%
in 1821-23	48%	70%	
and in 1824-25	83%	156%	
over the average 1815-17.			

Some which is the period preceding Huskisson's reform of Trade the tariff, and increased still more largely thereafter. Statistics. The table given in evidence before the Committee of 1832 shows that after 1824 the silk-weaving trade became a flourishing one, at least in statistical appearances, as may be seen from the appended statement:—

1819—1,000 looms mixed silk and cotton—
50 pure silk.

1823—3,000 looms mixed silk and cotton—
2,500 looms on silk.

1828—4,000 looms mixed silk and cotton—
8,000 looms on silk.

1832—12-14,000 looms, 12 throwing mills
(10 in operation).

The increase in the number of looms was the index of the relative strength of the two branches.

“I can buy as good Gros de Naples in Manchester as in Lyons at the same price,” Mr. R. Baggally declared in 1832, adding that the price was “for the great bulk of the consumption, from 2s. to 3s. 8d. per yard.”

By that time the power-loom had been brought into service by weavers of plain silk, and its advent is accurately timed by a statement made by Mr. Charles Grant in the House of Commons, February 24th, 1826.

“According to a letter received only yesterday from Manchester an attempt to weave by steam had been made and had succeeded. Two pairs of Gros de Naples looms, weaving each 108 yards of silk a week, was attended by a woman at 14s. a week; this was about 3d. a yard for the weaver's wages, and the cost of the house rent with the interest of the value of the loom might be taken at a farthing more; thus the price at which it could be done was 3¼d., which could not be done in France under 7d.”

The Coming of the Power-loom. The power-loom was longer in coming into use in making fancy cloths. In his *Philosophy* (1835), Dr. Ure said:

“It is probable that Mr. Louis Schwabe and other enterprising silk manufacturers of Manchester will ere long apply the power-loom to the weaving of fancy as well

as plain goods ; whereby they will give a great impulsion to the silk trade of England.”

The
Coming
of the
Power-
loom.

The hand-loom persisted in use over forty years after Ure’s vaticination. Thirty years later in the *Story of the Cotton Famine* (published 1866), John Watts likened Middleton and Failsworth to Spitalfields, saying :

“ Kay’s contrivance (the fly shuttle) was soon followed by the invention of the drop-box, which enabled the same contrivance to be applied to checks by the use of two or three shuttles, each of which was supplied with a different coloured weft, as may be seen to this day amongst the hand-loom silk-weavers of Spitalfields ; or amongst the same class at Middleton or Failsworth in Lancashire.”

Wheeler spoke of the Jacquard as in general use both on pure and mixed goods in 1835. Jacquards were on sale in the town certainly in 1827, when Akroyd of Halifax obtained some of the machines from a French agent in Manchester. Using the fly-shuttle, drop-box and Jacquard, the hand-loom weavers kept the power-loom at bay, and the Parliamentary Return of 1835 showed fewer than 400 silk power-loom at work in Manchester and Salford.

Power-loom.

Royle and Crompton	..	40
Wm. Harter .. ..	..	184
Smith and Thorp ..	..	60
B. Williams and Co.	..	22
		<hr/>
		306
J. and J. Clegg (Eccles)	..	60
		<hr/>
		366
		<hr/>

At this date there were 1,716 silk power-loom in the kingdom, and in Manchester weavers using them made “the exceedingly good wages of 21s. to 23s. weekly.” Final supersession of hand by power-loom was marked by no outstanding event. It can, however, be said that in the sole remaining broad silk mill in Manchester the owners dispensed with hand-weaving in 1878.

Wages
of the
Weavers.

The
Nine-
teenth
Century
Renaiss-
sance.

Silk and cotton were closely intertwined; so closely as to baffle the discrimination of the officers who attached this note to the Population Returns for 1831:—

“The manufactures of Lancashire produce such a variety of articles as cannot be described or even distinctly enumerated; the predominating manufacture is that of cotton, producing cotton cloth, muslin, calico, cambric, ginghams, fustians, swansdowns, fancy quiltings and other fancy work and small wares. These are produced by manufacturers exhibiting a division of labour not easily defined; carders of the raw materials, cotton yarn spinners by machine, bleachers, warpers, cutters and drawers, rovers, power-loom and hand-weavers, dressers, dyers, designers and drawers of patterns, engravers, block-cutters, block-printers, crofters, finishers, sizers. Many of these operations are in common with the silk manufacture which has been largely introduced into Lancashire, and is too much mingled with the cotton manufacture to be here distinguished.”

Revival
of Hand-
loom
Weaving.

It has been shown that silk-weaving owed its 19th century renaissance in Manchester in part to the straits of the hand-loom weavers. The work could be and was done cheaply by them, and there were no successful combinations of weavers to keep up prices. Mr. Peter Malkin, weaver, of Macclesfield, told the Royal Commission on Trade Depression (1886), that “all transactions with regard to the price paid for labour (in Manchester) were conducted on pure free-trade principles,” which was scarcely the case in Macclesfield. Dr. Ure (1835) traced some emigration of weaving business from Macclesfield to Manchester, “in consequence of the restrictions placed on labour by the unions.” Many thousands found employment in Manchester—although it would seem that far too many hand-workers found little else. Weaving prices fell, and with them fell actual earnings. The price for weaving plain twenty-hundred three-single Gros de Naples, which was 9d. in 1823, was 6d. in 1828, and by 1832 had fallen to 4½d. An active workman in 12 or 14 hours’ labour could weave six or seven yards and thus earn in 1832 a gross 12s. to 14s. a week, from which there was a deduction

of 1s. 6d. for winding. Further, the weaver lost about half a day's time in fetching and returning the work and to the warehouse. Jacquard weavers were not better off, for Wheeler stated their earnings in the best summer seasons to be 14s. to 15s. a week. In winter, owing to shorter days and the impracticability of working by candle light, earnings were correspondingly lower. The condition of the workman was grim and desperate in 1835, when the lot of the hand-loom workers was inquired into by a Select Committee. How desperate may be read from a minute of the evidence of a weaver of good repute :

“ John Scott, a practical weaver, selected by a meeting of the weavers of Manchester and Salford on account of his known industry, frugality, probity and knowledge, stated he was one of the best paid class of silk weavers ; that he had several looms at work ; that his wife earned 4s. a week by winding at the looms ; and that the joint earnings of himself and wife amounted to 8s. a week, clear of deductions ; that to do this it required that the witness should work from 15 to 17 hours per day ; that he frequently worked from six in the morning till 11 at night, allowing himself no more than one hour in the day for meals ; that, notwithstanding this incessant labour, the witness was not in a state to provide for his family.”

Times had been better, and in one part of his testimony Scott contrasted the days when “ bread was at 2½d. a pound and wages 20s.,” with the “ now that bread is 1½d. and wages at 7s. to 8s.”

Another weaver, John Kelly, of Manchester, gave evidence in 1832 that—

“ In 1819 the state of the broad silk-weavers gradually increased until 1825 ; in those years the weavers were generally employed, and the prices for weaving afforded a comfortable subsistence.”

The fall in earnings was accompanied by a fall also in public respect :

“ Permit me here to make a remark,” interpolated the witness Kelly. “ At the present time a silk-weaver is

Evidence
before
Select
Com-
mittee.

Evidence looked on with contempt It is not because they are dishonest generally, but because he has no money before This was not the case before the measures of Select This was not the case before the measures of 1826 came into operation.”

Com- Bad as affairs are seen to have been in 1835, they were mittee. destined to be made worse by the American financial panic of 1837, a year bad for the cotton and worsted, as well as for the silk trade. The following extract from the *Manchester Times*, of April 29th, refers to further reductions in the low prices paid for weaving :

“ The silk trade was scarcely ever known to be so slack at this season of the year as it is at present. Weavers eight miles round Manchester are in a miserable condition, some not having more than half employment whilst many others are entirely without. Silk weavers, when fully employed, cannot on an average earn more than from 8s. to 10s. each per week. On Saturday and Monday week the plain sarsnet weavers were obliged to take out work at a reduction in wages of from 10 to 12 per cent. A great number of families are starving for want of food. A few fancy weavers are doing pretty well ; the cotton hand-loom weavers are as badly off, if not worse than the silk-weavers, and there is no prospect of any amendment.”

Signs of improvement were manifest in June, and a more reassuring notice appeared in the newspapers :

“ A trifling improvement is perceivable in the Lancashire manufacture of silk. . . . Jacquard work seems to take the lead, and the weavers of such descriptions are, considering all things, as fully employed as could be expected.

“ Plain goods, especially the lower sorts, are less required (the latter are chiefly woven at Leigh), and in that branch there is much waiting for work.”

Wages and Employ- Wages in the silk branch were deplorably inadequate mittee. at this period, but so were those in the cotton trade, and from the nature of the case no great disparity could exist between them. From an official *Return of Wages*, published 1885, it appears that Manchester hand-loom weavers making nankeens received 16s. 3d. in 1810, and 9s. 6d.

in 1817-19, and 6s. 6d. in 1823-25. Mr. G. H. Wood, in his *History of Wages in the Cotton Trade*, gives approximate averages for the power-loom cotton-weavers of Lancashire and Cheshire, suggesting that between 1826-1853 there was no improvement upon 10s. 6d.—11s. 6d. a week. For a period of fifty years, Lancashire wages went down, and for another half century increased, this rise in wages being due to the growing productivity of machines, which associated high wages with low costs. With 1859 began the movement which in four main jumps carried the average to the 20s. 6d. of 1906. Between 1850-1883, wages in one Lancashire cotton-weaving mill increased $67\frac{1}{2}$ per cent, and in another $83\frac{1}{2}$ per cent, as shown in the Royal Commission's Report on Trade Depression. Silk and cotton manufacturers had to draw their weavers from the same mass, and it is not without significance that as wages advanced silk-weaving and throwing in Manchester declined. It chances that the rise in wages roughly coincides in its inception with the abolition of the duties on foreign manufactured silk in 1860. Hand-weaving persisted in Manchester after that change, but it never—to use the words of a manufacturer who substituted steam for manual exertions—offered the workman more than a miserable subsistence.

There is more than statistical coincidence to go upon in ascribing importance to the increased cost of labour. Mr. John Newton, silk dyer, in evidence before the Royal Commission of 1886, pointed out that of the 30,000 silk-weavers of 1860 not more than one-fifth, and “perhaps not more than 3,000” remained. His testimony was emphatic: “It is the cost of labour that has entirely killed the Manchester trade, that is the dress silk trade.” The cotton industry of the time was busy enough to attract to itself weavers from other silk-mills than those of Manchester, and Mr. Malkin recalled an exodus in 1860 of a great number of Coventry weavers to Bolton, and of a number also to Colne.

At first, silk-weaving in Manchester was conducted by the use of yarn obtained from external sources, but the manufacturers of the early 19th century had not long

The
Rise in
Wages.

Influence
upon
Trade.

Silk-
throwing
in Man-
chester.

to wait for a local supply of thrown silk. In 1819 a change of tariff doubled the import duty on silk in the thrown state, and provided a margin between the rates of raw and thrown silk of 9s. 2d. *per lb.* It is reasonable to connect this fact with the erection in 1819-20 of the first Manchester throwing-mill, built by Mr. Vernon Royle, and affording employment for 4,000 to 5,000 persons. The start having been made, other mills were built, and the five mills reported in 1820 became sixteen by 1832; Wheeler refers specifically to twelve, of which ten were working in 1834-35. At that time Manchester looms were consuming some 23,000*lbs.* weekly of English thrown silk, and obtaining it from the following sources:

Manchester-thrown	8,000 <i>lbs.</i>
Macclesfield	8,000
Congleton (under)	4,000 ,,
Sandbach	3,000 ,,

(Wheeler's estimate) .. 23,000 ,,

The charge for throwing varied from 1s. 6d. to 4s. a *lb.*, and the ten working mills in Manchester were stated to be capable of turning out 350,000*lbs.* per annum. They employed altogether about 4,000 persons, and consumed 7,000 to 8,000*lbs.* of raw silk weekly, equivalent to one-fifth of the national consumption. The wages paid, according to the statement by a manufacturer, given in Wheeler's *History*, averaged 4s. 9d. per week, or less than in a cotton-mill.

Manchester, Salford, Broughton, Newton, Harpurhey, Heaton Norris and Eccles were the places in which throwing was done, and in 1836 the number of employees was said to have been materially augmented and to have become not less than 4,700.

Com-
parison
with
French
Mills.

The throwing-mills were large, and Dr. Ure, who wrote with knowledge, compared the French filatures to the Manchester mills to the disparagement of the former:

“In the silk districts of France the throwing-mills are very small. The machinery is certainly very rude, compared to what may be seen in our modern Manchester and Derby mills.”

In the opinion of the same careful and observant writer, Manchester machinery was also "very superior" to Italian. According to evidence given before the Parliamentary Committee (1832), the difference was so great that in 1830 a visitor from Lombardy came to Manchester to study and buy similar machines and take them abroad, despite the embargo on the export of textile machinery. The superior mechanism and the protective duty of 2s. 10d. net (allowing for debenture) were held by Ure fully to offset the Italian advantage of cheap labour. He calculated the horse-power required in working them at 342, and the capital cost at £200,000. Wheeler gave the number of silk-throwing mills in the county in 1836 as 22, and obtained from the factory inspectors the following summary of silk-mills :—

Township.	Power :		No. of Mills.	Persons employed :	
	Steam.	Water.		Male.	Female.
Manchester	171	—	8	521	1,343
Salford	58	—	3	396	594
Broughton	40	—	1	93	441
Newton	32	—	2	148	322
Harpurhey	3	—	1	—	113
Eccles Parish—					
Barton	42	—	3	286	493
Lancaster Parish—					
Caton	10	14	2	102	46
Cockerham Parish—					
Ellel	20	16	2	89	81
Melling Parish—					
Wray	Unknown.		1	32	24
Ashton under Lyne					
Parish—					
Ashton	6		1		
Leigh Parish—					
Pennington. ...	Unknown.		2		

The list includes at least one mill—Ellel in Cockerham Parish—which was not a throwing-, but a spinning-mill, and which survives under the name of the Galgate Silk Mill (*vide Lancaster*, p. 170).

The throwing-mills passed away one by one, and the last to survive in the city was that of John Morley in Bridgwater Street. At one time the large local consumption of silk stimulated Manchester to aspire to become the chief public market for raw silk, and auction sales were

Decay of Silk
Throwing
Trade.

Market
for Raw
Silks.

initiated in the circumstances detailed in the following newspaper report of 15th April, 1837 :

“The wishes of the silk dealers and manufacturers in this town and neighbourhood have been for some time expressed that the importation of raw silks would establish a market in this town, inasmuch as the greater part of the silk imported in England is thrown and manufactured in the district. In compliance with their wish, Messrs. Bindloss and Preston, silk brokers, have prevailed upon the importers of recent arrivals of silk from Bengal and China to offer upwards of 600 bales for unreserved public sale. This sale took place on Tuesday in the theatre of the Mechanics’ Institution, Mr. Preston officiating as auctioneer. The attendance of dealers, throwsters and manufacturers was very large ; and notwithstanding the depressed state of trade, nearly the whole of the silks offered were sold. Though the prices were very low, they were generally about five per cent higher than those previously realised by private sale.

“The following were the silks offered : 8 bales of Persian raw silk ; 205 bales of Bengal ; 364 bales of China Tsatlee ; 85 bales of China Taysaam ; 3 cases of Singapore raw silk and 3 bales of Brutia.”

Man-
chester
and the
Silk
Duties.

In 1850 the silk manufacturers of Manchester took a step, which in view of their convictions and political principles came as no surprise, but one which distinguished them sharply from all other silk manufacturers of the day. Sir J. Paxton, Member for Coventry, in referring to the step ten years later, pointed out that thirty towns and villages in the kingdom were concerned in silk manufacture, and that from all but one of these places petitions were received begging Parliament not to remit the silk duties upon silk goods. Manchester made the exception, and from thence a memorial was received asking, upon somewhat unusual grounds, that the duties might be abolished. As the text shows the grounds for the petition were twofold—(a) that the industry was stagnating ; (b) that the retention of the duties created prejudicial impressions in the minds of customers abroad. The document may be thought remarkable alike

for what it did, and did not say, and for the large amount of support it commanded :*

A Memorial from the Silk-manufacturers of Manchester to the Right Honourable Benjamin Disraeli, M.P., Chancellor of the Exchequer, &c. A Memorial in favour of repeal.

This memorial sheweth that your memorialists are manufacturers of broad silks in Manchester ; that the trade they are engaged in is in a depressed state ; that their workpeople are not fully employed ; and that this branch of manufacture has been almost stationary in extent for a period of ten years at least, whilst every other branch of textile manufacture has largely increased ; that they consider the depression and non-extension of their trade to be owing chiefly to the limited nature of the foreign demand for their goods, and your memorialists are of opinion that this is attributable to the protective duty imposed on foreign goods imported into this country, the effect of such protective duty being to create an impression in the markets of the world that England is unable to compete with the Continental Manufacturers in the production of silk goods, and thus to throw the export trade almost entirely into the hands of their Swiss and French competitors ; that in the opinion of your memorialists, however necessary Protection may have been at a former period, it is now positively injurious to them, and they feel that it cannot under any Government or under any circumstances long be maintained.

Your memorialists therefore pray that you will be pleased to relieve them by repealing the duty on foreign silk goods, not partially and gradually, but *totally and immediately*, and thus proclaim to the world that the Manufacturer denounces the so-called Protection and every aid a Government can give ; that he is prepared to depend solely on his own merit and that he avows himself capable of taking a Policy of Protection denounced.

* The memorial and the list of names have been transcribed from a copy in the possession of Messrs. H. T. Gaddum and Co., of Manchester, whose courtesy in the matter is acknowledged.

A
Memorial
in favour
of repeal.

— higher position in the race of competition unfettered by Protection, than he has hitherto obtained under its fostering care.

Manchester, 10th November, 1852.

Signed by

Harrop, Taylor and Pearson.	Thos. Brown and Son.
Hilton and Castree.	James Bently.
Makin and Walker.	Wm. Summerskill.
E. R. Le Mare.	Thos. Ainsworth.
Booth Leigh and Co.	James Garner.
Chas. Hilton.	Peter Joynson.
Thomas Molineaux and Co.	John Chadwick.
T. and E. D. Toas.	Benjamin Syddall.
Milsome and Clark.	John Ashworth.
Thomas Lomas.	Clough and Meadows.
Brotherton and Dobson.	Hobday and Swanick.
Winkworth and Procters.	Henry Coop and Sons.
Luke Smith.	
George Smith and Sons.	
Norbury and Bindloss.	

<p>John Morley Bickham and Pownall George and James Smith W. T. and James Walker</p>	}	did not sign.
--	---	---------------

The petition gives a list of the whole of the silk manufacturers of Manchester in 1852, and it is significant that of the signatories not one now remains in business. In refusing to add his name, Mr. John Morley explained that he declined to sign his own death warrant. Mr. John Morley's business, alone out of the 31, survives, and is carried on at Patricroft by Messrs. Robinson and Millington.

Attitude of John Morley. In 1860 one of the most forcible of the signatories was impressing on Mr. Gladstone, in moving terms the imperative desirability of a complete removal of the duties. The arguments are to be found in Mr. John Chadwick's letter of 12th January, 1850, to the statesman :
"I have endeavoured," he wrote, "to show you that the silk manufacture does not owe its origin or its success

in any degree in this country to Protection, but, on the contrary, that Government restrictions have been the chief cause, if not the only cause, of its unsatisfactory state. These restrictions have diverted the trade from this country, kept down the rate of profit, diminished the wages of labour and served no interest whatever.

“It is in your hands to remove this relic of the erroneous legislation of a bygone age; don't allow the silk trade to continue a marked exception to the general policy of this country.”

“The silk manufacture is at the moment a signal exception to the general prosperity.”

The interposition of the Manchester manufacturers has been deplored for a variety of reasons. The main reason has been the utter frustration of the high hopes of benefits to ensue from the abolition of the 15 per cent duty. A subsidiary reason was the conviction that this gratuitous assistance helped the French Government to negotiate an unnecessarily unfavourable set of terms and to obtain from England the entire abolition of the silk duty while themselves retaining a high duty on silk.

The tariff legislation of other countries conspired with other causes to destroy the former silk trade in Manchester, and some direct evidence of its effects has been given by manufacturers. Particulars are available of the transactions in 1855 of the extinct firm of B. Syddall and Sons, with which Mr. G. Millington, who appeared before Mr. Chamberlain's Tariff Commission (1905), was apprenticed.

Messrs. Syddall had a turnover of £30,000 to £40,000 a year, mainly in mixed silks, and found most of their custom abroad. They traded with Germany, Italy, Poland, Russia, Holland, and the United States, and “as these countries one after another levied duties, one market after another was lost, and the firm relinquished business, having lost a large part of its capital.” Mr. S. Hinrichsen, a Manchester shipping merchant, told the Royal Commission of 1886, that high duties had killed his trade in velvets with Germany. It is difficult to detach and examine separately each cause of decay, and it may be that

Appeal
to Mr.
Glad-
stone.

Alleged
Effects
of
Foreign
Tariffs.

Alleged
Effects
of
Foreign
Tariffs.

foreign tariffs were not the single source of the misfortunes of another specimen firm taken, but not named, by Mr. John Newton. The details disclose the rapidity with which decay proceeded :

“One of those manufacturers (*i.e.* one of 40 in business in 1859) employed 1,400 weavers, and altogether 2,000 to 3,000, in manufacturing and throwing. Their turnover in 1859 was at the rate of £250,000 a year. . . . In 1863 it was £66,000, and they never got it any higher than £92,000, and that was in 1872.”

When all extraneous causes for the decline of the Manchester silk industry have been noticed, there remains the question whether the manufacturers affected did all they might to avert the fate which overtook them. There have been admissions of shortcomings on the part of employers, and hints of imperfect skill on the part of workpeople. Messrs. Houldsworth at one time engaged a score of German weavers, presumably to discover whether they possessed superior skill. Mr. Malkin, who worked beside them, avowed himself “able to hold his own even better than they.” A modern manufacturer taxed on the score of comparative efficiency at the loom, “supposed Lyons weavers must be better than ours,” without presenting conclusive evidence on the point. Sir Joseph C. Lee,* of Manchester, used plain words in his evidence before Parliament, saying :

“We are not so skilful in the modes of treating silk as the French and Germans are. We are much in want of textile museums. We are very deficient as a nation in our silk industry. We simply do not produce the goods that the French do, and we do not attempt it.”

Other
Causes
of
Decay.

Sir Joseph Lee's criticisms apply as much to the arts of finishing as to those of weaving, and may be read in conjunction with Mr. Malkin's comments on the disappearance of the industry :

“Their (*i.e.* Manchester's) principal manufacture was plain or tabby cloth and striped, so that apart from the dyeing they could not be charged very well with a deficiency

* Royal Commission on Trade Depression, 1886.

of technical knowledge in the manufacture of that class of article.”

Other Causes of Decay.

If the joint comments seem to expose Manchester manufacturers to a charge of remissness in failing to explore the higher developments of their art, the environment has to be reckoned with. Manchester has not the pure air and sunny skies which assist in the development of colour and the maintenance of the cleanliness of goods.

It is the fate of a great deal of good advice to come too late to be of use, and manufacturers are confronted with situations which are always changing. Even within the last few years there has been a revolution in the character of demand for Manchester silk fabrics. Heavy black silks are only made marketable at rare intervals by some untoward event like a Royal funeral. The yarn-dyed silks which were so long in vogue have passed out of fashion entirely. Many goods, considered expensive by the buyers of to-day, would have been reckoned cheap a few years ago, and the taffeta trade for linings, on which reliance used to be put as on a staff, has been extinguished. The trade has not gone elsewhere; it has simply ceased to exist, and cheaper and less satisfactory goods are called for instead.

As the gross effect of a century of work, the separate silk industry has been almost extinguished and the cotton industry enormously promoted. Manchester warehousemen are still however among the considerable customers of British and Continental silk manufacturers, and their transactions in silk goods are apparently as large or larger than ever, although the character of their stocks has changed in consonance with the tastes of the time.

A somewhat rare publication, Hosking's *Guide to Manchester Trade*, gives an epitome of the classes of silks bought and sold in the Manchester Market in 1877, and includes foreign with British goods. These include Silk-Glacés, Gros Grains, Cachemires, Moirés, Antiques, Satins, Turquoises, Lustrines, Florentines, Chinas, Spun Silks, Gros de Naples, Failles, Marcellines, Persians, Sarsnetts, Silk Velvets, Crapes, and Umbrella Silks. Among mixed and fancy goods were Poplins, Japanese, Mikados, Grenadines, Lenos, Tasso Cloth, Tabinet, Costumes.

Still an important Silk Market.

Still
an im-
portant
Silk
Market.

The trade also included ties, cravats, neckerchiefs, shawls, sashes, Indian Corahs, foulards, bandannas, tussors and pongees.

The *Guide* was a carefully compiled one, intended for the private perusal of buyers, and it attests the existence in the Manchester trade of five throwsters, four printers of Indian corahs and bandannas, and 21 importers, brokers and agents of raw, thrown, spun, schappe and noil silks. There were besides some 70 names of silk manufacturing firms represented in the market.

While it lasted, the silk-weaving industry gave employment in auxiliary trades. Silk printing was predominantly a Manchester business, and the facilities for printing are very much larger than ever, although the place of printed silks has been usurped by highly improved forms of cotton, treated by the mercerising and schreinerising processes. Silk dyeing afforded employment in the 'thirties of the last century for some 400 to 500 men, and for many more than that number in the 'fifties. Manchester silks are dyed at present in Macclesfield, Leek and Lyons among other places.

The consumption of silk in Manchester remains larger than might be judged from the known fate of the old, separate silk trade. Silk is used in mixture with cotton by manufacturers of fancy cotton cloths, and in the small-ware trade, although chemical or artificial silk has replaced the natural fibre to a serious extent. Wheeler traced the beginnings of the Manchester business in small-wares to an origin in Macclesfield, and commented on the curious fact that Macclesfield firms should be supplying Manchester looms with work. A thousand Manchester looms were employed in small-wares before 1840.

There is preserved in the Manchester Reference Library an instructive relic of the corporate life of Manchester silk manufacturers in the mid-nineteenth century. They formed a Protective Society in 1852, of which the operations and objects may be judged from the Library's copy of the book of rules. The rules number fifteen, and most of them are formal. The first rule is indicative of the kind of losses common to all textile manufacturers in the

Trade
 Protec-
 tive
 Society.

days when material was lent out for manufacture by home workers, and for the prevention of which several statutes were passed. The last rule providing for the disciplining of traders adjudged guilty of misconduct gives the Protective Society some of the colour of the mediæval guild. Trade Protective Society.

RULES OF THE
SILK TRADE PROTECTIVE SOCIETY
INSTITUTED IN MANCHESTER

August, 1852.

I.

This Society shall be called "The Silk Trade Protective Society," and its objects shall be:—

To promote and encourage honesty and fair dealing amongst all persons engaged or interested in the Silk Trade; and to detect and punish all who are guilty of purloining, withholding, taking, stealing or receiving Silk in any unlawful manner.

II.

Any person or firm engaged in the Silk Trade and interested in the objects of the Society, may become a member or members thereof on payment of an annual subscription, which will be expected to be proportionate to the extent of the business done by such person or firm, the subscription being in no case less than two guineas.

XIII.

Every member of the Society shall report to the Subcommittee or Secretary all cases which may come to his knowledge of suspicion or of fraudulent conduct affecting the Silk Trade.

XIV.

If any prosecution, action or suit at law shall be commenced against any member of this Society, or its Secretary, for anything done by the former with the approbation of the Committee such member shall be defended in and indemnified from all the expenses attending such prosecution out of the funds of the Society; and if the said funds should at any time prove insufficient, the deficiency shall be made good at

An
echo of
Mediæ-
valism.

Pains and Penalties. the joint and proportionate charge of each member and any member refusing to pay his just share shall be excluded from the Society and be thereafter ineligible for re-election.

XV.

If any member shall, in writing, subscribed with his name, make a complaint to the Committee against any other member and specify the cause of his complaint,—and if the Committee shall think the same a *prima facie* ground for the expulsion of such member—the Secretary shall give notice thereof to the member and a copy of the complaint shall be sent to him, and a time appointed for a hearing at the conclusion of which, if two-thirds of the Committee present shall be of opinion that the complaint is established, the Chairman shall declare that he will at the next general meeting state the case for the decision of such meeting, which decision shall be determined by a majority of votes, by ballot member he shall never after be re-elected.

Thomas Crompton, President.

Richardson and Whitworth, Secretaries.

Offices—13, Corporation Street, Manchester.

An organisation which serves silk-spinners and merchants as a Club, an Exchange, and a vehicle for the occasional expression of a corporate opinion upon matters of current moment, is the Silk Club, of which the headquarters are the Albion Hotel, Manchester. Spinners frequent Manchester upon Tuesday of each week, and Bradford upon Thursday, and by means of the Club accommodation in both cities, are enabled to transact much of their business at ease. The original minute books have been lost, but the foundation appears to date from 1883. Mr. G. B. Hadwen, of Triangle, was the first president, and his portrait in oils hangs in the club-room. Mr. Alfred Stott, of Brighouse, was the first chairman, and Mr. James Robinson, of Halifax, the first treasurer, while Mr. Joseph Boden was the Club's first secretary. The Club is affiliated to the Silk Association of Great Britain and Ireland, and the annual and semi-annual meetings of the two bodies are of importance in

The
Silk
Club.

the life of the Club and in the interests of a full intercourse between all sections of the silk trade. The advantages of the Club are attested both by the character of its list of members and by its survival for a period of thirty years. Death has removed the whole of the original officers, and the various offices are at present filled by Mr. A. John Solly, J.P. (president), Mr. T. Fletcher Robinson (chairman), Mr. Wm. Wadsworth (vice-chairman), Mr. H. Buzzoni (treasurer), and Mr. C. J. Bower, 21, Cannon Street, Manchester, as secretary. The Silk Club.

An institution which did useful service in its own day and disappeared amid the gradual decay of the local silk industry was the Manchester Wool and Silk Conditioning Company. An article in *The Chemist* of 1857-58, announced that an establishment for conditioning silk had been opened by Dr. F. Crace Calvert, "under the approval of 23 firms engaged in the trade." Dr. Crace Calvert, who was at the time the leading chemist in North-Western England and a high authority upon poisons, carried on the work of boiling off and weighing samples of silk in his laboratory in the Royal Institution, Manchester. The undertaking was to some extent a co-operative one, and accounts were published and bonuses declared. A yearly profit of £400, rising to £600, was made at first, after which it declined until the takings in fees were too insignificant for division. The work was then carried on as part of the private practice of the chemist, and the apparatus used passed to his partner and successor, Mr. W. Thomson, of Crace Calvert and Thomson, by whom it was eventually broken up. Records in the possession of Mr. Thomson show a considerable number of testings in 1880, but there was a steady decrease year by year afterwards. The last made in the Institution was apparently on 17th July, 1902, for the benefit of Messrs. Kidd, Boden and Co.

Silk is received occasionally for conditioning tests at the Manchester Chamber of Commerce Testing House but in no considerable quantity. This Testing House was opened under Mr. J. H. Lester's management in 1895. He resigned in 1911, when Mr. F. W. Barwick was appointed to the position. Conditioning Com-pany.

CHAPTER XVI.

LANCASTER.

The
Oldest
English
Spinning
Mill.

The county town belongs rather to rural than industrial Lancashire, and its chief manufactures to-day are linoleum and floorcloth. Lancaster's local records contain nothing definite of early associations with silk, and the precise causes leading to the establishment in 1792 of a silk-spinning mill cannot now be divined with any accuracy. The mill exists still and prospers, and has the distinction of being the oldest of its kind in the country. William Thompson and Co., Ltd., own the Galgate Silk Mill, which was turned to its present purpose when John Armstrong, James Noble and William Thompson, all of Lancaster, bought the Ellet water corn-mill from William Bell, miller. The crest of the Armstrongs—an arm holding a javelin and the motto *Semper Paratus*—remains the trademark of the firm. In 1807 Mr. Noble sold his share to Mr. Armstrong, whose son acquired the whole property, and directed affairs until 1857. In 1857, his successor, Mr. Richard Armstrong, died, and after being carried on by his executors, the mill was acquired by the Company, Wm. Thompson and Co., Limited, formed in 1869.

The Galgate Mill is the only silk-mill in the neighbourhood, but for a time it had a competitor in Hinde and Co., of Ridge Lane Silk Mills. Messrs. Gregson and Mason, a firm of solicitors in Lancaster, incited by information received as to the profitable nature of Messrs. Thompson's operations, built this competing mill in 1837. Mr. Walter Hinde, of the firm Hinde and Derham, of the neighbouring village of Dolphinholme, was taken into the partnership, and use was made of his name. Failure ultimately overtook the newcomers, who had no successors in Lancaster.

A reputation for trading enterprise won in earlier years The
 obtained a double confirmation in the later years of the First
 18th century. The establishment of the mill to spin silk Worsted
 in 1792 has been noted, and it is fitting to mention an Spinning
 associated venture of 1784. In that year Edmondson, Mill.
 Addison and Satterthwaite, of Lancaster, built at Dolphin-
 holme a mill that is supposed to have been the first to
 turn out worsted yarn by machinery in England. This is
 the mill which passed later to the Hindes', whose con-
 nection with silk in Lancaster has already been named.
 When in the possession of Hindes and Patchett in 1807,
 the partnership effects were valued at £22,691 (*p.* 365,
James' History of the Worsted Manufacture). The firm
 spun yarns ranging from 16's to 33's, had agents in
 Bradford and Halifax, and did business with small-ware
 manufacturers in Manchester, but found its principal
 customers among the serge makers of Exeter. It may
 seem odd that the place so closely identified with the
 beginnings of the factory production, both of worsted
 and of spun silk yarn should not have benefited more
 largely from the subsequent development of these trades.

Messrs. Thompson find customers further afield, notably
 in India and Singapore, Calais and America, as well as
 in Bradford and the hosiery centres. Their mills are the
 more interesting to visit, because there remains there
 an important department devoted to the old process of
 short-spinning with which the business began. The
 improved long-spinning system was introduced about
 1864, when the present managing director, Mr. George
 Satterthwaite, first entered the business. Short-spinning—
 or in other words the application of cotton spinning
 methods to waste silk—has its uses for a limited range of
 purposes, and is practised in two other English mills.
 At Galgate the visitor may see waste eligible for treat-
 ment by the long-spun, or worsted process, dressed in the
 gum and chopped into short lengths by a modified chaff-
 cutting machine. The chopped waste is boiled in little The
 bags, to discharge the gum, dried, scutched, blown, Short-
 carded, and finally spun either with or without an admix- spinning
 ture of silk fibre removed by combs from long noils, the Process.
 by-product of the long-spinning process.

Notable
Galgate
men.

The Patent Office records show that in 1841 one Archibald Templeton, of Lancaster, devised a means of separating, dividing and laying parallel silk fibres preparatory to spinning, including a means of cutting silk waste by rotating knives. Nothing is known of Templeton at Galgate, and it is to be inferred that he was at Hinde and Company's mill, which had been opened three or four years before this date. In partnership with a brother, Templeton was for a few years a silk spinner in Congleton. Mr. Thomas Watson, who built up a large spinning and plush-weaving business in Rochdale, and Mr. James Robinson, who occupied a spinning-mill in Halifax, are two of a number of men, prominent within the industry, who learned their business at Galgate.

KENDAL.

Kendal, known throughout centuries for its woollen cloths, and described by Defoe as a noted town for tanneries, has certain remote associations with silk and was the seat of the first silk-spun yarn mill of which any record has been traced. The tanneries have grown into boot factories of renown, and carpet and horse-cloth manufacturing have prospered. Silk, despite the encouraging report upon its progress made by Arthur Young in his *Northern Tour* (1769), has disappeared from the list of active employments. Young's description is given with his famous particularity, and is here reproduced :

An early
Spinning
Factory.

“They have likewise a small manufactory of cards for carding cloth. Another also of silk: They receive the waste silk from London, boil it in soap, which they call scowering, then it is combed by women (there are about 30 or 40 of them) and spun, which article employs about 100 hands; after this it is doubled and dressed and sent back again to London. This branch is upon the increase.”

Although there is evidence of the earlier use of waste silk in this country, particular accounts of its treatment are scarce. The statement that the silk was combed does not finally exclude the possibility that Young failed to distinguish perfectly between combing and carding.

Assuming however that the word is to be taken literally a passage from Mr. Hollins Rayner's *Silk Throwing and Waste Silk Spinning* may describe the Kendal method:—

“The old-time system of dressing was of course a hand process. Each worker had heckles or combs supplied to him, through the teeth of which a portion of silk was drawn. The short silk and noils and nibs adhered to the teeth until by continued repetition the silk held by the worker was straight and the fibre parallel and free from short silk and nibs. Then the portion dressed was held by the workman and the portion previously held in his hand put through the combing process. When both ends were properly combed, that portion of silk was placed on one side for spinning, and the short fibre and noils were considered waste. The reversing of ends tested the skill of the operator as the teeth of the comb had to strike the silk at a point to ensure the middle of the silk properly being combed out; otherwise the centre of the lengths would be rough and woolly and have a large amount of short fibre left, making it impossible to have a level yarn.”

The
Hand-
combing
of waste
Silk.

CHAPTER XVII.

NOTTINGHAM.

The
Resort
of In-
ventors.

Nottingham resembles other textile centres of this country in having earlier associations with native than with any of the exotic fibres. Apparently the first manufacture of the town was woollen cloth, of the dyeing of which the burgesses were given a district monopoly in 1155. Fairs held at Lenton as early as 1300 were marts for the sale of these cloths, and Deering's *History* (1751) would seem to show that some of the goods were sent to the Merchants of the Staple at Calais. Deering says the trade flourished until the loss of Calais, when it "gradually went off, till at last it entirely left the Place." The dimensions attained by the business are unknown, and it is perhaps significant that in the numerous statutes made for the regulation of woollen manufacturing during the 16th and 17th centuries no mention of Nottingham cloths has been found.

The other native material, flax, was being woven certainly in 1476, and also in 1675, by which time silk had obtained a footing. Deering's table of the trades and employment exercised in 1641, shows at that date two master silk-weavers in Nottingham and two framework-knitters. In 1739 there were no silk-weavers, the framework-knitters had increased to fifty, and there were three master woolcombers.

Hargreaves, the inventor of the spinning jenny, found a patron in Thomas James, of Nottingham, and a machine to spin 84 threads of cotton simultaneously was erected in Mill Street in 1769. Arkwright came to Nottingham with his invention two years later, and, with the help of



Plate XXIII. William Lee, thinking out his problem of a Knitting Frame.

Mr. Need, brought his frame to the point at which it would produce smooth yarn. Cotton yarn imported from East India had been used earlier in the local knitting trade, but silk it will be shown was employed before cotton.

The association of Nottingham with the forefathers of the cotton-spinning industry has been more widely recognised than its connection with the early history of woolcombing and worsted-spinning. Blackner's history of the town (1815) records that a worsted-mill was built by Robert Davison and John Hawksley upon the north bank of the Leen in 1788; the building, being burnt down in 1791, was replaced by another in which the machinery was driven by a 60 h.p. engine. An acrimonious correspondence carried on by Robert Davison, worsted-spinner, Arnold, with Alexander Foxcroft, an attorney, is preserved in pamphlet form under the date 1803 in the Nottingham Public Library. When Davison died, losses were encountered, the mill was sold, and Hawksley, his partner, put up a worsted-mill in Butcher's-close, and failed in 1815. There is an interest in the facts apart from the failure of either cotton-spinning or worsted-spinning to take permanent root in Nottingham, for Hawksley was the inventor of a woolcomb. His patent was taken out in 1793, or three years later than Cartwright's first invention. Hawksley's idea was seen to be valuable by the Rev. Edmund Cartwright, who entered into agreement with him whereby Hawksley assigned his rights to Cartwright in return for one-fourth share of the profits of the whole invention; and a special Act was obtained for the consolidating the two patents for a term of 14 years.

It is not easy to detach fact from fiction in the several conflicting accounts about Lee, the Nottinghamshire clergyman, who invented the stocking-frame, or about the circumstances of its invention, and even the facts as to the introduction of hand-knitting are obscure. Knitted woollen caps were referred to expressly in a statute of 1488, a mention altogether inconsistent with the statement made in Ephraim Chambers' *Encyclopædia*, to the

The
Resort
of In-
ventors.

Lee
and the
Stocking
Frame.

Lee
and the
Stocking
Frame.

effect that Lee's invention was made "about twenty-eight years after we had first learned from Spain the method of knitting by needles." William Lee invented his first frame in 1589, an event commemorated by an inscription upon the portrait formerly hung in the Stocking Weavers' Hall, Red Cross Street, London :

"In the year 1589 the ingenious William Lee, A.M., of St. John's College, Cambridge, devised the profitable art for stockings (but being despised, went to France), yet of iron to himself, but to us and to others of gold ; in memory of whom this is here painted."

"Knyt hose, knyt petycotes, knyt gloves and knyt-sleeves," were named in an Act of 1552, but there is Howell's evidence, contained in his *History of the World*, that at least silk stockings were imported from Spain in the time of Henry VIII. It must be regarded as certain that hand-knitting was a much older employment than Chambers supposed.

Hand-knitting gave Lee the clergyman his cue, and, according to one of the more matter-of-fact accounts that have been handed down, the sight of a lady knitting the heel of a stocking by the use of only two needles fired him with an inspiration as to how mechanical knitting might be done. This version is not intrinsically less probable than those which ascribe the inventions to motives of pique. Deering's version of the traditional romance is that Lee :

"was deeply in love with a young townswoman of his, whom he courted for a wife ; but whenever he went to visit her, she always seemed more mindful of her knitting than of the addresses of her admirer. This slight created such aversion in Mr. Lee against knitting by hand, that he determined to contrive a machine that should turn out work enough to render the common knitting a gainless employment. Accordingly he set about it, and having an excellent mechanical head, he brought his design to bear in the year 1589."

The
stimulus
to
inven-
tion.

A variant, published by T. Baldwin of Hinckley, in 1776, says that Lee in wooing a lady of great beauty and fortune :

“surprised her in a grove, knitting a fine silk stocking. The
It was in this grove that the young lady gave incentive
Mr. Lee an absolute refusal of her hand ; which to
so affected Mr. Lee that he declared he would invention
invent a machine that should be a means of
spoiling the knitting trade.”

The material point is that Lee, a native probably of the parish of Calverton, nine miles distant from the town, or—as has also been said—of the parish of Woodborough, invented and perfected his frame and taught others to work it. He carried the machine from Calverton to Bunhill Fields, and sought the patronage of Elizabeth through the agency of Lord Hunsdon. His petition for a monopoly was refused, and the somewhat curious terms of the royal refusal are given with a wealth of detail in Gravenor Henson's *History of the Framework Knitters* (1831). Henson writes that the refusal is said to have been made in terms having the purport of the following :

“My Lord, I have too much love for my poor people, who obtain their bread by the employment of knitting, to give my money to forward an invention, that will tend to their ruin by depriving them of employment, and thus making them beggars. Had Mr. Lee made a machine that would have made *silk* stockings, I should have been somewhat justified in granting him a monopoly, which would have affected only a small number of my subjects ; but to enjoy the exclusive privilege of making stockings for the whole of my subjects is too important to be granted to any individual.”

A paper printed in explanation of Elmore's painting, The
the “Origin of the Stocking Loom” (1847), makes a Stocking
jump at the conclusion that Elizabeth's “masculine Loom.
mind doubtless regarded the invention of stocking weaving
by a *man* with contempt.” Masculinity—it might be
urged—is not the dominant characteristic of the speech

The patronage of France. recorded by Henson. It is, at all events, the case that Lee perfected in 1598 a frame capable of knitting silk stockings, of which a pair are said to have been presented by him to the Queen. Neither Elizabeth nor James I being willing to grant a patent, and his friend Lord Hunsdon being dead, Lee accepted the offer made by Sully, the French Ambassador. Deering's version is that, being tempted

“ With promises of reward, privileges and honours, by Henry IV, he embraced the seeming fair opportunity, and went himself, taking his brother and nine workmen, and as many frames, to Roan (Rouen), in Normandy, where he wrought with great applause.”

The account given in the “ Origin of the Stocking Loom ” is that Lee's prospects became clouded upon the death of the French King, and that after sharing in the persecution which befell the French Protestants, he died of grief and despair in Paris. Lee's death in Paris in or soon after 1610, has been accepted as proved by the *Dictionary of National Biography*, but there is another version of his end, more in keeping with the spirit of romance. Baldwin says :

“ Some years after, Mr. Lee received an invitation to return to his native country, which he accepted ; and soon after the art of Framework-Knitting became famous in England ; and Charles I, with a great many of his nobles, learnt it. And it is said, that as Mr. Lee had gained so much honour at home and abroad by this invention, his former lover nobly gave him her hand, and crowned his wishes and ingenuity with her person.”

This conventional ending to the romance is unsupported by other testimony. Another story is that Lee's invention was, not long after his death, brought back to his native land by seven of his workmen, who joined Aston, an ex-apprentice of Lee's, at Calverton, in working their frames in this country.

Lee's
death in
Exile.

It was certainly in Nottingham that the industry began, and the processes by which it extended to London

can at least be imagined. The capital must have been the chief mart for the goods produced. Silk was brought thither directly from abroad, and hand-knitting was an established occupation. By 1695, Henson says there were more than 1,500 stocking frames in the alleys, courts and back-places of the metropolis, and chiefly in the parishes of St. Luke and Spitalfields. Some fifty years after the presumed death of Lee, the Framework Knitters' Company, then grown to be a considerable corporation, was given a charter by Charles II, with jurisdiction over the trade within a ten-mile radius of London. The grant and the exercise of these powers became later a matter of importance to Nottingham. The London knitters assumed authority over the business throughout this country, and also exerted themselves to prevent the transference of the machinery abroad. At their instance Richard Cromwell, in 1659, confiscated forty stocking frames which were about to be exported, and their petition of 1656 supplies valuable particulars as to their position and that of the industry at large. The Knitters sought from the Protector :

“The coercive power of your Highness to restrain their ill willers from unravelling the entrails of the Commonwealth, and giving or yielding opportunity unto strangers to gather them up, and make that common to all the world which is naturally particular in sole propriety to this nation.”

They described some attempts that had previously been made to introduce Lee's machines upon foreign soil, including that of the Venetian Ambassador, who gave £500 to one Henry Mead, an apprentice, who took his frame to Venice and worked upon it there. Mead was, however, incompetent to repair his frame when it fell out of order, and the Venetians :

“Disheartened and impatient of making vain trials, sent his disordered frame and some of their own imitation to be sold in London at a very low valuation.”

Failure
of
Process
Abroad.

The Knitters recounted how one Abraham Jones had :

Failure
of
Process
Abroad.

“By underhand courses and insinuations (and not by servitude as an apprentice) gotten both the mystery and skilful practice did pass himself with some more into Amsterdam erected frames and wrought for the space of two or three years until the infection of the plague seized him and his whole family, and carried them all to the grave. . . . His frames were sent to London for sale at slight rates.”

The finger of Providence was seen in these happenings, and the Commonwealth was said to be :

“Able abundantly to serve itself and *ultra* with all commodities of knit work, as stockings, calceons,* waistcoats and many other things.”

The Knitters insisted on the advantage of their craft to the

“merchants, owners of ships, hosiers, dyers, winders, throwsters, sizers, seamers, trimmers, wire drawers, needlemakers, smiths, joyners, turners, with many other assistants.”

They made apparent also the intimate connection of their trade with silk, saying :

“That altho’ this manufacture may be wrought in any other materials that are usually made up. . . . Yet has it chosen to be practised in Silk, the best and richest of all others in use and wearing, and most crediting the artisans and of greatest advantage unto his State and Commonwealth, yielding several payments to the use of the State before it passes out of the hands of the traders therein, and increasing merchandise by both the ways of importation and exportation of the self-same material, imported raw at cheap rates, exported ready wrought at the utmost extent of value ; so that the distance of these valuations is totally clear gain to the Commonwealth, and esteemed upwards of six parts in seven of the whole quantity of this material in the highest value thereof wrought up by this manufacture ; which has vindicated that old proverbial aspersion :

“The stranger buys of the Englishman the case of

Attitude
of Home
Industry.

* Calceons—caleçons, drawers.

the Fox for a groat and sells him the tail again for a shilling. And may now invert and retort upon them.

“The Englishman buys silk of the stranger for twenty marks and sells him the same again for one hundred pounds.”

The knitting business extended in districts outside London, and was taken up in Kent and Surrey by master woolcombers when the Southern trade in worsted cloth began to decline. These beginners, like the employers in Nottingham and Leicester, employed cheaper labour than that of Spitalfields. The Framework Knitters Company took toll of their provincial competitors, although in law their charter extended only for ten miles around London. Their Commissions made periodical visits into the country, and in Nottingham sat at the Feathers Tavern to admit apprentices, levy fines and confer freedoms. Certain of the Nottingham manufacturers began to employ parish apprentices, obtained from the workhouses, and Cartwright, Fellows and the two Coxes are particularly named by Henson as doing so. Payment of a fine of £400, which was put upon Fellows, and one of £150 upon Cartwright, for their contumacy was resisted, whereupon the beadles of the Company seized and sold goods and frames in satisfaction of the claims. An action for trespass brought in 1728 by Cartwright established the fact that the Company was without due authority, and in 1730 the Company abandoned making goods as a Stock Company, for it was being hopelessly undersold by its independent rivals.

New by-laws were sought and obtained, and it was against these that a Nottingham petition to Parliament protested, declaring them “against all reason and contrary to the general liberty of the subject, by the company levying taxes to assist them in their jurisdiction all over the Kingdom, with power to search premises; monopolizing the lending of frames for hire; and thus prejudicially affecting and oppressing the trade.”

The Select Committee of the House of Commons reported in 1753:

A
Company
estab-
lished.

Petition
to
Parlia-
ment.

Report
of Select
Com-
mittee.

“The several persons employed in framework-knitting in the town of Nottingham have fully proved the allegations of their petition.”

In the end the Company was deprived of privileges that had not been wholly to the advantage of its own members.

Contemporary evidence quoted by Deering is particularly to the point in respect of the moral influence of the privileges :

“Nor did these large sums do the Company any Service as a Body, for as they got the Money illegally, so they spent it as lavishly, and instead of growing rich, the Company became very poor ; and many of their Heads having got a Taste of high Living and neglecting their Business, also dwindled to nothing. To which add, that within these thirty years last past, the Merchants and Hosiery in London, finding they could be fitted from the Country with as good Work at a cheaper Rate than the London Framework-Knitters could afford ; the Bulk of that Trade has since shifted from thence, and the chief Dependence they had left, was upon what is called Fashion-Work, it being for many years the Mode to wear Stockings of the same Colour of the Cloaths, and this also, being by Degrees left off, what remains now in London does hardly deserve the Name of Trade.”

Illicit
Weight-
ing.

Illicit practices assisted London to make effective competition with Nottingham in the silk stocking trade, despite the disparity in the cost of labour. Stockings were made heavy in the early 18th century, and Henson says that few weighed less than four ounces a pair. In other words the cost of material comprised a large proportion of the total cost. Besides being the primary silk market of the country and the place where most silk was dyed, London was also the mart for embezzled silk, abstracted in course of dyeing and obtainable covertly at less than market rates. By artificially increasing the weight of the silk entrusted to them by others, the dyers were able to

cover the deficiency and to offer silk for sale at prices which counteracted the higher scale of wages paid in London. The Capital failed however to retain the trade. Illicit Weight-
ing.

First, the trade in worsted stockings was lost to London, and gradually the business in silk stockings. Between 1732 and 1750 about 800 frames were sent from London to Nottingham to be bought at half their cost or less, and a similar number were sent to Leicester. To defeat London malpractices, Nottingham hosiers had begun to make stockings lighter in weight, so that the component raw material formed a smaller element in the total cost, and lighter frames began to be built for the purpose. Whether or not this was the first occasion on which an insidious competition has effected a revolution in public demand, it was assuredly not the last. The case is stated upon the authority of Henson, but seeing that the French were at this time making fine stockings of light weight and supplying them to the English market, it may be suspected that fashion and example had also an influence in assisting the change.

When Joseph Stocks, a Nottingham workman, succeeded in making stockings not weighing over $1\frac{3}{4}$ oz. a pair upon a 28-gauge frame, he was acclaimed the best workman in the trade. A challenge was issued to the Lyons knitters, and for a wager Stocks was set to produce a pair of stockings finer than the French. A 38-gauge frame was used for the occasion, the machine was ordered to undergo a "thorough recruit," the best organzine was procured specially from Italy, and an expert silk sizer was obtained from London to ensure the best possible result, but the award of the assessors went against Stocks, and in favour of the French. The attempt showed at least the intention to excel, and the result gave some justification for a preference for French hose that became more marked later.

Decay
of
London
Industry.

The decay of the London industry proved of benefit to ten provincial towns, named by Deering in the following order :

Nottinghamshire .. { Nottingham.
Mansfield.

Provincial
Centres
of
Trade.

Leicestershire	..	{	Leicester.
			Mount Sorrell.
			Loughborough.
			Hinckley, &c.
			Ashby-de-la-Zouch.
Northamptonshire	..		Towcester.
Surrey	..	..	Godliman.
Derbyshire	..	..	Derby.

Deering's book is dated 1751, and his reference to Nottingham's great rival in the hosiery trade attests a state of local feeling which is not without existence at the present day:

“Of all these none comes in Competition with Leicester for Quantity of Goods, but even this very Town, though it may boast of its large Concerns, yet must confess that its best Goods are made at Nottingham, where by far the greatest part richest and most valuable commodity, whether of Silk, Cotton, Thread and Worsted is wrought, and it seems this so profitable Employment, as it were by a magnetical Force, is in the Height of its improved State, drawn towards the Place of its Birth, in order to make ample Amends for deserting it in its Infancy. . . .”

Henson gives 1730 as the date of the completion of the first pair of cotton stockings made in England, and names the workman Draper, of Bellar Gate, Nottingham, as their maker. The material was East Indian hand spun yarn, and it is added that a 20-gauge silk frame was used to knit them. Four threads were doubled to make the leg, and five for the heel and the finished article, on account of its whiteness after bleaching, was more valuable than silk in the eyes of the time. Cotton came gradually into use in Nottingham, ousting silk in large measure, and serving to extend the range of local manufactures. Deering has left an account of the extent of the industry at a date when the local trade consisted of little more than stocking-making:

Notting-
ham
Pioneers.

“There are, as per list, fifty Manufacturers, Employers of Frames, or as they are commonly called Putters-out, who all Trade directly to London, besides those who only deal with Leicester. Both together occupy above 3,000

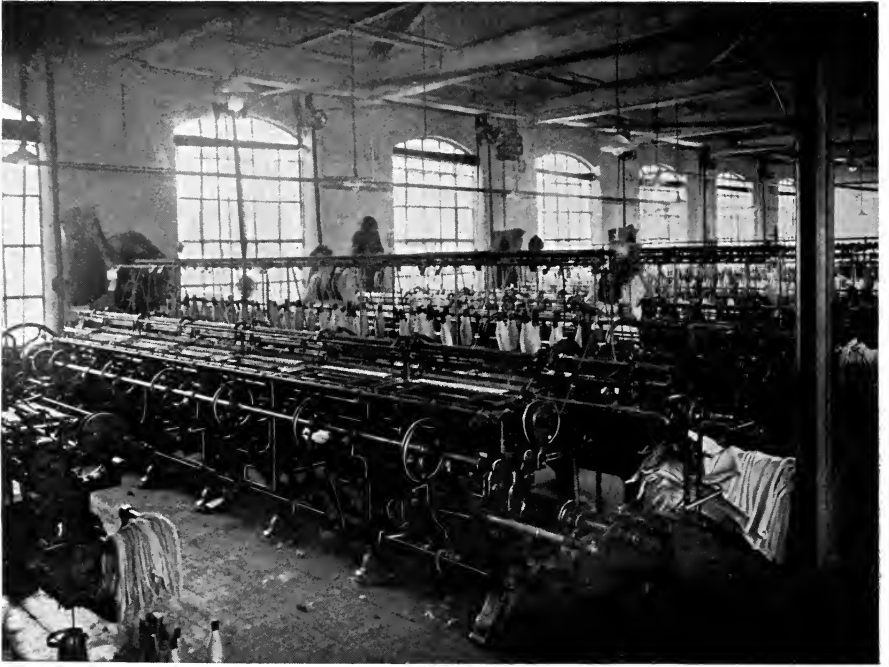


Plate XXIV.

A Modern Knitting Frame (Cotton's System).

frames, of which upwards of 1,200 are employ'd in Nottingham, and the rest in the villages about, who buy their Provisions and other Necessaries in this Town."

The larger development of the lace trade came later, but that the making of bonelace preceded the stocking-frame is shown by Deering's explicit statement on the subject :

"The Bone-Lace Trade, by which great Numbers of Females were constantly employ'd till within these 35 years when all these Hands were more advantageously taken up by a fresh Manufacture, which has ever since comfortably maintained, besides these Females, above thrice their Number of Men ; I mean the Manufacture of Frameworked Stockings."

The machine lace trade sprang out of the framework-knitting trade, and the invention of the tuck-presser, the first appliance permitting the execution of fancy patterns upon Lee's knitting frame, marks one step in the evolution. This invention for allowing two or three loops to be made upon one needle, was invented elsewhere, and is said by Felkin to have been introduced into Nottingham by an Irishman between 1740-56. Ribs, zigzags, and lozenge patterns in different colours could be formed by its aid, and the improvement known as the Derby rib, patented by Jedediah Strutt in 1758-59, which lent a new elasticity to hose, directly and indirectly promoted the use of cotton ; but there were numerous efforts then being made for the utilisation of silk. Enterprise was in evidence at the period, and Blackner records an unsuccessful attempt to produce velvet on the stocking-frame. In 1767 Ross and Darrella, who worked in Nottingham, as well as in Edmonton and London, produced silk velvet by this means, but the enterprise failed because the pile of the fabric was loose. Mr. Godfrey's *Notes on the Parish Register of St. Mary's, Nottingham*, show that in 1765 "scarves of the finest China silk, a new material, made in the stocking frame, were given in place of the usual scarves to the pall-bearers at the funeral of Alderman Samuel Fellows," who with his father had carried on silk manufacture for

Begin-
ning of
Bone
Lace
Trade.

Efforts
to
extend
use of
Silk.

Silk
Glove
Trade.

upwards of seventy years. In the election of 1778, when Mr. Abel Smith was returned without opposition, Felkin says that members of the Stocking-makers Association for Mutual Protection marched in procession before his chair, which had been "gaily ornamented with the newly invented silk lace."

Spanish silk gloves, made at Cordova, began to be imitated in England about the middle of the 18th century, principally in Nottingham, and Henson tells of the manufacture of silk mitts figured with roses, leaves and branches wrought in eyelet-holes by hand. The work seems to have been a lucrative occupation. Workers could make more than two pairs a day, and were paid frequently 5s. a pair, or as much as 6s. for black mitts. These payments for fancy work stand in contrast with those that made "poor as a stockinger" a synonym for extreme poverty.

The efforts of the last half of the century were, perhaps, spurred by the preference for foreign goods, a preference marked enough to prompt the passing of an Act under George III to protect the home manufacture by a prohibition upon imports :

"Any person importing foreign silk stockings, mitts, or gloves after the 1st of June, 1765, into any part of the British dominion, to forfeit such goods. Any person importing, aiding and abetting, or any retailer who shall sell or expose for sale, shall over and above the forfeiture of such goods pay £200 and costs of suit."

A reflection upon the efficacy of the prohibition may be read into Henson's statement that "For more than twenty years after the passing of the Act, the workmen were instructed to work in eyelet-holes in the mitts of the stockings the word *Paris*."

Stress of
Competition.

Discontent with the rewards of the industry at this period is shown in an enactment of 1765-66, and known as the Tewkesbury Act. Nottinghamshire is one of the counties producing long-woolled sheep, and the domestic spinsters being accustomed only to spin very long wool were unable to accommodate themselves to so short a

fibre as cotton. Tewkesbury spinsters, accustomed to spin the short Spanish merino wools used in the West of England woollen trade, could spin cotton, and by knitting two-fold homespun cotton yarn, where Nottingham had to buy Indian yarn and fold it three, four, or five times, the Tewkesbury knitters made an economy of 25 per cent. Accordingly, this Act for the protection of Nottingham trade prescribed that:

Pro-
tection
for
Notting-
ham
Trade.

“Framework-knitted pieces, or stockings made of thread, cotton, worsted, or yarn, or any mixture of the said materials, except made of silk only, which shall contain Three or more Threads, shall be marked with the same number of eyelet-holes in one direct line, in the same course, so as they shall not exceed three inches from the extreme eyelet-holes and shall not be placed within four inches of any title figure, mesh or device, and shall be within four inches of the top or end of every such piece or pair of such goods. No eyelet-hole, or imitation thereof, shall be made except as aforesaid.

“The Act not to prevent manufacturers using remnants in welts and tops of stockings, only not to exceed three inches, although such remnants should not contain three or more threads.”

The enactment was made of small practical account by the innovation of factory-spun cotton yarn within a few years of its passage, and a weakness in it which moved Henson to scorn, is only of philosophical interest. It would appear that, while punishing those who marked stockings falsely when the goods were knitted with three-fold threads, it was inoperative against those who might have misdescribed goods made only with two-fold yarn. The lameness of the result was doubtless the effect of Gloucestershire opposition to this particular Act.

It has been seen that bonelace, made by hand upon a lacemaker's pillow with the aid of bone bobbins to carry the thread, was made in Nottingham before the introduction of framework-knitting; and that successive

The
Manufac-
ture of
Machine
Lace.

The
Manufacture of
Machine
Lace.

steps towards the production of lace-like fabrics had been taken. According to Henson, whose authority was somewhat disputed by the later writer Felkin, it was in 1769, that the first machine lace was made in the town, and this valuable departure was due to one of the less estimable of townsmen. Hammond, "a person of drunken habits," matched with an intemperate wife, was without money in a public-house in the New Buildings. His eye fell upon the cap worn by his wife, which had a "broad lace border and a caul of the same fabric." He was seized with the idea that he could make cauls or nets of the same sort upon the machine at his home in the Rookery. Borrowing a small quantity of silk, he went to work at once, produced three caps before night, and hawked them in the public-houses. The net was made on the so-called tickler machine in a cross stitch formed by removing the thread from one needle to the second next needle, so that in one course the shift was towards the right hand, and in the next course towards the left. This plain, "wire ground lace" was followed with a double cross stitch called pretentiously by Hammond "Valenciennes." Making caps by day and selling them and drinking by night, the original lace manufacturer is said to have passed several years of his life. Henson adds that of the more ornamental caps sold upon these hawking expeditions some were hand-made, and in those parts where ornament was to be used the fabric was made in the same stitch as plain stockings.

A Period
of Inven-
tion.

The "pin machine," invented by Else and Harvey of London, for making point net, was introduced into Nottingham soon afterwards, and the transference of one of these machines to France in 1785-6, where the design was improved, gave the French their predominance in the manufacture of tulle. A Mr. Ingham is named by Blackner as the first to introduce warp lace machinery into Nottingham, but his venture only lasted three years. William Dawson, a needlemaker, who set up a factory to make similar lace in Turncalf Alley, removed his machinery to Islington in 1800, and his Nottingham premises were converted into a silk-mill. It was by the



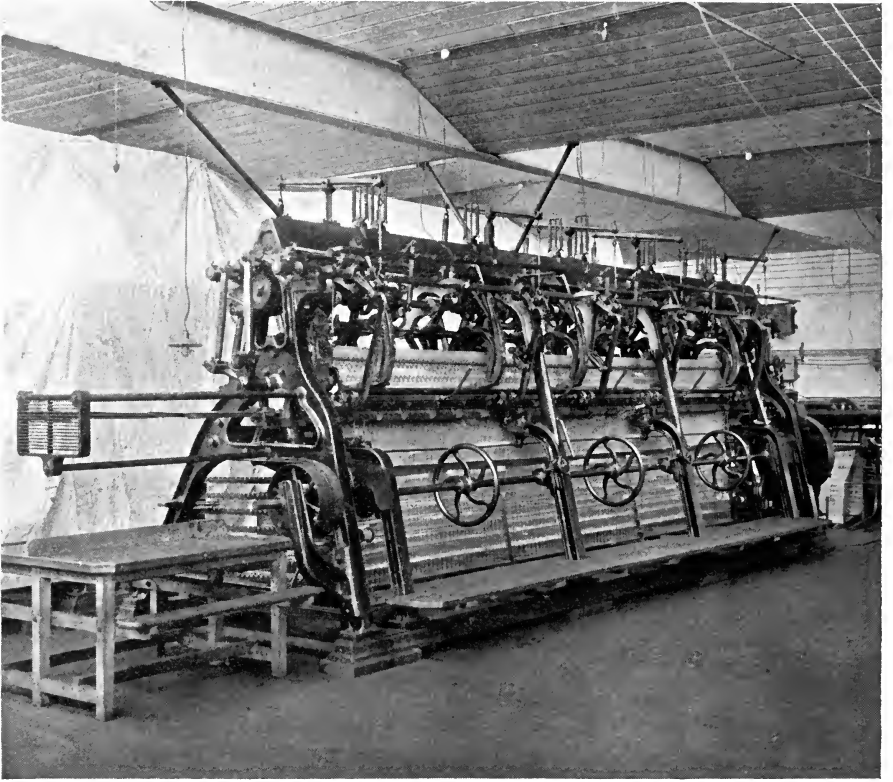


Plate XXV. Leaver's Lace Machine, making lace 260 inches wide.

use of two sets of threads—warp, or beam, and weft, or bobbin—that John Heathcoat eventually re-solved the problem of making hexagonal net by machine. Although Heathcoat was a Leicestershire man, and the course of events drove him to Devonshire to carry on his work, there is a sense in which his was a Nottingham invention. After learning his trade under William Shepherd, a maker of frames and Derby rib stockings at Long Whatton, Heathcoat came to Nottingham to work under Leonard Elliott, whose business of a frame smith he purchased. After carrying on the business for a while in Nottingham, he removed it to Hathern, in Leicestershire, and subsequently to Loughborough. In the latter place he was joined in partnership in 1809 by Charles Lacy, a point net manufacturer from Nottingham, and in this year the machine, which by common admission was the most complex as yet made, was patented. Nottingham was Heathcoat's market place for the goods first made in Loughborough and later in Tiverton, and the town is still the seat of the warehouse of his firm. Again, Nottingham was the town in which Heathcoat's invention had most effect upon others in stimulating the improvement of lace machines. It is related in McCulloch's *Dictionary* that upon the lapse of Heathcoat's patent in 1822-23, "Clergymen, lawyers, doctors and others readily embarked capital upon so tempting a speculation."

A Period
of Inven-
tion.

When Dr. Ure published his *Dictionary of the Arts and Manufacture* in 1839, there were six types of lace machines in use in Nottingham :

- (1) Heathcoat's patent.
- (2) Brown's traverse warp.
- (3) Morley's straight bolt, invented in 1811 by a Derby man who came to Nottingham to exploit his invention.
- (4) Clark's pusher principle, invented in 1811 by Samuel Mart and James Clark, of Nottingham.
- (5) Leaver's machine.
- (6) Morley's circular bolt, invented in 1812.

Types
of Lace
Machines

The Leaver's machine (now variously spelt Lever's and Leiver's) is said by some to have been invented almost con-

Types of Lace Machines. temporaneously with Morley's circular machine (1812), and to have been made conjointly by John Leavers and one Turton, both of New Radford, Nottingham. Doubt is thrown by Felkin upon the share of Turton in the invention, and Levers is described as a frame smith originally of Sutton-in-Ashfield, and later of Nottingham. Felkin was at pains to show that Levers was improvident and had the convivial inclinations of genius, but the fact that the typical Nottingham lace machine is called Levers to this day may be accepted as sufficient proof of his originality and ability.

These years are important as the initial period during which the Nottingham lace machine was evolved. This started the industry of the town upon a new course, much to the local advantage, but in a direction leading rather to the consumption of silk than of cotton.

A considerable consumption of silk is recorded in the early years of the last century, and of its sources Blackner (writing in 1812) says :

“The silk of which Nottingham lace is made is brought in an organized state from Italy ; while that of which stockings are made is brought principally from China and the East Indies ; the latter from its size and softness, being the best calculated for stockings, while, for the same properties it is not calculated for lace.

“The silk of which black stockings are generally made is known amongst the workmen by the name of *Novi* ; hence many of them conclude it to be Italian silk—the mistake arises from its being reeled after the *Novi* manner.”

Silk in the early 19th Century.

Great attention to the statistics of production was paid by Felkin, the historian of the hosiery industry, who in evidence before the Select Committee on Machinery in 1841, specified “stockings and netted articles of cotton and silk” as the principal manufactures of the town. In 1843 he estimated the number of bobbin-net machines in England at 3,200, of which 2,600 (1,400 power and 1,200 hand) were calculated to be in work. About 2,000 of the machines were assigned to Nottingham and the

neighbourhood, and the rest to Leicestershire, Derbyshire, and the West of England and the Isle of Wight. The machines were supposed in 1842 to use 125,000*lbs.* of raw silk (equalling 100,000*lbs.* prepared) and 1,400,000*lbs.* of spun Sea Island cotton. The value of silk net produced was placed at £200,000, being twice the value of the prepared silk entering into it. The separate warp lace trade with 800 machines was calculated to consume 30,000*lbs.* of prepared silk and 450,000*lbs.* of spun cotton. The produce of this smaller branch, being some £150,000 in silk lace and £200,000 in cotton lace, was said to be entirely disposed of through about 15 Nottingham business houses.

Statistics
of Pro-
duction.

In 1850 two manufacturers of hosiery were singled out in *Slater's Directory* as specifically concerned with silk, John Henson, of Hyson Green, and H. Ray and Co. The name of William Clarke, New Radford, was given as that of a manufacturer of silk fringe, gimp and braid, which articles belong rather to Derby industry. Four silk throwsters names were given, namely :

- G. Allcock, Upper Parliament Street.
- Bean and Johnson, Clinton Street.
- Francis B. Gill and Co., Houndsgate.
- Walsh and Windley, Currant Street.

These were followed by the names of five silk merchants:

- William Baker, 6, King's Place.
- Bean and Johnson, Clinton Street.
- F. B. Gill and Co., Houndsgate.
- Alfred Hoyles, Castle Gate.
- G. N. Walsh, 23, Smith Parade.

While the trade in lace was developing, that in silk hose was suffering from the change in habits of dress. The case was stated concisely by a member of the firm of I. and R. Morley before the Factory Committee of 1833.

Changed
Habits of
Dress.

"In men's dress the advent of trousers and boots, especially of a kind of boot sold with stockings sewn in ; and in ladies' dress the boot and the vogue of the trained dress" were said to have militated against the trade in silk stockings. No reversion to knee-breeches and silk

Changed stockings for men has occurred since that time, and for Habits of both sexes these articles have been relegated chiefly to Dress. evening wear. The opportunities for their sale have been vitally affected by the liberal developments in cotton spinning and finishing, by the introduction of immense quantities of Australian wool suited for making the finest cashmere hose, and by the progress made in converting this wool into yarns of flawless regularity."

In 1860, when a memorandum was drawn up by the Nottingham Chamber of Commerce in view of the proposed commercial treaty with France, the delegates enumerated cotton, silk, spun silk and merino as the four materials chiefly used in the Midlands hosiery industry. The machines employed were of four types—hand, rotary, circular and warp, and about 5,000 kinds of articles were made upon them. It was stated that there had been about 7,000 silk frames in the trade when waistcoats, small clothes, gloves and stockings made of silk hosiery were worn. In 1812 there were computed to be 2,156 silk frames and in 1833, 3,000.

In 1844 there were—

856 hose and 698 glove frames working silk in Derbyshire.

687 hose and 1,407 glove frames working silk in Nottinghamshire.

With 223 frames elsewhere,
making a total of 3,773.

The Memorandum added that the number of silk frames in Nottinghamshire had been rapidly declining during the decade 1850—1860.

Lace in
the
'Fifties.

A Report upon the Exhibition of 1862 by Mr. Richard Birkin supplies information upon the developments in lace-making during the middle of the last century. The Report points out that in 1851 the Jacquard had only been partially applied to the fancy lace machine, but had since been wholly applied to it. Most marked advance since 1851 was reported in making window curtains, bed-covers and antimacassars. Of 3,552 lace machines of all types stated to be working in England in 1862 the value was £400—£800 each, and the distribution was:—

2,448 Nottingham and vicinity,

505 Derby and County,

599 Tiverton and other West of England towns.

Lace in
the
'Fifties.

The gradual decline of plain silk nets and quillings during the ten years was commented upon, together with the slow but sure advance of silk Cambrais, Brussels and Mechlin nets and "Queen's" quillings. "A great variety of a very light description of silk fancy nets of a useful and elegant character" made their appearance during this period.

The more recent change in habits of dress whereby knitted underwear has supplanted flannel has affected wool more than silk, and in Nottingham at the present day the manufacture of knitted silk articles is mainly in the hands of two firms. The demands upon them are rather increasing than diminishing, but considerations of comparative cost limit the dimensions of the trade. Black silk socks are made for evening wear for men and coloured stockings for the evening dress of women. The "Mode to wear Stockings of the same Colour of the Cloaths"—to repeat Deering's quaint words—exhibits itself still, and one of the principal Nottingham firms finds its regular assortment of 70 shades of coloured silk insufficient to satisfy all the demands made upon it by fastidious ladies. Organzine silk, thrown in England, is employed for these stockings. For underwear, use is made of English spun silk for the better qualities and Continental schappe silk for the cheaper sorts. Makers of the higher classes of wool underwear manufacture garments in which fine wool is mixed with silk; a thread of single spun silk and one of botany wool being doubled together to form the yarn, and this incidental consumption is to be added to the rest.

Silk articles are knitted chiefly in factories outside the town, and are returned to the Nottingham warehouse to be finished by a simple process of damping, ironing and drying in ovens before being parcelled. "Chevening," or the hand-sewing of clocks and ornamentation upon stockings is done in the warehouses instead of by out-workers, as formerly, and so is the hand-painting of coloured stockings for evening dress.

Modern
Influ-
ences.

Modern
Influ-
ences.

The manufacture of miscellaneous articles from coloured silk varies with the demands of fashion. Neckties for men are made more in Macclesfield than Nottingham, but heavy spun silk boleros are turned out from Nottingham factories. Silk is used regularly by knitting manufacturers at Belper, Mansfield and Cromford, and by makers of scarves and of Milanese for gloves at Ilkeston and Melbourne, all of which places belong by affiliation to Nottingham trade.

For half a century Mansfield, near Nottingham, was one of the seats of the waste silk spinning trade. The firm of William Hollins and Co., Ltd., spinners of merino, cashmere and cotton yarns and manufacturers of Viyella fabrics, began silk spinning in 1852, and continued the department until 1900, when this branch of the business was sold to the Bent Ley Silk Mills Co., Ltd., of Meltham, Huddersfield.

Artificial silk is used in increasing quantity for veilings, and although it has been introduced into hosiery upon a background of cotton or wool, the results have hardly justified its employment in articles intended to withstand washing. Silk plain nets made mainly in Tiverton, Barnstaple, Chard and the West of England form a constant, although not a large part of Nottingham trade, and are sent to Long Eaton and Stapleford to be finished. Silk fancy laces, which are a staple of Calais trade, are a subsidiary branch of Nottingham industry, but have not been made in any quantities since the decay of the demand for Chantilly black lace. The fancy lace trade is peculiarly exposed to the caprice of fashion, and Nottingham manufacturers in general are not anxious that business in silk lace should be revived. The loss in producing designs which fail to win acceptance is considerable when the lost material is only cotton and is proportionately greater in the case of silk. Again, the trouble of dealing in two materials, as against that of handling one, causes silk to be eyed with disfavour by manufacturers, whose chief concern is with cotton. On the other hand, it is reported that large profits have been made out of silk lace-making during its brief appearances in public favour.

Silk
Lace
Trade.

Recent
Trade
tendencies.

Wright's *Nottingham Directory* for 1913 gives the names of 237 firms of lace manufacturers and 105 firms of holders of lace machines. The machines are erected in large factories containing numbers of tenants, and in the main the names of holders are duplicated in the longer list. The manufacturers who are not machine owners buy lace and curtains "in the brown," or unbleached condition, and sell the article in the finished state. There are 63 names of hosiery manufacturers and nine of surgical hosiers, whose business, involving the consumption of fine organzine silk, is a particular Nottingham speciality. Seven firms are named as cotton and silk doublers, ten as silk agents and merchants, and two as silk throwsters and winders. Silk throwing is largely given to commission throwsters in Macclesfield, and is no longer a distinctive local employment, although there are throwing machines at work.

The development of the industry in the outer districts, as shewn in local directories, is displayed in the following list :—

Beeston—Lace Manufacturers and Machine			
Holders	..	..	24
Hosiery Manufacturer	..	..	1
Burton Joyce—Bag Hosiers*	..	..	4
Carlton—Hosiers	..	..	2
Arnold—Hosiers	..	..	5
Bag Hosiers	..	..	8
Ilkeston—Silk Manufacturers	..	..	2
Hosiery Manufacturers	..	..	6
Melbourne—Silk Manufacturers	..	..	2
Belper—Hosiery Manufacturers	..	..	4
Matlock—Hosiery	..	..	4

Industry
in the
Outer
Districts.

The machine-made lace trade is so essentially a Nottingham business that the general figures ascertained for England and Wales under the Census of Production, 1907, acquire

* Bag Hosier—hosier getting his work done upon commission. An embittered reference to these traders in the *Stocking Makers' Monitor*, 15 November, 1817, reads: "A Bag, or rather shall I say, a Rag hosier to furnish them with cut-ups and square heels and a long train of trade-destroying rubbish at a price lower than the lowest." The same journal, in another place, coupled "mercenary cheap dealers and Bag Hosiers." The antagonism is presumably to be explained by the conflict of interest between an employer wanting his work done cheaply and operatives urgent for a higher scale of payment.

The Present Extent of the Nottingham Industry.

a strong local significance. These figures shew a production of "Silk Net and Lace and Articles thereof," valued £442,000, out of a total £4,886,000, for lace goods of all kinds. The costs for finishing and of commission being added, the gross output from lace factories and warehouses becomes £8,955,000, and of this it will be seen that silk lace accounts for less than five per cent.

For similar reasons the general import and export trade returns apply with strong force to Nottingham, and these reveal silk in a much lower place of importance than cotton. Thus the imports of silk lace and articles thereof (except embroidery) were :

	1910.	1911.	1912.
	£112,000	£146,000	£103,000
against the following in the case of cotton :			

	1910.	1911.	1912.
	£2,542,000	£2,539,500	£2,454,000

The exports of British-made silk lace were :

	1910.	1911.	1912.
	£15,000	£11,500	£9,000

and of re-exported foreign-made silk lace :

	1910.	1911.	1912.
	£178,000	£157,500	£138,500

Against the following in cotton :

	1910.	1911.	1912.
Exports ..	£4,244,000	£3,936,000	£4,095,000
Re-exports ..	£1,353,000	£1,196,000	£1,192,000

The sources of the foreign laces chiefly dealt in were given by a Nottingham witness to Mr. Chamberlain's Tariff Commission as :

Calais.	St. Gall.	Vienna.	Lyons.
Caudry.	Barmen.	Turin.	Dresden.
Plauen.	Leipzig.		

Sources of Foreign Laces.

Mention was made in particular of Lever's laces made in France, Schiffli embroidery from Plauen and hand embroidery from St. Gall. On the other hand, it has to be noted that the cotton net upon which Plauen lace is stitched is manufactured in and exported from Nottingham. The general manufactures of the Nottingham lace factories may be summarily stated as :

Curtains.	Plain Nets.	Fancy Laces.	Notting- ham Industry To-day.
	Spotted Nets.	Fine. Common. Heavy.	

The lower rates of wages paid upon the Continent preclude Nottingham firms from employing machinery of the Continental type more largely, but there are at work a considerable number of Swiss embroidery machines in addition to the curtain, Levers and plain net machines native to the district.

The town has large supplies of female workers, familiarised from their early years with factory organisation and the execution of light tasks requiring concentration of mind and deftness of hand. It is accordingly a favourable place for the development of industries employing the sewing-machine and the making-up of woven garments, and under-garments has become an important branch of the local business. As in Macclesfield and Coventry, the silks used in Nottingham clothing factories are chiefly of Japanese and Continental make.

CHAPTER XVIII.

DERBY.

First
con-
nection
with
Silk.

Negative evidence favours the idea that the stocking trade gave Derby its first association with silk, for no direct mention of silk manufacture can be discovered before the date of Lee's invention of the stocking-frame. There are ancient connections with the growing, stapling, and manufacturing of wool, and in 1204 the inhabitants of Derby received from King John a monopoly of the cloth-dyeing trade within a certain radius of the town. Glover's *History and Gazetteer*, published in 1831, makes record of the fact that silk became the principal textile material in local use soon after the invention of the frame, and the date may be suggested by a reminder that it was in 1589 that Lee completed his first stocking-frame in the adjoining county of Nottingham, and 1598 before he perfected a machine to knit silk. "In process of time the machine found its way into Derby," writes Hutton, without committing himself to a definite date. Felkin, the historian of the hosiery trade, records the existence of two master hosiers in Nottinghamshire in 1641, and hosiers were perhaps not much more numerous in Derbyshire at that time, although in 1720 there were about 150 frames in Derby. The information is an inference drawn from Hutton's statement, published in his *History* (1791), that there had been no increase in number during the previous seventy years.

The Derby stocking trade might have grown greater in the early 18th century had not a development occurred which was prophesied to make "the Hosiery stagnate." Hutton adds that the event verified the prediction, and



Plate XXVI. Lombe's Mill, Derby. The first Silk Mill erected in England, 1717.

allows that "perhaps the loss was of no consequence, for the journeyman rather starves than lives." The event was the establishment of the silk-throwing factory that has indissolubly linked Derby with the history of silk in England. Derby was a market for silk thread used in making silk stockings, and it may be that this local consumption of silk, principally Italian in its origin, imbued Crotchet with his notion that there was "a fine opening to raise a fortune" by throwing raw silk by machinery at home. Crotchet accordingly erected in 1702 a small silk-mill, which later acquired the name of the "Old Shop," and was used for throwing shoot during part of the time that its great successor was employed in making organzine. Hutton says "every prospect of the future undertaking was favourable till the scheme was put in practice, when the bright ideas died away. Three engines were found necessary for the whole process; he had but one. An untoward trade is a dreadful sink for money; and an imprudent tradesman is one more dreadful. . . . Crotchet soon became insolvent."

It was Crotchet who introduced John Lombe to Derby. John Lombe, whom Hutton calls "a man of spirit, a good draughtsman and an excellent mechanic," and who was described in a House of Commons speech as one "whose head is extremely well turned for the mechanics," was born in Norwich, where his father was a worsted weaver. He came, at what must have been a tender age, as apprentice to Crotchet, to whose care he was confided by his father's executors. As John Lombe died in 1722, at an age reported to be 29, he would be nine years old when Crotchet began business. The venture being short-lived, Lombe could not have been far advanced in years when Crotchet's failure deprived him of a situation. With money advanced by his half-brother Thomas, then a rising mercer in London, John made his way to Piedmont, to profit by observation of those particulars in which Crotchet's practice had been found lacking.

In 1716 John was back in London with all the information he desired and a couple of Italian workmen to help him in the execution of his scheme. Report has made

Market
for Silk
Thread.

Lombe's
Venture.

Lombe's
Venture.

free with the means taken by the younger Lombe to attain his ends. "He adopted the usual mode," according to Hutton—in corrupting the servants of his Italian employer to give private access to the machine, details of which he meant to possess himself of. "Whatever part he became master of, he committed to paper before he slept," says the chronicler, who as a boy worked in the Derby mill. "By perseverance and bribery, he acquired the whole, when the plot was discovered, and he fled," and found sanctuary on an English ship. The story goes that the King of Sardinia was so incensed at the incident that he made it death for any man to discover the invention or attempt to carry it out of the dominion. There are other accounts in which the youthful Lombe is credited with more cunning and duplicity, and in which he is made to attain his ends by collusion with the Italian priesthood. If the stratagems were actually taken they were superfluous in view of the fact that a complete description of the Italian method of silk-throwing, accompanied by drawings, had been given by V. Zonca in his *Novo Teatro di Machine*, published in Padua in 1607, and issued in further editions in 1620 and 1686. There might be a natural desire to supplement the printed information by close inspection of the machine at work; and especially to bring away workmen accustomed to the process. The necessity of measuring and noting details must, however, have been reduced, and as Lombe is reported to have stayed several years in Italy, it would be a poor compliment to suppose him unacquainted with a manifestly valued and somewhat widely circulated book bearing so closely upon his main object in life.

Reason
for
starting
at
Derby.

Thomas Lombe, the capitalist of the venture, and owner of the patent, had his mercery business in London, where there was then in operation an established frame-knitting trade consuming silk, as well as the older weaving trade. If the idea of starting their machine in London in opposition to the established hand-throwsters occurred to the Lombes, it was dismissed. Hutton says they "fixed upon Derby as a proper place . . . because the town was likely to supply a sufficient number of hands and the able

stream with a constant supply of water." Mr. Davison, in his *Rise and Progress of Derby* (1906), says Lombe "preferred swift Derwent to sluggish Trent for water power." Nottingham mills at a much later period had to be driven by horse power, and over half a century later Arkwright removed to Derbyshire to avail himself of the river. It is at least probable that the Lombes, as well as Crotchet, had their eyes on the stocking market and on the transference, then in progress, of the hosiery industry from London to the Midlands. The local weaving trade had not begun, and the consumption of silk in such businesses as the button-working trade carried on around Macclesfield could not constitute more than a minor attraction. Lombe agreed with the Corporation of Derby for the lease of an island swamp in the river, paying £8 a year ground rent for a strip 500 feet by 52 feet, and built upon it the mill that was the wonder of its age and the first forerunner of the modern factory system. "The first English factory in the modern sense," is the description given to it by Mr. Taylor, late Inspector of Factories, in his standard work, *The Modern Factory System*.

The mill had eight rooms and 468 windows. Its foundations were composed of sixteen or twenty-foot piles, with stone above them, and its cost is stated as £30,000. Three or four years were occupied in its construction, and during that time John Lombe was carrying on his new business in rooms in different parts of the town, and largely in the Town Hall. Sir Thomas Lombe, to give him the title that was the reward of his enterprise and public services, left £120,000 at his death, and is said to have made £80,000 during the currency of the patent granted for fourteen years in 1718. Hutton would make the first years proportionately even more profitable than the later ones. After reducing the prices to a level at which the Italians could not compete, "the over-flowings of profit were so very considerable as to enable him to pay for the grand machine as the work went on." The machinery was under John Lombe's eye during construction. The equally important matter of the supply

Reason
for
starting
at
Derby.

Profits
of the
enter-
prise.

The
impressions of
Defoe.

of power had the engineering supervision of Soracole, of whom Defoe, in the *Northern Tour*, tells a diverting tale. The mill was still new at the time of the great man's visit, of which there follows his account :

“ Here is a Curiosity in Trade worth observing as being the only one of its kind in England, namely a Throwster's Mill worked by a Wheel turned by Water, and though it cannot perform the Doubling Part of a Throwster's Work, which can only be done by a Hand-wheel ; yet it turns the other Work and is equal to the Labour of many hands. Whether it answers the Expence or not, is not my Business to enquire.

“ This work, afterwards much improved by Sir Thomas Loam, was first erected by one Soracole, a Man expert in making Mill work, especially for raising Water to supply Towns for Family Use. But it had been like to have been fatal to him ; for going to show some Gentlemen the Curiosity, as he called it, of his Mill, as he crossed the Planks which lay just above the Millwheel, being too eager in his Description and keeping his Eye rather upon what he pointed at with his Finger than where he placed his Feet, he mist his Step and slipt into the River. He was so very close to the Sluice which let the Water out upon the Wheel, and which was then pulled up, that though Help was just at hand, there was no taking hold of him till by the Force of the Water he was carried through, pushed just under the large Wheel, which was then going round at a great Rate. The Body being thus forced in between two of the plashers of the Wheel, stopt the Motion of it for a little while, till the Water pushing hard to force its Way, the Plasher beyond him gave way and broke ; upon which the Wheel went again, and like Jonah's Whale spewed him out, not upon dry Land, but upon that Part they call the Apron, and so to the Mill-tail, where he was taken up and received no Hurt at all.”

The
Mill
described.

Not all contemporary accounts of the equipment of the mill can be accepted without question, and one which stirred Hutton's contemptuous contradiction has been quoted somewhat widely without qualification: An imaginative writer.

"One hand will twist as much Silk as before could be done by 50, and that in a truer and better Manner: this Engine contains 26,586 wheels and 97,746 Movements, which work 73,726 Yards of Silk Thread every time the Water Wheel goes round, which is three Times in one Minute, and 318,504,960 yards in one Day and Night. One Water Wheel gives motion to all the rest of the Wheels and Movements, of which any one may be stopped separately. One Fire-engine likewise conveys warm air to every individual part of the Machine, and the whole Work is governed by one Regulator. The House which contains this engine is of a vast bulk of five or six Stories high."

"Had the Author made the number of his wheels 10,000 less he would have been nearer the mark," writes Hutton—adding in bitter remembrance of his own servitude—"or if he had paid an unremitting attendance for seven years, he might have found their number 13,384." The spirit of exaggeration is corrected further by an assurance that the wheel revolved not thrice, but "about twice" in a minute; and that the "superb fire-engine" was in actuality "a common stove, which warmed one corner of the large building and left the others to starve." To Hutton the mill was "a curious but wretched place," in which he spent the most unhappy part of his life. Temperamentally he may have been less fitted to endure than some of his fellows, but the arrangements for his performance of duty and the correction of his mistakes cannot now be defended. He says:

"Low as the engines were, I was too short to reach them. To remedy this defect a pair of high pattens were fabricated and lashed to my feet, which I dragged after me till time lengthened my stature. The confinement and the labour were no burden, but the severity was intolerable." The Account by Hutton.

Death
of
John
Lombe.

Children who did wrong were hoisted for corporal punishment upon the back of Bryan Barker, a giant "approaching seven feet." They were punished for making much waste, a thing that—from "the fineness of the materials, the ravelled state of the slips and the bobbins" and childish imprudences—was difficult to avoid. The raw silk was from Persia, Canton and Piedmont, and included perfectly white China sorts, and it passed from one machine to another, first to be wound, next to be twisted and then to be doubled.

John Lombe did not live to enjoy long the prosperity his efforts had produced, and his death is attributed traditionally to the craft and vengeance of the Southerners, whom he had despoiled of their market. Hutton's version of the illness and death has not commanded unquestioning belief, and, like the story of the young man's Italian adventure, that of his illness is not very different from the one that neighbours with a taste for romance might have fabricated for themselves. "An artful woman came over in the character of a friend associated with the parties and assisted in the business. She attempted to gain both the Italians, and succeeded with one. By these two, slow poison was supposed, and perhaps justly, to be administered to John Lombe, who lingered two or three years in agonies and departed." The colour of justification apparent in the recital is that "the Italian ran away to his own country, and Madam was interrogated, but nothing transpired except what strengthened suspicion." By whom Madam was interrogated is not, however, stated. John Lombe had become a man of mark, and was accorded the "most superb funeral ever known in Derby." John was succeeded by William Lombe, a brother, of a melancholy cast of mind, who took his own life, and in 1736 Thomas Lombe assumed full control. The business gradually became more successful, and it continued to employ 300 hands until the expiry of the patent in 1732.

Applica-
tion for
Exten-
sion of
Patent.

In applying for his patent in 1718, Thomas Lombe pleaded that he had continued earnest application and endeavours for several years, employed a great many agents here and in foreign parts, and by dint of great expense

and hazard had accomplished that which had never before been done in the realm. In applying for an extension of the patent on the ground that a great part of the gains had been consumed in teaching workpeople the use of his invention, Lombe encountered formidable opposition. In spite of the fact that monopolies had been limited to a term of fourteen years under James I, Parliament did not show itself reluctant to grant an extension. A House of Commons Committee of 55 members, to which were added the four members for the county of Derby, and the whole commercial element of the House, considered the petition, and in fourteen days reported by ordering Alderman Percy and six members to bring in a Bill for the extension of the patent.

Applica-
tion for
Extension
of
Patent.

An account of the proceedings is given by Gravenor Henson in his unfinished *History of the Framework Knitters* (1831). Witnesses were called in the person of two master silk-weavers and two silk merchants. Daniel Booth deposed that since the establishment of the Derby engines silk which had formerly cost 25s. a pound, could be bought for 20s., and that the silk manufacture had much increased. Booth produced samples of silks representing that of the English hand-throwsters, Italian organzine and Lombe's English organzine. Specimens were also shown in the unwrought condition, and also "woven into silk fabrics of velvet and mantua (*i.e.* dress) silk."

Captain Peter Lekeux, a master-weaver, testified to similar effect, adding that until a year or two ago Lombe had been unable to throw good silk, but that now his yarn was as good as the Italian.

One Selwin, a silk merchant, agreed that several mills had been set up for silk-throwing, but none, except Lombe's, could produce thrown silk equal to Italian organzine. Another merchant, Drake, who had seen Lombe's engine, declared that he had not seen its equal even in Italy. Petitions were presented from Manchester, Macclesfield, Leek and Stockport praying that counsel might be heard in opposition to the Bill. Another was forwarded by the Master, Wardens and Assistants of the Company

Evidence
for and
against.

Evidence
for and
against.

of Silk-throwsters, London, urging that by Act of Charles I no person had the right to exercise their trade without having served apprenticeship to it, and pointing out that an extension would be ruinous to them. This petition from London was supported by one from Blackburn in Lancashire. All these were reinforced by a singular petition by the Mayor, Aldermen, Brethren and Capital Burgesses of Derby, assembled in Common Council, on 26 February, 1731-32. Their plea asserted that Lombe's invention was not only detrimental to the woollen manufacture, but also to the borough in general. The gravamen of a complaint which looks astonishing to modern eyes was that by keeping the poor at home, Lombe was increasing their number. The local petition said that "although the said engine employed a great number of hands, the erection had materially increased the poor rates," and that the enlarging of the term of the patent would only be a continuation of the grievance. In view of this extraordinary representation, it seems fair to recall Defoe's description of the Derby of 1720 as "a town of gentry rather than trade." The borough would seem to have been accustomed to export the poverty-stricken.

The presentation of several petitions against the Bill and the absence of any addresses in its favour put a new complexion upon the case, and the application for a renewed monopoly was refused. The refusal was softened by a grant of £14,000 made conditionally upon the exhibition in the Tower of London of an exact model of the mechanism and the award of this solatium led to great rejoicing at the mill. In the phraseology of the Chancellor of the Exchequer :

"His Majesty having been informed of the case of Sir Thomas Lombe with respect to his engine for making organzine silk, had commanded him to acquaint to the House that his Majesty recommended to their consideration the making such provisions . . . as they shall think proper."

Exten-
sion of
term
refused.

The sum was voted to Sir Thomas Lombe "as a reward for his eminent services done to the nation, in discovering with the greatest hazard and difficulty the capital Italian

engines, and introducing and bringing the same to full perfection in this Kingdom at his own great expense." The knighthood and the shrievalty of London and Middlesex came to him in 1727, his 42nd year, and Lombe lived until 1739. Lombe's Reward.

The expiry of the patent and the full disclosure of the structure of the machines led immediately to the establishment of competitive mills, and one of Lombe's Italians, Nathaniel Gartrevalli, transferred his services to the opposition mill at Stockport. Eleven additional throwing-mills were built at Derby before 1791, when silk had become the staple manufacture of the town and gave employment to more than a thousand persons. Mention is made of these twelve mills in Macpherson's *Annals of Commerce* (1805), in which it is written they "were in a great measure employed in twisting Bengal silk for the East India Company." Glover tells of five or six other mills existing in the remainder of the county in 1831, and estimates the number of operatives at two or three thousand.

A quotation from the *Derby Reporter* in Mr. Davison's *Rise and Progress*, shows that in 1833 trade unionism began to attract Derby workmen, of whom 800 are said to have joined a secret society. A manufacturer, Frost, having discharged one man who refused to be fined for bad work, his fellows left in a body in the month of November. Workers in other mills joined the strikers, and when the employers retaliated by discharging all unionists, some 1,300 persons, including throwsters, small-ware weavers, broad silk weavers, twistors, and members of other trades were idle. Strangers were imported, and some mills were put into partial work. Dragoons were brought into the town, and special constables were sworn in. The strike outlasted the winter, and kept 2,400 men, women and boys idle until mid-April.

The name of Frost appears in the firm of Frost and Stevenson in Pigot's *Directory* for 1835 as one of ten silk manufacturing firms existent at that date. The compiler gave the articles produced in Derby from silk as "various, embracing hose, handkerchiefs, shawls, ferrets,

Develop-
ments,
1800—
1850.

Develop- laces and sewing silk," and his list of names included
ments, those of ten throwsters.

1800— Causes not connected with the local supply of material
1850. affected the stocking-making business. The workman-
ship was inferior, French-made stockings were preferred
and Midland-made silk stockings were sold under the
false name "Paris." An impetus was lent by the
improvements made by Roper, of Locko, in 1750, and
Jedediah Strutt in 1758-59, resulting in the production of
Derby-rib, or elastic, stockings. The improvement was
common to hosiery at large, and assisted indifferently
silk and cotton at a moment when the machine spinning
of cotton yarn was beginning. The market that had
attracted Crotchet and Lombe drew Arkwright from
Lancashire, first to Nottingham and next to Derby in
search of means to develop his water-frame for spinning
cotton by the use of rollers. It was at Belper on the
River Derwent that Strutt and Arkwright, who entered
into partnership in 1775, built the first of their four cotton-
mills.

The cotton knitting industry developed rapidly, and
in 1831 found employment for 6,500 persons, as against
850 engaged in knitting silk. The authority for these
particulars is Glover, who adds that Ward, Brettle and
Ward, of Belper, then considered to be the largest makers
of hosiery goods in the world, had 400 silk knitting frames,
producing 300 dozens of hose a week, and 2,500 frames for
cotton, turning out some 1,900 dozens a week. One
Crane, in 1766, had made a frame for manufacturing rich
brocade for waistcoats, weaving being introduced much
later.

William Taylor, occupier of Lombe's old mill, began
the weaving of silk goods in premises in Bag-lane apparently
about 1822. Bridgett and Son and Ambrose Moore and
Co. followed his example, and enabled Glover to declare
that sarcenets, gros de Naples and other rich silks "in
Changes in local industry. style equal to those made by the weavers of Spitalfield,"
were being woven on 220 looms and engaging about 300
persons. Velvets and plain and figured satins are
enumerated in Bagshaw's *Derbyshire Gazetteer* (1846),

amongst the other broad silks made in Derby and its dependencies, and the number of looms is stated at 344, and the trade is said to have been extending. Changes in local industry.

Narrow weaving was introduced almost simultaneously with broad by the firm of Jas. and S. C. Peet in 1823, who, in a factory built by Isaac Peet, applied steam power to the weaving of galloons. Glover adds that the Peets were makers of considerable quantities of silk hose and of ribbons, and that other early manufacturers of narrow goods were Smith, Bosley and Smith, of Glossop, and Ralph Frost, of Derby.

Bagshaw wrote in 1846: "Derby is entering into formidable rivalry with that great monopolizer of the ribbon manufacture, Coventry," and amplified the remark by the statement that the 233 steam ribbon-looms at work in 1833 had since greatly increased in number. It is learned from Beckman's *History of Inventions*, published in the same year, that the ribbons were plain and chiefly black sarcenet; and that there were 233 power ribbon-looms in Derby, 254 in Congleton, and 100 in Leek. Contemporary writers are in agreement as to the healthy condition of the industry up to this period, and Dodd, in *British Manufactures* (1844), wrote: "By degrees improvements have reached every department, so that at the present day some of the silk mills present fine examples of factory arrangement."

An operation closely allied to the wire-wrapping done now in Derby received less favourable mention from Dodd:

"Rage for cheapness in the present day had led to a curious excess of ingenuity . . . by the invention of a process termed 'plating,' which bears the same relation to the real silk manufacture as metal plating does to the manufacture of silver. It consists in putting a coating of silk upon a foundation of cotton, by which the more costly material is only used in those parts which meet the eye." The passage ends with the assurance that "the history of our textile manufactures within the last dozen years is full of examples of this kind."

The
Plating
Process.

The manufacturers named in Bagshaw's *Directory* of

List of
Firms.

1846 number 22, whose names, addresses and businesses are given as follows :

- † Adams, Thomas, Cavendish Street.
- † 2 3 Allen, Joseph, Chester Road.
- † Brammall, Holmes, City Road.
- 3 Bridgett, Thomas & Co., Bridge Street.
- † 6 Crooks, Thomas, Siddals Lane.
- * Davenport, Ebenezer, Osmaston Street.
- * Davenport, Joseph, Morledge Mills.
- † Gilbert, James (silk and cotton purses), Traffic Street.
- † Hunt, George, City Road.
- * Johnson, John, Albion Street.
- Johnson and Walton (and cords), Jury Street.
- 3 Madeley, Thomas & Co., Cavendish Street.
- 3 Peet, J., and C.S., Nuns Street.
- 1 Robinson, John and Thomas, & Co., Sacheverel Street.
- 3 4 Simpson and Turner, Canal Street.
- 3 6 Taylor, Wm., sen., Silk Mill Lane.
- Taylor, Wm. Henry, and George, Full Street.
- † 3 Taylor, Wm., Short Street.
- 2 3 4 Topham and Fawcett, Wardwick Mill.
- 2 3 4 5 Unsworth and Williamson, Depot Mills, Siddals Lane.
- † Wright, Samuel Job, Agard Street.
- * Wright, Thomas John, Agard Street.

The lease of the Old Silk Mill passed in 1739 from Lady Lombe to Richard Wilson who, it is stated by Glover, obtained the whole works for the sum of £4,000 ; an amount quite disproportionate to the reported cost of the building. Until 1803 the premises were occupied by a Mr. Swift, who improved the machinery, and at the time of the fire in 1826, when the machines had to be entirely renewed, the mill was in the occupation of the Mr. Taylor who founded the Derby silk-weaving trade. The mill had ceased to be used for the manufacture of silk, and was in the possession of a firm of manufacturing

The
fate of
Lombe's
Mill.

* Throwsters only.

1 Manufacturers of broad silk.

3 Ribbons.

5 Twist.

† Manufacturers only.

2 Manufacturers of doubles, galloons, and smallwares.

4 Trimmings.

6 Velvet.

chemists at the date when it was burnt to the ground in December, 1910. A new building of three storeys in place of five has replaced it upon the same site, and the tower with which it is also graced is reminiscent of Lombe's. A relic of the original structure remains in a fine pair of wrought-iron gates surmounted by Lombe's monogram, which have been re-erected by the Corporation of Derby *in situ* in Silk-mill Lane.

Relics
of
Original
Building.

The silk industry has not only dwindled in Derby, but has radically changed in character. Silk-weaving, except of narrow gimps, has disappeared. No silk hose are knitted in the town, although factories affiliated rather to Nottingham than to Derby work up silk on the knitting-frame at Belper, Matlock, Ilkeston and Melbourne. Silk-throwing is done extensively by only one firm, that of T. Mitchell, and upon a smaller scale for self consumption by one or two other manufacturers. Seven firms use silk for manufacturing purposes, principally in wrapping electrical and millinery wire, making dress and millinery trimmings, surgical bandages, cords and coach lace. A recapitulation of the classes of goods made by one Derby firm includes chenilles, tassels, gimps, fringes, laces, buttons, scrolls, tinsels and fancy goods. It is probably a correct estimate that the number of persons employed in throwing and winding silk in Derby is four hundred. The number engaged in manufacturing silk cannot be so accurately gauged, but by the best trade authorities the number is estimated at one thousand.

The throwing-mill owned and carried on by Mr. Albert J. Eggleston, in the name of his predecessor, Mr. T. Mitchell, is in succession to the old firm of Davenport, founded in the first half of the last century. Mr. Charles Dould, Abbey Street Mills, and Messrs. Stokes and Hudson have a large manufacturing business. Messrs. Richards' mill is now a branch of a Manchester Company. Messrs. Thomas Smith and Sons, Ltd., Abbey Street, manufacture some silk lace, and Messrs. G. B. Unsworth and Son, Ltd., are wire coverers and makers of dress trimmings, as are Messrs. Green, of Normanton, upon the outskirts of the town.

The
Present
Day.

CHAPTER XIX.

LEICESTER.

The
Begin-
ning
of the
Stocking
Trade.

The close community of interest between Nottingham and Leicester makes it difficult to trace the development of the knitting industry in the one without constant reference to progress in the other. In the larger sense the Midland hosiery trade is all one. It has arisen from a common source, and that portion which belongs to Leicester has been concerned more with wool than silk.

Little more than 30 miles separates Leicester from Calverton, the birthplace of Lee's invention, but it was not in the county-town, but in Hinckley, that the first use of the knitting-frame in Leicestershire was made. Ephraim Chambers, in his *Cyclopedia* (1783), says a frame was brought into Hinckley before the year 1640 by one William Iliffe; in other words within fifty years of the date of Lee's invention, or within thirty years of its re-introduction to England. The site was found congenial, and Chambers wrote :

“Now the manufacture of the town is so extensive that a larger quantity of hose, of a low price, in cotton, thread and worsted, is supposed to be made here than in any town in England. The manufacture now employs about 2,585 working people.”

The connection of Hinckley with the cheaper sorts of hosiery has been continued to the present. It is not said whether the first stocking-maker to begin business in Leicester came from that direction or from the northward. In *Glimpses of Ancient Leicester* (1891), Mr. T. F. Johnson attributes the introduction of the first stocking-frame to one Nicholas Allsopp, who worked in a cellar in Northgate Street. The statement agrees with that made by Gardiner, upon the authority of his uncle Coltman, who was engaged in the trade in 1769. In his book, *Music and Friends*, Gardiner, who gives a sufficiently

circumstantial account, names 1670 as the date of The Allsopp's beginning, and mentions that the pioneer had Beginning difficulty in vending his own work. Allsopp took J. Parker, of Leicester, as apprentice, and in due time Parker took of the as his own apprentice a Quaker called Samuel Wright, and Stocking for some years Wright was the only stockinger in the town. Trade.

Gardiner's statement that it was in about 1700 that the making of worsted hose first became a trade, suggests the inference that the first stockings were made of silk. Gravenor Henson's assertion (1831) that the first pair of cotton stockings were made in this country in 1730, favours this construction, without putting out of court the alternative meaning that numbers of newcomers entered the business. Mr. Johnson says there were from 500 to 600 framework-knitters in Leicester in 1727, and Gardiner refers to the existence of 1,000 frames in the town in 1750. It is evident that the development was an important one, and if Henson's authority can be accepted, the change to cotton was quickly made. Gardiner says the frames in 1750 were making white thread hose from imported Silesian yarn, and brown thread hose from Scotch yarn, and were also turning out 1,000 dozens of worsted hose per week. The dyeing and trimming of the goods was carried out in Nottingham, where Elliotts' charge for black dyeing was 3s. 6d. a dozen. Gardiner's account includes the names of the principal manufacturers of that day :

Mr. Lewin.

Barns, Chamberlain and Burgess.

Cradock and Burney.

Thos. Pougher.

Richard Garle.

Sir Arthur Hazlerig.

Joseph Cradock.

Jno. Williams.

Wm. Miles.

Output
in
1750.

Thomas Gardiner, who lived 94 years, and died in 1837, left behind him an account of the social condition of the framework-knitters, showing that their plight was not the uniformly desperate one that has been some-

The
Condition
of the
Stock-
inger.

times supposed. The narrator, who used to distribute his goods all over England by packhorse, was reported to be speaking of "his earlier years," and possibly of the time anterior to the machine-breaking riots of 1773. At least, the account is something to set against the stories of destitution which occur too frequently in the history of the industry. He wrote:

"The lower orders lived in comparative ease and plenty, having right of common for pig and poultry and sometimes for a cow. The stocking-makers each had a garden, a barrel of home-brewed ale, and work-day suit of clothes, and one for Sundays, and plenty of leisure, seldom working more than three days a week. Moreover, music was cultivated by some of them. Even so late as 1800 the larger part of all the frames in Leicestershire were the property of the master framework-knitters, not of the hosiers."

Work in cotton and wool was not better paid than the work in silk in Nottinghamshire. Felkin gives the rates of payment about 1779 as 10s. to 12s., as against 10s. to 14s. on silk. A higher standard of condition would be explicable could it be supposed that fancy knitting was done by the fortunate villagers, for upon this work 18s. to 30s. was paid in Nottinghamshire. Mrs. Johnson, however, states explicitly that the making of fancy hosiery was not begun in Leicestershire until the opening of the 19th century.

Leicester
Inven-
tors.

Gardiner was the son of the Leicester bleacher who is said to have been the first to whiten worsted hose by stoving them in the fumes of sulphur, an adaptation to hosiery of a process long used upon woollen cloth. Leicester has been connected with some notable advances in the manufacture of textiles, in particular with the devising of machinery to spin long wool. A man named Brookhouse, employed in 1788 by the firm of Coltman and Gardiner, woolcombers, Leicester, adapted the principle embodied in Arkwright's cotton spinning-frame, and two of the largest makers of worsted yarn, Coltman and Whetstone, employed these machines. In an angry riot the machines were destroyed, as well as the dwellings

of the spinners who had been courageous enough to use them. Brookhouse set up machines in Warwick, and there made a fortune from them. The process was adopted in Worcestershire, Yorkshire and Aberdeen, and eventually in Leicester. Again, through Donisthorpe, Leicester was identified closely with the improvement of the wool comb. The invention of machinery for spinning long fibres has its importance in relation to waste silk, and Leicester is connected intimately with at least one other invention of great moment to the silk trade. John Heathcoat, born 1783 at Long Whatton, was a Leicestershire man who returned from Nottingham to Hathern, and from thence to Loughborough, to work his patent machine for the manufacture of silk net. The fate that overtook Brookhouse overcame Heathcoat, whose Loughborough factory, with its 55 frames and its valuable stock of material, was wrecked by the Luddites on 26th June, 1816. An award of £10,000 compensation, which was made conditionally upon a promise to expend the money in the district, was rejected by Heathcoat, who left his partners, Lacy and Boden, and set up his machinery in Devonshire, at Tiverton, a decayed centre of the woollen trade.

Felkin, writing (1864) with his good knowledge of the trade, stated that from 1782 onwards Leicester became identified with woollen, Derby with silk, and Nottingham with cotton hosiery. He gave 1834 as the year in which the hard-twisted cotton, known as Lisle thread, came first into use in Leicester trade.

The fancy hosiery branch was referred to as still new in 1828 by Sir Richard Phillips, whose *Personal Tour* supplies many particulars of this stage of the development of the Leicester business.

His book enumerates cotton and worsted net braces, Fancy worsted cravats, underwaistcoats, children's shoes, stay Hosiery laces and tippets as among the principal productions, Manu- and gives the names of three producers: Robert Harris and Co., W. and S. Kelly and Marston and Co. The factory. output of braces was estimated at 3,000 dozens a week, and this trade in knitted braces may be accepted as the

Elastic
Web
Trade.

forerunner of that in elastic webs, for which Leicester has a unique reputation. Felkin asserts that the idea of inlaying india-rubber thread in hosiery originated with Stubbins, a Nottingham man, in 1842. There is the authority of the Leicester *Commercial Year Book*, issued by the Chamber of Commerce, for a statement that Mr. Caleb Bedells, with Mr. Archibald Turner, introduced the elastic web to Leicester in 1843 as a material for boot gussets. The elastic web and braid trade of Leicester is said to find employment at this day for 3,000 looms and 10,000 to 15,000 persons.

Phillips found existent at the time of his visit the business in sewing thread and knitting cottons that is still a department of Leicester industry, and he reported a production of about 20,000*lbs.* a week. Cotton yarn at the time was being obtained from Cromford and Huddersfield, and was bleached, dyed and wound in Leicester. "Much lace" also was being made at Leicester, both by hand and by steam. Some 500 to 600 persons were employed, and Seddons, Wheatley, Rawson, Haines and Langhorne were named as the principal manufacturers. Worsted, which for some generations had been made upon the handwheel, was being spun by steam-power, and also in "numerous small factories in which the spinning is performed by hand with spinning jennies." Trade was bad at the time, and the "profits even by steam so low as $2\frac{1}{2}$ or 3 per cent," while the small spinners got still less. A depreciation of values was in process, and the fall of prices had lately ruined "all the worsted mills except those which combine long and short wool by peculiar machinery"; a reference probably to carding machines and mule-spinning.

Sewing
and
Knitting
Cottons.

Phillips found that men making hose were paid 8*s.* to 12*s.* a week for fourteen or fifteen hours daily work. Men employed on fancy knitting and lace received 15*s.* to 20*s.*, women about 7*s.*, and children 2*s.* 6*d.* to 5*s.* The contraction of values seriously affected manufacturers of hosiery and moved the author to exclaim:

"The ruinous depreciation of the money value of Leicester manufactures is frightful. One article, for which

3s. used to be paid for making is now sold for 1s! The 2,000 dozen of hose made per week are sold at a third of what they would have yielded twenty years ago; and at a profit of $2\frac{1}{2}$ per cent after the working hands are reduced to the lowest." Manufacture of Underwear.

In 1828 the following were named as the principal proprietors of stocking frames :

Mitchel and Stokes,	Bankart,
Rawson and Sons,	E. and H. Rawson,
Coltmans,	Hunt,
Kirby,	Wood,
Hill and Davenport,	Gray.
Hudson,	

About the middle of the century the manufacture of heavy "Scotch" underwear, at first upon hand-frames, was introduced, and Mr. Theodore Walker, in his evidence before the Tariff Commission of 1905, added that the branch was begun by his father. It was at the same period that the rotary knitting-frame was introduced by Moses Mellor, of Nottingham. It is stated by Mr. Tertius Rowlett, in the *Leicester Commercial Year Book*, that a Loughborough man, Paget, for some years worked secretly on frames by which a seamless stocking could be made, and eventually the Mellor machine was adapted to make tubular lace hose of narrow width. The introduction of Cotton's machine about forty years ago gave a new impetus upon the plain hose trade by enabling one girl to supervise machinery capable of an output of 70 dozens a week, and the cost of knitting was reduced from about 29 pence a dozen to fourpence. Machines permitting wider varieties of changes have been brought out by Leicester machinists, enabling more elaborate patterns to be produced, and there are in addition several types of Continental frames in use in the town.

Silk has never been a main material of local industry, and its chief employment is probably in combination with wool in under-clothing. The increasing number of fancy-dyed and comparatively expensive articles now being turned out seems however to offer wider opportunities for the local employment of silk in future years. Opportunity for Silk Industry

CHAPTER XX.

BRADFORD.

Mixed
Silk
Goods.

It is a long-established truism that more silk is manufactured in this country outside the somewhat narrow confines of the silk industry proper than within them. Probably for more than a century Bradford has made mixed goods containing silk, and for seventy years has been one of the most important centres of consumption. Despite all that has happened to displace natural silk, the quantity employed by manufacturers of dress goods in and around Bradford remains large, and in the Manningham Mills the city owns the largest individual silk mill in the kingdom. Perhaps in no town in England has so much been done on the one hand to help, and on the other to hamper, the development of the silk industry. Comparison is difficult, because it is impossible to estimate the effects of the competition of fibres not directly competitive with silk. There is always a doubt, too, as to how far a direct substitute actually displaces an older commodity. What is certain is that Bradford developments have worked in both directions. Regard may be had first to three matters of Bradford trade history which have incidentally had potent influences on the fortunes of silk.

Com-
petitive
Materials.

There is no gainsaying the importance to silk of the introduction into Bradford industry of the hair of the Peruvian llama—alpaca. The material was first used for the manufacture of light, lustrous stuffs in the late 'thirties of the last century, and mohair was applied to similar purposes in the later 'forties. Stuffs showing a modicum of lustre had been made before that time, but the brightest

of them was dull by comparison either with silk or the new goat hair fabrics. Besides being dull to the eye, the older stuffs were harsh to the touch and coarse by comparison with the worsted dress goods of to-day. So long as choice was practically restricted to coarse stuffs on the one hand, and silks on the other, it is manifest that the incentive to wear silk must have been greater than after the introduction of other materials. Alpaca and mohair provided alternatives combining some of the virtues of wool with some of the features of silk. The goods made from them were far from being perfect substitutes for the old satins and gros grains, but they cost much less, and they gratified at least in part the sense of finery which exerts so large an influence in the demand for silk. Very soon alpaca and mohair were to become allies of silk—but of a junior branch of the silk industry. The spun or waste silk trade was to benefit exceedingly from the demand for material to make these new fabrics more supple and attractive, but to the senior silk trade these cheap alternatives remained unfriendly.

The demands of the Bradford market may be said to have set the waste silk industry of this country upon its feet, and to have done more than any other to keep that industry alive. In Bradford, also, the junior branch has received some of its severest buffets. It is true that mercerised cotton was not invented there, but in Bradford it found extensive adoption partly in replacement of spun silk. Mercerised cotton bears the name of John Mercer, of Great Harwood, Lancashire, who patented in 1850 his means of making vegetable fibres stronger by treating them with caustic alkali. The notion of making cotton yarn more lustrous by methods of mercerisation had a much later origin. It was in 1896 that Kerr and Hoegger, of Manchester, began to give cotton yarn a lustre approximating to that of spun silk, and soon Isaac Robson and Sons, of Huddersfield, and numbers of yarn dyers in Bradford, were putting forth quantities of this improved form of cotton.

Bradford responded also to the introduction of a chemical silk, strong enough to withstand the rather

Com-
petitive
Materials.

Bradford
and the
Waste
Silk
Trade.

Earlier
Artificial
Silks.

rigorous processes of finishing and wearing stuff goods. The earlier artificial silks, made from hardened gelatine and from dissolved cotton, proved too frail for the work and it was with the introduction of Coventry viscose silk in the year 1907 that the employment of this new agent for enlivening duller textiles seriously began. The interference with natural silk is rather indirect than otherwise. The assortment of very bright and cheap fabrics suitable especially for indoor wear has been largely extended by the addition of this material. It cannot be affirmed that all the goods now made in Bradford with artificial silk would otherwise have been made with the natural article in one or other form. The new material has brought new fabrics into life. The direct and indirect interferences with the prospects of silk have not all been presented only in the form of yarn for weaving. In Bradford various arts of giving to cotton piece goods some of the sheen, and even of the touch, of silk, have assumed their highest development. The highly finished cotton lining cloths of the present day probably do not prevent the employment of silk nearly so much as they affect employment of alpaca, mohair and English lustre wool, but in these goods superficial effects are achieved which at one time could not have been matched without the use of the most expensive and beautiful of all fibres.

The
Story of
Alpaca.

It has been said that alpaca appeared first in the form of lustrous fabrics in the later 'thirties. It was manufactured before that time, although not in a manner to display its characteristic brilliancy. Benjamin Outram, of Greetland, Halifax, made alpaca into shawls and cloakings. Wood and Walker, of Bradford, according to James's *History of the Worsted Manufacture*, spun alpaca to No. 48's worsted counts about the same time, and sold the yarn to Norwich manufacturers of camlets. In 1832 heavy camlets made with alpaca were woven by Horsfall's, of Bradford, and shown to Leeds merchants, whose approval they did not win. Hegan, Hall and Co., Liverpool, in the same year imported large quantities of alpaca from Peru, and figured cloths with a warp of worsted and an alpaca weft were made with these imports

and obtained a limited vogue. Mr. Robert Milligan, then a stuff manufacturer in Bingley, supplied James with a circumstantial story of the origin of the alpaca lustre stuffs with which the name of Titus Salt is identified. The facts have a double reflex upon the development of the silk industry, and are therefore set forth :

The
Story of
Alpaca.

“ It was in the spring of 1839 that Mr. Titus Salt, with whom we had sometimes done business, introduced to our notice alpaca. Several attempts had been made but the manufacture did not prove successful until the production of what we termed alpaca orleans, formed of cotton warp and alpaca. The first entry of these goods in our books is an invoice to Mr. Salt in June, 1839, of two pieces of alpacas at 76s. per piece. The first considerable order we undertook was 19th June, 1839, for 560 pieces 27 ins. wide at 42s. Then became established the alpaca trade, which has since risen to so much importance. At this time, Mr. Salt was the only spinner of alpaca weft in Bradford. The great mercantile house of A. and S. Henry took very large quantities of alpaca which began to be used in an endless variety for male and female wear, including scarfs, handkerchiefs and cravats, plain and figured goods with silk-cotton warps for ladies dresses, dyed alpaca checks of beautiful texture and gograms, codringtons, silk-striped, checked and figured alpacas and linings.”

The statement gives clear evidence of the uses to which alpaca was immediately put, and proves that alpaca did, after its employment by Mr. Titus Salt, interfere in the sphere of silk. The statement shows that Milligan and Jowett obtained the yarn from Salt, and sold their woven goods back to him. Whether Salt or some other was responsible for the actual conjunction of a weft of alpaca with a cotton warp is less clear than might be desired, but it may be inferred that Salt's authority for this use of the material was obtained. The achievement won Salt a great name in addition to a great fortune, and the rivalry already existent between Titus Salt and Samuel Cunliffe Lister was assuredly not diminished by the fame attained by the founder of Saltaire. Charles Dickens

The
Story of
Alpaca.

The
Story of
Alpaca.

took note of the development of the alpaca industry, and in *Household Words* published a lavishly improved version of Sir Titus Salt's first encounter with alpaca. As his imaginative effort, with its heightened effects and comic embellishments, was the forerunner of a legend concerning Mr. S. C. Lister and waste silk, it is quoted to assist in the separation of fact from fiction :

"A huge pile of dirty looking sacks filled with some fibrous material which bore a strong resemblance to superannuated horsehair or frowsy, elongated wool, or anything unpleasant or unattractive, was landed in Liverpool. When these queer-looking bales had first arrived, or by what vessel brought, or for what purpose intended, the very oldest warehousemen in Liverpool docks couldn't say. There had once been a rumour—a mere warehouseman's rumour—that the bales had been shipped from South America on spec, and consigned to the agency of C. W. and F. Foozle and Co. But even this seems to have been forgotten, and it was agreed upon all hands that the three hundred and odd sacks of nondescript hair wool were a perfect nuisance. The rats appeared to be the only parties who approved at all of the importation

First
deal of
Titus
Salt.

"One day a plain, business-looking young man with an intelligent face and quiet, reserved manner was walking alone through these same warehouses in Liverpool, when his eye fell upon some of the superannuated horsehair projecting from one of the ugly, dirty bales. . . . Our friend took it up, looked at it, felt it, rubbed it, pulled it about ; in fact he did all but taste it, and he would have done that if it had suited his purpose—for he was 'Yorkshire.' The sequel was that the same quiet, business-looking young man was seen to enter the office of C. W. and F. Foozle and Co. and ask for the head of the firm. When he asked that portion of the house if he would accept eightpence per *lb.* the authority interrogated felt so confounded that he could not have told if he were the head or the tail of the firm. At first he fancied our friend had come for the express purpose of quizzing him, and then that he was an escaped lunatic, and thought seriously of calling for the police ;

but eventually it ended in his making it over in consideration of the price offered. It was quite an event in the little dark office. All the establishment stole a peep at the buyer of the 'South American stuff.' The chief clerk had the curiosity to speak to him. The cashier touched his coat tails. The book-keeper examined his hat and gloves. The porter openly grinned at him. When the quiet purchaser had departed, C. W. and F. Foozle and Co. shut themselves up and gave all their clerks a holiday."

First
deal of
Titus
Salt.

From the fact that there was in 1761 a silk merchant, Joseph Stell, at Walk Mill, Keighley, it is apparent that consumption of silk was not unknown in the Bradford manufacturing area before the rise of the lustre stuff trade. The fact is attested by John Hodgson in his *Textile Manufacture in Keighley* (1879), he having seen a deed showing Stell's name as new owner of a piece of land. Pennant, who visited Keighley in 1775, found there "a considerable manufacture of figured everlastings in imitation of French silks," and in default of evidence to the contrary it may be assumed that the silk was thrown silk and used for the purpose of weaving figures on the hand-loom of the period. The old worsted industry employed silk in the form of organzine to make silk twists in company with worsted thread for use in such goods as waistcoatings. James quotes in his *History* the estimates of the cost of certain fabrics, which a committee of worsted spinners and long-wool manufacturers presented in 1824. In one of these the separate costs of one yard of worsted stuff mixed with cotton and silk—said by James to be probably vesting—are thus allocated:

The
Intro-
duction
of Silk.

					<i>s.</i>	<i>d.</i>
$3\frac{1}{2}$ oz. Worsted	..	..	..	..	1	0
$\frac{1}{4}$ oz. Silk	..	..	..	..	0	9
$1\frac{3}{4}$ oz. Cotton	..	..	..	..	0	8
Weaving and finishing	..	..	..	..	1	10
					<hr/>	
					4	3
					<hr/>	

The statement would cause it to appear that at this date

The
Intro-
duction
of Silk.

worsted yarn was costing 4s. 7d., cotton yarn 6s. 1d., and silk 48s. per lb.

Mr. Henry Forbes, in a paper to the Society of Arts (1852), named 1834 as the year of the introduction of cotton warps into the Bradford dress goods trade, and said that silk warps in combination with worsted weft followed shortly after. In his words, this combination "enabled Yorkshire manufacturers to exhibit fabrics in which delicacy, softness and elasticity were united." His partner in the firm of Milligan, Forbes and Co.—Mr. Robert Milligan—informed James in 1857 that in 1840 the fancy trade in Bradford was still little cultivated. His price lists of 1842 contained entries of

Silk warp Alpacas, 38s. to 75s. per piece.

Alpaca and silk handkerchiefs, 28s. per dozen.

Demand
for Silk
Striped
Goods.

In 1843-5 a steady demand was experienced for plain silk warp and fancy alpacas, and in 1848 there arose a great demand for silk striped goods. The year was a good one also in Paisley, and the joint demands from the two weaving centres are still remembered by a veteran silk-spinner, Mr. Thomas Butterworth, of Brighouse. These silk striped goods were manufactured largely by Mr. Milligan at Bingley, and by many others, and were principally Orleans and Cobourg cloths, which were dyed after weaving. Mr. Milligan singled out for mention a "grogam woven with black worsted, having a thick cotton warp around which was twisted a fine thread of white, yellow or gold silk, producing a sparkling, speckled effect." One of his most striking novelties was made with "silk sprigs thrown upon an alpaca mixture ground," the silk showing only in small flowers upon the face. Mr. Forbes, speaking of the position of alpaca in 1852, said that in combination with cotton and silk warps it formed "an amazing variety of articles of great richness, softness and beauty," and remarked on the extent to which the newer raw materials—cotton, silk, alpaca and mohair—had increased the number and variety of Bradford fabrics.

Mr. Forbes essayed an estimate of the contemporary state of the worsted division of the wool-working industries

in which the separate identity of silk is merged in that of cotton and dye-wares. The remarkably small place taken by imported wool and the large place assigned to the West Riding are noteworthy features. Interest-
ing
Statistics

60 million lbs. English sorted wool,	£	
1s. 2d. 		3,500,000
15 million lbs. Colonial foreign wool,		
1s. 9d. 		1,312,500
Other raw materials: Cotton, Silk,		
Dye-wares 		1,500,000
Direct wages 		3,000,000
Indirect wages, rent, wear and tear,		
coal, soap, oil, interest. 		3,187,500
		£12,500,000

West Riding goods and yarn.. ..		8,000,000
Lancashire delaines and light fabrics..		1,500,000
Leicester worsted hosiery 		1,200,000
Norwich and Irish stuffs, Devon long- ells 		1,300,000
Scotland worsted stuffs (not including shawls) 		500,000
		£12,500,000

The *Bradford Directory* of 1851 shows the names of six Bradford dealers in silk warps. The list of exhibitors at the great Exhibition of the same year shows the names of— Bradford
Exhibi-
tors at
1851
Exhibi-
tion.

J. G. Horsfall & Co., Bradford—Whose Henrietta cloths were “from spun silk warp and weft of the finest Saxony wool.”

Thos. Jowett & Co., Bingley—Who exhibited a great variety of articles with alpaca weft and silk and cotton warps as well as “a new fabric of silk warp and linen weft,” said to be “very neat” and to afford encouragement for increased attempts in the same direction.

Walter Milligan & Sons, Bingley—A series of silk embroidered alpaca goods.

Bradford
Exhibi-
tors at
1851
Exhibi-
tion.

John Rand & Sons, Bradford—Whose cloths made from worsted weft and silk warp were called “remarkably soft, fine and even.”

Schwann, Kell & Co., Bradford—A merchant house, shewed articles called “Shanghae” dresses, plain and watered, made from silk and China grass.

A. Tremel & Co., Bradford	} Goods with cotton and silk warps.
Jas. Dalby, Bradford	
Jas. Drummond, Bradford	

T. Gregory & Bros., Shelf—Who had made for the Prince Consort cashmere brocade fabrics with silk warp and weft from the Cashmere goats in Windsor Park.

In 1857 the value of worsted productions, computed at $12\frac{1}{2}$ millions in 1852, was reckoned by James at 18 millions. In 1864 Mr. (afterwards Sir) Jacob Behrens calculated the home and export trade in worsted goods at a value of £33,600,000.

In these years of rapid commercial expansion the elder silk trade reached its zenith and began to fall into its decline. The Bradford demand for spun silk yarn in the 'sixties was considerable enough to mainly sustain a number of new firms in the spinning business. In the 'seventies the Franco-Prussian War almost doubled Bradford's business, and the great rise in prices at this period set some of the newcomers firmly upon their feet. The demand was strong, both for yarn and for silk sliver to mix and spin with mohair in one thread. Spinners still alive recall how manufacturers drove from Bradford to the Brighouse silk mills to beg for silk and content to be allowed to take back with them one or two canfulls of the precious sliver or a few small warps. Thirty shillings a pound was paid for yarn that in some years since has been slow of sale at one-fifth of the price. Twenty-five to thirty shillings a pound was obtained for the best silk sliver and fifteen shillings for a commoner sort. Lord Masham, with a sense of amusement, wrote: “From '64 to '74, about nine years, the silk comb made sufficient money to rebuild and furnish the present concern

Zenith
of the
Silk
Trade.

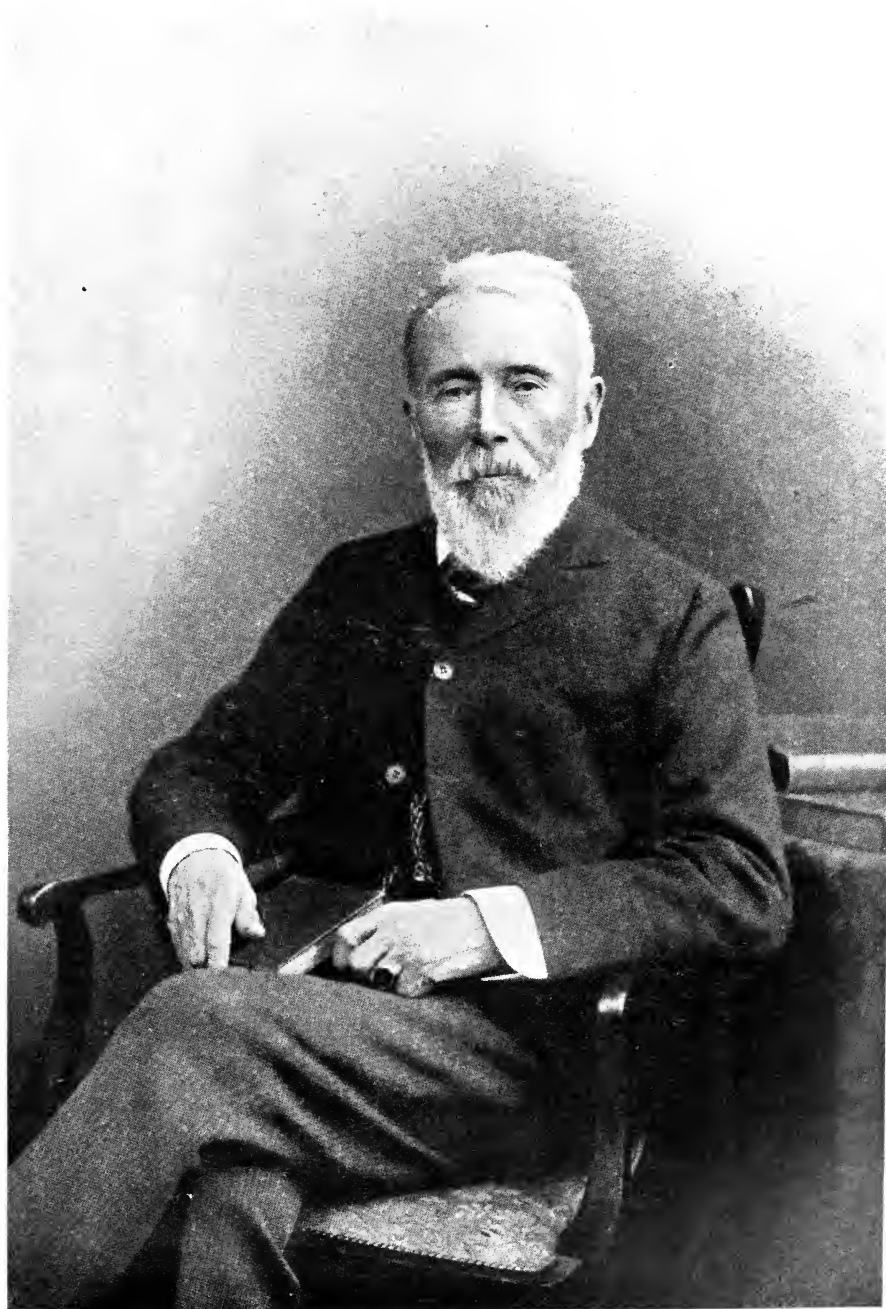


Plate XXVII.

Lord Masham.



and also to pay some £20,000 towards the expenses of the velvet loom."

It is time to turn from Bradford achievements in the mixed silk-weaving trade to the foundation of its chief silk-mill. Lord Masham's own account of the venture which transformed him from wool-comber to silk-spinner and manufacturer is quoted from his autobiography :

"It was in the year 1855 that a Mr. Spensly, a London waste silk broker, who had heard of my great success in woolcombing, sent me a small sample of what he called 'native Indian Chassum,' being the waste produced by natives in reeling their cocoons. At that time I had never seen any silk waste and knew nothing about it. The first look of it was not very inviting, nor very encouraging, as it looked to me to be nothing but rubbish. In fact it was nothing else, as no silk-spinner had made or could make anything of it. He said that there were five or six hundred bales in the London Docks, and that no one would buy it, and in order to get quit they had tried to use it as manure, but found it would not rot, and so what to do with it they did not know. It was not inviting, as it was heavily composed of dead silkworms, and the smell and the odour of them was anything but pleasant. Leaves and straw and all kinds of extraneous matter were mixed and bound together by a certain amount of dirty-looking fibre.

"The only inducement was the price, as it was offered me at practically nothing—at $\frac{1}{2}d.$ per *lb.* I bought a few sample bales at that price. The first thing was by boiling it in soap and water to cleanse it to some extent from gum and dirt. This at once disclosed that there was a certain amount of beautiful fibre but so matted and mixed with rubbish that it looked impossible to make anything of.

" A practical silk-spinner would at once have said 'There is plenty of good waste; why bother with this rubbish? It will never pay if you have it for nothing!' And he would have been quite right, for there was no machinery upon which it could be worked to pay. But not being a practical silk-spinner, and knowing little or

Silk at
Manning-
ham.

Begin-
nings
of the
Business.

Need
of new
machin-
ery.

nothing about silk or silk waste, I thought that I would try and see what could be done with it.

“ It was worked upon such machinery as I had. It was first put through some drums covered with teeth which had been used for preparing China grass. This was done several times, which opened it and straightened the fibres and cleared it a good deal from extraneous matter. Then it was gilled to prepare it for combing. So far it looked very well and promising, but when it came to be combed (and I had all kinds of combs) it was a regular fiasco, a complete and hopeless failure with such machinery as I then had.”

Invention
of the
Silk
Comb.

The story is continued to tell how in 1857 the silk comb, jointly invented by Mr. Lister and his partner Mr. James Warburton, was made to work. A statement of the profit earned by these operations in silk has been cited, and as Manningham Mills—covering eleven acres of ground space—are reputed to have cost about half a million sterling, its historical importance will be fully understood. Operations between 1857 and 1864 were the reverse of satisfactory. Mr. Lister however declared to a Bradford meeting that he was £360,000 out of pocket before the machine made him a shilling, and that a quarter of a million was written off as entirely lost before making up his books of account.

Mr. Lister's own version of his introduction to waste silk varies in some salient respects from the legend in Cudworth's *Worstedopolis*; according to which:

“It was an accident almost as singular as that which led to the introduction of alpaca that induced Mr. Lister to turn his attention to silk. One day, while strolling round a warehouse in London, he came upon a heap of rubbishy-looking stuff not unlike the sweepings of a warehouse floor. It was an odd collection consisting of bits of stick, dead leaves, ends of twine, dirty flocks, crushed worms and silk fibre, all stuck together by gummy matter, altogether looking as unlike the material from which silk goods could be made as could well be.

“He had never seen such material before, but detecting in it a fair proportion of silky-looking fibre, he became

interested, and inquired what use was made of it. ‘Oh, we sell it as rubbish,’ was the reply. He also learned that it had been tried as a manure, but had proved a failure owing to the fibre not rotting easily. Lister’s own story.

“The vendor was glad to part with it for $\frac{1}{2}d.$ per *lb.* It is this identical material, supplemented by raw silk produced from cocoons grown upon the Lister estates in India, which forms the basis of the stupendous manufacture carried on at Manningham Mills.”

The similarities between the two fanciful versions would challenge attention even had Mr. Cudworth forborne to mention the introduction of alpaca. The “superannuated horsehair” of the one narrative has its counterpart in the “dirty flocks” and “crushed worms” of the other. Both give the discovery an air of chance by laying the scene in port warehouses, but Lord Masham’s own pen at least avoids the indefensible suggestion that silk waste had not been utilised before his time.

If silk-spinning laid the foundation of the last of the great fortunes to be made by Lord Masham, velvet-weaving unmistakably supplied the coping stone. The business he sold to a public company for £1,950,000 in 1889 had been making profits not of £50,000, but of £200,000 a year. These subsided immediately upon the imposition of the McKinley Tariff in America and the falling off of the demand in other markets for imitation sealskin cloths made of tussah silk. The Velvet Loom.

Velvets were made first, and thereafter, apparently in about 1881, Manningham looms were diverted from velvets to plushes. Velvets had been hand woven, and Manningham Mills had supplied the yarn for weaving, but as the result of the pioneer experimental work done there, weaving by the use of power was made practicable. The manager of the mills, Mr. B. Nussey, during a visit to Spain in search of orders for velvet yarns, was shown a loom invented by Mr. Reixach and patented by him some ten years before. Mr. Lister’s attention was attracted, the patent was bought for about £2,000, and the inventor and his son brought the loom to Bradford. About £29,000 was spent and lost between 1867-1878 in perfecting the mechanism,

The
Velvet
Loom.

and although £39,000 was made in the next two and a half years, "that was as nothing to what it made when 'King Plush' in his royal robes made its appearance," said the head of the firm in the published story of his career.

Samuel
Cunliffe
Lister.

Lord Masham's industrial achievement is written enduringly in stone in the immense edifice at Manningham, where seven or eight thousand persons are employed. It is difficult to determine whether the substantial character and beauty of that building, capped by one of the sightliest mill chimneys in the country, owes anything to a desire to outdo Sir Titus Salt. The rivalry of Salt and Lister was an old one, dating from times before Lister's entry into the silk trade, when his volcanic energies were directed to the perfecting of the wool comb, and when Salt and Akroyd, of Halifax, had a joint encounter with Lister over the rights in Heilmann's patent wool comb. In a limited measure, Salt and Lister were rivals in the silk trade, for the great concern Sir Titus Salt, Bart., Sons & Co., Ltd., with its model mills and village at Saltaire, has an extensive department for spinning silk. It was, however, not until 1880 that in order to meet the demand for spun tussah yarn this department reached a position of importance. Lister's rivalry with Holden over certain claims to be considered as the real inventor of a principle of wool-combing is written in many acrimonious passages-at-arms. His pugnacity is to be read alike in the letters on old controversies and in the records of numerous actions at law. His daring is shown in the list of patents, 107 in number, standing in his name; and his resourcefulness in the manner in which he repeatedly redeemed himself from imminent disaster. "Mr. Lister was always ready to buy machinery, in the days when he used to come here,"—a machine maker has observed to the writer,—“but never seemed quite to know when he would be able to pay for it.” In courage he was not behind any industrial captain of his day, and none was a greater fighter for his real or imagined rights. Of petty detractors of his reputation, there have been more than a few, and his stubbornness in the strike of 1891 added nothing to his miscellaneous popularity. The foibles of his character lie open for all

to read and to weigh against its sterling merits. Unlike Samuel most of his contemporaries, Lister did not start life as a workman. He was the youngest son of a landed family, and brother to the member for Bradford, and before embarking in business had been occupied with affairs of a different order in America. His attitude towards social inferiors has been shown pleasantly in an octogenarian's reminiscence. "I have talked to him and shaken hands with him, and found him a most pleasant gentleman," is the report of one who had business differences with Lister at different times. Samuel Cunliffe Lister.

Mr. Lister's grey suit and dilapidated straw hat were familiar enough on the Bradford Exchange, where they are not yet forgotten, and these characteristic habiliments are mentioned in an interview with the "Bradford Silk King" in the *Pall Mall Gazette*, March, 1887. The interviewer found Mr. Lister "a stoutly-built, middle-sized man, ruddy-faced and white whiskered, with the brisk, decided manner generally seen in successful business men. His bright, piercing gaze and robust air gave no indication of the seventy odd years which have passed over his head." Mr. Lister had just spent £800,000 in four years in buying land, and a considerable part of his talk with the interviewer was of the Fair Trade movement, which he said he had first begun six years before. Mr. Lister would not agree that his own great fortune vindicated the fiscal policy of the country. "As I say," he said, "a man with brains may make money at any time." The Johnsonian flavour is not less marked in his assurance that "I have never gone in for anything less than £50,000 a year. I have never applied myself to any invention which, before taking up, I did not see was worth £50,000 a year, and I have had four."

The great self-contained mills at Manningham necessarily occupy a large place in any account of the progress of the silk industry in Bradford. It is necessary, however, to turn to the large number of smaller manufacturers to whom silk is one material of a greater or less importance out of the several materials used. The *Bradford Directory* of the present day describes one hundred firms as stuff Changes in the Stuff Trade.

Changes in the Stuff Trade. manufacturers, and these constitute the body of users of silk and its substitutes in the production of mixed goods. Their need of silk varies with the taste of the times, and recent changes of fashion have tended to make silk of less account in their productions. The trade in worsted dress stuffs has been undergoing changes fairly comparable with those occurring in the pure silk trade, and manufacturers have been driven by stress of circumstances into a not unremunerative business in plainer and heavier worsted cloths requiring no silk; or into the manufacture of goods which are substantially cottons ornamented with a few threads of artificial silk. The causation of these changes is to be sought far afield. The closing of foreign markets by tariff laws, the vagaries of fashion, the development of the factory garment-making industry, the relative scarcity or abundance of raw materials—these are a few of the chief influences.

Tariff Influences.

The effect of foreign tariffs on the trade in Bradford goods has not been wholly an extinguishing one. They have created conditions in which the sale of certain classes is more practicable than the sale of some others. Brightly coloured and patterned dress goods are in more continuous demand in the sunny southern countries than in the more northerly climates, and a large part of the mixed silk goods manufactured in Bradford has been sold for export. Cheap light fabrics, with a cotton warp and worsted weft interspersed with a few threads of spun silk to make stripes or checks, constituted for a long time an important section of the export business. Mercerised cotton yarn provided a means of making bright effects at slightly lower cost, but the natural disparity of cost has been artificially accentuated by a species of selective unfairness very common in silk trade experience. Silk, being regarded officially as a luxury, is subject to adversely high rates of freight by the English railway companies. It has been considered in the same light by foreign tariff framers, with the consequence that goods containing more than an insignificant proportion of silk are subject to very much higher rates of duty than goods of closely similar appearance in which silk is replaced by some substitute.

Tariff
Influ-
ences.

Duties are in many countries levied on a basis of weight, and, in order to do business at all, lightness of weight must be combined with brightness of appearance, and this consideration tells in favour of artificial silks. Some tendency to make artificial silk liable to the same duties as the natural article has been observed lately, but this does not wholly remove the handicap. Where ornamental considerations out-balance questions of durability, artificial silk retains the advantage. Applied in the form of very slackly twisted yarn, the chemical silks exhibit a lustre more metallic but as brilliant as that of spun silk. A very little of them used on the surface of fabrics composed otherwise of cotton supplies the requisite degree of brilliance. The consequence is seen in the devotion of some thousands of looms entirely to the production of fabrics which suit the tariffs, the tastes and the purses of some southern countries better than they can conceivably fulfil any anticipations of solid wear or comfort. Goods not radically different have been made in Bradford for indoor wear in this country. Silk is replaced and worsted is replaced, but not by finally efficient substitutes, and the fact implies of course that silk still possesses a field of its own, from which no substitutes as yet discovered can oust it.

Pros-
pects
and
Possibil-
ities.

Diversification of demand, although destructive of old openings, is productive also of new ones, and in that fact lies the hope of the future. Silk has not been used in Bradford dress-goods solely for its lustre. In the black stuffs known as Henriettas a silk warp is used in such manner that its lustre is disguised, although its lissomness remains. In goods that have been, and may again become, popular, the desideratum is a bright thread which will wash, or will not take up a stain from surrounding loose dye-stuff. Experience is the proof that demand for silk may persist in the absence of a marked demand for silk fabrics. There have been requirements in past times for silk dressed and put into sliver for admixture with worsted. A trade, small but regular, is done by spinners who twist a worsted with a silk single thread for hosiery purposes. These possibilities remain, outside and

beyond the somewhat unlikely possibility that silk pile fabrics may belie their past and remain steadily, instead of fitfully, in public favour. Changes of habit and in the distribution of wealth, are potent enough to negative the idea that silk will fall out of the selection of fibres used in Bradford trade. Its chances of retention would not be reduced by a material cheapening of the price of waste silk.

Statistics. The consumption of silk is too general and occasional to make any statistics of persons employed in the silk manufacture truly accurately reflect the importance of the silk branch at any given time. It may, however, be said the Census of 1901 gives 815 males and 2,782 females as the total of persons engaged in silk manufacture in the city. The figures may be taken with those for Yorkshire in the same Census, shewing 2,859 males and 4,991 females in the silk industry of the whole county. The city of Bradford and the Bradford factory inspection area are not conterminous, and thus in the Factory Returns for 1907 the total of Bradford silk workers appears as 5,757; in the same tables the total for Yorkshire is 8,786, as against the 7,848 of the Census of a few years earlier.



Plate XXVIII.

View of Halifax.

CHAPTER XXI.

HALIFAX.

The earlier textile associations of Halifax are not with silk but with wool, to which silk is in one aspect a local auxiliary. Silk was engrafted on the parent stock of Halifax industry after the coming of the factory system, but for something like five centuries wool had been manufactured by hand processes in farm-like dwellings. *Defoe's Tour* (begun in 1722) contains a passage which describes the conditions of work in the pre-factory period. Approaching from the West :

“In the course of our Road among the Houses we found at every one of them a little Rill or Gutter of running Water : if the House was above the Road it came from it and crossed the Way to run to another ; if the House was below us, it crossed us from some other distant House above it ; at every considerable House was a Manufactory, which not being able to be carried on without Water, these little Streams were so parted and guided by Gutters and Pipes that not one of the Houses wanted its necessary appendage of a Rivulet.

“Again, as the Dying-houses, scouring-shops and Places where they use the Water emit it ting'd with the Drugs of the Dying Fat and with the Oil, the Soap, the Tallow and other ingredients used by the Clothiers in Dressing and Scouring, &c., the Lands through which it passes are not only universally watered, which otherwise would be exceedingly barren, but are enriched by it to a Degree beyond Imagination.

“Then as every Clothier must necessarily keep one Horse, at least, to fetch home his Wooll and his Provisions from the Market, to carry his Yarn to the Spinners, his

Early
Condi-
tions and
Progress.

The
evidence
of
Defoe.

The
evidence
of
Defoe.

Manufacture to the Fulling, every one generally keeps a Cow or two for his family. By this means the small Pieces of enclosed Land about each House are occupied; and by being thus fed are still further improved from the Dung of the Cattle. As for Corn, they scarce sow enough to feed their Cocks and Hens.

“Though we met few People without Doors, yet within we saw the House full of lusty Fellows, some at the Dye-fat, some at the Loom, others dressing the Cloth; the Women and Children carding or spinning; all employed from the youngest to the oldest, scarce anything above four Years old but its Hands were sufficient for its own Support. Not a Beggar to be seen, not an idle Person, except here and there in an Almshouse, built for those that are ancient and past working.”

Such was the soil and such the people that were to provide the later extensions. Defoe noted that there had lately been begun a new manufacture of shalloons in addition to the older business in kersey cloths used largely for the Army of the period. James Akroyd—to whose successors would seem to belong the distinction of introducing the weaving of silk into the town—sprang from the race of yeomen manufacturers, and in company with his brother was manufacturing 18 inch lastings, calimancoes and low wildbores, called “Little Joans,” very similar to modern buntings, in the last quarter of the 18th century. The goods were of plain design, but the brothers were manufacturers also of “Amens” (*Cf.* Amiens, France), which were figured cloths woven, like Paisley shawls or Chinese figured silks, by the aid of a draw-boy, whose function was to pull the proper cords at the right time to make the pattern. In 1827 Akroyd’s son introduced Jacquards at his new mill in Old Lane, having obtained them from Lyons by the agency of a Manchester Frenchman.

From
Norwich
to
Halifax.

This brief sketch of the progress of manufacture carries the story to the period at which activities in Halifax began to be a serious embarrassment to the silk and worsted industry of East Anglia. Norwich, over-ridden by the artificial restrictions characteristic of guild activity, had

a speciality in the manufacture of worsted moreens. From James Akroyd & Sons copied the article, and it was first used for curtains in 1811. Other manufacturers followed, so that the cloth became a common one in Yorkshire trade. Norwich had a reputation also for crapes and bombazines, made by crossing a silk warp with a worsted weft. Imitation on power-looms without a knowledge of how they were woven on hand-looms in East Anglia was difficult, and Michael Greenwood, a skilled weaver and clever inventor, was sent to spy out the Norwich method. His observations led to the production in Halifax of these two cloths in 1819; and those of a colleague, made later in Norwich, introduced camlet weaving to the power-looms of Halifax in 1830. To Michael Greenwood, of Shibdendale, belongs the credit for some less questionable transactions. He with David Tidswell, of Queensbury, adapted to the loom the principle of the barrel of the box organ by means of which bird's-eye patterns were woven in 1818. Greenwood is said also to have invented the wire reed for use in weaving mill-spun worsted yarn, and, after turning manufacturer upon his own account, he introduced the "French figures" of 1834, which he began to make on a large scale.

The facts as to the part played by the Akroyds are set forth with candour in a little *History of the Firm* (1874), and they may seem to expose those of olden days to censure. It has to be acknowledged, however, that the effort to make goods similar to those produced by others is not in itself either an unworthy or an illegitimate object. To apply new means to an old end or plant a new industry in an old soil is to perform a service that must be weighed against the loss of those unfortunate enough to suffer from the effects of this enterprise. With or without undesirable elements, this competition forms part of the everyday processes of trade. Considerations of local prejudice enter into the transference of an industry from one part of the country to another, but the conviction need not be disguised that the transfer could not ultimately have been prevented, although it might have been delayed. Espionage merely hastened a change that was in any case

Work
of the
Akroyds.

Work
of the
Akroyds.

impending. Worsted yarn could be spun much more cheaply in Yorkshire factories than in Norfolk cottages, and the hand-loom could not keep pace with the power-loom in the production of cheap goods. Yorkshire had the coal and the factories, the capital, the experience and the facilities for transport and sale, which sooner or later must have acted destructively on the hide-bound industry of East Anglia.

It was in 1819 that silk began to be used in Halifax for warps, and in 1827 Jonathan Akroyd began the manufacture of a silk damask in which silk was used as weft. The bombazines had their career cut short by the paramatta, made with a two-fold cotton warp, and this in turn was replaced about 1836 by the cobourg, made with a warp of single cotton yarn. Silk survived chiefly in upholstery fabrics, and in them, despite the inroads of artificial silk, it is used still, mainly in the form of tussah tram. The manufacture of tapestry, as opposed to damask, in power-looms, is attributed to the late Henry Charles McCrea, a Dublin gentleman, who became a partner in 1834 with John Holdsworth as a damask manufacturer. The mill records of H. C. McCrea & Co., Ltd., suggest 1850-52 as the date of the production of the first piece of silk and wool tapestry from the power-loom, and similar goods are still woven, although the number of manufacturers does not increase. The list of exhibitors at the Great International Exhibition of 1851 contains the names of these Halifax firms in the damask or tapestry trades :

Silk-
weaving
Develop-
ments.

James Akroyd & Son.

W. Brown.

John Holdsworth & Co.

H. C. McCrea & Co.

J. W. Ward.

Hoadley & Pridie.

Shepard and Perfect.

J. Taylor & Sons.

The weaving branch constitutes one-half the claim of Halifax to attention as a silk town. Precisely when the spinning of yarn from waste silk began has not been made clear. Crabtree's history of the town (1836) says : "The silk trade, although of recent introduction, gives every promise of its being a very flourishing branch of manufacture in this parish," and quotes Mr. Robert

Baker, Superintendent of Factories, Leeds, to the effect that "it is remarkable that Halifax from its local situation is peculiarly adapted for the preservation of the colour" of silk. Unless there is some reference here to the virtue of the local water in facilitating a thorough discharge of the natural gum in silk waste the meaning is obscure. Crabtree, dealing with the Census of 1831, states that 19 out of 24 townships in the Halifax Parish may be said to be manufacturing, and adds that 18,377 out of a total of 101,491 persons enumerated were engaged in the different branches of cotton, worsted, woollen and silk. The parish then contained :

57 Cotton mills using ..	716 h.p.
35 Woollen „ „ ..	662 „
45 Worsted „ „ ..	855 „
4 Silk „ „ ..	86 „
12 Unoccupied or incomplete Mills ..	—
<hr/>	<hr/>
153 Mills.	2,319 Horse-power.
<hr/>	<hr/>

The reference to the date of the introduction of silk must not be taken literally. George Binns, Gibbet Street, Halifax, is described as a silk spinner in *Baines's Directory* of 1822. Binns and Wrigley, Boothtown and Wheatley, was a partnership in 1830. George Binns, 25 Gibbet Street, and Norland and Henry Wrigley, King Cross and Stansfield, traded separately in 1837, and in 1842 G. Binns was described as also of Hebden Bridge, while Henry Wrigley was described additionally as cotton warp dealer. There is the oral evidence of a contemporary that Binns later developed a large business as a short-spinner at Hebden Bridge, and documentary evidence proves the existence of Binns Bros. in that town in 1865. The bankruptcy records tell of the failure of Henry Wrigley, Silk Waste Spinner, Dealer and Chapman, in 1837. The newspaper files of the year show that he was not the only unfortunate to go down in the American financial crisis, nor the only Wrigley in the business at this date. The separate firm of Wrigley and Son, Holmfield Mills, were constrained to offer their :

A Silk-spinning Town.

Some early Spinners.

Some
early
Spinners.

“Valuable establishment, consisting of mill and premises and machinery with steam engine of 15 h.p. at the Leys in Hightown, near Leeds, to be disposed of by private contract. The premises are under lease for 14 years. The machinery comprises three sides of carding and preparation, spinning and doubling, calculated to turn off 6 to 700*lbs.* weight of single and double twist per week.”

The advertisement conveys the significant intimation that “the Machinery is quite new and has been working only two or three months,” and that the “Neighbourhood is well stocked with hands.” The circumstances suggest financial stress, and within a short time the firm Wrigley and Son, constituted of Watts Wrigley and Thomas Wrigley were in bankruptcy also. The official notices show that Wrigley and Son combined silk waste spinning with worsted spinning, and their association with long-fibred wool, suggests that they were the Wrigleys, who, together with Holdforth, of Leeds, and a Lancashire firm, participated in a monopoly of the new process of long-spinning. The fact that the three firms did hold a monopoly is vouched for by the personal recollections of Mr. Thomas Butterworth, of Brighouse.

Trade
Failures.

Another bankrupt of 1836 was described officially as Silk-spinner, Dealer and Chapman. The bankrupt was George Perkins, the contents of whose mill at Boothtown, Halifax, were offered at auction. An auctioneer's note says that the bulk of the valuable machinery was made in 1834 and 1835 by approved makers, whose names are in some cases given. The equipment included :

1 Cutting engine.	4 Carding engines (36 ins.).
1 Scutcher.	3 Drawing frames.
1 Willow.	2 Slubbing frames (14 spindles).
3 Filling engines.	1 Slubbing frame (16 spindles), &c.
21 Dressing machines.	
8 Carding engines (42 ins.).	

Alice Burrows was the maker of the cutting engine, and most of the dressing, carding and spinning machinery. Mason's, of Rochdale, made one of the cards, Jenkinson and Barr the stretching frames and Cocker and Higgins,

Manchester, the slubbing frames. The yarn was spun on a jenny of 150 spindles. Trade Failures.

The identification of Messrs. Wrigley and Son with the introduction of long-spinning is mentioned again in the light of Perkins' failure. Perkins had his mill in Boothtown, and it is a fair inference that the mill is the one which the Wrigleys are known to have afterwards occupied with their long-spinning machines. On the testimony of a spinner, who has known the Yorkshire branch of the business intimately since 1852, it was in a mill in Boothtown that the Wrigleys continued their operations. The mill is still in work, although its connection with the silk trade has ended.

The Henry Wrigley made bankrupt in 1837 occupied a mill at King Cross, driven—as the auctioneer's advertisement shows—by “One High-pressure Steam Engine of 10 Horses' Power and one Ditto of 14 Horses' Power.” A Spinning Plant.

The effects included :—

One Boiling-off Copper Pan.

Wire Drying Flakes.

Very superior Cutting Machine.

Two Single Blowing Machines (30 ins.).

Six Breaking Carding Engines (48 ins.).

Six Finishing Carding Engines (48 ins.), by Hibbert and Platt.

Four Breaking Carding Engines (42 ins.).

Four Finishing Carding Engines (42 ins.).

Five Drawing Frames (6 single heads each).

Four Slubbing Frames (12 spindles each), by Cocker and Higgins.

Five Stretching Frames (144 spindles each).

Two pairs of Mules (348 spindles each), all with 15 in. rollers.

One pair of Mules (372 spindles each), 14½ in. spindle by Jenkinson and Bow (or Barr).

Seven pairs of Mules (408 spindles each).

Two pairs of Mules (480 spindles each).

Eleven Doubling and Twisting Jennies (180 spindles each).

Nine Doubling and Twisting Jennies (204 spindles each), &c.

Further
Bank-
ruptcies.

Other reasons exist for regarding 1837 as a better year for auctioneers than for silk-spinners. On the 27th, 28th and 29th days of September, Mr. Thomas Davis put up for sale the valuable silk and cotton machinery at Greaves Mill, Stainland, near Halifax, occupied by Mr. John Denton. The details may be spared, although it is notable that where Wrigley used a copper, Denton used an iron boiling pan. At the foot of the list of effects there are enumerated:—

“A quantity of finished and dressed silk; 44 bags of boiled silk; 15 bags of home waste; 47 bags of silk noils; a number of wire silk scrays; silk shoddy webs.”

Wrigley's auctioneer expressly directed attention to the fact that the machines were framed in iron, and in this notice may be read a reminder that the earliest dressing machines in the memory of living man were framed not in iron, but in wood.

General
Trade
depression.

Culminating proof of trade depression in the year of Queen Victoria's accession is found in the advertisement in the *Halifax Guardian* of 19th September of another sale of valuable machinery, situate at Hare Park Mills, Hightown, Liversedge, in the parish of Birstal, in the county of York. Details of the American panic apparently responsible for the havoc in the trade are lacking. There were failures of London houses engaged in the American trade, and silk-spinners were not alone in these embarrassments. Trade was generally bad, and the worsted industry suffered sorely. If the details may be filled in at a venture it doubtless occurred that the London houses owed the spinners money directly or indirectly, and that silk prices—so susceptible to violent fluctuation—dropped heavily. According to the *Banker's Circular*, a sudden rise took place in the value of money in 1836. Bagehot denies that there was a real money market panic between 1825 and 1847, but agrees that the crises of 1837 and 1839 were severe, and would have produced panics had the Bank not arrested the alarm before it reached a state of intensity.

Fire, which has ravaged the silk-spinning industry with a surely disproportionate severity, closed the connection with Halifax of one who was to build in another town a silk factory reputed for a while the largest in the world. Lord Masham's career is linked with Manningham distinctively, for at Manningham he began business in 1838, with an elder brother, as J. and S. C. Lister, worsted spinners and manufacturers. There, after the retirement of his brother, Samuel Cunliffe Lister founded the wool-combing business which was to bring him fame and wealth, and the degree of self-confidence that led to experiments in silk waste and the invention of his silk-comb. The S. C. Lister and Co., of Wellington Mills, Halifax, was only an auxiliary to the main undertaking of this forceful and courageous man, but in these mills from a date subsequent to 1857, and until December 2nd, 1874, Lister combed and spun silk. On this date fire broke out in course of some operation to a gas main; five work-girls lost their lives, and the business was transferred to Manningham. A sum of £27,500 was later recovered by way of damages from the Corporation of Halifax.

Mr. S. C.
Lister in
Halifax.

The year 1857 was one of financial panic, and Lister, returning from a stay in the Highlands, on which he looked back as the pleasantest three months he had ever spent, found himself in trouble. Its nature and bearings are best left to his own description, contained in Lord Masham's *Inventions*, the autobiography published before his death.

A
Financial
Crisis.

"I was informed that the Halifax concern was in difficulties and wanted help. Then I found that Mr. Brown, the managing partner, had accepted bills to a large amount that had nothing to do with the business, but as they were accepted in the name of the firm, I was responsible for them, and had them to pay. This I could not do at the moment, so the concern had temporarily to suspend payment to give me time to find the money. . . .

"But all this might have been avoided had I been wise and not foolishly proud, for the Governor of the Bank of England most thoughtfully and considerately sent for me. . . . In a large, gas-lighted, underground

A
Financial
Crisis.

room (it appeared to me), I was introduced to the Governor and three or four Bank directors. He sat with a big book before him, and received me very pleasantly, but soon showed that he meant business, and asked me some very searching questions, every answer being carefully entered in the big book. At last he asked me the very plain question, Did I think I could pay my way? He said that he was aware that I had a number of concerns doing a large business, and if they should stop payment it might and would greatly increase the panic that was then prevailing. This at once raised my pride, that I should be asked such a question, for I had hitherto considered myself one of the richest and most prosperous men in the country. In a rash moment, I remember so well, I coloured up and said I thought I could.

“The big book was immediately closed. He rose from his seat, and, with a bland smile, said: ‘We are delighted to hear it. Good morning, Mr. Lister.’ And so I was bowed out of the bank. When in the street, too late, I saw my folly.”

“The Halifax concern remained under the supervision of the creditors for some time, and made about ten thousand pounds, which, to my great indignation, the Income Tax people assessed. . . . So ended the year 1857. . . . My loss, direct cash loss, besides what I supposed from having to sell stocks and other things at ruinous prices, was a hundred and fifty thousand pounds. This, together with my serious loss on silk-combing, so crippled me that for years I was more or less always in pecuniary difficulties.”

Later
Develop-
ments.

At the time of the stoppage in 1857, Wellington Mills was a worsted concern, and in the statement of affairs then issued, the liabilities were given as £253,190, and the assets £210,889. Mr. Lister's private resources were said to exceed a quarter of a million, and Mr. Brown's to be *nil*. The creditors were paid by instalments extended over two years. At the time of the fire, the premises housed 230 silk-loom, and a number of silk-spinning frames, and between five and six hundred persons were employed.

The rebuilding of the premises made way for a young firm of spinners, which had been established in Brighthouse. Three brothers Marsden, with a brother-in-law, Mr. Cockroft, manager for John Fisher and Co., Longroyd Bridge, Huddersfield, founded the firm. As Marsden Brothers and Holden, they were in litigation with Mr. S. C. Lister in 1874. The firm became Clayton, Marsdens and Co., after it had been joined by Mr. Lemuel Clayton, hitherto traveller for H. C. McCrea and Co., and became later Clayton, Murgatroyd and Co., Ltd. The concern remains one of the largest and most prosperous in the trade, and retains an extensive business in sewing and embroidery silks. About 1900 Clayton, Murgatroyd and Co. took over and closed a small neighbouring mill, which had been occupied latterly by James Robinson and Co., and formerly by the Cockrofts. The Mytholm Mill, at Hipperholme, which early in the 19th century was used in the wire trade, was let to W. Spencer and J. Cockroft for silk purposes somewhat before 1855. After possession by Andrew Cockroft, the mill passed to Clayton, Marsdens and Co., and was eventually put to other trades.

The name of Hadwen, within the silk-spinning industry, ranks in historical quality with that of Brocklehurst, Thompson and Fielden. These are the oldest names in the memories of those who have been in the trade longest, and are those of the parent concerns. The founder of the Hadwen firm, so long carried on at Triangle, near Halifax, came from Kendal. He began business at Triangle in 1800, as a cotton spinner, and in 1826 began to spin silk upon his cotton machinery. This method was followed until 1858, when machinery for dealing with long fibre was installed. A proportion of the older type of machines was retained, and warp yarn for Henrietta cloths and for the Bombay market continued in use until the end of the century. The mill at Kebroyd was the scene of some interesting experiments to produce schappe yarn of the kind made upon the Continent. Machines for stamping cocoons and a modern apparatus for de-gumming were installed, but lacking the supplies of

Later Developments.

The Hadwens Triangle.

The glacier water that are possessed by the European mills, Hadwens the result was not successful enough to warrant the retention of the plant. The firm had a particularly high reputation in the lace trade, and during the '70's did a large business in the Nottingham market.

Mr. John Hadwen, the founder, was succeeded by his son, Mr. G. B. Hadwen, and by his grandsons, of whom Mr. F. W. Hadwen remains. In 1892 Mr. Alfred Ingham was admitted as a partner, and about 1900 the mill was taken over by a limited company, in which many of Messrs. Hadwen's 500 workpeople took up shares, and the undertaking passed out of the family control.

CHAPTER XXII.

BRIGHOUSE.

Brighouse, a thriving industrial borough, with some 21,000 inhabitants, has in the course of the past 70 years been made the chief centre of the English silk-spinning industry. Mid-way between Bradford and Huddersfield, with Halifax upon its west and the prosperous Spen Valley upon its east, the town is placed in the heart of the textile area of the West Riding. It is upon the main line of a coast-to-coast railway, and is accessible from Liverpool and the Humber by canal. The town is on the fringe of the Yorkshire coalfield, it has beds of excellent stone and an abundance of water, from the higher lands adjoining, finds its way down to the River Calder, upon which Brighouse stands. Being favourably placed for the purposes of miscellaneous industry, the town has become the home of several different trades. Cotton-doubling is carried on by a score of firms, whose single-yarn is mainly obtained from Lancashire, although in part from local spindles. Woollens are made upon the Huddersfield side of the borough, as are the especially renowned Clay worsteds. Upon the Bradford boundary, the Firths have their great carpet mills. There are large dye-works for the slubbing-dyeing of wool and the dyeing and finishing of piece goods. Beyond these industries there are considerable ones in ironfounding, wire-drawing, flour-milling and quarrying.

Two accounts connect the name of Newton with the introduction of the silk trade into the town. Mr. Horsfall Turner, in his *History of Brighouse* (1903), refers casually to the "several (who) tried to establish the silk business . . . since Mr. Robert Newton." In another connection

Home of several Industries.

The Early Days of Silk.

The
Early
Days of
Silk.

the book refers to a meeting held 22nd September, 1846, in the warehouse of Mr. Robert Newton's Victoria Mills. Miss Sellers in the *Victoria County History, Yorkshire*, vol. 2, says: "The industry was introduced by Messrs. Robert Newton and James Barrow, who came to Brighouse from Lancaster in 1843, and started business at Little John Mill." The name of Barrow is a palpable mis-spelling of Burrow, and if the business was indeed started in the exiguously small quarters named, the fact is outside the knowledge of the owners of the building. The land in the township of Clifton, upon which Little John Mill was built, was leased in 1786 to John Clegg for 85 years for the erection of a carding mill, and there is the authority of the Kirklees Estate Office for the statement that if the mill was used for silk the business must have been carried on by sub-tenants of the lessees.

There is no doubt in the minds of Brighouse spinners that Newton was one of the earliest of their number, and he may have been the first. The firm Burrow and Monk, constituted of the James Burrow, stated to have been in partnership with Newton, and a Mr. Monk, from Macclesfield, is more generally regarded as the original firm. They were in partnership together when Mr. Thomas Butterworth, the late Mr. John Cheetham, and others, came to Brighouse in 1852, after the closing of Fielden Brothers' silk mill at Todmorden. Burrow and Monk then occupied a converted farm building, which still forms a part of the Thornhill Briggs Mills of Wood Brothers and Sons, Ltd. The short or cotton system of spinning had been carried on there originally, but with the help of workmen from the Holdforth's Mill in Leeds, the improved long-spun method was substituted, and was being practised in 1852. Deeds in the possession of the present owners of the mill suggest that Burrow and Monk would be tenants of the Dr. Joseph Cartledge, who had bought that portion of the Newstead's estate. The documents show further that the property had been transferred in 1747, subject to a peppercorn rent—"the yielding and paying of one red rose in the time of roses."

Memories
of Lister.

To this mill Mr. Samuel Lister, the late Lord Masham,

was in the habit of paying frequent visits at the time that he was beginning the manufacture of silk waste at Manningham. The occupants ultimately failed, and, upon the evidence of one of the silk-dressers who was employed there at the time, Mr. Monk left Brighouse for Huddersfield. Mr. Burrow remained behind, and he is said to have sunk in the social scale and to have eventually turned to poaching. The name of one Alice Burrows appears in auction catalogues as the maker of cutting, dressing, carding and spinning machinery in use in the Halifax district in the middle '30's, and the surnames are sufficiently alike to suggest the possibility of a relationship.

The names of Benjamin and of Joseph Noble are remembered in the trade as those of two of the earlier Brighouse spinners, and Mr. Turner's *History* mentions that the second-named died in 1876 at the age of 66. Mr. Butterworth, the oldest living silk-spinner, whose father and grandfather both worked in the spun silk trade, founded in partnership Barkers and Butterworth, Belle Vue Mills, and on his retirement sold the business to John Cheetham and Sons, Ltd. At Calder Bank Mills, Brighouse, Albert Mills, Rastrick, and Belle Vue Mills, Messrs. Cheetham carry on a trade with which their family has been identified for some generations. The Cheethams in the early days of their business dressed silk upon commission for Mr. Lister, of Manningham Mills, and the Mr. Nussey, who later became manager at Manningham, was stationed at their mills to supervise the weighing of the material. Upon leaving Todmorden, Mr. John Cheetham worked at the silk trade in Halifax, and, coming to Brighouse, entered later into partnership with Mr. Richard Kershaw in 1863. The partnership was dissolved in 1871, and became Ormerod Brothers and Cheetham, and by dissolution in 1881 became John Cheetham and Sons.

Subsequent Developments.

Mr. Kershaw, whose pursuits had formerly been agricultural, opened business as R. Kershaw and Co., and in 1880 completed the building of the fine Woodvale Mills, which were sold about 20 years later to the Messrs. Ormerod on Mr. Kershaw's retirement from the trade.

Subse-
quent
Develop-
ments.

The Ormerods, who had been previously in the cotton trade, built the large Alexandra and Prince of Wales Mills, the first of which was burnt down in 1903, when £40,000 damage was done. After being carried on by members of the Ormerod family until 1913, a change of proprietorship was made, and Mr. A. Mellor was brought from Macclesfield to undertake the management of the concern still called Ormerod Bros., Ltd., the largest in the town.

The firm of Wood Brothers and Sons, Ltd., was founded in 1881 by members of a family connected since the 17th century with the local wire-drawing industry. Mr. Michael Hill, later of the Ford Silk Spinning Co., Horbury, and of John Hadwen and Sons, Ltd., was the first partner of the Woods, and in charge of the technical work. Under the later charge of Mr. Thomas Herbert Wood, a second large mill has been built in which advantage has been taken of every modern improvement.

At Wilkin Royd Mill, a successful business has been built up by Wood, Robinson and Co., in the last quarter of a century. John Baldwin and Sons, Ltd., Ganny Mill, Mr. Thomas Binns, Clifton Bridge Mills, and A. Rawlinson and Son, Brookmouth Mill, have all carried on their businesses for years, and make standard Brighthouse yarns.

In the course of development there have been retirements from the trade for one reason and another. The Messrs. Stott, Kershaw, Ormerod, and Butterworth are no longer actively associated with the trade, and the firm of Wilkinson and Airey and perhaps one or two others are extinct.

Com-
petition
between
Spinners.

Lively competition exists between the several spinners all of whom are making yarns required for similar purposes, varying somewhat in nature according to the particular class of material used and the incidental differences due to variations of practice. The spinning of 60's white silk chiefly for the dress goods market, which for long has ranked as the principal branch of the trade, has to some extent given way to the spinning of tussah silk in the counts required by plush manufacturers. Yarns are spun for the lace and hosiery trade, and for sewing and embroidery

purposes, in quantities which fluctuate with the somewhat uncertain demands. A large part of the production is for export, and the typical strong, bright, clean Brighthouse yarn is favourably known in all considerable centres of silk manufacture. Export Trade.

At Greetland near Halifax and Brighthouse, silk-spinning is carried on in addition to woollen manufacture at Wood Field Mills by Benjamin Fielding and Son.

CHAPTER XXIII.

HUDDERSFIELD.

The part
played
by Silk.

From the earliest up to the present times the staple of Huddersfield industry has been wool, and in the manufacture of the finest worsted cloth the town has achieved a position of pre-eminence. In bringing about this development a considerable and often disregarded part was played by silk. There was an intermediate stage in Huddersfield's successful career in which goods made of wool and silk had a greater relative importance than they have had for some years past. The history of the Huddersfield industry may be traced from the 16th century, when white and coloured "Penestons" (coarse wool cloths) were being made in the hinterland of the town, and when a fulling-mill for the finishing of these cloths woven on "the broad lombes" was in operation at Thurstonland. Reference to the cloths is found in the statutes of 1580 and to the fulling-mill in H. J. Morehouse's *Parish of Kirkburton* (1861). The same work is the authority for the statement that until the latter half of the 18th century the coarse cloths woven in certain of the upland villages upon the outskirts of Huddersfield went by the name of "Leeds Reds." They were woollens, scribbled and carded by a single pair of cards, spun into single thread and woven by hand shuttling. Their name of Leeds was derived, by a not unfamiliar process, from the fact of their sale to the Leeds merchants.

Morehouse records that as late as 1780 the villagers of Shepley, one of the outlying townships of the Huddersfield area, used to assemble in the early morning at the blast of a horn to convey their homespun warp yarn by

packhorses to the Dewsbury market. Huddersfield had also an ancient market of its own, and the market cross still stands in the main street. Here local cloths were sold before the opening of the Cloth Hall in 1760; an institution of which it was said half a century later that it had been of the utmost benefit to producers in keeping prices at a remunerative level even in depressed markets. Huddersfield blue serges were being sold in fairs in other parts of the country and a document in the possession of B. Vickerman and Sons, Ltd., shows the founder of the business to have disposed of £1,400 worth at the Prescott, Chester and Wrexham fairs of 1792, and to have been trading also with Massachusetts.

The part
played
by Silk.

In 1776 the first spinning machine, a jenny of 18 spindles, was erected in Holmfirth, a few miles to the southward of the town. The first mill to be erected in the Colne Valley, now the scene of busy activities in the cheap fancy woollen trade, is said by Mr. D. F. E. Sykes in *Huddersfield and its Vicinity* (1898), to have been driven first by gin horse and later by water-wheel. The year is unspecified, but the date is apparently one anterior to the invention of the steam engine.

Huddersfield stands at the confluence of the Colne and Holme valleys and in the last named—according to Morehouse—only plain goods were made until about 1830. Business in plain cloths declined, and a demand arose for fancy vestings in which silk formed a distinctive feature. The manufacture of these tided the local industry over the thirty or more years that passed before the opening of its later phase. Morehouse refers explicitly to Kirkburton, Shelley and Shepley as places owing much to the development of the new trade, and indeed business in fancy vestings is still carried on successfully in these districts of Greater Huddersfield. The goods, however, became staple wares of the period, and were manufactured in Dalton, Rastrick and other townships to the north of the town.

The
Silk
Vestings
Trade.

A list which appeared in West Riding Directories shows that there were at least two silk-spinners in Huddersfield in 1830: William Hird and Son, silk cotton and worsted

Some
Pioneer
Firms.

spinners, Cross Church Street, and the longer-lived firm of Fisher. The name is given as John Fisher and Co., silk-throwsters and spinners, Longroyd Bridge, in 1830 ; a name changed to Edward Fisher and Co., by 1842, and which had become Edward Fisher and Sons before the last proprietor, one Mr. Sharp, of Holmfirth, closed the business in 1895. The Fishers were engaged originally in the short-spinning process, and the improved system of long-spinning was introduced at their mill by the Mr. Cockroft, who with his brothers-in-law, the Marsdens, founded the mill now carried on at Halifax by Clayton, Murgatroyd and Co., Ltd.

Link
between
Textiles
and
Agricul-
ture.

Factory inspection returns record in 1839 these two silk factories in Huddersfield and two in Almondbury, employing in all 326 persons. In 1842 the name of Joseph Mills, King Street, appears along with that of William and Samuel Dowse, Mold Green, throwsters and spinners, and of two dealers in silk yarn. The business of William White and Sons, now of Mulberry Mills, Huddersfield, bears one of the traditional names of the industry. Of Huguenot extraction, the Whites first in London, next in Macclesfield, and, since 1843, in Huddersfield, have carried on the ancestral trade for many generations. The late Mr. William White, a familiar figure for half a century at the London silk sales, rode out upon horseback in his early days to sell his silk twists to the manufacturers of vestings, and the old ledgers of the firm give an insight into the conditions under which trading was then done. Amounts were settled normally by bills, occasionally partly by bills and partly by hams, which were re-consigned to the White family in London and Macclesfield. More rarely they were settled partly in bills and the balance in milk ; an evidence of the survival until a comparatively late date of the close local connection between farming and textile manufacturing. Soon after 1849, Mr. White produced the gold coloured twists needed to make the California vestings, which became seasonable articles at the time of the gold discovery in that State. Mr. William White, who lived to a great age, had at one time a silk dyehouse at Linthwaite, and for a short while

shared in a tentative experiment in silk-spinning. The business carried on by his descendants is still that of preparing twists for the uses of the vesting and worsted business.

Work of the same kind is carried on by the Bent Ley Silk Mills Ltd., of Meltham, in addition to the dressing and spinning upon a considerable scale of waste silk. The mill was built about 1840 by Charles Brook and Sons, members of a family which subsequently built up a great business in sewing cotton. The mill passed from the Brooks to William Bamford and Sons, who continued the silk business for a few years, and eventually sold it in 1890 to the present limited company, of which the managing director is Mr. A. W. Manks. The original business was somewhat enlarged about the beginning of the century by the purchase from W. Hollins and Co., Ltd., of the silk department conducted in their large mills at Mansfield. Silk-spinning was carried on in 1851 at Dalton by John Salkeld and Co., presumably in the Greenside Mills, which about 30 years ago were worked by a Mr. George Wilson. It is known that Wilson acquired part of the machinery sold at the break-up of Burrow and Monk, the pioneer spinning firm in the adjacent town of Brighouse, and one of Mr. Wilson's employés, the late Mr. J. W. Armitage, subsequently began spinning upon his own account in that town.

Waste
Silk
Trade.

The Census of 1871 showed that in the census area of Huddersfield 108 males and 148 females were employed in the manufacture of silk. Silk and satin manufacturing employed 74 males over 20 years of age; seven adult males were returned as silk dyers, and two as silk merchants. The particulars would seem not to cover the whole industrial district; they exclude those whose business lay mainly with mixed goods, and they were taken before the rise of the silk plush industry, which for a time largely increased the number of silk workers in and about the town.

Silk yarn dyeing has been carried on for many years, and upon a large scale at Mr. G. W. Oldham's Moll Spring Dyeworks and Lord's Mill, Netherton. During the

Silk
Yarn
Dyeing.

Silk
Yarn
Dyeing.

currency of the trade in silk sealskins in the '80's and '90's, large quantities of these plushes were manufactured, notably by the extinct firms Henry Lister and Co., Joseph Walker and Sons, Lindley, Norton Brothers and Co., Nortonthorpe, and by Field and Bottrill, of Skelmanthorpe. The production of pile goods like astrakhans and mohair plushes remains one of the specialities of the district.

To pick up the broken thread of the story of the development of the Huddersfield fine worsted trade, reference must be made to a letter published in the Huddersfield newspaper, 1881-1883, by Mr. J. S. and Mr. J. T. Clay, of Rastrick. It is there recorded that about 1853 one John Beaumont, of Dalton, brought out a new vesting made with four-fold woollen yarn twisted with a thick thread of silk and woven 16 threads to the inch in each direction. A London woollen merchant, Charles Kennerley, of Savile Row, London, invited Mr. Clay to make the cloth in cashmere or worsted, instead of woollen yarn. A supply of Berlin wool yarn made for the uses of the Leicester trade was procured from a Mr. Charles Walker, of Bradford, and a new business in so-called Berlin vestings was begun. From one piece dyed black and made without silk the famous tailor Poole cut one chequer-board square, and in 1857 or 1858 ordered a piece to be woven throughout in the plain twill of this pattern. A coat of this material worn by the Prince of Wales, brought fine worsted into prominence, and its increasing growth in public favour ousted the shiny woollen broadcloths that had formerly been the recognised wear for formal occasions. Broadcloths had been the particular speciality of the West of England, and their supersession by a fabric which was an offshoot from the trade in wool and silk waistcoatings became a matter of the utmost moment. The manufacture of fine cloths for wear by men was transferred to the West Riding, most of the woollen mills of the West of England dropped gradually out of work, and the success that has been gained subsequently in Gloucestershire and elsewhere in the West has been chiefly by the adoption of the methods pursued in Huddersfield.

Manu-
facture
of Fine
Cloths.

CHAPTER XXIV.

SHEFFIELD, LEEDS, LOW BENTHAM.

SHEFFIELD.

Towns in which employment for men is plentiful, and particularly those situated on the Northern coal-field, are commonly favourable to the development of textile industry. The case has not proved thus with Sheffield, where a silk throwing mill was erected near the Don River in 1758. The mill was inspected by Arthur Young, and a faithful account of its transactions is given in his *Northern Tour* (1769) :

“ Sheffield contains about 30,000 inhabitants, the chief of which are employed in the manufacture of hardware. The great branches are the plating work, the cutlery, the lead works and the silk mill.”

The silk-mill was :

“ A copy from the famous one at Derby which employs 152 hands, chiefly women and children ; the women earn 5s. or 6s. a week by the pound ; girls at first are paid but 1s. or 1s. 2d. a week, but rise gradually higher, till they arrive at the same wage as the women. It would be preposterous to attempt a description of the immense mechanism ; but it is highly worthy of observation that all the motions of this complicated system are set at work by one water-wheel, which communicates motion to others, and they to many different ones, until many thousand wheels and powers are set at work from the original simple one. They use Bengal, China, Turkey, Piedmont and American

A
Throw-
ing Mill.

raw silks ; the Italian costs them 35s. a lb., but the American only 20s. ; it is a good silk, though not equal to Piedmont. This mill works up 150 lbs. of raw silk a week all the year round, or 7,800lbs. per annum. The erection of the whole building, with all the mechanism it contains, cost about £7,000."

Other
Textile
Enter-
prises.

The enterprise succeeded ill and according to both Hunter's *Hallamshire* (1819) and Baines's *History, Directory and Gazetteer* (1822), the premises were soon applied to the spinning of cotton. Baines added that "neither the silk nor the cotton trade has made any progress in Sheffield, though the latter has been perseveringly prosecuted upon the site of the original silk mill, after two successive conflagrations." It is not only to silk and cotton that Sheffield conditions have proved hostile. There was in 1822 a considerable carpet manufacture, and near a hundred looms employed in weaving hair-seating. "There is also," reported Baines, in an ominous tone, "a small quantity of woollen cloth manufactured here, but it seems an exotic, and, like cotton and silk, not a native of the soil." Steel has banished silk, cotton, wool and horse-hair alike, and modern Sheffield makes no experiments in the textile industries which prosper in the hands of its neighbouring towns and cities. A directory of 1821 records the existence of two silk-dyers in Sheffield, but it is possible they were dyers of garments rather than of yarns and piece goods.

LEEDS.

Silk and
Flax-
spinning.

Leeds has the advantage of a singularly diverse range of industries, but has for several years lost a connection with silk, dating from a hundred years ago. Leeds, it must be recalled, was formerly the chief centre of the English flax industry, and the fibre is still spun in the city. There are stout historical links between the spinning of flax and the silk-spinning process now in general use in this country, and these may be sought in the chapter dealing with Waste Silk (*p.* 390). Flax and waste silk involve the use of similar types of machinery, and the

machine makers, to whom the silk-spinners of to-day are perhaps more indebted than to any other, carry on business in Leeds. Greenwood and Batley Ltd., the chief makers of waste silk drawing machinery, themselves derive from an older flax machine firm. The founders left Fairbairn and Lawson to begin business for themselves in 1856. Mr. Samuel Lawson, of this firm, was the patentee, jointly with the inventor, William King Westly, of Leeds, of the worm gear for driving the "fallers," or heckle bars of the machines used in preparing long fibres for spinning. This invention of Westly's lies at the root of the silk, flax and worsted spinning practice of to-day, and Westly has had less than his meed of honour and perhaps of fortune.

Westly's specification (6464 of 1833) shows that previously to his time the toothed bars which parallelise the fibres had been driven by chains and spur wheels on which his "perpetual screws or worm shafts" were so great an improvement that they have never been superseded. An entry in the *London Gazette* of 15th July, 1837, conveys notice that W. K. Westly, Salford, flax-spinner, was certified bankrupt on that day. Nor does a printed card* preserved among old documents by Messrs. Greenwood and Batley suggest great good fortune, eloquent as it is of the joy of achievement and the indomitable spirit of the man.

Silk and
Flax-
spinning.

The
work of
Westly.

* The following lines, composed by the late WILLIAM KING WESTLY of LEEDS (Inventor of the SCREW GILL, &c.), were seen written in red chalk on the whitewashed wall of his own room, by his nephew, with whose kind permission they are here printed:—

"Speed man! Speed! Old Time is running,
Stretch and strain thy strength and cunning;
Every sinew bravely brace,
To the wrestle and the race,
'Tis the doing—not what's done,
'Tis the winning—not what's won,
'Tis the struggle and the strife
Gives the real zest to life.
Labour is no slavish burden,
But its own sufficient guerdon,
Giving doubly all it takes,
In the manly pride it wakes,
In the sound and happy sleep,
In the pulse's joyous leap,
In the limbs with vigor lithe,
In the temper ever blithe,
In the sweetness of the bread
Won by skill of hand or head,
Forward, then! and forward still!
Triumph waits on strength of Will."

Hold-
forths'
of
Leeds.

The Factory Inspection records state that one of the 225 steam engines at work in Leeds in 1836 was for silk and cotton-spinning, and that this engine was of 36 horse power. If the capacity of the prime mover looks trivial in a modern light, it can at least be argued that the engine was of twice the average power of those in Leeds manufacturing establishments at the period. Then, and for long after, it was customary to move spinning-mules by hand. The question of the ownership of the engine may be set at rest by reference to *Baines' Directory* of 1822, showing the name James Holdforth, Mill Street, Bank, Leeds, under the heading silk and cotton-spinner. In 1830 the address was Low Mill, and in 1842 was 38, Mill Street, and at Horsforth and Cookridge. In 1847 the firm was James Holdforth and Son, Silk Street, Leeds. Probably the mill was in existence before this time, for it was in 1812 that the founder married, and his daughter-in-law understands that he had the silk-mills at that time. An entry in *Leeds' Worthies* (1865) gives an epitome of Mr. James Holdforth's life, showing him to have been born in 1778, and to have died at the age of 83. He was one of 22 placed on the first Commission of the Peace under the Act of 1836, and had the distinction of being the first Roman Catholic mayor elected in England since the Reformation. He was the friend and correspondent of Daniel O'Connell, Sheil O'Gorman Mahon, and other Catholics of renown, and "greatly beloved by his work-people, large numbers of whom he employed in his extensive silk factory." Mr. Holdforth's name is mentioned in the evidence taken by the Committee on the Factory Bill, 1832, from which source it appears that the mill had a night as well as a day staff. A girl witness deposed that he "liked children all to be very clean."

Frowns
of
Dame
Fortune.

Mr. Joseph Holdforth was head of the firm in 1864, when he died. Mr. James Holdforth, junior, who had carried on business as a spinner of silk by the short-spun process in Congleton, sold his Cheshire mill a few years later, and carried on the Leeds concern until in the '70's difficulties overcame him, and the three or four hundred operatives were thrown out of work. The machinery

was sold by auction, and some of it was removed to the Hold-Brighthouse district. Exceptional interest attaches to the affairs of the Holdforths, as it was from their mill that workers were drawn to operate the first long-spinning machinery introduced into Brighthouse, the town that is now the chief centre of the long-spinning trade. Again, the Holdforths were one of three firms that in the beginning asserted a monopoly in the rights of the process of spinning waste silk without first reducing its fibre to very short lengths.

White's West Riding Directory of 1837 gives the name Wilkinson and Son, Harcourt Mills, Leeds, as silk and cotton-spinners, but the contemporary evidence disfavours a supposition that they were silk-spinners for long. Mr. Walter Hinde, later connected with the Lancaster silk-spinning concern Hinde and Co., through his partnership in the flax and worsted spinning firm of Hinde and Derham, had a connection with Leeds. At Horsforth, on the outskirts of Leeds, mentioned as a place of business of the Holdforth's in 1842, the Charnley's for a while carried on silk-spinning. From 1870 to 1877, Mr. T. B. P. Ford, in partnership with Mr. Harvey, had a silk-spinning business in Leeds, which was removed to Low Bentham, near Lancaster.

LOW BENTHAM.

Flax and tow-spinning was carried on early in the last century in Low Bentham, a village geographically in Yorkshire, but with Lancaster as its nearest town. A mill devoted formerly to hemp-spinning was bought in 1877 by Mr. T. B. P. Ford, who with a Mr. Harvey had been a silk-spinner since 1870 in Leeds. Two or three years later Mr. Ayrton joined him, and in company they gradually enlarged the mills and built up the satisfactory business now owned by Ford, Ayrton and Co., Ltd. Mr. Ford, in his youth, had the advantage of a training in mechanical engineering in the works of Greenwood and Batley, Leeds.

Hold-
forths'
of
Leeds.
Off-
shoots
of
Leeds
Industry.

CHAPTER XXV.

ROCHDALE, TODMORDEN, RIPLEY, SKIPTON.

ROCHDALE.

The
Trade
in
Flannels.

As the two more accessible towns west and east of about twenty miles of sterile and mountainous country, Rochdale and Halifax, divided between them for a couple of centuries the market in the coarse woollens produced by the yeoman-manufacturers of the region. Rochdale still manufactures "Yorkshire" flannels in token of its old association with domestic weavers across the county border, as well as Lancashire flannels, pseudo-Welsh and Shetland flannels, and a variety of modern shirtings. Flannels became so much the speciality of Rochdale that in 1824 the town was computed to produce more than all the rest of the world. "Some good flannels are manufactured in Wales," admitted the *Edinburgh Philosophical Journal* of the year named, "a few good ones at Keswick and some other towns and villages. A few are manufactured on the Continent, and works for that purpose are now erected in America; but the whole of the flannels manufactured on the globe, beside those manufactured in Rochdale and its immediate vicinity are not equal in quantity to those made here."

The flannels that have long engaged the local attention have suffered in sale from the extensive changes in habits of dress, and the cotton trade absorbs more and more of Rochdale energies. As an outpost of Manchester, the town has in its time had some relations with silk, chiefly through two firms now non-existent.

The firms of Henry Tucker and Co., described in 1877 as manufacturers, spinners and printers, making poplins,

Japanese cloths, scarves and ties, handkerchiefs, foulards, An piece goods, Indian corahs and bandannas, had Rochdale Extinct as one of its three addresses. According to the available Spinning oral evidence, silk was spun upon the long-spun process at Industry. their Castleton Silk Mills, Rochdale; by the short-spun system at Pendleton Silk Mills, Manchester, and silk-throwing was done at their Pickford Street Mills, Macclesfield. The name is one of the oldest known to present members of the silk-spinning trade, and it subsequently became Tucker, Meade and Co., by inclusion of relations of the Tucker family. The silk business seems to have fallen away, and attempts were made at Castleton to produce ramie yarns upon a commercial scale. A Company called the Lancashire Silk and Rhea Mills Ltd. was formed to acquire the concern, and this Company passed into liquidation about the beginning of this century.

Thomas Watson and Sons, Ltd., Horse Carrs Silk Mill, Rochdale, was the later title of the firm that in the '70's was known as Thomas Watson and Co., and that had been founded by Mr. Thomas Watson, earlier of Galgate, Lancaster. Silk was spun and woven into velvets and plushes, and the Messrs. Watson made large quantities of sealskin plushes during the continuance of the demand for these goods. Silk plushes were also woven by the great firm of John Bright and Brothers Ltd., Fieldhouse Mills, as one out of many different classes of goods receiving their attention.

HEYWOOD.

Waste silk dressing and spinning have been carried Waste on for a number of years at Heywood, about three miles Silk from Rochdale, by the firm of Brearley Brothers. Dressing.

TODMORDEN.

The family of Fielden, proprietors of three large cotton mills at Todmorden, and distinguished by many public-spirited acts, operated one mill in silk-spinning until 1852. Upon the evidence of one who worked in this mill in his youth, silk was spun there in the same manner as cotton. Upon the occurrence of a

Fielden and Brocklehurst Interests. death in the family, the properties were divided, with the result that the silk-mill was closed, and the papers relating to its affairs have been destroyed. The consequent disemployment of the body of workpeople led to some dispersal of the trade and was a factor of importance in the development of the silk-spinning industry in Brighouse. The inter-marriage of two members of the Fielden family with two of the Brocklehurst family of Macclesfield, is a link further connecting Todmorden with silk, and probably explains the entry of Fielden Bros. into the silk-spinning business.

RIPLEY.

An isolated silk-spinning business is carried on successfully in the picturesque surroundings at Ripley, near Harrogate. The original owners seem to have been Briggs and Co., whose manager was a Mr. Threlfall, of Brighouse, and the business is conducted by his sons, under the name of Threlfall Brothers.

SKIPTON DISTRICT.

At Bell Busk, seven miles north-west from Skipton, silk-spinning, largely for the sewing trade, was carried on for many years by Mr. C. A. Rickards. The mill and the trade marks were acquired by the English Sewing Cotton Co., Ltd., of Manchester, and after a fire, which destroyed the premises, the goodwill of the business was sold to Lister and Co., Ltd., of Manningham. Messrs. Lister have at Addingham, six miles south-east from Skipton, Low and High Mills and Burnside Mills, which are used for the manufacture of velvets.



Plate XXIX. Silk Shawl in the Museum, Norwich.

CHAPTER XXVI.

NORFOLK AND NORWICH.

The early history of the textile trade in England is the history of the manufactures of Norfolk and Norwich. In the earliest periods this industry was doubtless almost, if not entirely, confined to wool, the very name of the yarn and material known as worsted having been derived many centuries ago from Worstead, a small town or village some few miles distant from Norwich. Origin of the name "Worsted."

A curious reference to the industry is made in connection with a catastrophe which befell Norwich in 1174. In that year Hugh Bigot, who had taken the part of the elder son of Henry II against his father, attacked the place with a band of Flemings. Little defence was made, and Matthew Paris records that a vast amount of booty and many captives were taken away. The French chronicler Jordan Fantosme explains the easy capture of the town by the statement that the Norwich citizens "for the most part were weavers, they knew not to bear arms in knightly guise."

From Danish times onwards Norfolk and Norwich have had a large share of British trade, in the earlier periods exporting wool, and later exporting cloth. It would, however, appear certain the textile industry was not of indigenous growth, but that it was first introduced and its continuance ensured through many centuries by distinct and successive waves of immigrants, principally from the Low Countries. The first foreign settlement of which definite record can be found took place in the 12th century. Blomefield, a well-known local historian, has expressed the opinion that Flemings were settled here Influence of Immigration

Influ-
ence of
Immi-
gration.

and in Haverfordwest at the same time—and there is evidence of their presence in the township of Worstead about 1134.

The second great wave dates from the 14th century. This it is declared was due to the initiative of Philippa, Queen of Edward III, who induced her Flamands—"goode and trew weevers"—to come over in crowds. Norfolk and Norwich prospered exceedingly. Norwich became the second city of the realm, and within her walls could be found nearly sixty parish churches and seven conventual churches, besides several religious houses. In the year 1368, William de Swyneflete, Archdeacon of Norwich, caused to be made a certain vellum book, in which was forthwith entered inventories of the ornaments of all the churches in his archdeaconry. The volume, therefore, gives a most valuable insight into the goods and ornaments of the Norfolk and Norwich churches in the 14th century, and shows the great wealth of silk vestments and high altar palls possessed by those 46 Norwich churches, of which inventories are given.

Silk
in the
14th
Century.

The silken goods and the treasures in the city churches had wonderfully increased between the date of this inventory and the Reformation. The return of the Commissions, 6th Edward VI, relating to St. Peter de Parmentergate, shows the extraordinary accumulation of valuable silken vestments &c., in one of the less important Norwich churches at the Reformation. These facts are indirect, if perhaps hardly conclusive, evidence that from the 14th century onwards—and therefore far anterior to its introduction in any other part of England—the silk industry was practised in Norwich.

Of this industry, there are, however, no detailed records until the "Great Wave" of the 16th century. The brief reign of the last male Tudor saw evil days for Norfolk. Pestilence, fire, and the rebellion of Tanner Kett had ravaged Norwich. Besant, in an eloquent passage, depicts the ruin and desolation in London for long after the Dissolution; and so with Norwich. The stately religious houses, and their more stately fanes had been either absolutely destroyed or ruined. Barely a remnant

of the staple trade survived. The old city had yet good friends however, notably Parker, the celebrated Archbishop, himself a Norwich man; and in 1565 the Duke of Norfolk, with the view to restore the fortunes "of the goode cittie," obtained from Elizabeth letters patent which granted power to the Mayor and Corporation of Norwich to receive "Therty Douchemen of the lowe countryes of Flaunders alyens borne being alle housholders or maister workmen," with their several households and servants not exceeding ten to each family as inhabitants of the city to exercise "the faculties of makeing bays, arras, sayes, tapstrey, mockadoes, staments, carsay and such outlandish commodities as hath not bene used to be mayde within our Realme of England." Letters Patent from Queen Elizabeth.

The letters patent were delivered to the Mayor, Thomas Sotherton (whose mansion now called the Strangers' Hall, has been preserved to the city by the prescient public spirit of Mr. Leonard G. Bolingbroke, hon. treasurer of the Norfolk and Norwich Archæological Society), but there was some ill-feeling in the Common Council about the admission of the "Strangers" and the members refused to admit them under their common seal, so "the sayd Maior and his bretherene agreed that the seale of the offyce of Mairaltie shulde be sette to the writinge" (signature) "of everie of the thurty maisters that he lycensed accordinge to the letters pattents, wiche was then done in manner hereafter ensewenge." (*Strangers' Book, folio 16, in Norwich Archives, Castle Museum.*) The letters patent described these good people with easy comprehensiveness as being all "Douchemen," yet the list of the masters and their detailed description prove there were also "Wallounes" (Walloons) in important proportion—these latter a French-speaking, sturdy race, whose homes reached so far inland as Metz. Thus the Strangers, although of the same religion, were from the first, distinct communities each with its distinctive language and code of laws—religious and domestic—and its churches. In 1585 there were three ministers for the Dutch Colony in Norwich—Theophilus Tyekwaert, Ysbrandus Balkins and Antonius Algotius—its separate Nationality of Immigrants grants

Nation-
ality
of
Immi-
grants.

council of elders or "politic men." To each community were granted places of worship, "cloth halls" and "sealing halls." Even the branches of textile fabrics were carefully divided between the two communities; thus the Dutch were only allowed to make "wet greasy goods," the Walloons "dry woven goods."

The later Tudor age was an age of method. Letters patent were required in 1565 before the Strangers were allowed to settle in Norwich, and sundry masters or head men were appointed. This was not considered enough, and in 1571 an elaborate code of rules, called "the Booke of orders for the Strangers of the Cittie of Norwiche," was issued by the Privy Council. This book has no less than 24 articles, these being for the greater part regulations affecting the staple trade of the Strangers (textile fabric manufacture). In addition "Sealing Halls" were established, and "Sealers" or "Searchers" were appointed. The "Sealers" were duly sworn experts, and each piece of fabric under pain of divers penalties to the makers had to be submitted to and examined by them as a guarantee of "trewe makyne" and "trewe cowlleringe," and each piece was marked or "sealed" with a separate seal in accordance with its merit. About the same time the "Books or orders for the Draperye" was issued by the united councils of the elders or "hommes politiques." The original book (there appears to have been only one copy) is beautifully written in Dutch, and consists of minute regulations respecting the making of "bayes, says," and numerous other fabrics of wool, wool and silk, and all silk. It is instructive to note that the earnest endeavour of these wise men was evidently to ensure honest, and so far as it was possible, perfect work. Excellence of fabric was evidently their aim—not cheapness at the expense of quality—and to this far-seeing policy can be fairly ascribed the renown of Norwich-made goods for many years. If the sealers found a piece of fabric to be imperfect, they decided who was the cause of the imperfection—the manufacturer, the dyer, or the weaver—and in democratic fashion, the guilty party was mulct of a fine, and if the fabric was considered a disgrace to the

Makers
of
Fine
Fabrics.

Strangers and to the city, it was incontinently “torn in Fabrics twain” and handed back! In 1616 the city authorities marked purchased the right to seal with the Crown Seal granted by to the Duke of Lennox. With this was marked all fabrics Crown sealed or searched (*i.e.* examined by sworn experts) in the Seal. various sealing halls.

To show the classification of varying degrees of quality or manufacture determined by the sealers and to prove their place of origin, there were other marks, as follows:—Goods considered as being up to a certain standard of excellence were stamped by the searchers with the city arms (the lion and castle) if manufactured by Norwich citizens; with the lion without the castle if by Norfolk weavers; with a ship if by the Strangers. On the other hand, goods considered inferior from any cause were stamped “Norwich” within a ring if manufactured by Norwich citizens; if by the Strangers “Aleyne” within a ring; if by Norfolk weavers “Norfolk” within a ring.

These regulations obtained until 1705, when during a riot the sealing halls were sacked and the various seals, or brands, destroyed. The cause of the tumult is unknown. According to Blomefield (*vol. iii, p. 284*)—“To all which ordinances they willingly obeyed, behaved themselves orderly, became a civil people, and were of great service to the city.”

Nevertheless they had many enemies. In 1567, Thomas Whalle, the Mayor, tried to expel them from Norwich, but the Town Council would not agree. Several vexatious regulations were, however, passed, and it was reported to the Privy Council that the Strangers numbered 1,132 persons, far above the allowed number. Again, in 1570, certain gentlemen and others of Norwich unsuccessfully attempted against the Strangers a sort of Sicilian Vespers. As counterblasts “agaynst them that take the benefyte of the statutes ageynst the pore straungers without cause,” the Strangers found it expedient to obtain from time to time from the Mayor certificates of the advantages to Norwich resulting from their residence there.

Har-
assing
Regula-
tions.

For instance, in *vol. 20, State Papers Elizabeth, circa 1575*, appears the following:—

“The Benefite Receyved by the Straungers in Norwiche for the space of tenne years.

“*In Primis.*—They brought a grete commodite thether, viz.: the makinge of bayes, moccadoes, grograynes, all sortes of tuftes &c., which were not mayde there before, whereby they do not only set on worke there owne people, but do also set on worke our owne people within the cittie, as also a grete number of people nere xx myles about the cittie.

“*Item.*—By their meanes our cittie is well inhabited and decayed housen reedified.

“*Item.*—The Marchaunts by their commodities have grate trade as well within the realme as withoute the realme, beinge in good estimacion in all places.

“*Item.*—They be contributors to all paiements or subcedies, taskes, watches, contribusions, mynisters, wagis, etc.

“They live holy of themselves without charge, and do begge of no man and do sustain all their owne pore people.

“And to conclude they for the most parts feare God and do diligently and labourously attends upon their severall occupacions. They obbey all Magistrates and all goode lawes and ordinances, they live peecablie amonge themselves and towards alle men, and we thinke our cittie happie to enjoye them.”

This is endorsed—“The benefittes receaved in Norwiche by havinge the Strauners ther.”

Many other “briefs” (as they were called) of like tenour and of various dates were, until recently, in the possession of Messrs. Stevens, Miller and Jones, Norwich, solicitors to the French congregation.

It can be easily understood that with men who had abandoned their all “for conscience sake,” the exercise of their religion “with decency and in order” was considered of primary importance. In the archives of Ypres is a collection of intercepted letters from the Norwich “Strangers” to those remaining in their native land, and it is pathetic to note the general thankfulness that in their new home they can worship in peace. Clement

Certifi-
cate of
advan-
tage of
Foreign
Weavers
to the
City.

Reli-
gious
Toler-
ance.

Baet writes (September 5th, 1567) to his wife, and ends an affectionate letter: "May God give you the same loving peace and riches we have at Norwich. It is very dear to hear the word of God peacefully."

Religious
Toleration.

The first care of these men—both Dutch and Walloons—was to appoint pastors and a Board of Elders. The *Livre de la Discipline de l'Eglise Walonne de Norwich du Ve Avril, 1589*, is in the British Museum. It gives minute particulars of their religious doctrines, and the duties of the "four Orders" appointed "Les Pasteurs, Les Docteurs, Les Diacres, Les Anciens." The book commences: "Pour bien gouverner l'Eglise de Dieu il n'est pas seulement besoin que la 'parolle et sacremens soient purement adminis, mais aussi qu'il y ait quelque police ou discipline tant entre ceux qu'en ont la conduite que les particuliers à fin de conserver la doctrine en sa pureté garder en bon ordre ses assemblées eclesiastiques contenir un chacun à son devoir, et que tous recoivent advertissement reprehension consolation et subvention en leur nécessité selon qu'il en sera besoin."

Thus these pastors and elders were strict rulers, not only of the religious, but also of the domestic lives of their congregation.

The French-speaking congregations were first granted the Bishop's Chapel in the Bishop's Palace grounds, and afterwards St. Mary's the Little, still called the French Church, and where are preserved monuments to the Martineaus and other refugee families. The Dutch-speaking congregation worshipped in Blackfriars Hall (the choir of the Blackfriars Monastery Church), where still is preached each year a sermon in Dutch. They were turned out for a time, and were permitted to use St. Peter, Hungate. Blomefield also names St. Michael at Plea the French Church, and in 1620 St. Gregory's was called the Dutch Church. It must be remembered that the foreign colony then numbered in Norwich nearly 5,000 souls. The Dutch alone had three ministers, and presumably with such pious people each had a large congregation.

Foreign
Colony
of
5,000.

These Dutch and Walloons were industrious, God-fearing people, but in spite of the complimentary

Dutch
and
Walloon
Jeal-
ousies.

appreciations expressed in the certificate of 1575, entitled "The Benefite Receyved by the Strangers in Norwiche" (already quoted), it must be admitted the records tend to prove they were also stubborn and turbulent. There were endless squabbles between Dutch and Walloons about their shares of the textile trade. If one community invented a new fabric, and prayed "Mr. Maior" that its production might be "sealed" or reserved to them, the other side immediately brought forward a claim to make this same fabric. The Court Books are full of such cases. In 1571 there was a great squabble amongst the elders or the "politic men" as to the newly elected members of their body, and "Mr. Maior" summoned all persons concerned to appear before him to stop "all this unnaturell and barbarous dissenting, and to rote oute all contencious hedes and high stomackes lurking in the congregacions." His Worship appears to have brought all to unity with the exception of Antonius Paschesson, Antonius Paulus, Jacob de Vos and John Gerarde, who resisted the pleadings of their own fellows and of "Maister Maior." Gerard and Paulus (as the old Governors) had possession of the "Booke of orders (or manufacturing regulations) for the Draperie." This book they, backed by other malcontents of the community, refused either to give up or allow to be used. The whole manufacturing industry of the Strangers was in consequence brought to a standstill. The Mayor sternly demanded the book; they refused, although "they were sayde elles goe to prisson." Yet were they stiff-necked, "Maister Maior" was the same, and on the 4th November, "clapt them intoe prisson." Prison fare evidently worked wonders with their "high stomacks," for on the 21st November, they made their submission and gave up the book. To prevent such a deadlock in future, "Maister Maior" ordered that a "trewe coppie" should be made in English. Both this and the original in Dutch are in the city archives. The following quaint account relating the sudden end on the 27th August, 1572, in the Guild Hall Council Chamber of John Rede, Alderman, will perhaps help in a measure to understand what manner of men were

Causes
of dis-
sention.

those who had a part in the "gouvernaunce" of the "Strangers":

"About nine of the clocke in the forenone, a goode, godely and a virtuous brother of this house, viz.: John Rede Alderman, a bigg man and hot with travell after reverens done to Maister Maior and other bretheren and his place taken in the Council Chamber, being troubled wythe a rume which fell from his hede, did coffe three times, wherwith he was stoppyd and his wynde fayled, and so in a sudden sized doune and never spake any worde, and so there presentlie departed this transytory life untoe a more joyfulle place of reste."

In spite of squabbles and jealousies, the Strangers throve and increased for many years. In 1611 their manufacture covered "bays, fustians, parchmentiers, camientries, tufted mockadoes, currellss, tooys, bussins, mockadoes, valures, all of linen, cruell, carletts, damaske, says of dry cruel (after the fashion of Lille, of Amiens, and of Meaux), dry grograynes, double mockadoes, ollyet bum-basines of taffety, *all silk*, striped sayes, broad lyles, Spanish sattins, cross billets of silk, serge de boyce, silk saye, striped tobines figuartoes, bratos, purled and other outlandish inventions." Norwich became again a busy manufacturing centre. The production of textile fabrics must have been extremely important, as a large trade was not only transacted with the countries of Northern Europe, but also with the Levant. As time passed, the Dutch and Walloons took full part in civic responsibilities, honors and duties. When Queen Elizabeth visited Norwich in 1578 the pageant of the "Strangers" was the most imposing of all. Not only did one of the Dutch pastors inflict a long oration (still preserved) upon her Majesty, but the Strangers gave her a cup valued at £50, "very curiously and artificially wrought."

In the city archives are the roll calls of the "Dutch and of the Wallowne" Companies of the City Trained Bands. The first on the 22nd May, 1621, numbered five officers and 90 rank and file. The "Wallownes" numbered five officers and 74 rank and file.

A
Contem-
porary
Record.

Pros-
perity
of Immi-
grants.

Effect of
Revoca-
tion of
Edict of
Nantes.

By the Revocation of the Edict of Nantes, Louis XIV expatriated upwards of 500,000 merchants, artificers and manufacturers. About 50,000 of the refugees landed upon the shores of England. Many of them—a large proportion families of culture and capital—the Martineaus, the Columbines, the de Hagues, the Decarles, the Lefèvres, the Decaux, the Tillettes—found their way to Norwich, forming a valuable reinforcement to the Dutch and Walloon colonies. Silk fabrics, lutestrings, brocades, satins, Padua toys, watered tabinets, decapes, black and colored velvets were made in great perfection by these newcomers to Norwich, amongst whose inhabitants some of their names may still be found, and indeed some have long achieved a wider fame. It is interesting to note the influence of those later refugees upon the two ancient congregations. It was so great that the Dutch learned to speak French in addition to the language of their forefathers.

Gradually the congregations became decayed. Their descendants were still known and honored, but they were no longer “Strangers” in the land. They gradually merged into and strengthened the native population.

It is true that as late as 1725 the Norwich Dutch, French and Walloons are specially mentioned in an Act of Parliament as being exempt from a murage tax on the grounds “they support their own poor and their own ministers.” Yet although for many years later they clung to their traditions, their creeds, their language (a citizen still living declares his father when a boy was always flogged if he dared to speak any other language than Dutch in the home circle), they had by intermarriage and long residence practically merged into and strengthened, by their inherited good taste, industry and skill, the ranks of those Norwich citizens who for long years to come were thus enabled to retain pre-eminence as weavers and dyers of silk and wool.

To quote from the luminous pages of Macaulay.

Next to
London
in popu-
lation.

“Norwich was the capital of a large and fruitful province. It was the chief seat of the chief manufacture of the realm, and no place in the kingdom except the capital and the Universities had more attractions for the

curious. For population it was second to London alone." Next to London in population.

The prosperity of Norwich depended upon the textile industry, in which probably every citizen directly or indirectly was interested. The only advertisement page of the *Norwich Postman*, the first Norwich newspaper (1708), is full of references to the staple trade.

Of the history of the 18th century, fairly reliable and detailed statistics of the Norfolk and Norwich textile industries remain, and of these the first and the most interesting are found in Defoe's *Tour through Great Britain* (about 1723). He writes:—

“When we come to Norfolk we see a face of diligence spread over the whole country; the vast manufactures carried on chiefly by the Norwich weavers employ all the country round in spinning yarn for them. . . . “This side” (the South) “is very populous and thronged with great and spacious market towns, more and larger than any other part of England . . . but that which is most remarkable is that the whole country round is interspersed with villages and these villages are so large and so full of people that they are equal to market towns in other counties and render this eastern part of Norfolk exceeding full of inhabitants.”

“An eminent weaver of Norwich gave me a scheme of 120,000 their trade, by which, calculating from the number of Textile their looms at that time employed in the city of Norwich workers. alone he made it appear very plain that there were 120,000 people employed in the woollen and silk and woollen manufactures of that city only. Not that the people all live in the city, though Norwich is very large and populous, but they were employed for spinning the yarn used for such goods as were all made in that city.

“This shows the wonderful extent of Norwich manufactures . . . by which so many thousands of families are maintained. . . . Norwich is the capital of all the county, and the centre of all the textile trades and manufactures, and is as I have already mentioned, an ancient, large and populous city. If a stranger was only to ride through or view the city of Norwich on a common day he

The
Evidence
of
Defoe.

would be induced to think it was a town without inhabitants, but, on the contrary, if he was to view the city on the Sabbath Day, or on any public occasion, he would wonder where all the people could dwell, the multitude is so great. But the case is this: the inhabitants being all busy with their manufactures dwell in their garrets at their homes . . . and other work houses, all the works they are employed at being done indoors."

"Greatness is comparative," and it is well to bear in mind that the Norwich described by Defoe as being "a large and populous city" had not probably materially increased in size and inhabitants since 1693, when by actual census it was found to contain about 29,000 people. Norwich, however, was at that epoch, and for many years after, the very foremost of the towns of England. At the commencement of the 18th century not one of the provincial towns contained quite 30,000 inhabitants, and only four numbered about 10,000. Bristol reckoned about 29,000; York and Exeter, the next in size to Norwich and Birmingham, not more than 10,000. Manchester had about 6,000 inhabitants, and Leeds still fewer.

Norwich at that time stood in every respect a leading city, not only as "the chief seat of the chief manufacture of the realm," by reason of the grandeur of its buildings; but it was also distinguished for the opulence of its leading citizens, and the tone of refinement they had reached when compared with the conditions of Society in other provincial centres. Between the years 1743 and 1763, the city attained the highest state of its greatness.

Master
Weavers
the
leading
Citizens.

In 1741, Blomefield the historian of Norfolk, dedicated his volumes on Norwich to the Mayor, Sheriffs and 22 leading citizens; of these, the Mayor, one Sheriff and ten of the 22 principal citizens were master weavers. The famous John Crome was the son of a weaver. His first patron and instructor was "Mr. Harvey of Catton," master weaver, an amateur artist of refinement and repute, who possessed a fine collection of paintings by British and Dutch artists (he married the daughter of a Dutch merchant), in which the finest examples of Gainsborough and Hobbema found place. Hobbema's methods were

the inspiration of Crome's genius, and his name was the last to be uttered by his fleeting breath. Master Weavers

In a curious old treatise of that era is the following the picture of the Norwich master weavers : the leading Citizens.

“ Being opulent men and generally surrounded by their dependents, they have something of a lordly bearing . . . but they are on the whole an honourable race and exercise much kindness towards those beneath them.”

Throughout the history of Norwich, the turbulence of the weavers and the frequent riots appear to have caused the worthy citizens constant anxiety and grievous loss. In the local records are found numerous references to these disturbances. In 1720, on the 20th September, “ a grete riot ” happened under pretence of destroying callicoos, “ as pernicious to the trade of Norwich stuffs ; the rabble cutting several gowns in pieces on women's backs, entering shops to seize all callicoos found there &c., beating the constables that endeavoured to apprehend them, and opposing the Sheriff's power to such a degree that the Artillery Company was forced to be raised, upon the approach of which they instantly dispersed.”

In April and May, 1757, it is recorded that the mob broke into workshops and brutally beat the weavers, cutting the stuffs from the looms, which they afterwards “ brake up and burn'd.”

The events of August 13th, 1752, furnish an example of sympathetic strike and peaceful picketing : “ About 400 Riots wool combers left their employ and encamped at Rack- and heath (about three miles from the city), and because the labour masters were determined to employ a man of the name of Fry, who the journeymen said had not a regular apprenticeship to the combing business ; journeymen were sent for out of Suffolk, which the Norwich combers met on the road and stopped them. A posse was sent, who took several into custody.” troubles.

In 1752, Stannard, a prominent Norwich manufacturer, writing to a customer, states : “ We are all in grete feer because of that three thousands weevers be on the rode from Wyndam (Wymondham) to make a riot in Norwich.”

Riots
and
labour
troubles.

On June 12th, 1827, a serious riot occurred in the city. A party of Wymondham weavers, who had damaged looms and destroyed silk to the value of £1,000 at Ashwellthorpe (a village near), had been conveyed to Norwich Castle for examination. The witnesses were brought to the city in hackney coaches, escorted by a detachment of 12th Lancers. The Norwich weavers barricaded the Golden Ball Lane entrance to Castle Meadow with a waggon, and placed a similar obstruction near the Castle Bridge, and received the military with a volley of stones &c. The witnesses were then conveyed by way of Timberhill to Orford Hill, and while a large body of special constables displaced the waggon at the Bridge, a second detachment of the Lancers came from the Barracks, charged the mob at full gallop and dispersed them in all directions. The history of the time gives lurid glimpses of the punishments inflicted. During the 18th century men and women were constantly publicly whipped in the market place, or dragged through the streets at the tail of a cart, for having either sold yarn "false told" or for having stolen it.

"On the day before Christmas Day, 1761 (stated the *Norwich Gazette*), John Minns, of St. Margaret's, and the wife of Robert Fox, of St. Peter per Moutergate, were whipped in Norwich Market Place for buying and receiving embezzled yarn."

As this example indicates, the punishment for buying and receiving embezzled yarn was severe. The leakage with respect to yarn stolen and sold by the weavers was considerable—and it was difficult to check this pilfering, because the fabrics were nearly all woven in the houses of the weavers, who in many cases lived considerable distances from Norwich. The following advertisement in the *Norwich Mercury* of February 22nd, 1772, gives a somewhat interesting picture of losses caused by fraudulent workpeople:—

Dis-
honest
Work-
people.

"Whereas on the 18th June last a middle-aged man, by the name of John Rose, of St. Faith's" (about five miles from Norwich), "came to the house of Messrs. Crowe and Taylor, and took from thence" (*i.e.* was given material to work up) "one two-piece thrumb of 26 score crape

with a Havel and Slay, and $12\frac{1}{2}$ dozen for himself to weave. Dis-
 Also one two-piece thrumb of 22 score crape with a Havel honest
 and Slay for his boy to weave, and as the said John Rose Work-
 has not been heard of, although various messengers have people.
 been sent after him, this is therefore to give notice that
 any person shall be handsomely rewarded who will give
 information of the man or the work."

The efforts during the reign of George I. to encourage
 the silk industry by special allowances on silk goods
 exported, appear to have led to abuse on the part of
 Norwich manufacturers of the fabrics "called sattins
 and damasks," which (ordinarily made from worsted yarn)
 had specially added to them a small quantity of silk to
 secure the allowance made on "all silk" fabrics. In the
Norwich Mercury of October 28th, 1728, appears the
 following notice:—

"This is to give Publick Notice to all the Merchant
 Traders, Weavers and other exporters of woollen manu-
 facturers . . . to parts beyond the Seas. That by order
 of the Honorable Commissioners of His Majesty's Customs
 the allowances that used to be made for exporting the
 Manufactured Goods called Sattins and Damasks (in which
 there is a small admixture of silk) is stopt as being contrary
 to the Intention of the Act of the 8th and 9th of his late
 Majesty for granting those allowances on silk and worsted
 Goods Exported; and that stopage will be made of
 such Goods if offer'd to be Exported as goods which are
intituled to the allowances that are granted by the aforesaid
 Acts."

At two general meetings of the manufacturers held at Prices
 the Guildhall on December 14th, and December 21st, 1790, paid
 the prices for weaving were fixed and printed in a list for
 comprising serges, prunelles, satins, satinettes, camlets, Weaving.
 camletines, florentines, brilliantines, grenadines, blondines,
 tabourtines, callandies &c. At a general meeting of the
 manufacturers, held June 13th, 1793, it was resolved
 unanimously that they would supply the journeyman
 weavers they employed with havel and slaies free of charge
 and without deduction from the prices established in the
 table of rates fixed in the year 1790. The list, with minor

Prices
paid
for
Weaving.

revisions, continued in force until 1824, when the list hereunder was agreed upon to be followed in somewhat quick succession by that of 1846. We give these two lists in full detail in the Appendix, because they seem valuable records of prices for work obtaining at their several dates.

Arthur Young visited Norwich in 1771, and in his *Tour in Eastern England* gives the following comprehensive account of the city and its manufacture:—

“The city of Norwich is the most considerable after London . . . by an accurate account taken a few years ago the number of inhabitants reckoned by houses amounted to 40,000 . . . 38,000 may be taken as the probable number. The staple manufactures are crapes and camblets; besides which they make in great abundance damasks, sattins, alopeens, &c., &c. The earnings of the manufacturers (*i.e.* weavers) are various, but in general high. Men on an average do not exceed 5s. a week, but then many women earn as much, and boys of 15 or 16 likewise the same. ‘Draw’ boys from 10 to 13 half-a-crown a week. Pipe boys and girls (winders of the yarn or silk on weaving tubes or perns) from five to nine years’ old, 9d. Dyers 15s., hot pressers 15s., women for doubling 2s., ditto for doubling silk 8s. . . . With respect to the present state of the manufacture, it is neither brisk nor very dull. Some among them complain because they have not so great a trade as during the war, for then they could not answer the demand (from 1743 to 1763 was their famous era). The unfortunate difference subsisting between Great Britain and her colonies is a great injury to them. They now do not send anything to North America, but much to the West Indies. Their foreign export is to—

Rotterdam.	All Flanders.	Naples.	Lisbon.
Ostend.	Leghorn.	Genoa.	Barcelona.
Middleburgh.	Trieste.	Cadiz.	Hamburgh.

All the Baltic except Sweden, where they are prohibited.

“For 70 years past the manufacture is increased as from four to twelve. During the last war Norwich supplied the Army and Navy with 4,000 recruits, but her manufacture did not suffer in the least, for they carried on more trade than ever. The truly industrious do not

Colonies
and the
trade.

enlist, and as to the idlers the greatest favor that can be done to any place is to sweep them all away.

“The general amount of the Norwich Manufacture may be calculated thus:—

Employment
Statistics.

“A regular export to Rotterdam by shipping each six weeks of goods to the amount of per annum to £480,000, 26 tons of goods sent by broad-wheeled waggons.

“Weekly to London at £500 a ton, average 13,000 tons per annum, value £676,000.

“By occasional ships and waggons to various places, calculated at £200,000.

Total, £1,356,000.

“The material point . . . is . . . how many people are employed, and for this calculation I have one datum, and this to the purpose. They generally imagine in Norwich that each loom employs six persons as a whole.” (Young presumably includes combers, spinners, doublers, hot pressers, dyers, warpers &c., with the weavers.) “And the number (*i.e.* of looms in Norwich and the district) is 12,000. There are, consequently, 72,000 people employed by this manufacture.”

The following tabulated return of exports of Ives, Basely and Robberds, one of the leading Norwich firms throughout the 18th century is valuable as showing the kind and volume of the trade done in the year 1791, when Norwich trade had considerably declined:—

Character of
Trade.

Articles Manufactured.	Italy.	Spain & Spanish America	Germany	Russia.	Norway and Sweden.	Holland.	Ma-deira.	China.
Camblets	£ 9,544	£ 12,816	£ 5,972	£ 7,986	£ 8,193	£ —	£ 987	£ 19,970
Camletees	256	—	1,725	—	252	2,190	—	—
Callimancoes ..	—	742	388	15,508	51	1,004	—	—
Sattins	123	1,402	6,751	1,457	601	702	—	—
Bombazines	—	910	—	—	—	—	153	—
Sundry figured stuffs.	463	2,425	1,397	—	180	275	120	—
Lastings	98	1,378	245	190	1,494	734	—	—
.. ..	10,484	19,673	16,478	25,741	10,771	4,905	1,260	19,970

Value
of
Export
Trade.

It is remarkable to note that more goods were exported to Russia by this firm than to any other country. At least thirty other important firms were competitors in the same fabrics. At this period the total exports of the manufactures of England were £14,000,000, of which Norwich textile fabrics furnished over £1,000,000.

Buyers from all parts of Europe regularly visited Norwich. In the diary of Philip Stannard, manufacturer, is given the names of visitors from "Cadiz, Venice, Leipzig, Copenhagen, Lubeck, Amsterdam, Zurich, Franckfort, Cologne, Stockholm, Weimar, Bremen, Christiana, foreigners, who have been in my house in 1751."

William Taylor, the celebrated German scholar, himself the son of a Norwich manufacturer, and educated for one, wrote in 1798 :—

"The trade of Norwich did not so formerly depend upon the foreign demand as it does at this time. From the beginning of the century till within these 40 years this kingdom alone took off a very considerable quantity of stuffs. At various times the crapes of Norwich were in very common use, and during the administration of Sir Robert Walpole and so long as the city had powerful friends at Court, the public mournings were always ordered to be in Norwich crapes. . . . The correspondence they" (*i.e.*, the Norwich manufacturers) "had begun" (abroad), "they . . . extended to every point of the compass. By sending their sons to be educated in Germany, Spain and Italy, they qualified them for the execution of their plans, and at the same time cultivated a more familiar connection with those countries. Their travellers penetrated through Europe, and their pattern cards were exhibited in every principal town from the frozen plains of Moscow to the milder climes of Lisbon, Seville and Naples. The Russ peasant decorated himself with his sash of gaudy callimanco, and the Spanish Hidalgo was sheltered under his light coat of Norwich camblet. . . . The tastes of foreign nations were consulted. The loom was taught to imitate the handiworks of Flora, and the most garish assemblage of colours of every hue satisfied the vanity of the Swabian and Bohemian female. The

Details
of Export
Trade.

great fairs of Franckfort, Leipsic and Salerno were thronged with the purchasers of these commodities, which were unsuccessfully imitated by the manufacturers of Saxony. Norwich was now crowded with looms. Every winter's evening exhibited to the traveller entering its walls the appearance of a general illumination. From . . . miles around the village weavers resorted to it with the produce of their looms." Details of Export Trade.

The Norwich master weavers of the 18th century were verily "the Nobility of Commerce," and from about 1720 to 1770 they were the most powerful, the most wealthy, the most cultured industrial class in the kingdom.

The 18th century saw the rise of many families whose founders were Norwich master weavers, and whose descendants are to-day locally important "county magnates." These include the Harveys, the Ives, the Columbines, the Custances, and the Martineaus, whose name is known to the literary world. The early 18th century also saw the rise of a remarkable Quaker family, whose financial prescience and assistance have had a profound influence on Norfolk and Norwich, extending to the present day. John Gurney, the founder of his line, was a humble wool merchant, who, with fourteen other Quakers, was in 1683 committed to the Norwich gaol for refusing to take the oath of allegiance. This man of conscientious scruples was the ancestor of Mrs. Fry and her brother, Joseph John Gurney. Their labours on behalf of prison reform are world renowned. One of the 14 Norwich Quakers "haled" to prison in 1683 with John Gurney was Thomas Lombe, ancestor of the Sir Thomas Lombe, who was created a knight by King George, and who secured a handsome sum from Government for having introduced into England the art of working organzine silk. Norwich Master Weavers.

In 1575 the Dutch elders presented in Court in Norwich a new fabric of which the name has been variously spelt "bombexine," "bombasin," "bombazine"—all evidently derived from "bombyx." This fabric was made with silk for warp, worsted for weft, woven with a twill and

Origin
of
Norwich
Crape.

the worsted upon the face or right side of the piece. The narrow bombazines were 18 inches wide. The broad made for Spain, Portugal &c., 40 to 50 inches wide. Both broad and narrow pieces were about 60 yards long. This fabric continued one of the most important manufactures of Norwich down to the commencement of the 19th century, and when dyed black was really the old "Norwich crape" of the 18th century.

Many quaint advertisements in the local press throughout the 18th century refer to bombazine:—

"This is to inform the public that Mr. James Scottowe, in St. George's Tombland, near the Redwell, in Norwich, makes bombazines for deep mourning, which he will sell by wholesale or *retale* to shopkeepers or others who may want a single suit, at a very reasonable price; he has also neat woven whims flowered in the loom with silk up or worstead on a white prunel at reasonable rates, and likewise all sorts of raw silks as B and C Bengals, fine burgams, orsoyes, legees &c., suitable for any stuffs that are now made and in fashion, which he will sell as cheap as can be bought in Norwich." (H. Cross-Grove's *Norwich Gazette*, July, 1727.)

Again—

"Just come to Town a Parcel of Fine Bombazines dy'd and drest by the Best Hands, also Bengal Silks and slack thrown Legees, Ossoyes, and Fine Double Silk, which runs above Sixty dozen boiled off fit for mourning Crapes. All persons shall be welcome to view the goods. Buy or not Buy, and shopkeepers shall have the Bombazines Three Pence a yard cheaper than they can buy in London. Mr. John Scottow, near the Griffin in Norwich, who designs to leave off business." (*Norwich Mercury*, 1729.)

Some
curious
Adver-
tisements.

As it would appear from a notice of the same date in this newspaper that "The London Waggon now goes out every Thursday night from the Angel in the Market Place in Norwich, and gets to the Blossom Inn in Lawrence Lane, Cheapside, London, the Tuesday morning following," it is not very probable Norwich "Shopkeepers" made frequent visits to the Metropolis to test the truth of

statements like these of "Mr. John Scottowe," respecting the current market price of bombazines!

About the year 1819 a new silk and worsted article was introduced by a Mr. Francis, and named by him "Norwich Silk and Crape." It was different to a bombazine, although formed of silk and worsted. It was what is technically called "tamet" or "tammet" woven (*i.e.* with no wale and both sides alike). The fabric was so generally adopted as a standard article of female dress as to almost completely supersede the coloured bombazines and other silk and worsted allied fabrics (*i.e.* prunelles, satins, satinettes, harbines, silk camblets, cambletines, florentines &c.).

Stannard, a leading Norwich manufacturer, wrote to a customer, January, 1752:—"You call em Sattins, but they are Damasks. They are principally made by weavers yt live in ye Country about 8 or 10 miles from Norwich" (Wymondham or Aylsham). "Silk camblets really fine harbines are made by William and Sam Wiggett for Italy, Spain and Lisbon."

The new "crêpe" was woven in the grey, and afterwards dyed an endless variety of colours, and so finished that the best sorts would vie with the finest satin. Norwich crape was followed by various silk and worsted articles of very light texture, well adapted for women's dresses, such as crêpe de Lyon, poplin Francais, silk and worsted brilliants, Irish poplin, &c. Then came the Challis, described by the celebrated local dyer, Michael Stark, as certainly the neatest and most elegant silk and worsted article ever manufactured. It was made on a similar principle to the Norwich crape, only thinner, softer and composed of much finer materials. Instead of a glossy surface being produced, as was required in the Norwich crape, the object was to finish it without gloss and very pliable. The best quality of Challis, when finished with designs and figures (either produced in the loom or printed), was quite a unique article.

The well-known "Norwich crape" of to-day is a plain, thin silk gauze, stiffened with shellac—and embossed with various patterns by being passed over a heated revolving copper cylinder on the surface of which the desired design,

New
Silk and
Worsted
fabrics.

Modern
Norwich
Crape.

Joseph
Grout's
First
Patent

technically termed "figure" has been laboriously engraved. This peculiar fabric was the invention of Joseph Grout, originally a saddle and harness maker at Bocking, who with his brother George commenced business the early part of the 19th century in Patteson's Yard, Magdalen Street, Norwich. They soon became very prosperous, and about 1814 they started a mill at Great Yarmouth, and about the same time, or perhaps earlier, they erected very large mills in Lower Westwick Street, Norwich. Later still another weaving mill was built near Bungay, in Suffolk, and another for finishing the crape at Ponder's End. The first patent for the embossed crape was taken out by the firm in 1822.

Joseph Grout gave evidence before a Select Committee on the Silk Trade at the House of Commons, 4th July, 1832. His original notes are still preserved by the firm. From them it would appear Joseph Grout described himself as residing at Stamford Hill, Middlesex, and that he had been engaged in textile manufacture about 26 years. That his firm made 39 different widths and qualities of Italian crape, 30 different kinds of China crape, 51 different kinds of French crape.

He stated they had establishments in the following places within the preceding ten years: One at Norwich, one at North Walsham, one at Great Yarmouth, one at Bungay, one at Mildenhall, one at Saffron Walden, one at Bocking, one at Sible Hedingham, one at Glasgow and Paisley, and one at Ponder's End. Also a selling warehouse in London. They had also within that period a filature or reeling establishment established by them during 1819-1820 at Bhartiparra on the Bunell River, about 140 miles up country from Calcutta. Up to 1826 all their looms and spindles were working day and night with a double set of hands. They worked 462 power-looms and about 1,000 hand-looms. He complained of severe competition on the part of a firm "four leagues from Lyons, who worked 300 power-looms with power derived from a water-fall." He states in the year 1822 they paid their weavers 12s. for weaving a piece of crape weighing 20 ounces, whereas owing to competition they

The
Competition
of
Lyons.

could then pay only 7s. for a piece of the same length and breadth, weighing 24 ozs. The Competition of Lyons.

He stated his firm has 7,222 dozens of spindles at work in their various establishments, whilst there were only 7,000 dozen employed altogether in Manchester, where, he stated, he did not think there was then a single crape-loom going. (It would appear from the evidence that firms in Manchester had started making silk crape in rather a large way.) The Grouts made large fortunes, and retired from business before 1840. George Grout died at his house in Magdalen Street in 1860. His daughter married the son of Mr. T. O. Springfield, a local raw silk broker, and it is said that Grout gave £50,000 to his daughter, and Springfield £50,000 to his son upon their marriage.

In April, 1838, the mills of the firm were inspected by James Mitchell, LL.D., one of H.M. Commissioners, who reported as follows:—

“The great firm of Grout, Ringer, Martin and Co. have an establishment at Norwich in which at the time of my visit there were 970 hands employed. In the establishment belonging to this firm in Great Yarmouth, 1,100 hands were employed, and 560 at their mills near Bungay. In September of the same year this number was much increased. The establishment at Norwich is the centre and headquarters of the three. The firm purchase the raw silk, throw it, dye it, and perform every other necessary operation. In the weaving department at Norwich there were 24 men and 386 women employed, of the latter 65 attended and worked in a shop in the factory, and the rest in their own habitations. The average wage of the men was 14s. 10d. per week, and of the women working at home 4s. a week. At the factory looms 5s. 6d., finding their own lights” (candles?). “The lower average of the women working at home is attributable in a considerable degree to the circumstance that many of them are married women and their time is partly occupied with their domestic duties. Six of them had earned in 1837 as much as 7s., others 3s. 4d. a week, another six averaged only 1s. 9d. a week each. The women weaving in the The Grout Factories.

factory come at 6 a.m. They have from 8.30 a.m. to 9 a.m. for breakfast; 1 p.m. to 2 p.m. for dinner, and 20 minutes for tea."

Praise
for

Norwich
Artisans.

The Norwich factory is thus described by the Inspector :
"The neatness, indeed elegance, cleanliness, comfort, of every part were highly gratifying to see. It was a Monday morning, and the women and young girls were all in clean attire; they seemed healthy and cheerful, and what was unexpected there was no talking. In the weaving room one man presided over 65 women; they used the fly shuttle."

The worthy Inspector further delivers himself of the following eulogium :—

"The men and women of Norfolk are an exceedingly fine race, probably not surpassed by any in the world. Norwich is most favourably situate for health, there is much elevated ground sloping down to the river, which flows through the city. The buildings are spread over a large space, the ground is a deep bed of gravel over a substratum of chalk. Nothing can be better. The city is in a plentiful and well cultivated country, producing an abundance of provisions of the best quality. There is a fresh and healthy appearance in the complexion of the working people; in all these advantages the weavers participate."

On May 27th, 1832, a heavy loss befell the firm, for a local paper of the period records that one of the large buildings comprised in Grout, Baylis and Co., "factory in Barrack Yard, Yarmouth, was destroyed by fire. The building was 5 stories high, 105 feet long, and its erection in 1818 cost about £7,000. Between 400 and 500 girls employed by the firm are thrown out of work, and the loss to the firm is estimated at £12,000 to £15,000."

Upon the retirement of the Grouts, the business was continued by Mr. Martin, a near relative of George Grout. After Martin's death, the firm comprised Messrs. Browne, Robison, and Hall. Mr. William Hall (the elder son of the latter) is now managing director of the firm.

Effects of
Fashion
on Trade.

For many years the career of Grout and Co. was one of great prosperity. Gradually, however, the fashion for mourning crape declined. Competition grew keen, and

in 1890 a crisis arrived, and it was announced in the local press that on August 23rd, "Grout and Co., of Norwich, gave notice to several hundreds of their work-people that their engagement with the firm would terminate on the 30th." Effects of Fashion on Trade.

"It was added that the factory, a modern building, is fitted with machinery of the most improved construction, and contains every appliance for carrying on the manufacture of fabrics, which have gained for Norwich world-wide reputation. The firm has a branch at Yarmouth, where about 1,000 persons are engaged, and other establishments at Ditchingham and Ponder's End."

These "other establishments" like that at Norwich were also sold, and Grout and Co. concentrated at Yarmouth. With great business acumen and enterprise, the Directors of the firm, whilst still continuing their standard and historic production of mourning crape (now made almost entirely for exportation to Latin countries), launched out into other branches of textile fabrics of silk and mixture of silk and wool, silk and cotton. At the present time they have more than recovered their former position, importance and prosperity.

The career of the firm of Grout and Co. has been somewhat fully entered into, not only because it is the oldest existing and the most important firm in the history of Norfolk Silk Industry, but also because the brothers Grout were the inventors and the largest makers of a fabric which for many years was manufactured solely in England, where it continues to be produced to greater perfection and in larger quantities than elsewhere. From the parent firm have sprung several other English manufacturers of crimped crape, amongst whom there still remain in Norwich, Francis Hinde and Sons, who continue the business of Messrs. French and Co., established 1838, and the Norwich Crape Co., established by a Mr. Sultzer in 1856. Outside Norfolk is the firm Samuel Courtauld and Co., of Bocking, claiming to have made crimped crape at Bocking between 1820 and 1822. It is a tradition of this firm that Samuel Courtauld, the founder of the business, paid Grouts a sum of money in consideration of his being allowed to go into his crimping room to learn Grout's.

Alien
origin
of the
Crape
Trade.

all he could of the process. Another firm is that of Thompson and Legros, of Frome. It is somewhat curious that the names of the founders of all the silk crape firms denote alien origin: "Grout (Groot), Sultzer, French, Courtauld, Le Gros."

Toward the close of the 18th century, the "high water mark" of the Norfolk and Norwich textile industry had passed and the towns of the West Riding of Yorkshire became successful rivals. The increase of cotton and its general wear left Norfolk and Norwich to a great extent dependent on the foreign trade, which was partly ruined by the American War, and almost entirely so by the first French Revolution. To meet the times, concessions had to be made by masters and men. It has been stated that at two general meetings of the manufacturers held at the Guildhall on December 14th and 21st, 1790, the prices for weaving were fixed and printed in a list comprising serges, prunelles, satins, satinettes, camlets, camletines, florentines, brilliantines, grenadines, blondines, tabourtines, callandres &c. At a general meeting of the manufacturers held on June 13th, 1793, at the Guildhall, it was resolved unanimously that they would supply the journeymen weavers they employed with havel and slaies free of charge, and without deduction from the prices established in the table of rates fixed in 1790.

There was, however, now to appear a new fabric in the gamut of Norwich "outlandish inventions," which for many years gave remarkable vitality to the industry.

In *Norfolk Annals*, Vol. 1, Part 1, is the following obituary notice:—

The
Norwich
Shawl.

"13 July, 1813.—Died in his 70th year Mr. Edward Barrow, of St. Saviour, Norwich, a native of Manchester, and a yarn factor. Mr. Barrow was the first person who undertook the manufacture of cotton in this city, but what in a peculiar manner consecrates his memory is the merit of his having also been the first manufacturer of the Shawl in this city, or perhaps in the kingdom. This brought a new history in the era of the loom."

The shawl invented and first manufactured by Mr. Barrow in about 1780 was of a very common kind

(examples still exist), made of cotton embroidered with The
worsted of various colours along the edges and the corners Norwich
—for export to America. Shawl.

In 1782 or 1783 Mr. John Harvey and Mr. Knights commenced making shawls of silk and worsted, the latter spun from Norfolk lamb's wool. These were either plain or printed in water colours by a block giving the outline, the flower being finished with the needle either in worsted or silk. In 1791 a Mr. White produced an article striped with coloured silk, silver and gold, but this was not a commercial success. Then followed a light kind of shawl having a silk warp and cotton weft printed on a white ground, and this proved very successful for home and foreign trade.

About 1802 John Harvey* commenced making shawls of spun silk, some having a fine silk warp, and spun silk for weft. The latter were mostly printed of various colours and patterns, and secured a large export and home trade. Soon after this the famous "*Norwich Fillover Shawl*" was introduced. The manufacture of this celebrated fabric was only rendered possible by the invention of improved weaving methods.

In the records of the Patent Office are the following particulars:—

“Whereas Joseph Mason, of ye cittie of Norwich, hath invented an engine by the help of wich a weever may performe the whole work of weaving such stuffes as the gretest trade of Norwich nowe doth depend on without ye help of a draught boy. His Maty. is therefore pleased to grant unto ye said Joseph Mason his exors. and assigns the sole use and exercise of his new invention for the terme of 14 yeares, according to ye statute in that case made and provided. T.R. apud Westm., die Octobre 3, Jacobii 2d.”

Like many another genius, Joseph Mason was a man The
before his time, and it is certain that the looms universally Fill-over
used in the silk trade down to the introduction of the Loom.

* The weavers of Norwich, 2,361 in number, subscribed for and presented on September 27, 1822, a massive piece of plate to John Harvey as a testimony of the high esteem in which they held him as a great promoter of the manufactures of the city and a friend of the operatives. This piece of plate is in the possession of his lineal descendant, Colonel Harvey, D.S.O., Thorpe, Norwich.

The
Fill-over
Loom.

“fillover loom” differed in no material way to the simple kind used by the “Aliens” of the 16th century, dating from far earlier times. The flowers or designs which in these simply constructed looms were woven in the fabric were produced by passing the shuttle by hand through the warp. Necessarily, much time and much skill were required. In elaborately “brocaded” patterns, as they were called, the most industrious weaver could not produce more than one inch a day. By means of the “Fillover loom,” nearly an inch an hour could be woven. The invention was undoubtedly the precursor of the more perfect and better known Jacquard action. The “Fillover” was so called because in weaving, the face of the fabric was downwards and all the work composing the pattern was “filled” over it. Each weaver had to employ a girl or boy to wind his “quills,” or weaving tubes, with the yarns or silk. He had also a “tire” boy (from the French “tirer,” to draw), whose duty it was to pull certain bunches of cords which raised certain threads of the warp after every throw of the shuttle in order to compose the pattern or figure. The weaver called to his boy the colour he proposed to use.

An ancient and well-known Norwich citizen, named Loose, now deceased some few years, used to be very fond of relating his early experiences as a “tire” boy. His master would, it seems, keep a missile handy to “hull” (throw) at him should the wrong bunch of cords be pulled. The shuttles used in the earlier fill-over looms were very small, and they were “thrown” or passed through the warp threads by a jerk of the hand; there was no “box.”

The results following the pulling of the bunches of cords by the “tire” boy were controlled by an elaborate arrangement called “the tow,” or “towe,”—the equivalent to the stamped cards of a Jacquard loom. Much time and money were required to prepare a fill-over loom for a new pattern, and Mr. William R. Simpson, manufacturer, of Golden Dog Lane, who recently died in his 91st year, told the writer that the preparation cost his old firm (Towler and Allen) over £100 for any very special pattern before a shuttle was thrown.

Precursor
of the
Jac-
quard.

The designs were most elaborate in colour schemes, Some necessitating many shuttles and great skill on the part famous of the weavers, who, when these shawls were first made Shawls. in Norwich, earned for that period very high wages. It is recorded that a weaver and his wife employed by a Mr. Francis (sometime Sheriff of Norwich), together earned £15 per week. Another employed by a Mr. Paul regularly earned 11 guineas per week, and many earned from seven to eight guineas. The shawls were generally sold retail from 12 to 20 guineas each. Specially choice specimens were considered cheap at 50 guineas. Two very fine examples of these shawls are in the Norwich Castle Museum. A remarkable specimen of fill-over weaving was the shawl woven in Colonel Harvey's looms and made up as a counterpane for presentation to Queen Charlotte. The design consisted of the Royal Arms in the centre—in the corners, the shields of England, Scotland and Ireland, France. The border was composed of the rose, thistle, shamrock and lily. The competition of the Scotch manufacturers who copied the Norwich designs on a lower plane, seriously injured the trade of the city, and on 1st September, 1838, "The Norwich Fillover weavers passed a resolution that the system of copying patterns from Norwich manufactured fillover shawls is the principal cause of the depression of our branch of the manufacture, and loudly appeals to the Legislature for their interference."

With a view to improve local trade conditions, a Company Trade was formed in 1833, and £40,000 capital was raised. troubles Ultimately, two factories were built, one for spinning and yarns in St. Edmund's, the other for weaving goods in disputes. St. James'. In the last-named two coupled engines of 100 horse power (large for those days) were set up. The manufacturers hired the factory and the power, and put in the machinery for the production of fabrics, and for a time about 1,000 hands were at work there. In 1838 trade was in a very declining state, and some differences arose between masters and men in consequence of a proposed reduction in the rate of payment.

According to a Government report in 1839, there were at that time in the city and its vicinity 5,075 looms, of

Trade troubles and disputes.

which 1,021 were unemployed, and of the 4,054 looms then at work, there were 3,398 in the houses of the weavers and 650 in shops and factories. Indeed by far the greater part of the looms belonged to families having only one or two. The operatives of these looms comprised 2,211 men, 1,648 women and 195 children. In that year two silk mills employed 731 hands.

An abstract of a census of the Norwich weavers furnished by a report of the Commissioners on hand-loom weavers, published in 1840, will best show the nature and the relative amount of the fabrics then made by hand. Bombazines employed 1,205 workers, of whom 803 were men. Challis, fringes, &c., 1,247, of whom 510 were men, gauzes 500, chiefly women, princettes 242, nearly all men, silk shawls 166, bandanas 158, of whom 86 were men, silk 38, including 16 men, Jacquard looms 30, camletees 20.

The total of hand-loom weavers was 4,054, including 2,211 men, 1,648 women, 108 boys, 77 girls, 10 apprentices (sex not stated). Their gross wages when fully employed ranged from 8s. to 25s. weekly. About the year 1828 power-looms and Jacquard looms were, by the enterprise of Mr. Henry Willett (senior of Messrs. H. and E. Willett), introduced. The bigoted hand-loom weavers used great efforts to obstruct the use of these innovations, and Mr. Henry Willett became so unpopular that at his funeral the mob tried to stop the funeral cortege.

Decline of the Industry.

At the end of the 18th century a list of the principal manufacturers of Norwich contains the names of 34 firms. The signatures to the scale of prices agreed to by the leading manufacturers on the 5th July, 1822, relate only to 26 firms. Gradually the number became still more reduced; firm after firm closed their doors, and few took their place. In 1851 the most important were Clabburn Sons and Crisp, "who made shawls in every variety, and also paramattas, bareges, tamataves, balzarines, poplins, fancy robes, grenadines, &c. The fill-over long shawls produced by this firm, on a Jacquard loom, gained the gold medal at the first Paris Exhibition, and also at the London Exhibition in 1862. No description could convey an adequate idea of these splendid fill-over shawls, which

are made by a patented process so as to display a self color and a perfect design on each side."

Somewhat later the firm Willett, Nephew and Co., Pattern established 1767, are described as being manufacturers Books on a large scale. "The factory itself is not extensive, sold to for most of the weavers work for the firm at their own American houses, and there in humble dwellings produce the Firm. beautiful fancy fabrics which are destined to adorn the daintiest ladies in the land. They were the first to introduce the manufacture of paramattas, which superseded the bombazines. They produced superior poplins, bareges, balzarines, tamatives, coburges, camlets, challis, crêpe de Lyon, grenadines, shawls, &c."

Under the able management of the late Mr. Louis E. Willett, a man of brilliant business talent, of sterling worth and honesty, this firm continued in existence until 1904, when the writer, to his deep regret, witnessed the sale to Mr. Gale (a Norwich man's son) of the Aberfoyle Mills, Chester, Phila., U.S.A., of Messrs. Willett's unique collection of pattern books in complete sequence from the establishment of the firm in 1767—a "fabric" history of nearly 150 years of the Norwich trade!

Such a local treasure should have never left Norwich, but should have found a sure haven within the walls of the Castle Museum.

Bolingbroke, Jones, and Clabburn Sons and Crisp, established 1821, Towler, Rowling and Allen, George Allen, Middleton, Ainsworth and Co., were all in a large way of business until about 20 years ago. They have all disappeared. At the present time in Norfolk and Norwich there are but three important silk manufacturers remaining—Grout and Co., of Yarmouth, established in Norwich about 1804, the Norwich Crape Co., established in 1856, and F. Hinde and Sons, of Norwich, established in 1810. In addition there is the old established and progressive firm of R. S. Simpson, Golden Ball Lane, Norwich.

Of these firms, Messrs. Fras. Hinde and Sons descend Some in unbroken family sequence from father to son from famous the founder, Ephraim Hinde (the youngest of 22 children), Firms.

Some
famous
Firms.

Camlet Manufacturer, of St. Augustines, in the church-yard of which parish he rests.

To-day this fine old firm consists of the brothers Frank P. Hinde and C. Fountain Hinde, and Frank C. Hinde, son of Frank P. Hinde and great-grandson of Ephraim Hinde. On the distaff side the Hindes are descended from an illustrious French Huguenot family, one of many who found refuge in Norwich during the 17th Century. The firm has had a long and honourable career, and ranks among the important manufacturers of silk "Norwich Crape." They are also large producers of high-class fabrics in silk and silk-wool mixtures.

Envoie.—It is true that since the close of the 18th century the good city of Norwich has gradually lost its proud pre-eminence as "the chief seat of the chief manufacture of the realm," but Norfolk and Norwich manufacturers yet remain a power in textile industry. Their unique experience as dyers and designers has enabled them to create new fabrics, and although they have fallen from their ancient high estate, they continue remarkable for their ability, their enterprise, and their insistent mercantile vitality. Of them no one can justly exclaim :—

"Their wine of life is drawn,

"And the mere lees is left in the vault to brag of."

CHAPTER XXVII.

ESSEX.

The story of the association of Essex with the silk trade, One of the oldest Silk Centres. which has been maintained in unbroken sequence for two centuries down to the present day—when it is, in some respects, the most important centre of production—furnishes a most interesting chapter in the history of the British industry. The Essex branch of the trade claims distinction as being one of the oldest in Great Britain. At first it appears to have existed only in that portion of the county adjacent to London, but afterwards extended to many places between Spitalfields and the northern boundary of the county. There was a considerable expansion of the trade in Essex following the introduction of throwing machinery in the early years of the 18th century, and the industry underwent a process of gradual expansion until the critical year when the duty was repealed.

The earliest reference to the Essex silk trade carries the story back to the year 1645, when there was in business at Plaistow one Paul Fox, a silk weaver, referred to in a narrative of the time,* as a “man of honest life and conversation, who had dwelt there many years,” and he appears to have been assisted in “weaving of fine lace and ribbaning” by a son and two servants. During the 18th century at least three throwing mills were in operation at Little Hallingbury, adjacent to Bishops Stortford just over the Hertford border of the County. There was another mill at Sewardstone, Waltham Abbey, but the

* *Strange and Fearful News from Plaistow.* Lond., 1645.

One
of the
oldest
Silk
Centres.

place is not marked on modern maps. Of the mill at Little Hallingbury, Holman, writing about 1720,* says: "In this parish on the stream that runs from Stortford is erected a mill for throwing and twisting of silk. The inventor was one Mr. William Aldersay, apprentist to a silk throwster in London. This engine is employed in winding of silk for the Company of Dealers in silk that got a patent first. He has the model of the famous engine at Derby." Another writer, Salmon, referring to this mill, stated it "has been for many years employed in twisting and winding silk for which the proprietors have a patent. The work employs a great many women and girls of the neighbourhood." The location of the mill is shown on Chapman and Andre's map of 1777. It is now a corn mill.

The mill at Sewardstone, Waltham Abbey, was probably established before 1720. It is also marked on Chapman and Andre's map. Ogborne, writing a century later, referred to it as a "small silk mill in the occupation of Messrs. Carr and Dobson, Foster Lane, Cheapside." It changed hands several times, belonging in 1826 to John Carr, in 1832 to John Buttress, and in 1840 to J. J. Buttress and Son, throwsters. It probably ceased working soon after that date . . . but was subsequently used for dyeing and scouring till about 1885, when it was dismantled. Another mill was at work in 1814, when Mr. Ogborne described it as "a small manufactory for the throwing of silk, which employs about 30 girls. In 1826 it belonged to John Woolrich. At this time, too, there was at Waltham Abbey a third firm of throwsters, Messrs. Forsyth and Lincoln. All these mills appear to have been closed soon after the middle of the century.

Some
early
Mills.

The mill at Pebmarsh, now pulled down—the old house still is occupied—is interesting as having been started in 1798 by George Courtauld, one of the family which is still engaged in the silk crape and other branches of the trade. George Courtauld, who lived until 1823, was a man of considerable business enterprise. He crossed to America, embarked in business there, and married a woman

* MSS. at Colchester Castle.

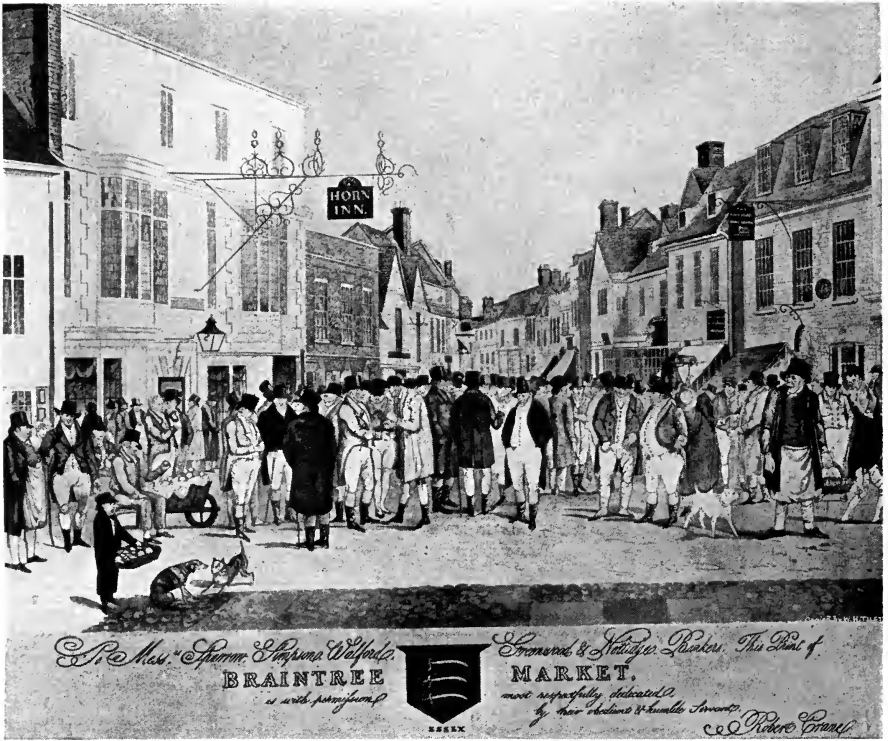


Plate XXX. Braintree Market in the Olden days—from an old print.

of Irish birth. Returning in 1794, with two children, he engaged in silk-throwing with a person named Noailles, at Sevenoaks, and "in conjunction with a Mr. Mills, he undertook to establish and conduct a silk business at Pebmarsh, near Halstead, . . . building factory, dwelling houses and cottages for workpeople. . . ." Until these works were completed, he lived at Sudbury in Suffolk.* He appears to have remained in Pebmarsh till the year 1809, when he removed to Braintree.

Some
early
Mills.

To George Courtauld is probably to be given the credit of establishing the silk industry at Braintree, he having erected a mill there in 1810, but it was his son Samuel who commenced the manufacture of crape in about the year 1825. This Samuel Courtauld (1793-1881),† rather than his father, was the real founder of the large business which now exists. In the crape trade, however, he seems to have been anticipated by the firm of Grout, Baylis and Co., who in addition to establishments at Norwich and London, started at Bocking in the year 1819, having already erected a branch factory at Saffron Walden. At Saffron Walden silk crape was being manufactured in 1819, and provided employment for a large number of hands. This enterprise came to an end in 1834. Lord Braybrooke, writing of it, made the comment: "Some years ago a manufactory for Norwich crape was introduced into the parish, which employed many hands, principally young females, but the high wages obtained led to idle and extravagant habits, so that the discontinuance of the work cannot be a matter of regret." The Samuel Courtauld referred to above was a man of very strong will and untiring energy. For nearly 50 years his was the hand guiding and controlling all that his firm undertook. At first he appears to have been, like his father, a silk-throwster only, but he afterwards took into partnership his brothers George and John Minton, and his brother-in-law, Peter Alfred Taylor (thus establishing the firm of Courtauld, Taylor and Courtauld), and commenced the manufacture of crape, for which the firm is famous down to the present day.

The
Crape
Trade at
Braintree

* P. A. Taylor, *Taylor Family*.

† See *The Courtauld Family and their Industrial Enterprise*, by Miss C. Fell Smith.

By 1826 the firm had acquired, in addition to the Braintree Mill, a mill at Halstead, and by 1832 a mill at Bocking, as well as a warehouse in Gutter Lane, London. It is of interest to recall the fact that in June, 1846, the members of the firm were entertained at a dinner given by 1,600 of their workpeople in a huge tent erected in a field opposite Samuel Courtauld's residence at High Garrett, between Bocking and Halstead. It was estimated that between five and six thousand people were present, all business in Braintree, Bocking and Halstead being suspended for the day. A silver medal was struck to commemorate the event, and the speeches made on the occasion bear witness to the friendly feeling existing between the firm and its workpeople.* About 1854, the style of the firm was altered to Samuel Courtauld and Co. In 1861, between two and three thousand workpeople were employed in its factories.

The weaving, as well as the throwing of silk was carried on also in Essex to a small extent during the 18th century, especially in the villages nearest the east end of London. . . . Towards the end of the century it spread to other districts, for in 1793 James Rogers, of Epping, and Michael Boyle, of Colchester, were described as "silk weavers." It was during the first quarter of last century that the Essex industry reached its greatest development. That was the period when those engaged in the industry in Spitalfields and elsewhere began to establish factories and set up looms in many towns in Essex, Waltham Abbey, Harlow, Saffron Walden, Halstead, Coggeshall, Bocking, Braintree, Colchester, Malden, Billericay, Chelmsford, East Ham, Stratford, and others. Some of these were throwing mills, but in others silken fabrics of various kinds were woven. The literature of the time refers to the weaving of "Norwich Crape" at Saffron Walden in about 1815; of "crape," "broad silk," and "ribbon" at Halstead in 1832, and of broad silk and bombazines at Colchester about the same time. Proprietors, when not

* For an account of this "spontaneous display of the goodwill and respect of the employed towards their employers" see the *Chelmsford Chronicle*, July 3, 1846. The dinner was intended no doubt to celebrate the 25th anniversary of the foundation of the firm. One workman, Pharez Potter, who was present at the dinner still (1906) works for the firm.

“throwsters” were classified under the general terms of “silk manufacturers.” Particulars are available of certain of these businesses. For example, John Davies, in 1823, had a business in High Street, Halstead, and a firm with the style of Jones and Foyster, were in occupation of premises in Parson’s Lane. The crape mills of Samuel Courtauld were, of course, in existence, as they are to-day. At one period in the year 1831 there were some 59 silk machine makers here, but the silk business at Halstead is dead except the crape section of the trade. Coggeshall, where the silk trade was introduced in the early years of the 19th century, maintained a pre-eminence in the industry for a long period.

In 1823, Pigot wrote: “Of late years several silk manufactories have added much to the trade of the town.” He mentions, as silk throwsters, Sawyer and Hall (also of Coventry and London) and Richard Smith; and as a silk manufacturer Joseph Lawrence. By 1832, Lawrence had disappeared; William Beckwith had replaced Richard Hall, both being described as silk manufacturers and throwsters. To these, in 1840, a new firm had been added—that of Westmacott, Goodson and Co. Later, yet other firms appeared; but, about this time a temporary decline of the industry set in at Coggeshall. In 1848 it was said to be in a depressed state, and during the fifties several firms disappeared. There remained, however, among others that of John Hall, silk throwster. In 1855 the firm was John Hall and Sons. They had a branch establishment at Maldon. Very soon after the firm opened another branch at Tiptree and a factory at Chelmsford. In 1863, 700 hands were employed in the firm’s principal mill at Coggeshall alone; but about 1870, owing to the removal of the duty, this mill had to be closed. A large part of the population migrated to Halstead, Braintree and Bocking, in search of work. Other branches of the silk industry were, however, also carried on at Coggeshall.

The firm of B. Goodson, of Little Coggeshall, whose business was the weaving of silk plush for hats, had a mill in operation in the year 1859, and there is the authority

Migration from Spital-fields.

Silk Plush for Hats.

Velvet
Weaving.

of White for the statement that a large mill for the production of this plush was built at Coggeshall about 1838, and was distinguished as being the only mill of the kind then in existence in England. The manufacture of plush became so important a local industry that in 1855 a Company was formed to carry on the business, but the industry declined within a few years of this date. Another branch of manufacture formerly carried on at Coggeshall was the weaving of silk velvet. It is known that in 1848 one Thomas Westmacott, who was in business at Coggeshall, was described as a velvet weaver, and there were in the town three other silk manufacturers who also made velvet. In 1862 and for some years thereafter one Thomas Brooks (also of Russia Row, London), was described as a velvet weaver. Dale records that at this period, the early '60's, many persons were still occupied in velvet weaving at Coggeshall, but this and the other branches of the silk trade were then on the verge of collapse. For a time the weavers who were left made a living by working for Messrs. J. and W. Robinson, of Milk Street, London. Later, when the firm gave up manufacturing, the few who remained were taken over by Messrs. Bailey, Fox and Co., of Spitalfields, but they were chiefly very old men, and all except two have now either died or become too infirm to weave.*

Braintree
and
Bocking.

It is at the twin towns of Braintree and Bocking, where the silk trade also originated early last century, that it has triumphed over the difficulties which have caused its extinction in other old Essex centres of the industry. Mrs. Osborne, writing of Braintree in 1814, states that a silk manufactory had then been established there, the allusion being to the silk throwing mill, built in 1810, by George Courtauld. Miss Sophia Courtauld has left it on record that after leaving Pebmarsh in 1809, her father engaged in partnership with Mr. Joseph Wilson, of Highbury, London, and established a silk business on a much larger scale than heretofore at Braintree, erecting dwelling houses and extensive factory buildings. After some years of partnership, litigation of an extraordinary and

* Inf. supplied by Messrs. Bailey, Fox and Co.

protracted character arose between the partners, but in the end George Courtauld was awarded £5,000 damages. The lawsuit, which created much interest in the neighbourhood, was concluded about 1817, when the partnership was dissolved. George Courtauld went again to America, where he died in 1823—but his eldest son, Samuel, remained at Braintree, where, though only 27 years of age, he either established a new business on his own account or took over the remains of that which his father had founded.

Messrs. Grout, Baylis and Co., who were crape manufacturers of London and Norwich, had an establishment at Bocking before 1819. By the year 1826, three other silk firms had established works in the two towns, Beuzeville and Co., of High Street, Braintree, Joseph Wilson and Co. (both probably throwsters), and Daniel Walters, the latter a weaver of furniture silks and velvets, and founder of a firm which long existed. It is probably the case that at this period the silk industry afforded the chief occupation in the town. The Beuzeville business was short-lived, but the others remained in active operation for a long time, and all except Wilson and Co. had establishments in London as well as at Braintree. Before the second half of the century the firm of Daniel Walters and Son was well-known at Braintree. Its works were at Pound End, where the resident partner or agent was Mr. Thomas Cheeseman, and information is available to the effect that in 1861 it employed "150 Jacquard machines and nearly 300 hands, and is one of the foremost in the kingdom for superiority of design and beauty of workmanship in the manufacture of furniture silks of every description. The house has a good foreign trade, and the very richest brocatelles, damasks, tissued satins, etc., which adorn the palaces of our Queen are produced in its works at Braintree."* At a later date, the year given is 1861, the firm built and occupied the factories known as "New Mills." It was registered under the title of Daniel Walters and Sons, Ltd., in 1875, and the factories were carried on in

* Coller. *People's Hist. Essex.*

Manu- that name for nineteen years, when the Company went
 facture of into liquidation, its subsequent history being bound up
 Furniture with that of Messrs. Warner and Sons, who purchased
 Silks. the goodwill, factory plant and designs, and whose
 association with the Essex trade is referred to in what
 follows. Other firms established at Braintree at a period
 shortly after the middle of last century were Messrs.
 J. Henderson and Co., W. Sanderson and John Vanner
 and Sons, the last-named now of London and Sudbury.
 Yet another firm, Martin and Thomas, was established in
 Braintree in 1876, and later still came Duthoit and
 England, whose successors have only just given up the
 business. Now all are gone except Messrs. Courtauld
 and Messrs. Warner and Sons.

The history of some other centres may be dealt with
 briefly, but could not be omitted in any record of the
 Essex silk industry.

Broad At Colchester, early in the 19th century, about 1828,
 Silk according to White, there were "about 160 looms," but
 trade at the trade gradually declined. He probably means that
 Col- these looms were in the homes of those who worked them,
 chester. and that this method of working was gradually replaced
 by the factory system. In 1832 the Colchester silk-makers
 included William Comber, a maker of broad silk, and
 William Willimint, a manufacturer of "bombasin." As
 neither are mentioned in 1840 records, it may be concluded
 that both had ceased to do business. Pigot, in 1826, writes
 "a very extensive building has just been erected for the
 purpose of silk mills, which, . . . promise to be of great
 benefit to the working classes." These mills belonged to
 Stephen Brown and Co. In 1832 there was another
 silk-throwing mill belonging to John Moy. Later the
 two concerns seem to have been amalgamated, for in 1840
 the firm was Brown and Moy, silk manufacturers and
 throwsters. In 1848, White wrote of two silk mills
 in the town, one in a factory near the Castle; the other
 in a large building, which was formerly the barrack tavern.
 Apparently these factories belonged to the two businesses
 named. Both seem to have been used for throwing and
 to have belonged later to Campbell, Harrison and Lloyd

(afterwards Harrison and Lloyd) and Stephen Brown Maldon respectively, Moy having apparently retired. The former and firm disappeared about 1868, but the latter continued Chelmsford till about 1880, when the silk industry finally died out in Colchester.

At Maldon one John Luard was in business as a silk manufacturer as early as 1823. In 1855, however, J. Hall and Son, of Coggeshall, had a silk-throwing mill in the town. At Billericay, in 1832, John Henry Machin traded as a "silk manufacturer and throwster." No mention of him can be found earlier or later.

At Chelmsford, Messrs. J. Hall and Son, of Coggeshall, erected a silk mill in 1859. From about 1868-1893, this mill was occupied by Messrs. Courtauld. This is the only record that the industry was ever carried on at Chelmsford; but in 1826, at Hatfield Peverel, a village lying five miles N.E., lived one Morse South, a silk manufacturer.

In the immediate vicinity of London, too, the silk trade flourished to a certain extent and still lingers. Thus, in 1826, Thomas Huitson, a silk-weaver, lived at Wall End, East Ham, and William Thompson, a throwster, at Stratford, while in 1831, Wright wrote that "some silk manufactures of different kinds are carried on in several (Essex) towns towards the Metropolis." In 1841 the silk industry in all its branches gave employment in Essex to 1,582 persons (642 males and 940 females), 586 of the total being under 20 years of age, while 206 persons (131 males and 75 females) were returned as "weavers," most of them being probably silk weavers.* During the succeeding decade, either the industry prospered greatly or what is more probably, the returns of vocation were becoming more accurate; for in 1851 no fewer than 1,746 persons over twenty years of age (namely, 608 males and 1,138 females) were engaged in the industry, besides many others under twenty years old. It is worth noting that they all lived in five registration districts. In 1861, when the silk industry was at its highest, the number of persons over twenty years, mainly women, was over 3,000, and in 1871, just under that total. In 1881, the "silk

* Census reports.

goods manufacture" included 2,131 persons (306 males and 1,825 females).

THE MODERN INDUSTRY IN ESSEX.

Velvets
and
other
Fabrics.

The
effect of
Fashion.

It has been stated that the Essex silk industry prospered until the year 1860, when the duty on the material was removed. Then the trade gradually waned. The first branches to go were those concerned with the throwing and twisting of silk and the weaving of the plainer and simpler kinds of silken fabrics. Within two years the number of firms engaged in the industry in Essex had shrunk to small proportions. To-day the general trade, which was formerly large and valuable, is lost, and only special branches are maintained. The weaving of velvets and similar silken fabrics is still conducted by two firms—Messrs. Warner and Sons and Messrs. Bailey, Fox and Co. The crape trade (the crimped black silk gauze) is still carried on by Messrs. Courtauld's Ltd. Thus there are now in the county only three firms as compared with over a dozen in 1860, when the duty on silk was abolished. Two of these firms have their works at Braintree. The character of the crape manufactured by Messrs. Courtauld has been considerably modified with the passing years. It was Mr. Julien Courtauld who, in 1870, introduced the characteristic "spot" into what is known as the "figure" of the material. Since that time technical modifications have been made in the manufacture of black crape, which is now always proof against rain and of a more lustrous appearance than formerly. The old water wheels and turbines have been superseded almost entirely by steam-power and gas-power. The increase in the demand for crape led in 1882 to the establishment of a factory at Earl's Colne, and to a large extension of the Halstead Mill in 1895. Fashion has also altered the character of the trade. From about 1889–1896 the demand for black mourning crape, until then the firm's staple product, showed a serious shrinkage, but with the introduction of new processes and the expansion of the business in the direction of crêpe de chine, and other fabrics for ladies dresses and other purposes, the business again assumed

very large proportions. The output of these new coloured fabrics is now much larger than that of the older black mourning crape. The effect of Fashion.

In 1900 a new department was created by the establishment of a very considerable weaving mill, known as Brook Mill, at Leigh in Lancashire ; and in 1904 the firm acquired another extensive factory at Coventry for the manufacture of "artificial silk." In 1904 a new and larger Company, with a nominal share capital of £500,000, was registered (£400,000 paid up).

The headquarters of Messrs. Courtauld's business in Essex is the Bocking factory. Here are received all raw material, chiefly from China, Italy and elsewhere. Here too come all the goods from other mills to be dyed and finished. An immense quantity of liquid effluent from the dye-vats has to be treated daily by a purifying process before being allowed to escape into the river Blackwater. Extensive new buildings have been recently added for finishing processes. Ultimately the finished products are despatched to the London warehouse, and thence to all parts of the world. The Braintree mills are occupied with winding, spinning and other preparatory processes. The Halstead factory is devoted almost entirely to weaving, and that at Earl's Colne is subsidiary to it. It is remarkable that the energy and enterprise of this historic firm—the only one of our old Essex silk firms which has survived—has caused crape-making to remain for three-quarters of a century one of the most widely known and valuable industries carried on in Essex. Still more remarkable is the fact that in spite of the decline of the English silk trade generally, crape—"crêpe Anglais" as it is called abroad—maintains its position among English exports, and is sent to every part of the civilised world. Foreign Trade in Crape.

The history of Messrs. Warner and Sons is shorter, so far as Essex is concerned, but not less creditable. Founded in the year 1870 by the late Mr. Benjamin Warner, it was carried on until 1892 under the title of Warner and Ramm. In that year Mr. Ramm retired. Mr. Warner's sons, Alfred and Frank, who had received their art and technical education in Lyons, were taken into partnership,

and the firm became Warner and Sons, by which title it is still known.

Hand-
loom
Velvet
Weaving.

The firm's work of hand-loom silk-weaving began in small workshops in Old Ford, with its warehouse in Aldersgate Street; extensive factories were afterwards built in Hollybush Gardens, Bethnal Green, which were occupied until 1895, when the manufacture was transferred to still larger factories at Braintree, Essex. Meanwhile, the warehouse was removed to Newgate Street, where it still remains. In 1901 the cottage loom weaving of hand-loom velvets was commenced at Sudbury, and is still carried on there, but by degrees this branch of work is being concentrated at Braintree.

The work of the firm was attended with success from the outset. This may be fairly attributed to the attention given to both design and colour, a more careful selection of suitable counts and yarns, and an earnest endeavour to put English productions on a level with the best that Lyons could show. A special feature of the work at Braintree has been the revival of the manufacture of the figured velvets for which Genoa was once so famous. Many of the fabrics are reproductions of the best specimens of 16th and 17th century work, but some of the designs are quite original, and a recent innovation is a velvet having three heights of pile. It is a fabric which there is good reason to believe has not been produced until now.

The firm has had the honour of weaving many fabrics of historical interest. These include brocade for the Duchess of York's (now Queen Mary) wedding dress, the cloth of gold for King Edward VII's Coronation pallium, the velvet and cloth of gold for King George V, and Queen Mary's Coronation robes, and the brocades for the latter's Coronation dresses.

Fabrics
of his-
toric
interest.

The Warner furnishing fabrics have been extensively supplied to Buckingham Palace, St. James' Palace, Marlborough House, Windsor Castle, Holyrood, etc., to the Royal yachts, to British Embassies all over the world, and noted town and country houses, the palaces of Indian princes, and to customers in North and South America.



Plate XXXI.

*Weaving the Cloth of Gold for the
Coronation Robes of King George V.*

In the year 1887, the firm exhibited at the Jubilee Success Exhibitions at the People's Palace, London, and also at at Inter-Manchester, and they also participated in several of the national exhibitions held at Earl's Court, such as the Women's Exhibitions, the Healtheries, etc. The firm's first serious participation in International Exhibitions was at Paris in 1900, when a gold medal was awarded. In 1908 a very extensive demonstration of the firm's wide range of work was made at the Franco-British Exhibition. On that occasion four large show cases, one for furnishing fabrics in the decorative arts section, and the others in the textile section, containing church silks, dress brocades, and plain silks, were installed and attracted much attention. The principal public exhibit of the firm was that at the Brussels Exhibition of 1910, when six show cases were filled with a great variety of the firm's productions, but the whole of this collection was destroyed in the calamitous fire in August of that year. The firm participated in the British section which was reconstituted after the fire, and although the exhibit was on a smaller scale, it sufficed to demonstrate the advance made in the production of the highest class furnishing fabrics. At Brussels the firm was awarded the Grand Prix, and at Turin in 1911, where the firm exhibited silks, tapestries, and printed textiles, four Grand Prix. As the exhibits of decorative silks at Brussels and Turin were largely the productions of Braintree, the following paragraph from the report of his Majesty's Commissioners for those two International Exhibitions may perhaps be quoted.

“A remarkable feature of the British Decorative Textile Section, both at Brussels and Turin was the magnificent display of decorative and furniture silks, which was distinguished by receiving amidst universal praise the warmest expression of admiration from foreign experts and manufacturers, who are the keenest appreciators of skilled artistic workmanship.”

Decorative and Furniture Silks.

It is strange that two special branches of the silk industry—each unrivalled in its way—should have contrived to exist in a small town like Braintree, situate in a purely

Success
at Inter-
national
Exhibi-
tions.

agricultural district, in spite of the almost utter ruin of all other branches of this once flourishing industry everywhere else in Essex.

There are one or two other firms to which reference may be made.

In 1882 the firm of John Slater, Son and Slater (afterwards Slater, Bros. and Co.), of Wood Street, Cheapside, had a silk-weaving factory which they had built in Plaistow, but in 1887 it was taken over by Bailey, Fox and Co. In 1900 this firm enlarged the factory hoping by means of increased production to be able to compete with foreign competition. The firm also employs handloom weavers at Coggeshall, at Sudbury, and at Spitalfields, all making velvet for coat collars or court suits, fancy silks for mufflers and neckties, black satins, robe silk for barristers' gowns, tailors' linings and the like.

Employ-
ment
Statistics.

The number of persons employed in the Essex silk industry was and still is considerable. Its great growth about 1825 is shown by the fact that at the census of 1831, an increase of 401 persons at Braintree, of 342 at Bocking, of 779 at Halstead, and of 192 at Colchester, was attributed mainly to the growth of the silk and crape manufacture, which then employed in Essex "about 500 males, twenty years of age (as well as many under twenty years of age, and a much larger number of females), chiefly at Braintree, Great and Little Coggeshall, and Bocking; a few at Chelmsford, Colchester, Haverhill and other places.

In 1891, 2,147 persons (226 males and 1,921 females) were engaged "in the silk manufacture (satin, velvet and ribbon)," and 955 (84 males and 871 females) in the crape manufacture.

At the census of 1901, the silk industry in Essex gave employment in all its branches to 1,850 persons :

	Males.	Females Unmarried.	Females Married.
Spinning processes ..	29	241	62
Weaving " ..	159	834	201
Other " ..	149	158	27
	<hr/>	<hr/>	<hr/>
	337	1233	290
	<hr/>	<hr/>	<hr/>



Plate XXXII. Figured Velvet Looms at New Mills, Braintree.

That the number of persons employed did not fall off more largely between 1861 and 1891, in spite of the appearance during that period of most of the older branches of our silk trade, is explained in part by improved industrial classification in the returns and in part by the growth of one branch, crape-making.

Employ-
ment
Statistics.

CHAPTER XXVIII.

KENT.

Although there are now no remains of the silk industry in Kent except the printing branches of the trade at Dartford and Crayford, important sections of the industry formerly existed at Sandwich, Canterbury, Winchelsea, and elsewhere.

The old town of Sandwich was indeed in process of industrial decay when the immigration from the Continent of workers in the paper, silk, woollen, and other manufacturers gave it a new lease of life. It was the workers in sayes, baize, and flannel, who established themselves at Sandwich, this location at the mouth of a haven giving easy communication with the metropolis and other parts of the United Kingdom, as well as facilities for export trade with the Continent. It appears from Hasted's History of the county that very few of the silk workers settled in Sandwich, the majority of them making their homes at Canterbury, while the workers in thread settled themselves upon the river Medway at Maidstone. Other bodies of the immigrants came to the old town of Winchelsea, but of their work very few records have been preserved. It is known that they established a manufactory of cambrics, and that this business was carried on at Winchelsea, sometimes on a considerable scale, until the middle of the eighteenth century. This venture appears to have ended in financial failure, and the houses and workshops in which it was carried on were taken over by Messrs. Kirkman, Nouaille and Clay, who established on that site a crape factory, which after a successful career in Winchelsea was transferred to Norwich in the year 1810. The buildings in which the crape business was

carried on were afterwards converted into barracks, and some of them exist down to the present day.

In about the year 1860 an attempt was made by Messrs. J. R. Lemaire and Sons, of Spital Square, London, to start a factory at Dover for the manufacture of velvets by hand, but it was found that a military town was unsuited to this purpose.

Velvet
Factory
at
Dover.

SILK-WEAVING IN CANTERBURY.

There are few more interesting links with the early days of the silk industry than that furnished by the establishment of the modern Canterbury weavers in the picturesque old house on the banks of the Stour. This house contains the very rooms where the Elizabethan weavers once worked, and is built on a spot where John Callaway had himself set up his looms. A fresh link with Callaway was forged in the discovery by the modern workers of the process by which the original Canterbury muslin was woven. A fragment of an old piece of this muslin, believed to be the only specimen extant, was by permission of the owner, Mrs. Sebastian Evans, carefully dissected and made to yield up its secret. The result was that the clock was put back, and Canterbury weavers have produced within quite recent years the Callaway muslin by the Callaway process. It was a notable achievement.

Callaway, the inventor of the process, was Master of the Silk Weavers towards the end of the 18th century. It will be interesting, however, to briefly trace the development of silk manufacture in this district. The beginning of the industry in Canterbury, as indicated above, goes back to Elizabethan times, and owes its establishment in Kent, like certain other branches of textile industry, to religious persecution on the Continent. The story of the invasion of England by the skilled handicraftsmen who, with other French Walloons, fled to this country to escape the rigorous rule of Charles V, is told elsewhere. It is enough to point out here that it resulted in the settlement in Canterbury of many skilled weavers, who had previously practised their craft in Lille, Turcoing, Nurelle, and elsewhere. They were made welcome in

Early
Walloon
Settlers.

Early
Walloon
Settlers.

the Cathedral City, and Queen Elizabeth, in her role as the champion of the Protestant faith, threw the mantle of her protection over them. The quarter of the City now known as St. Peter's was set aside for the use of the weavers by Elizabeth, and at a later period Charles II. granted the silk-weavers a Charter of Incorporation, which brought into existence the Company of Silk Weavers in the City of Canterbury. The names of the first master, John Six, and his wardens and assistants bear testimony to the nationality of those forming the governing body. The advance guard of the industrial invaders was composed of weavers of "baizes" and "sayes," serges, taffetas, bombazines, ribbons, laces, and fringe. The bulk of them were not, as might be inferred from the records of the County historians, silk-weavers, but it is of interest to note that the earliest mention of silk ware in the Burghmote Records occurs in the year 1592-3.* The full story of the Canterbury refugees and their crafts was told by the late Mr. F. C. Cross, and to his researches and those of Mr. S. W. Kershaw, much of the knowledge now possessed of the early days of the craft is due. Yet while these refugees found a haven in England, which must have seemed peaceful after many unhappy days in their own country, and were generally made welcome in Kent, they had to face the opposition of the home weaving trade. The London weavers strenuously objected to the Walloons being allowed to practise their trade in competition with the home industry. The end of the dispute was a compromise, the new comers having to submit to an edict that they were not "to make cloths not such as the English make for the present." This restriction had the effect of directing the energies of the foreigners into somewhat new channels, and giving an individuality to their productions which they might not otherwise have possessed. Apart from the opposition of the English weaver, to whom the Walloon was generally superior as a craftsman, the new-comers had little or no cause for complaint.

Opposi-
tion of
Home
Trade.

* Receyved of mr maior wch he had receyved of the Strangers and wch they levyed amonge theire companye for defaultes made in malyngne their rasshes and other wares to shorte and contrary to their orders.

Burghmote Records. Chamberlain's Accounts, 1592-3. *History of the Walloon and Huguenot Church at Canterbury*, Francis W. Cross, chap. xvii., pp. 184, 185.



Plate XXXIII.

The Old Weavers' House, Canterbury.

In addition to holding a license from Queen Elizabeth, they enjoyed other privileges, and the *Burgmote Records* show that in the year 1577 an allowance was granted to the foreign weavers towards the maintenance of their halls. The crypt of the Cathedral was granted to them for their own use, and some authorities are of opinion that looms were actually set up there,* but this is extremely doubtful, as there was no light; it is, however, probable that they stored their looms there for a time when they first arrived in this country. At that period they were working under articles of agreement which had been made by the Mayor and magistrates of Canterbury.

These articles granted to the immigrants permission to make boys' garments and cloth after the Flanders' fashion, and a hall was provided in which the garments could be viewed, overlooked, and sealed. This hall, situated in the Friars, is now used as the Unitarian Chapel. The new-comers were also allowed to dye their goods, and means were provided in the shape of a "foot poste, whether with horse or with waggon, for to bear away and carry their affaires to London and elsewhere, to sell or cause them to be sold without any hindrance," save it may be assumed the ordinary hazards and perils of the road, which at that period were real enough in the carriage of silk goods. In exchange for such privileges, the new industry in Canterbury had to submit to the burden of taxation. The sealing of the goods appears to have been the first impost, and to this was added a loom tax from the records of which it would appear that in about 1582 the number of looms set up in Canterbury was 390. Their number steadily increased, and the industry for a period at least attained extraordinary dimensions. It is stated that in the early part of the 17th century there were over 1,000 looms at work. The number of the Walloon population of the city may be estimated with some degree of accuracy from the number of looms at work, and it is recorded that at about the time when the Company of

A
Thou-
sand
Looms.

* The statement is utterly improbable, and there is not a scrap of evidence to support it in the contemporary records of their own Church, of the Cathedral, or of the City. *History of the Walloon and Huguenot Church at Canterbury*, Francis W. Cross, p. 45.

Number
of
Foreign
Weavers.

Silk Weavers was formed—this Company was incorporated in the year 1676—it was 2,500. The trade at that time consisted chiefly of the manufacture of all kinds of rich striped silk, silks wrought with gold and silver, and fabrics of wool mixed with silk. Some of these fabrics commanded a price of from ten to twenty shillings the yard. The raw material came from Italy and Turkey, and the Canterbury looms not only executed orders for the Court, but met the demands of a large general trade.

The Canterbury silk trade reached its high-water mark towards the end of the 17th century, but subsequently had to face the competition of cheaper imported silks from Persia and India. The aid of Parliament was sought in an attempt to protect the Canterbury, and of course other branches of the home trade, but the expedient of repressive legislation proved a futile remedy. The silk trade of the Cathedral City was doomed; some of the weavers removed to Spitalfields, a few to other centres of the silk trade; it is known that in the year 1886 the number of looms in Canterbury had dwindled to 200. Even the invention of John Callaway in the closing years of the 18th century only temporarily stemmed, and could not permanently stay the victory of imported textile goods. The secret of the Callaway muslin was believed, until the modern revival, to have died with the inventor. The modern chapter is one of great interest.

Modern
Canter-
bury
Industry.

It was a century after the death of Callaway, in the year 1896, that two Canterbury ladies, Miss C. F. C. Phillpotts and Miss K. Holmes, determined, if it were possible, to revive the silk-weaving in Canterbury. In the city itself, the old industry was only a tradition; there were no living links with those who had been engaged in it. The houses in which the looms had been set up remained, and some of the products of these looms were in the possession of local families. The pioneers of the modern branch of the industry were however both enthusiastic and painstaking; they took lessons at a weaving school in London, and after a course of instruction at the Bradford Technical College, they made a modest start with three hand-loom, which were set up in a room in High Street.

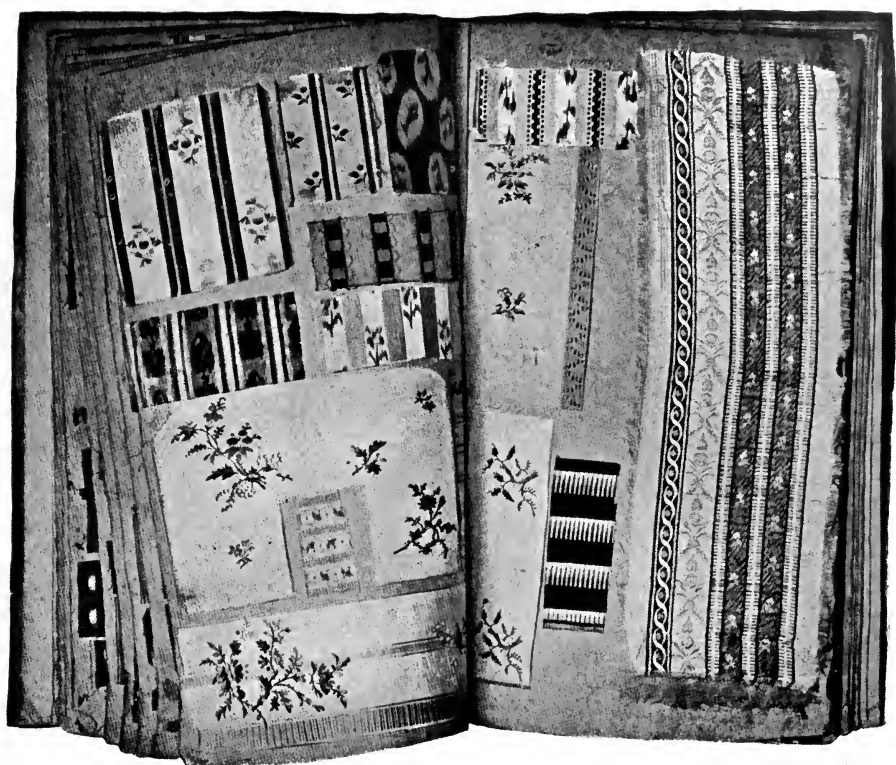


Plate XXXIV. *The Canterbury Weavers' Pattern Book*, dated 1685.



Other workers were obtained and taught, and gradually the modern "Canterbury Weavers" came into existence, and won a certain reputation for hand-woven materials, which had some pretensions at least to artistic design as well as technical accuracy. Naturally, such products could only appeal to a small field. Notwithstanding these disadvantages, progress was made and the reopening in the year 1899 of the workrooms in the house on the banks of the Stour, where Callaway himself had set up his looms a century before, marked the real beginning of the modern silk trade in Canterbury.* Up to that time the output of the looms had been mainly woollen and dress materials. Attention was now directed to the employment of silk for inlaid patterns, and some notable banner work, one of which depicting the arms of Canterbury, now hangs in the Guildhall, was carried out by the Weavers. This banner was presented to the City by Mr. Francis Bennett Goldney, then Mayor and later Member for Canterbury, whose artistic knowledge and ever ready help contributed in no small measure to the success of the industry. The local authorities, the Corporation and the Parliamentary representatives of the city, took the greatest interest in the work, and the City Charity Trustees contributed apprentices. The productions of the Canterbury Weavers won awards at several exhibitions for work in silk as well as other textile materials, and a dress was woven for the Duchess of Argyle. Her Majesty Queen Mary, then Princess of Wales, graciously accepted the first piece of brocade turned out from the looms at the time of the Coronation of King Edward the Seventh, and wore it at one of the Coronation functions. It was, however, found impossible for the industry to establish itself on a basis which would fit in with modern conditions, and the effort to revive the silk trade in Canterbury finally failed.

Hand-
woven
Fabrics.

Exhibi-
tion
Awards.

* Fragments of the old looms and quills of silk were found under the floors in the attics of the old house. A curious fresco depicting the migration of the weavers from Flanders was also discovered on the walls of one of the old rooms.

CHAPTER XXIX.

OTHER PROVINCIAL CENTRES.

In addition to the principal centres of the industry, the history and present position of which are dealt with in previous chapters, there are many other towns and districts where branches of the silk industry were formerly in existence, and in some of which indeed these still persist. A brief account of these various centres will be of interest.

SUFFOLK.

Silk
Trade
follows
the Wool.

As in the adjoining county of Essex, so in Suffolk, the early silk industry was due to the initiative of master weavers in Spitalfields. When the introduction of power-looms into Yorkshire threatened the hand weavers of wool in Suffolk with the extinction of their trade, the Spitalfields' weavers took advantage of the labour thus rendered available to establish branches of the silk trade. The cost of living in London had increased, and an advance in wages had been secured by the Spitalfields Act of 1774.

It became important, therefore, to take advantage of a situation such as that offered in Suffolk through the decay of the woollen industry, and it was found that it was possible to offer the Suffolk weaver a much higher wage than he had ever secured in the wool trade, and yet to pay only two-thirds of the piece-work rate fixed by the London justices.

The towns which profited most by this migration of the silk industry were Sudbury, Haverhill, and Glemsford, and in spite of the fluctuations which have taken place, the industry has persisted down to the modern era. At Mildenhall there was a flourishing industry in the early years of the 19th century. The branch established there

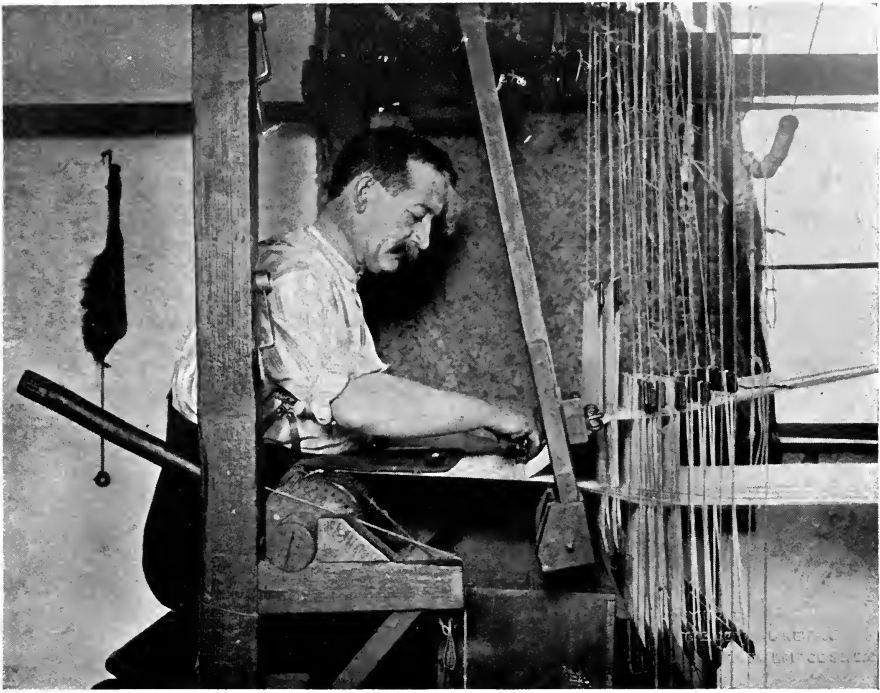


Plate XXXV.

Cottage Velvet Weaving, Sudbury, Suffolk.

was an off-shoot of a Norwich business, and it lasted for twenty or thirty years, but the exact date when the silk industry died out at Mildenhall is uncertain; it was probably extinct by the year 1855. About the year 1840 the main centres of the industry were certainly at Sudbury and Haverhill. The number of looms set up at Sudbury was about 600, and these found employment for about 500 hands, of which nearly 300 were men and 80 boys. The work was mainly the production of plain mantels, lutes, and gros de Naples, the net earnings for which averaged about 7s. a week. There were about 10 Jacquard looms for the weaving of figured goods, at which the workers made about 10s. a week, and about half-a-dozen velvet and satin looms on which the weavers engaged made 12s. a week. There were no power-looms; the system was to set up a number of the hand-looms in a factory under the eye of the employer, who considered that this plan not only prevented pilfering, but was a better training for the workers. The trade was subject to great fluctuations, and made the wages actually received less than the amounts above quoted, which could only be earned in a full week, and the weavers regarded the agricultural labourer as being much better off than themselves.

At Haverhill there were about 70 looms engaged in weaving umbrella and parasol silks for Mr. Walters, in London. The work here was more regular than at Sudbury. A weaver could make 16 yards in a week, and the average wage for a full week when expenses had been deducted was about 8s. The highest numbers employed in the silk manufacture in Suffolk were reached in the middle of the 19th century, when the throwsters and weavers together numbered about 2,000.

Following the removal of the duty on raw silk, throwing mills were put at work in several Suffolk weaving centres. It is known that in the year 1840 there were three mills, one steam-mill and two worked by water-power in operation at Hadleigh, Glemsford and Hayland. The total power represented by these mills was quite small—about 9 h.p., and only young persons were employed; of

Silk
Trade
follows
the Wool.

Early
Factory
system.

Migration of
Operatives to
Lancashire.

465 hands, 217 were under thirteen years of age, and the remainder were under nineteen. A few it is reported remained in the factory after the latter age, but as their usefulness did not increase, their wages remained at the rate formerly paid. The result was that the population was withdrawn from the silk trade at a comparatively early age, and those who failed to find other employment migrated to the Lancashire towns.

At a later date, a new centre of the industry was established at Ipswich, and 200 female silk winders are shown by the records to have been working there in 1855. In 1892 the town became associated with the hand-loom weaving of furniture silks by a firm styled the English Silk Weaving Company, Limited, but although some beautiful goods were produced, the venture came to an end ten years later.

Power-loom
Silk Weaving.

The silk-throwing mills which had been in operation at Hadleigh and Hayland seem to have ceased working towards the end of the '60's, a trying time for the silk industry, which had some difficulty in adapting itself to the new commercial conditions introduced by the adoption of free trade. The mill at Glemsford, which was established in 1824, found occupation in 1874 for over 200 hands. Power-loom silk weaving had been largely introduced, but there were then altogether about 1,800 hand-loom weavers in Suffolk, half of whom were men engaged in making mats and matting, and the other half, mainly women, in weaving horsehair and silk. That these representatives of the old Suffolk textile industry (wool and hemp) should have been so numerous at that period is a striking proof of the tenacity of an industrial tradition.

MODERN INDUSTRY.

Glemsford was known to be working in 1901, but the modern industry in Suffolk centres at Sudbury, with off-shoots at Haverhill. Messrs. Stephen Walters and Sons, which is believed to be the oldest firm manufacturing silk in Great Britain, have possessed works in Sudbury and Haverhill for at least three generations, and were

engaged in the business of making umbrella silks from a very early period. At the present time, the works at Haverhill are entirely confined to hand-loom manufacture, the character and conduct of this branch of the business having been unchanged for many years. The main works of this firm are, however, at Sudbury, where the mills which provide employment for several hundreds of work-people have been enlarged three times during the past fifteen years, and now form a large block of buildings.

The production of umbrella silks is still the main feature of the trade, but in addition the works produce crêpe de chine, spun silk fabrics, silk for the University gown trade, and for regimentals and coat linings. An off-shoot of this business is the manufacture by a special process of a shirting, to which the name of "Spunella" has been given, and which is now carried on as a separate undertaking. The Walters interests formerly carried on a business at Taunton in Somerset, in the manufacture of silk for surgical bandages, but this business is now transferred to Sudbury. On several occasions, the works have been honoured by Royal visits. While the business of Messrs. Stephen Walters and Sons is the largest of the existing Suffolk silk firms, other firms have established works in the Sudbury district, and whatever may be the case in other parts of Suffolk, the industry here is an expanding one. The other firms include Messrs. Vanners and Fennell Bros., Ltd., Messrs. Bailey, Fox and Co., the Gainsborough Silk Weaving Co., Messrs. Jones and Co., Messrs. Brown and Garrard, and Messrs. Thos. Kemp and Sons. Messrs. Warner and Sons, whose main factory is at Braintree, have for many years employed cottage weavers at Sudbury in the manufacture of plain silk velvets.

Umbrella
Silk
Trade.

BUCKS AND HERTS.

It was in the early part of the 19th century, probably about the year 1824, that a silk-mill was established at Tring by a Mr. William Kay. It remained in existence as a throwing-mill—at all events there is no record of its being closed down—until the working was discontinued at the end of 1887, at which time it was in the hands

Silk-
throwing
at Tring.

of Messrs. David Evans and Sons, who had other interests in the silk trade. The mill was afterwards carried on by Lord Rothschild to provide employment for the people in the district, and continued working under his control, for a period of about 10 years. An interesting fact in connection with the early history of the mill is the fact that the manager, one Robert Nixon, set up looms at Aylesbury, and by an arrangement with the Workhouse overseers, agreed, owing to the increase in the numbers of paupers, that if permission were given to set up a mill on the Workhouse premises, he would employ only paupers chargeable on Aylesbury parish. The original mill at Tring was worked in connection with the Aylesbury mill. At the latter centre 40 looms were in operation in the year 1830, and provided work for many of the women lace-hands who were then out of employment. The Aylesbury as well as the Tring mill ultimately came into the possession of Messrs. Evans, who introduced steam-power. It is known that in the year 1865 there were 70 steam-looms in operation at the Aylesbury mill. Hand-looms were also set up by the same firm at a building in Akeman Street, Tring, and also at Waddesdon, but the business at the last-named place was sold to Baron Ferdinand de Rothschild in the early 70's. In the decade 1860-1870 the hand-looms at Tring were employed on handkerchiefs, and the power-looms on the production of China cords in the gum. There was also a small mill at Whitchurch.

An old
Industry
at St.
Albans.

For over a century the silk industry has been established at St. Alban's, where Messrs. J. Maygrove & Co., Ltd., who recently absorbed the silk-throwing business of Messrs. Chas. Woollam and Co., still carry on a thriving business. The silk mills, which employ two or three hundred workers, stand upon a portion of the old monastery grounds, and are situated between the present Abbey and the ancient town of Verulamium. These mills are indeed on the site of the old monastic flour mills which was the subject of dispute between the monks and the townspeople for many years. Although the mills have been established for over a hundred years, a date

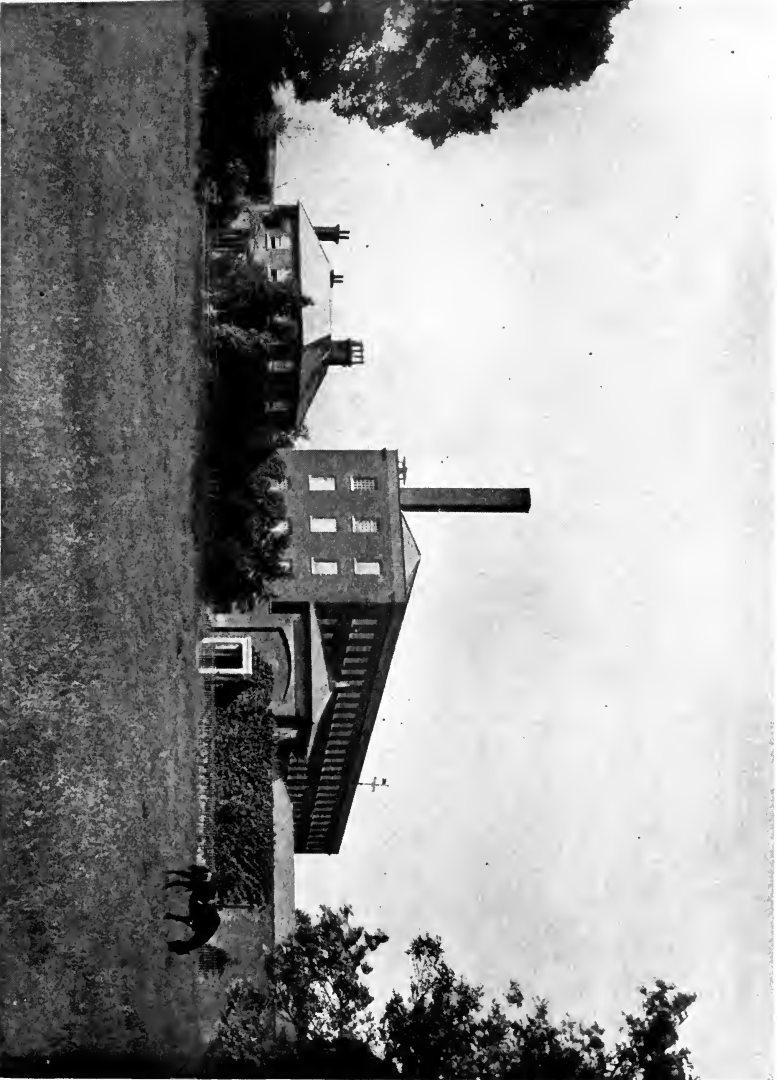


Plate XXXVI.

Tring Mill.

on one of the buildings giving the year 1810, they have been modernised and form the seat of an expanding industry, the output being China, Italian and Japan organzines and trams for weaving, also flosses, hosiery silks, two and three cord sewings, machine sewings and twists, and artificial silks in various sizes for weaving, knitting and embroidery. An old Industry at St. Albans.

Beginning in a small way at Haslemere, Surrey, in 1901, Mr. Edmund Hunter has established at Letchworth weaving works of much interest. At first his energies were successfully directed to the production of brocades for altar frontals, and furniture stuffs, but his later work has been remarkable for the unique beauty of the dress fabrics, particularly those created for theatrical purposes, some of which were worn in Sir Herbert Tree's most important plays. An interesting feature of Mr. Hunter's work is the using of hand- and power-loom methods in the same place, the former for the more elaborate decorative brocades, and the latter for plain and figured dress goods.

BERKSHIRE.

Wokingham, in Berkshire, was probably one of the earliest homes of the silk trade in England, a branch of the industry having been established there towards the end of the sixteenth century. The manufacture of silk stockings appears to have been the chief branch of the trade practised at Wokingham, and an interesting side-light is thrown on the conditions of the trade by some bye-laws of the borough which were put in force in the year 1625. One of these laws instituted penalties against poor people refusing to work at silk stocking making, and none were allowed to set up the trade of silk knitting unless having served seven years' apprenticeship to it under a penalty of 20s. a month.

Silk
Stocking
Trade.

Large numbers of mulberry trees were planted in and near the town at different periods, and some of these still remain as a link with the old industry. The system of working was the domestic method, women and children doing the knitting at their own homes. It is known

Old
Trade
condi-
tions.

that at the beginning of the last century three silk manufacturers carried on business in the town, both in spinning and weaving. The spinning and twisting mill was worked by horse-power, and the records indicate that there were 432 spindles in operation; in the weaving mills the output appears to have been chiefly hat bands, ribbons, watch strings, shoe strings, sarsnets and figured gauzes. The few men who were employed earned about 30s. a week, but the operatives were chiefly women and children, the women earning from 8s. to 10s. a week, and the children 5s. The looms were in existence up to about the year 1850, and it was possible not many years ago to find among the old residents some who could remember a colony of silk handkerchief weavers in Rose Street, Wokingham.

Reading
and
adjoining
Towns.

At Reading, silk-weaving was practised as early as 1640, and up to the early part of the last century the industry was still flourishing, and indeed a London manufacturer established a branch business in the town. This caused trouble with the journeymen silk-weavers of Spitalfields, who were successful in an action they brought against the London manufacturer. A few years later, however, several London firms appeared to have established works at Reading. One of these firms was that of Williams and Simpson, who commenced the manufacture of ribbons in the Oracle, and Thomas Simmons, who had an establishment in St. Paul's Churchyard, also owned a mill in Minster Street, Reading. At this period figured silk dress materials were being manufactured in the Oracle; shag or rough silk in East Street by Matthew Green, and works were also in existence in the Abbey buildings, these being in the ownership of Messrs. Reynolds and McFarlane.

At Twyford, near Reading, the Billings, of Macclesfield, carried on silk-throwing. George Billing, who died in 1885, appears to have been the last of the silk manufacturers here. At Newbury and Thatcham small silk works were once in operation, and silk-throwing was carried on by one Charles Lewes and by Thomas Hibell at Greenham, a suburb of Newbury.

Until a few years ago there were still to be found living at Kirkbury persons who had worked in the small silk factory which was established by Jonathan Tanner, and which continued in operation until the 1840's. The recollections of these old employees were not altogether pleasant. They appeared to have worked about 13 hours a day for six days a week, and to have received 1s. in money and frequent thrashings with a leather strap from the overseer.

OXFORDSHIRE.

The silk industry at Oxford is first mentioned by Dr. Plot in 1677, when he records that silk stockings were woven at Oxford. The industry was also carried on at Henley-on-Thames. In 1823 two silk factors owned works in this town: Messrs. Barbel and Benzeoitte in Friday Street, and Mr. G. Skelton in Mann Lane. As late as 1856 Henley transacted a certain amount of business in silk. For several years previous to this date a silk winding mill had stood in Phyllis Court Lane. The silk was sent from London, and wound by women and girls, but the factory could only have been on a very small scale, as the total weekly wages amounted to no more than between £30 and £40.

The modern industry is represented by the old-established firm of Messrs. W. Wrench and Co., whose plush mills at Shutford, near Banbury, are also used for the manufacture of mohair and other velvets.

NORTHAMPTONSHIRE.

It seems probable that silk-weaving was in progress in Northampton even in the 18th century. In the year 1783 there is known to have been a weaver named Trokman. It is also certain that 20 years before that time there was a considerable silk manufacture at Towcester. About the year 1820 silk-weaving was introduced from Coventry to Desborough. At first the workmen walked from Coventry to Desborough and back again to Coventry,

Silk the
staple
trade of
three
Towns.

but small manufactories were soon started, and afterwards larger ones were built at Kettering, Rothwell and Desborough, most of which are now used as shoe factories. The weaving was done on the old hand-loom, and despite the erection of the factories, many of the workmen kept looms in their own houses, using the Jacquard loom for ornamented silks and velvets. The various kinds of articles woven in silk were coloured silk plushes, black plushes for silk hats, plain and coloured silks, black and coloured velvets, figured velvets, plain and figured satins. This industry found employment for a large number of hands in the three towns mentioned, forming their staple trade; but owing to the keen competition of the French, silk-weaving gradually declined until it ceased about the year 1868.

GLOUCESTERSHIRE.

Famous
for Silk
Stockings.

Gloucestershire, owing to the large water power available, possesses natural advantages which made it an early seat of the textile industries. It is clear that silk must have been used at a very early period in the local textile industry for embroidery, but weaving probably dates from the arrival of French refugees. It is known that the weaving of silk was being practised at Gloucester in the year 1637, and two silk-throwing mills were in operation at Chipping Campden and Blockley at the beginning of the 18th century. This district was long famous for silk stockings. Silk-throwing was also practised at Frokesbury up to about 1870, in which year the last remaining firm, Iliffe's, removed their business to Coventry.

The most important centre of the Gloucestershire silk industry was, however, in the Stroud Valley, where at one period nearly 1,000 persons were employed in about a dozen mills. At Tewkesbury, where the stocking trade flourished for a long period, there were at one time 800 frames in operation, and the industry gave employment to about 1,500 persons. The last link with the old silk industry in this county is the Langford mill at Kingswood,

where some 200 persons are employed in throwing silk for braid and fishing lines.

WORCESTERSHIRE.

The industry was established in Worcestershire at a very early date, and indeed there are traces of silk manufacture in the county even before the revocation of the Edict of Nantes. Local records show that in the year 1692 Edward Beardmore, a silk weaver of Worcester, was in arms for Charles I. It is stated of the same person that owing to the depression in the silk trade caused by the war, he applied for a beadsman's place in Worcester Cathedral.

After the influx of foreign refugees, both Blockley and Kidderminster were centres of a considerable manufacture of silken fabrics. At the former place, following the opening of mills in the early years of the eighteenth century, some hundreds of workers were engaged in the industry. The builder of the first mill appears to have been one Henry Whatcot, who died in the year 1718. The situation of the town was favourable for the establishment of the industry owing to the excellent water-power available and as early as 1825 eight mills were in operation. The modern industry thus established was employed in silk-throwing for the Coventry ribbon industry, and indeed depended to a considerable extent on the state of Coventry trade. The French Republic, following the war with Germany, abandoned the reciprocity treaty, and both Coventry and Blockley lost trade. The industry at Blockley is now extinct.

At Kidderminster, with the decline of the clothing trade, long established at that centre, the manufacture of mixed stuffs of worsted and silk under the name of Spanish poplins as well as Irish poplins and crape was introduced. In the year 1755 the manufacture of figured and flowered silks was in progress, and it is recorded that in the year 1772 no fewer than 1,700 silk and worsted looms were at work, but the trade gradually declined, one reason being that silk, as well as bombazines, which were originally sent to Norwich to be finished, were subsequently

An old
Seat
of the
Industry.

Con-
nection
with
Coventry
Ribbon
Industry.

Ribbons and Buttons. manufactured in the Norfolk centre, with the result that in course of time the whole of the business was transferred to Norwich. There were small silk industries established in other parts of the county, including a ribbon factory at Evesham, and recently a factory was working at Bromsgrove in connection with the manufacture of silk florentine buttons.

SURREY.

It would not appear that silk-weaving ever obtained any great or continued hold in Surrey, comparable to the development which took place in other home counties. The earliest records relate to that section of Surrey nearest to London. It is known that at the end of the 16th century there was a small colony of aliens in Southwark and the adjoining district engaged in silk-weaving, and references may be found in some local records to the occupations then being carried on by silk winders, throwsters, twistors, and dyers. The Lord Mayor's returns of foreigners residing in the City Wards, made both in May and November, 1571, show the existence of several silk weavers in various Southwark parishes. They were principally settled in St. Olave's parish, where, in May, there appeared to have been 13 Dutchmen, one Burgundian, and one Frenchman, all silk weavers, besides a Dutch silk thrower. In the same parish in November there would appear to have been 11 Dutch silk weavers and one French, in addition to a silk thrower and a silk winder, both Dutch. In other parishes the number of aliens engaged in silk manufacture was smaller. In St. Saviour's there was one in each return, in St. Thomas' three in May and five in November; in St. George's in November there were six returned, three Dutch and three French.

Alien Colony in Southwark.

So far as the two lists of 1582 and 1583 show, there was a considerable decrease in the number of foreign silk weavers in Southwark. Only eleven aliens appear in the former for the whole ward of Bridge Without, while in 1583 there were returned seven silk weavers, one Dutch and six French in St. Thomas', and two Dutch weavers in St. George's. There is also in the list a French silk

twister in St. Thomas'. No alien is given as connected with any of the various silk industries in either the parish of St. Olave or that of St. Saviour, but it should be noted that to a considerable number of the aliens appearing in these lists no trade has been assigned, and from another source it would seem that there were 13 persons practising the trade of silk-weaving in St. Olave's in 1571, as well as five in St. Thomas's.

The interesting lists of 1618, however, show a large increase in these numbers in that year. Only two silk weavers are given as living in St. Saviour's parish and three only in St. George's, but in St. Thomas's there are thirteen, and in St. Olave's no less than nineteen, and four others are described as silk winders. In Bermondsey also seven silk weavers are returned. These seem to have been principally of Dutch or Flemish nationality, but a few were French or Germans, and two weavers and one winder were Spaniards. In addition to these there were in Southwark a considerable number of aliens of various nationalities engaged in the weaving of the special kinds of silken fabrics known as taffetas or tuft-taffeties. Of these there were four in St. Thomas's parish, twelve in St. Olave's, and one dwelling within the liberty of the Clink. Throughout the period under consideration the foreign silk industry in and about London seems to have been chiefly established within the Ward of Bishopsgate.

The modern silk industry of Surrey, although small in extent, is important from the fact that William Morris established at Merton Abbey in the year 1881 the weaving of plain and figured silks, for which, amongst other artistic handicrafts, he is so justly famous. His work and also the industry at Haslemere are fully dealt with in the chapter on "Arts and Crafts."

HAMPSHIRE.

The evidence for the existence of silk-weaving as an organised industry in Winchester in the Middle Ages is slight. The "Cericatires" of the 15th century Corpus

Alien Colony in Southwark.

Association with William Morris.

Light
Silk
fabrics
and
Velvets.

Christi procession may, however, have been silk workers. In the year 1671 there is a definite record of a lad being apprenticed to John Wally, silk weaver. The first silk factory on a large scale would seem to have been that of a Mr. Skenton's, who was in business in 1792. At his original works the drums were turned by men, but at a new factory erected near the Abbey Mill water-power was utilised. In 1813 the old cloth manufacture of Winchester was completely gone, and the manufacture of light silk fabrics and velvets was then and had been for some years the chief industry of the town. The raw silk was imported from Bengal and Italy in thread, and in the early years of the 19th century one house alone in the city employed 300 hands in preparing and winding the silk, child labour being largely used. The scarcity and dear-ness of the raw material were, however, already affecting the trade, and by 1840 silk-spinning was extinct in the city.

At Southampton the trade had long been established, but had much declined by the 18th century, though a slight amount of silk-weaving was carried on by French refugees. In Whitchurch, in the middle of the last century, the chief industry was silk-weaving, and in recent years Mr. James Hide carried on here the trade of which he was the only representative in the county. There was also a mill at Overton in the early years of the 19th century. In 1840 it still furnished employment in silk-throwing to most of the women of the town. To-day the industry would appear to be extinct.

Trade
with
America.

There were other centres of the Hampshire silk trade. In the beginning of the 19th century, bombazines made at Alton and in the surrounding districts were sent to London to be dyed and dressed. Tabyrean, a fabric of silk and worsted especially adapted for the American market, was manufactured in considerable quantities here at one time, and generally sent to Philadelphia. Gradually the American trade of Alton failed, the manufacture of bombazines was discontinued, and the textile trade of the town was then mainly confined to the making of hop-bagging.



Plate XXXVII.

Old Silk Mill, Malmesbury.

WILTSHIRE.

The textile industry of Wiltshire, although now non-existent, at least as far as the silk branch is concerned, except at Malmesbury, was established in various centres in the county at a very early date. At Malmesbury weaving appears to have been introduced by a Mr. Stumpe in the reign of Henry VIII, and the factory in which the business was carried on is believed to have been on or near the site where the modern silk mills have for some years past found employment for a large number of women and girls.

Leland appears to have been the earliest author who made any record with regard to the textile industry of the town. He states that when he visited Malmesbury towards the middle of the 16th century, every corner of the vast houses of office which had belonged to the Abbey were full of looms to weave cloth in, and also that it was intended to make special streets for clothiers in the vacant grounds of the Abbey. The magnitude of the industry may be gathered from the statement quoted in Moffats' and Birds' Histories of Malmesbury, that about 3,000 cloths were made annually. The historian Camden also refers to the good repute in which Malmesbury stood on account of the clothing trade in the reign of Queen Elizabeth. Further evidence of the connection of Malmesbury with this trade is given by a deed bearing the date 1664, executed by a Mr. Grayle, who is described as a clothier, making a donation to the poor of Malmesbury. In the King William Charter, reference is made to the fact that the borough was then inhabited by burgesses largely carrying on the clothing trade. It seems quite probable that the manufacture of silk as well as of other textile goods was carried on in the 17th century, as in the *Parish Register* is found the following entry:—

“February 26th, 1687.—Robert James, of Malmesburie, silk weaver, was then declared in the Abbey Church, to be the parish clerk of Malmesburie, upon the death of Nathaniel Speak, broad cloth weaver, and late parish clerk.”

The
Clothing
Trade.

The trade, however, declined and was almost extinct when in the closing years of the 18th century Mr. Hill,

Ladies'
Dress
Goods.

a Bradford manufacturer, made what appears to have been a successful attempt to revive the cloth trade. The two large mills which he built and which he and his successor, Mr. Salter, of Chippenham, carried on for a time with great success, were afterwards purchased by a Mr. Lewis, a silk manufacturer of Derby, who employed the mills for purposes of silk-throwing and ribbon-weaving. He appears to have remained in business at Malmesbury until the year 1869, when he disposed of the mills to another Derby firm of silk manufacturers, Messrs. Davenport and Son, who installed modern machinery and carried on a silk ribbon trade, which provided employment for about 400 hands. Some twenty years later the mills passed into the possession of a Mr. Jupe, who was engaged in silk-spinning and throwing, and who for some years carried out a contract for the Admiralty for the black silk squares for the Navy. The mills were subsequently closed for about fifteen years, until they were purchased by Messrs. Shuttleworth Ltd., who installed modern machinery for the production of ladies' dress materials. To Messrs. Shuttleworth succeeded the Avon Silk Mills Company, who are now keeping the mills in operation, and giving employment to a considerable number of hands. They have improved the machinery equipment, and are weaving a variety of silk goods mostly for dress purposes.

Velvet-
weaving
at Salis-
bury.

Another branch of the silk industry was established at Salisbury, and was engaged in the manufacture of silk velvet. The name of the firm which carried on this business was Senechal's, and the mill is stated to have closed down for want of workmen in about the year 1825, the site now being covered by what is known as 51 Castle Street and Brown's Almshouses. It is interesting to record that when the mill was closed, Mr. Senechal divided a roll of crimson velvet among his workwomen. The writer of the *Festival Book of Salisbury*, Mr. Frank Stevens, records the fact that an almswoman, who received her share when a girl in this distribution, gave him some velvet rosettes which in later years she made for her children's hats from what must have been one of the

last pieces of velvet made in Salisbury. It seems probable that at various times workers had been brought to Salisbury from Coventry, for when Senechal's mill was demolished, several Coventry trade tokens were found. Previously to this branch of the silk trade, a very important woollen industry was carried on in Salisbury, and it is easy to understand how wool took a premier place among the industries of the city, situated as it is in the midst of the Wiltshire plain and down lands, which provide pasturage for the sheep.

Other centres in Wiltshire where the silk trade was formerly carried on were Chippenham, from which town Mr. Salter migrated to Malmesbury and Warminster, Devizes, and probably Newbury, and these industries were existing in the first half of the 19th century.

DORSET.

The silk industry of Dorset in the past was mainly concerned with the throwing of silk rather than with manufacturing processes, and was carried on at Sherborne for a long period. The historian Hutchins records the establishment of the throwing industry in the year 1740, but it would seem that at an even earlier period than this band strings, that is, laces or ribbons which were used for fastening bands worn round the neck, were manufactured at Blandford. Cranborne had also an association with the weaving industry, but by the year 1833 all sections of the textile trades except silk had ceased.

Silk-throwing at Sherborne* appears to have been commenced in 1740 by one Thomas Sharrer at East Mill (now pulled down), but the mill was soon afterwards transferred to the ownership of William Willmott, who quickly built up a very good business. The trade increased indeed to an extent which called for the erection of two other mills in Sherborne. In the year 1780 the number of hands employed had increased to 800, but this total included winders who were out-workers scattered in the

* Information on trade of Sherborne furnished by Mr. E. Arnold Wright.

Long
reign of
Will-
mott's.

surrounding villages, each village having its Silk House, from which the silk was handed out to and received back from the winders. Although it is out of chronological order, it may here be pointed out that the number of workers had declined to 600 in 1826, and to 150 in 1831, by which year the number of spindles in operation had decreased from 8,000 to 3,000. It should also be mentioned that the cottage branch of the industry was carried on in many instances in conjunction with agricultural pursuits. In the year 1770 William Willmott appears to have been totally engaged in throwing silk on commission for two London firms, the classes of silk being China, Italian, Persian, Antioch, Murcia, Brutia, and Calabria, and Willmott had a standard price of 3s. for every pound of silk he worked. The silk was all carried down from London by wagon first in bales, but later in baskets, this having been found the more satisfactory method. The average wage of the workers appears to have been about 4s. 6d. per week.

Fluctua-
tions in
Sher-
borne
Trade.

The mills were all driven by water-wheels, but Willmott had great trouble owing to scarcity of water. In the year 1781 there was no rain for four months, which caused the river to dry up completely, and in order to carry on his operations Willmott tried to persuade Lord Digby to allow him to take water out of the lake in front of Sherborne Castle, this lake being the source of the river. Lord Digby, however, refused to grant this request, but Willmott, rather than let his hands remain idle, bribed the sluice keeper, who allowed a big head of water to run down into the river. This, however, only afforded temporary relief, and in the end Willmott had four horse engines installed, the remains of which can be seen to this day. In some of the years between 1770 and 1780 trade was depressed, and it is on record that in the year 1773 Willmott wrote to his patrons asking for silk, as his employees were starving, and he was distributing loaves of barley bread to keep them alive. In asking for silk, he offered to work up "Any silks, long or short reeled, for singles, tram or Balladina for sizes, but declined to accept Bengal, as being too troublesome." His charge

for throwing China two or three thread tram and knittings was 3s. 6d. per lb. He lost a lot of his workpeople during this period, but towards the end of 1773 his mills were active again, with silk for the sewing trade. In the following year he bought the whole of the machinery belonging to Mr. George Ward, of Stalbridge, and also rented the Silk House at that place from him. In November, 1774, Willmott also bought the whole of the plant of Messrs. Fooks and Webb, probably of Carne, for the sum of £135, and his ambition at this time was to raise his output to 500 lbs. of silk per week.

Evidence is furnished by a letter written by Willmott to Messrs. Phillips and Co., on July 15th, 1776, that there was at that time a Company of Silk Throwsters in existence. The letter reads as follows:—"I have been in long expectation in hopes of hearing something relating to the Company of Silk Throwers; whether they have any intention of putting in force the Act of Parliament to those who have not served regular apprenticeship to the trade, and I hope you will not think it impertinent in me being desirous to know, as I would wish to take up my freedom if the Company would permit me."

In this year Willmott experienced a set-back, owing to the presence of an opposition mill in Sherborne, which was started by a Mr. Cruttwell and a Mr. Hickling. Cruttwell had had to give up mills at Oakingham owing to trouble with the workpeople over the employment of workhouse labour. The rival firm took a great many of Willmott's hands away from him, and as a remedy Willmott raised his scale of wages, and also bid a high price for the local workhouse child labour. These steps did not apparently prove successful, for at the beginning of 1777 Willmott had all his three mills standing idle. In March of this year, however, the partnership of Cruttwell and Hickling was dissolved, but Cruttwell continued the business, the Oakingham mills being sold to a Mr. Winstanley, of London. A few months later Willmott's workpeople wished to return to him, owing to dissatisfaction with their new masters, and in October, 1778, Cruttwell failed in business during a period of

Fluctua-
tions in
Sher-
borne
Trade.

Work-
house
Child
Labour.

depressed trade, but his factory was let to a Mr. and Mrs. Smout, who had been managers for him.

Modern
Weaving
Industry.

In the year 1779 Thomas Willmott was born, and he in later years succeeded to his father's business. His father, however, carried on the business until his death in 1787, and his wife continued it until Thomas Willmott was old enough to take charge. It is interesting to note that some years before his death, in the year 1781, William Willmott was throwing and winding mohair for a button maker at Sherborne. It is recorded that in the year 1800 lamps were first used instead of candles for lighting the Sherborne mills. In 1836 new mills were started by J. P. Willmott, who did a big trade, and made the business a very sound concern, and in 1845 another new factory was erected and steam used for power purposes. At a still later date weaving was established at Sherborne. The Willmott business has been continued down to the present day, first by the sons of J. P. Willmott, and then by J. and R. Willmott Limited, who were silk weavers, the goods made being principally plain dress taffetas, checks and stripes. It was in the year 1907 that Messrs. A. R. Wright and Co., of Bingley, purchased the factory at West Mills, and installed new engines and machinery, and made it a branch weaving mill of their Bingley headquarters. They now employ at Sherborne about 100 hands, who are engaged in winding, warping, and weaving plain and fancy silks and satins, etc.

Silk
Throwing
at
Gilling-
ham.

The silk industry was carried on at other places than Sherborne. One of these places was Gillingham,* and Thomas Sharrer, the eldest son of Thomas Sharrer who established the Sherborne mills in 1740, endeavoured to buy the Gillingham mills in the year 1777. The mill at Gillingham was established in 1766 by a Mr. Stephens, whose great grandson is now living at Gillingham, and the industry remained in existence at Gillingham until about 1890. Mr. Stephens and his forefathers were silk throwsters, and at one time employed about 160 persons, as well as cottage workers in the neighbouring villages. At first Italian silk was manipulated, but in later years

* Facts on the Gillingham industry supplied by Canon C. H. Mayo.

China silk took its place. The mill at Gillingham is now a grist mill. There was another mill at Gillingham, which belonged to Messrs. Charles Jupe and Sons, who also owned mills at Mere, Wiltshire, at Crockerton, and at Warminster, but these were closed down sooner than the mill at Gillingham. There were also silk mills at Charminster and at Carne in the later years of the 18th century.

A good deal of information with regard to the silk industry in this area may be gathered from the evidence given before a Select Committee in the year 1831. It is stated that at that time the glove trade, which had formerly been of some importance, only existed at Sherborne in the form of a home industry, gloves being sent over from Yeovil and Milborne Port, and sewn by the Sherborne women in their cottages. The glove trade also formed part of the local industry of Beaufort, Bere Regis, and Cerne Abbas. At the last-named place, and at Stalbridge, where the spinning of silk was carried on at the end of the 18th century, the work chiefly consisted of twisting and making up the raw silk into skeins.

SOMERSET.

The settlement of Flemish weavers at Glastonbury in 1551 has been dealt with by Mr. Emanuel Green in the *Somerset Archæological Proceedings*, vol. xxvi. The result of his research shews that the Duke of Somerset (The Protector), on receiving a grant of Glastonbury Abbey from Edward VI, founded there a colony of Flemish weavers, advancing them a loan of £484 14s. 0d., and promising to provide houses and ground and other relief towards their living. The fulfilment of his plan was prevented by the Duke's attainder, and the colony appears to have suffered acutely from poverty, accentuated by the opposition of their English neighbours. A petition to the King for relief led to an enquiry being made, and from this it appears there were 44 families and six widows, for whose accommodation, as a whole, there were only six houses in repair, and 22 without roofs, doors, or

Flemish windows. The Commissioners found the Strangers very Weavers godly, honest, poor folk, of quiet and sober conversation, at and showing themselves ever willing and ready to instruct Glaston- and teach young children and others their craft and bury. occupation, and they judged the settlement as likely to bring "great commodity to the common weal" of those parts. Mr. Green traces the history of this settlement through its early difficulties until the Flemings obtained the necessary authority and incorporated by Royal Patent, became an English guild, enjoying the same privileges and liberties as other clothiers and dyers of the realm, paying no more taxes than English-born, and last but not least being granted the use of their own liturgy for worship.

On the death of Edward VI, the Strangers lost their protector, and, on the accession of Queen Mary, they left this country for Frankfort. Curiously enough the colony left little or no local mark behind them, the one relic of their settlement being an alms dish of latén or rolled brass bearing a Flemish legend with St. George and the dragon repoussé, a gift to St. John's Church, where it still remains. The settlement is interesting as being the first use to which the old Abbey was put after its dissolution.

The sayes manufactured by these Flemish weavers, red, blue, and black, are often mentioned in Church goods of pre-Reformation days. Similar articles are sometimes of velvet and sometimes of saye. There were palls of red saye, vestments of saye and hearse cloths of saye. Assuming the saye (soie) made at Glaston was in any part of silk, in accordance with the general meaning of the word, it is possible that this little settlement can take rank as one of the earliest colonies of silk weavers in England.

Claim
made of
Pioneer
work.

A comparatively recent work says: "It is stated on good authority that Taunton shares with Derby the honour of being the first place at which the making of 'thrown' silks out of fine raw silks was carried on in England after its introduction from the Continent." There is, however, some reason to doubt the absolute

accuracy of this statement when we reflect that Sir Thomas Lombe built his silk mill at Derby in 1719, whereas the earliest reference to the silk industry in the annals of Taunton is in 1781, when Messrs. Vansomer and Paul, silk mercers, of Pall Mall, London, purchased a large brew-house in Upper High Street, together with certain water rights. To quote from an old history, and one to which the great Macaulay had recourse when writing his famous work, "These purchases, by erecting a large building and suitable wheels they converted into a machine for making thrown silk out of fine raw silk, on the model of that at Derby." In 1790 this factory employed about 100 hands.

About the same time another concern was established in Cannon Street, where throwing was done on a small scale, "the machinery being set in motion by a woman treading the large wheel," and where also 32 looms were installed for weaving Barcelona handkerchiefs, Canterbury muslins, Florentines and ladies' shawls. The weaving of crape was apparently introduced in 1806, and was carried on spasmodically in cottages in the town and vicinity until comparatively recent years.

In 1822 there appear to have been three throwing mills in Taunton, Mr. Norman's in Upper High Street, one in South Street belonging to Messrs. Balance and Co., and one in Tancred Street, owned by Mr. George Rawlinson. The last-named is the only one to have stood the test of time, and it is to-day exclusively engaged in the processes of silk-throwing. Some years later Mr. Wm. Rawlinson, son of the gentleman referred to above, commenced operations in a mill in East Street, which he subsequently considerably enlarged, and for a great number of years Mr. Rawlinson personally owned and controlled the East Street and Tancred Street mills. In 1881 the business changed hands, Messrs. Stanway and Summerfield becoming the proprietors. In the meantime the other silk-throwing mills had been converted to other purposes. Messrs. Stanway and Summerfield were succeeded in 1903 by Messrs. Calway and Drillien, and the steady expansion of their particular business has been such as to necessitate material additions and improvements to buildings and

Claim made of Pioneer work.

Story of Taunton Trade.

Story of machinery during recent years. Nearly 500 people are employed by this firm.

Taunton Trade.

The business of Messrs. Pearsall and Green was founded at the end of the 18th century, and consisted of both wholesale and retail branches. The special productions were silks for the Nottingham and West of England lace industries, which were then large and flourishing trades, and the shop in Cheapside was also a famous resort for great ladies for buying the silks for the knitted and netted purses then fashionable.

When both these industries died down the business was bought by the late Mr. W. Rawlinson, of Taunton, who ran it in connection with his mills in Taunton. During the early and middle part of the 19th century, the staple trade then consisted of the import of Berlin wools, needle-work and embroidery silks from Germany, together with a considerable trade in silks for fringes, scarves, and use in machines. With the aid of discoveries of the late Sir Thomas Wardle from 1870 to 1880, the trade was gradually withdrawn from the hands of the Germans and converted into a British industry, which it now remains.

The crape manufacture, which commenced at Taunton in about 1775, afterwards spread to Shepton Mallett, Croscombe, and Dulverton. In the year 1830 it is on record that Messrs. Smith and Co. had a mill worked by the Barle stream at Dulverton. Silk-throwing was also in progress at Ilminster, at Over Stowey, Milverton, and elsewhere. Some details of the silk industry at Milverton are contained in the reports of the Parliamentary Commission on the silk trade in 1831. The evidence of Mr. Lamech Smith, who had been established for some years there as a silk throwster, gave many interesting details. He states that he used chiefly Italian raw silk, and that he employed almost exclusively woman and child labour. At one period this manufacturer had 15,000 spindles in operation. He attributed the decline in trade to the low prices caused by the reduction of the duty on foreign thrown organzine. There seems to have been manufactured about this period, 1826, a variety of silk known as "marabout," which required a special process

The Industry at Milverton.





Plate XXXVIII.

John Heathcoat.

of throwing. Marabout, which, according to the *Victorian Marabout County History*, was mainly used for gauze and gauze ribbons, was a variety of hard thrown tram. It was thrown in three threads and sent to London to be dyed, afterwards coming back to Somerset to undergo the remainder of the throwing process and to be finished. The silk employed was the best white Norvi, and the throwing of 1 lb. of marabout was equal to about 2 lbs. of organzine. In the year 1859 there was a small silk-throwing industry at Wincanton. Marabout Silk.

Other important centres of the old trade were Bruton and Wells, and at the former place in the year 1823, or thereabouts, there are stated to have been 15,700 spindles at work, a number which had declined in 1831 to 7,000. There was also a small industry at Kilmersdon at the beginning of the 19th century. Other branches of the modern industry in addition to that referred to above are the establishments of Messrs. James Kemp and Sons, of Shepton Mallett, where tailors' material is manufactured, and Messrs. Thompson and Le Gros, at Merchants Barton, Frome.

DEVONSHIRE.

For over a century the Heathcoat family have been engaged in the textile industry, including the silk trade at Tiverton, where the factories now cover an area of over 10 acres, and give employment to a large number of workpeople. John Heathcoat, the founder of the business, commenced his business career at Loughborough, where he set up a machine capable of producing exact imitations of real pillow lace. Another of his inventions was an improved method of winding raw silk from cocoons, and filatures for this purpose were set up in Italy and Sicily, where the work is still continued. To-day the works are among the most important producers of plain silk lace net, and the construction of the machines and the making, mending, dyeing and finishing of the nets are all carried out at the Tiverton factories. Tiverton Factories. As long since as the year 1833 Mr. Heathcoat received an offer of £10,000 for the secret of his method of dressing and finishing the silk nets ;

the offer was refused, and partly owing to the fact that the business has always been owned and managed by members of the same family since its inception, the processes remain secrets down to the present day. The silk dress nets, silk toscas, go to all markets in the world, and furnish a conspicuous example of a branch of the British silk trade which has held and increased its hold through all the chances and changes of outrageous fortune. A good deal of the tulle used in making the robes and gowns worn at the Coronation of King George emanated from the Tiverton factories, which also supply France, Belgium and Germany with large quantities of tulle in black and all the fashionable shades.

CHAPTER XXX.

SCOTLAND.

Silk has had its place in the Scottish wardrobe certainly for more than 400 years, for an Act of the Scottish Parliament of 1503, "Anent the fredomez and privilegis of merchandis and burrowis," specified silk, together with wine, wax, spicery and staple goods as one of the commodities only to be traded in by merchants within the royal burghs. There is no warrant for regarding such silk transactions as large, although it is to be inferred that the business had begun to interest a number of traders. Silks, wines, cloths and miscellaneous cargo, including even salt, were imported through Leith from the Low Countries, France and Spain, in return for the exported wool, skins and salmon. The transactions were managed in part by Scotsmen resident abroad like Andrew Halyburton, commission merchant of Middelburg, whose ledgers (1493—1505), stored in the General Register House, Edinburgh, are described in Robert Chambers's *Edinburgh Merchants and Merchandise* (1859).

The inference that by the beginning of the 16th century trade in silk had become diffused is supported by a reference to the sumptuary legislation of the period. Edward III, of England, had passed a law in 1337 restricting the use of silk to the Royal family and to the propertied class, and some measure of the comparative advancement of the two countries is to be obtained by noting the date of the passing of a similar measure for Scotland.

In the poorer and more frugal country a law forbidding the use of silk by others than knights, minstrels, heralds and landowners of £100 rental was enacted by James III

Silk
in the
National
Dress.

Silk in 1471, out of consideration of the great poverty of the realm. A transcript follows of the significant passages of this Act, modernised only as regards the contractions used by the scrivener :

“Item it is statut and ordanit in this present parlyament that consid'ing the gret pow'te of the Realme the gret expens and cost mad upon the brynging of silks in the Realme that therefor na man sal weir silks in tyme cumyng in gown doublate or cloks except knychts mestrallis and herralds without that the werar of the samy may spend a hwdretht pundis wortht of lands rent under the payn of amerciamment to the king of X lib als of as thai ar fundyn and escheten of the samyn to be given to the herralds or menstrallis

“And at menis wiffs within a hwdreth pounds wer na silks in lynyng but alany in colar and slevis. . . .”

Some reason to doubt the efficacy of this piece of legislation is provided by the books of the Universall Kirk of Scotland. The General Assembly in August, 1575, had to take serious cognisance of the dress of the clergy and their wives, of whom it may be supposed not all enjoyed the qualification of one hundred per annum of land's rent. The Assembly recorded the following opinion of the contemporary fashions in a preamble :

“We think all kinds of broidering unseemly ; all begares* of velvet, in gown, hose, or coat, and all superfluous and vain cutting out, steeking† with silks, all kinds of costly sewing on passments‡ ; . . . all kind of gowning, cutting doubletting or breeks of velvet, satin, taffeta, or such like, all silk hat and hats of divers and light colours.”

The
Clergy
and
Silk
Garments.

Reverend judgment was crystallised into a recommendation that :

“Their whole habit be of grave colour as black, russett, sad gray or sad brown ; or serges, worset,

* Sewn-on ornaments ; bows.

† Anglice, closing.

‡ *passementeries*, trimmings.

chamlet, gromgram lytes, worset or such like . . . The
and their wives to be subject to the same order.” Attitude

The motives actuating the presentation to Parliament of the in 1696 of a draft “for ane constant fashion of clothes for men . . . and ane constant fashion of clothes for women” are not now open to scrutiny. The proposals would seem however to owe more to certain conceptions of seemliness and economy than to any design to promote manufacturing industry. Possibly, because of this absence of a substantial motive, the House ordered the paper to lie upon the table. Probably there is no more than an empty coincidence in the correspondence of dates between the presentation of the draft and the publication by a Fife laird of lines displaying some regret over contemporary fashions. The verses are quoted from Chambers’s *Domestic Annals of Scotland*, for the sake of their light upon the sorts of fabrics worn at the time.

“ We had no garments in our land
But what were spun by th’ goodwife’s hand ;
No drap-de-berry, cloths of seal,
No stuffs ingrained in cochineal ;
No plush, no tissue, cramosie,
No China, Turkey, taffety ;
No proud Pyropus, paragon,
Or Chackarally there was none ;
No figurata, water chamlet,
No Bishop sattin, or silk camblet ;
No cloth of gold or beaver hats.”

The subject of Scottish clothing in the succeeding Silk century has been treated at length in Mr. H. G. Graham’s Plaid illuminating book, *The Social Life of Scotland in the 18th part of Century*. Men of the gentle classes, although they might National go in shabby clothes in the morning, “in public appeared Costume. in their coat and waistcoat trimmed with silver or gold, their silk stockings and jackboots.” Ladies of fashion in the time of Queen Anne wore their hoops “four or five yards in circumference, covered with a dress of silk or petticoat of velvet or silk bound with gold or silver lace. . . . But, however desirous to be in the fashion,

Silk
Plaid
part of
National
Costume.

every Scots lady had that essential part of national costume, the plaid, wrapped loosely about the head and body, made either of silk or of wool with a silken lining of bright green or scarlet; while the common people wore their gaudy coloured plaid of coarse worsted. The plaids were the ordinary costume of the ladies, as characteristic and national as the mantillas of Spain up to the middle of the century, when at last they gave way to silk and velvet cloaks."

The ladies, of course, spun, and Mr. Graham describes how in the early 18th century, when woollen stuffs were the chief produce, "rich and poor, in bedroom and kitchen of the mansion, as well as the hovel of the peasant followed this domestic craft." At the same time the professional weavers of Glasgow plaidings, Aberdeen fingrams, Kilmarnock and Musselburgh stuffs, and Edinburgh shalloons, were making a reputation for these fabrics.

The place of silk in relation to the national dress has its natural bearing upon the beginnings of the silk manufacture in Scotland, as to which event some mis-statements have found their way into print. In particular the statement in Brown's *History of Paisley* that the silk manufacture began in Scotland about 1760 has been copied by other writers. It may be agreed that in or about that year silk began to be used in place of linen in Paisley to make the gauzes that are still a distinctive minor product of the West of Scotland. There had, however, been earlier attempts, of which one, due to Robert Dickson of Perth, was made nearly 200 years before the more effective beginning made in Paisley by Humphrey Fulton. The attempt seems to have escaped the notice of the Perth historians, although the document granting a monopoly in 1581 to Dickson is contained in the national archives. A copy is appended of the—

Pioneer
Work
at
Perth.

"Ratification of the preuelege of silk making to Robert diksone.

"Oure souerane Lord with auise of his thrie estaitis . . . confermis the prevelege and libertie grantet be his hienes to his louite Robert diksoun vpoun his offer.

“To bring in and to learne within this realme the airte of the making and working of silkis. To be als gude and sufficient as the samin is maid within the countreis of france or flanderis. And to be sauld within this realme better chaip not the lyk siliis ar [sauld within this realme brocht heir or out of vther countreis quhairvpoun the said robert mon bestow grite sowmes of money quhilk salbe the occasioun that ane grite nowmer of young and pure pepill salbe virteouslie and honestly sustenit on that occupation. And thairfoir gevand and grantand to the said robert power, prevelege and libertie to use and exerce the said airt be him selff and his servandes and vtheris in Name be the space of threttie yeiris nixttocum discharging all vtheris during the said space to use or exerce the said airte without his leiff and guidwill first had and obtenit thairto. And that the raw and unwrocht silkis to be brocht hame be him salbe custome frie with the dreggis for litting* thos him selff to be maid frie burges and gild in perth or sic vther places quhair he sall pleis to plaint without payment of sowmes of money thairfoir. And he and his servandis to be frie of warding taxationis impositionis. And to transport the silkis wrocht be him customs frie as in his said prevelege at mair lenth salbe contenit. Providing that he enter to his work within yeir and day eftir the dait heiroff with one hundreth servandis and continew in the said work thairefter. Certefeing him and he do in the contrair he fall tyne his prevelege.”

The terms of the grant leave no doubt of the nature of Dickson's proposals, and it is stated in the *History of the Scottish People* by T. Thomson that Dickson commenced with a certain date and with 100 workmen continued to prosecute the trade.

The encouragement of the textile industry was much in the minds of the authorities of the period and in 1587

Industrial
Beginnings in
Scotland.

Granting
of Privileges.

* Litting = dyeing.

Privileges of the Flemings.

the better known Act was passed "in favour of the craftismen flemynges." The terms of the grant to John Banko at all events contemplated such use of silk as is implied in the inclusion of bombazines among the list of articles to be manufactured in Edinburgh. The text empowered "Johne gardin philp fermant and Johne banko flemyngis, strangearis and workmen . . . to exercise thair craft . . . in making of searges growgrams, fusteanis, bombesies, stemmingis beyis, covertors of beddis and vtheris appertening to the said craft and for instructioun of the said liegis in the exercise of the making of the warkis . . . the experience and suir knowlege of thair laubors quhilk will tend to ane perpetuall floresching of the said craft within this realme.

"Our souerane lord . . . hes tho't ressonable and expedient and for the common weill . . . hes aggreit . . . vpoun the particular heids and articles following.

"That is to say the said craftesmen sall remane within this realme for the space of fyve yeiris at the leist . . . and sal bring within this realme the nowmer of xxx personis of wabsteris*, walkaris† and sic vtheris as may wirk and performe the said wark as alsua ane litstair,‡ or ma for litting and perfitting of thair said warkis and. . . . Sall make and perfite the steikis and peeces of warkis according as the samin ar or hes bene maid in flanderis, holland or England, kepand lenth breid and synes conforme to the rule and stile of the buik of the craft."

Employment of Native Apprentices.

The prudent care for the quality of the goods to be manufactured was matched by the provision ensuring the employment of native apprentices. The Flemings were—

"To tak na prenteisses bot Scottis boyis and madinnis and before anie vtheris the burges bairnis of Edinburgh to be preferrit and acceptit."

They were

" . . . not to suffer ony personis of thair awin natioun and vocation to beg or trouble this cuntrie for povertie."

* Weavers.

† Cloth finishers.

‡ Dyer.

One Nicolas Edward, who became later Provost of the city, was set over the strangers as supervisor :

“ . . . his Ma^{tie}. . . hes appointit one honest and discret man, Nicholas vduart, burges of Edinburgh, to be visitor and over sear of the said craftismen haill workis . . . and to try the sufficiencie thereof and to keip his hienes seill stamp and Irne for marking.”

Employment of Native Apprentices.

A market stand was allotted to the incomers, and the sum of one thousand merks :

“ His Ma^{tie}. grantis . . . ane patent place . . . quhair thay sall remane vpoun the ordinar mercat dayes . . . to sell thair maid steikis* and peces of stuff. . . Providing that thay sall sell na wool nor worsett befor the same be put in wark.

“ . . . assignis to the saidis thre strangers and thair cumpanye. The sowme of ane thowsand merkis money of this realme.”†

The three Flemings of 1587 were followed by seven more, who were engaged in June, 1601, to settle in the country ; six of them to practise the making of says or worsted serges, one to teach the manufacture of broad-cloth. Their appearance followed upon an Act of 1597, in which the general character of English cloth was traversed

“ the same having only for the maist part an outward show, wanting that substance and strength whilk oft-times it appears to have.”

The workmen had to complain to the Privy Council upon their arrival that they were neither entertained nor set to work, and that it was proposed to separate them, “ which wald be a grit hinder to the perfection of the wark.”

The debt to Foreign Weavers.

The Council decreed that :

“ The haill strangers brought hame for the errand sall be holden together within the burgh of Edinburgh.”

Pressure was being exerted at the time upon the Royal burghs to cause them to promote cloth manufacture, and

* Cf. German Stück = a piece.

† Some fifty guineas.

The
debt to
Foreign
Weavers.

a minute of the Council, dated September, 1601, menaced the towns with the loss of their Royal privileges if nothing were done to "effectuat the claith working" by Michaelmas. In 1609 the Edinburgh weavers had to complain of molestation by the magistrates of the Canongate, who wished to force them to become burgesses and freemen, and a deputation headed by John Sutherland and Joan Van Headen stated that they were—

"daily exercised in their art of making, dressing and litting of stuffis, and gives great light and knowledge of their calling to the country people."

The particulars relate rather to the indebtedness to alien teaching than to the direct development of the Scottish silk industry, and it appears that Flemish skill founded at least three factories—Bonnington, Newmills and Ayr. That English as well as Dutch help was enlisted is shown by an entry of 1665 referring to persons in quarantine :

"Richard Hereis and Samuell Odell . . . came from London to Nottingham . . . where hyred 9 servants for silk weaving, coming to Newcastle stayed several days."

"(Converse at freedom.)"

The
Prohibi-
tion
upon
Imports.

No information is forthcoming as to the issue of the effort by Herries and Odell, and it is reported in Chambers's *Annals* that the George Sanders who obtained a patent for 17 years in 1681, "for a work for the twisting and throwing all sorts of raw silk," did not proceed with his undertaking. Attempts to force the pace of manufacturing development were being made concurrently, and in 1682 an Act was passed "discharging the wearing of silver lace and silk stuffs, upon design to encourage the making of fine stuffs within the Kingdom and to repress the excessive use of these commodities." The explanation is quoted from Mackenzie's *Memoirs*, as is the following account of the practical difficulties encountered in carrying out the law :

"That which was complain'd of was, that the goods already brought in were not allow'd to be worn ; which was refus'd lest, under the pretext of these,

others might be brought in ; and yet nine months were allow'd them for venting and wearing of them ; and it was urg'd that if longer time were granted, the Act would be forgot, before it could be put in execution, as it was in King James's reign, for this same cause." The Prohibition upon Imports.

The Act was not in point of fact forgotten, for Chambers records that upon the information of Alexander Milne, collector of Customs in Edinburgh, Sir John Colquhoun, of Luss, was haled before the Privy Council in the succeeding year. In disregard of the law forbidding clothes ornamented with "silk-lace, gimp-lace or any other lace or embroidering or silk," he had appeared "wearing a black justicat, whereupon there was black silk or gimp lace." Sir John was condemned to a fine of 500 merks (£29 stg.), payable half to his Majesty's private use and half to the informer.

Scotland was suffering from acute depletion of currency, and the purchase of English-made cloths was conceived to make matters worse, "English money was not to be had under 6 or 7 per cent" in 1681, and hardly at any rate. Exchange had risen as high as 12 or* 15 per cent against Edinburgh in the London market, and these considerations explain the preamble of the Act of 1691 for encouraging trade and manufactures.

"Considering that the importation of forreign Commodities (which are superfluous or may be made within the Kingdom . . .), has exceedingly exhausted the money . . . and hightened the Exchange." Currency problems.

Accordingly, his Majesty strictly prohibited "all Merchants to import any Gold or silver thread . . . lace, ffringes or Traceings. All Buttons of Gold or silver threed &c. All flour'd, strip'd, figur'd, chequer'd, painted, or printed silk stuff or Ribbands (noways comprehending changing colloured or wattered Stuffs or Ribbands); all Embroideries of Silk upon Wearing Cloaths."

* Professor Scott's introduction to the New Mills Cloth Manufactory shows that exchange on London was at a discount of 12½ per cent in 1701.

Burning
of Im-
ported
Goods.

It was provided additionally that :

“All such goods imported hereunto . . . shall be burnt and destroyed, and the importers or Resettlers fined in the value thereof.”

Even if something may be claimed from the public and practical point of view for removing the onus from the wearer of clothes, and placing it upon the importer and dealer, the heroic measure of burning existing supplies cannot easily be defended. Other goods than silks were implicated in the prohibition which applied to gloves, boots and other articles, as well as to—

“Any forraigne Holland, Linnen, Cambrick, Lawn, Dornick, damesk, tyking, bousten or Damety, tufted or stripped holland Calligo, Selesia or East India Linnen. And all other forraign Cloaths and stuffs made of Linnen or Cottoun wool or lint (noways comprehending fflannen, Arras hangings, forreigne Carpets and made beds of Silk Damest-hangings, Chairs and stools conform thereto). All forreign silk or Woolen stockings. All forraign laces made of Silk, Gimp or thread.”

Disabling as the measure was to the importation of finished goods, it was a beneficial Act in respect of the import of articles for use in manufacture :

“All Oyl, dying Stuff, forraign wooll, lint and flax, pot-ashes or any other Materialls whatsoever usefull for Manufactures . . . are hereby declared to be free of Customs and Excise.”

The Act laid down the dimensions to which “linen, woolen, drogats and serges” were to be manufactured, but prescribed none for silk ; an omission which may show that no silks were being manufactured or that no customary dimensions had been evolved.

A
Pro-
tective
Measure.

Doubtless the application, already referred to, of George Sanders, in the year 1681, is related to the prospects afforded by the exclusion of competition. The same consideration must have been in the minds of Joseph Ormiestoun and William Elliott, whose petition for a concession to manufacture silk was received favourably by the Privy Council in 1698. The petition is recorded

in the Acts of the Scottish Parliament as one for the “winding, throwing, twisting, and dyeing of raw silk.” As further described by Robert Chambers, it was incidentally to open a profitable trade between Scotland and Turkey, and for “advancing the manufacture of buttons, galloons, silk stockings and the like.”

Mono-
poly
Secured.

The petitioners proposed to “bring down several families who make broad silks, gold and silver thread &c.,” and had no doubt “many of the Norwich weavers may be encouraged to come and establish in this country, where they may live and work at easy rates.” The petitioners were granted privileges, but not a monopoly, and although few particulars concerning the enterprise are available there is information enough at hand to identify this undertaking with the Silk Manufacture, which was attacked in 1702 by the Cloth Companies for diminishing the demand for their products. Professor Scott writes that at the end of four years its profits excited envy, and that although it had not a formal monopoly it had in fact no competitor.

About another undertaking, formed under the patronage of the Duke of York to exploit the manufacture of woollen cloth, many more particulars are available. This is the New Mills Cloth Manufactory, founded in 1681, of which the minute books have been preserved and reprinted by the Scottish History Society. The place, New Mills, known now by the name of Amisfield, is in Haddingtonshire. A group of Edinburgh merchants, or shopkeepers, formed the Company with an Englishman, Sir James Stanfield, at their head. Workmen were brought from Yorkshire and the West of England to carry on processes with which the Scots were unfamiliar. Beginning with the coarsest cloths, finer qualities were gradually attempted until at length the manufacture of superfine woollens was reached. The Company received Government contracts, its initial capital of £5,000 was raised to twice the sum and although in 1713 its effects were dispersed, the venture cannot be regarded as less successful than the majority of industrial concerns. The venture was in some aspect a co-operative undertaking, bound to sell its goods only

The New
Mills
Silk
Stocking
Factory.

The New Mills Silk Stocking Factory. to shareholders and to members of the Merchant Company. It had the advantage of a field clear of foreign competition, and more than once it set the law in motion against those who disregarded the Act of 1681. A Robert Cunningham, convicted of selling "prohibite cloth, stuffs and serges," was heavily fined. A Councillor, Robert Baillie, a member of the Company, who was found to have imported English cloth, valued £400 sterling, had his shares forfeited and his illicit goods were burned by the common hangman.

What invests the New Mills Company with a peculiar interest is that it carried on a department for the manufacture of silk stockings, and that the progress of its affairs in this department is revealed in the Book for the Managers of the Manufactures Weekly Sederunts. The "managers" were the equivalent of the modern company directors, and their weekly "sederunts" of the modern Board meeting.

The transactions in respect of silk stockings began May 24th, 1682, when [158] "The Managers made due agreement with Sir James Stanfield for foure silk stocken frames for quich they are to pay him two thousand merkes."

Trade in Silken Hose. A week later Hugh Blair was bidden to write a letter of thanks to one James Donaldson for his kindness in the matter of certain "silk stocken frames." On June 9th, John Home was ordered to "send down the two silk stocken frames by hand." On June 12th the managers [176] "approve of the contracts made by Hugh Blaire with Francis Perry, Edward Pike and John Godson, frame work knitters . . . and appoints George Hume and James Row to goe out to New Millns and renew the contracts with the frame work knitters, making mention of the weight of the pair of hose. . . ."

On June 14th, [179] "James Row and George Home, haveing been att New Millns, reports after much paines taken with Mr. Burton to settle with him, prevailld with him to take his consideration whether he would accept of 5s. sterling per week to mentaine the 7 frames compleat for work or take 15s. sterling per week, and be

oblidged to make 5 pair silk stockens per week, he and Trade in his apprentizes, and mentaine the frames, of quich he is Silken to give us his answer shortly and for renewing the con- Hose. tracts with the rest of the silk stocken weavers, thought noe wages fitt to move in itt till first Mr. Burton was indented with."

It is to be observed that the names of the framework-knitters are not distinctively Scots names, and a minute of 6th September shows Pike to have been brought from London :

[208] "Ordered that Mr. Pike receive 15s. sterling upon ane account of the extraordinary expences of his transportation from London to New Millns, and that George Home [give] itt him and 13lb. 4s. Scotts more to be given him in performance of a condition made betwixt Mr. Blair and him att London upon the arrivall of his frames att New Millns, and the like same he is [to] receive upon the arrivall of the other frame."

On 13 September, Burton, who had already been mentioned in connection with repair work, was set a further task :

[212] "To cause Burton sett up pikes 2 frames and to inspect whatever else is necessary to be done about the manufactory." . . .

A few weeks later a proposal to put Pike in charge of the other knitters produced immediate effects. A minute of 27th October :

[235] "Reports their discourseing Pike upon putting him in the oversight of the silk stockens quho seem to decline itt and therefore thought itt fitt to delay itt till the manager was spoke in itt and the rest of the stocken weavers have all gott knowledge of itt are soe concerned att itt thatt they have all promised to make good and sufficient worke." Employment of English Weavers.

An instruction of April, 1683, to Mr. Spurway and Mr. Marr, who had charge of the work at New Mills, gives the rate of payment, and shows Mr. Pike to have been paid on a higher scale than the rest.

[313] "You are to pay for every pair of hose 2s. 6d. per pair, and to Mr. Pike 2s. 10d. per pair, and if any

stockens be desyred whose weight shall come to foure or more ounces, the stocken weaver is to have ten pence per ounce for every ounce above three besyde his ordinary price."

An Industrial Scandal. In 1685 Mr. Burton came into prominence as the central figure in an industrial scandal, and the minute [669]:

"Orders James Bowden goe out to Newmilns and deall with Mr. Burtone for getting againe the silk and stockens and other goods imbussled by hime, and to take the mesters assistance, and if he cannot be prevailed with to cause bring him into the toune."

The further development of the affair is shewn in the decision taken at the next day's sitting:

[670] "Haveing considered Burtone, the stocken weaver affair aproves of George Home goeing for him and considering the said Burton's professed repentance, and that he promised to restore all the goods that he imbassled, they apoynt hime to goe back to his work with Mr. Spurroway till Monday or Tuesday till he performe quhat he promised and till we consider further one it."

There were other difficulties from which the managers had to extricate their stocking makers. In 1685 two of them were in debt, and presumably in prison, for they were "diverted from employment." The minute [682] "Orders Mr. Marr to take up ane true inventer of ther debts and to ingadge in name of the company to pay them in one, two, three or four moneth time as he can agree and take discharges from them to the said stocken weaver, and to give them his ticket payable accordingly."

Financial Troubles of Work-people. John Godson, one of the stocking makers engaged in 1682, had fallen by 30th March, 1687, into the difficulty indicated by the remedial measure. "John Godsone to have the loan of four pounds sterling for suplieing his present straits, to be repayed five shillings weeklie and take ane obligation from him therefor."

These matters of personal concern, while not the least interesting of the transactions of the Company, are less directly informative than some of the orders concerning prices and goods under date 27th October, 1682:

[236] "Its ordered that the next division of silk stockens Financial thatt shall be made they shall be given to the concerned Troubles and sold att the rate of 3s. sterling per oz. black and of Work- mixt overhead, and this to be the rule for all time comeing people. and George Home is ordered to write out to the stocken weavers thatt they make the silk stockens weight 2 oz. 12 or within 3oz."

On February 13th, 1683, the managers would appear to have been launching an experiment to test the market with a sample of brightly coloured hose.

[284] "Ordered to give out 6lb. weight of silk for a true native grass green to be made in women's hose with first silk dyed and 3lbs. pale buff colour."

[285] "Ordered to make a dozen pair womens silk stockens of the first remnants of slips to be dyed black."

A month later, 4,000 needles for the silk frames were ordered from London, and in April, in a tone which suggests some suspicion of the honesty of their knitters, the managers bade Mr. Spurway and Mr. Marr:

[312] "When you receive silk you to give of all silk of a collour if it be 3 or 4, 5, 6 lbs. to one man and weight it out to him, and when the stockens of that silk comes back you are to weightt it back and know if you receive back the silk allowing the waste which you are likewise to keep by you till you discharge yourselfe thereby."

Some hint of labour troubles is to be found in the order of 26th August, 1683, appointing delegates, and giving them specified power to bargain:

[361] "Orders George Home and James Boudin to Labour goe out to Newmillnes and make ane settlement with the Disputes stoking wevers for working the pair of the new fashioned in 17th stript hoes, and that they doe not exceed fyve shillings Century. a pair."

Three days later, the mission having been executed on terms within the maximum, minute [365], "Aproves of the report mad by James Boudin and George Home of what they did ther in settling with stoking weivers at four shilling sevein penc a pair for working the strip stokins. . . ."

On 13th May, 1684, instructions were given to Godson and Burton "to call to James Marr and take soe much of each of the light colours of silk as be three or four pairs of woman's stockins, and of such collers as are very currant and good as grein, masarein blew hair collour and chirie collour ane dozen of each sort."

Details
of Manu-
facture.

A further instruction of the same date deals with other technical matters and [466] "Orders lykways the silk stocken stiruped in the head be maid wydder in the topps and the common and ordinary weight not to exceid three and ane half unces, but some may be four unces, and to make the leggs larger."

The stocking business was not carried on upon a large scale, and purchases of silk were not of any great quantity. One instruction gave orders "goe to George Sandrie and buy tenne or twelve pun of dayed silk as schap as can be."

Eventually the manufacture of worsted stockings was begun but not with entirely satisfactory results. As an advertising measure in 1684, it was :

[440] "Ordered to give ane pair or worsted stockins with each half peece of cloath, and this to be the rule for takeing out of worsted stockins till they come in more plentifully."

A year later orders were issued that "noe more silk or worset stockens be made with stirups, but that they may be made long and well marreilled and full in the top as if had stiruped head."

Finally, in June, 1685, it was decided "that no more worsted stockens be made unless fyne worset can be had but that they work upon silk gloves and plain marbled silk stockens long unstriped and women silk stockens."

A
Trade
in
Gloves.

In September of the year orders were given to work three of the frames constantly upon gloves and the others upon stockings. The changes connote some flickering of demand, and in view of the decision taken in July, 1688, it is apparent that the knitting business was not improving:—

[1172] "Orders that the silk frames be roused* conforme to a former order against Fryday, the 27th of July,

* roused—sold at auction.

instant, unless a letter arrive with hopes to dispose of them to London."

It appears that the Company had still only its original seven frames and seven years of wear had doubtless made them no more desirable in the eyes of purchasers. The last heard of them is in a minute of October, 1688, noting an agreement made with a frame smith to repair the "wholl seven fraimis and make them compleat for sixtie pund sterling."

One other incident in relation to the stringent Act of 1681 deserving of notice is the ratification made in favour of the Incorporation of Weavers in Glasgow. "The Deacon, Masters and remanent Brethren" of that venerable body were confirmed in the privileges of the grant originally made to them 4th June, 1528. Whereas "of old . . . incomers weavers taking the stuff out of the town or otherwayes encroaching" had been "fyned in ane pund of walx and a dinner to the Masters of the Craft," they were henceforth to be fined "twentie pound Scots for the poor of the trade." The wax, it maybe added, was for the altar of their Saint, and the sum was, in sterling, 33s. 4d."

The
Glasgow
Incor-
poration
of
Weavers

Twenty years later the Act of 1681 was modified by the inclusion of cottons and the exemption of plainblack silks and certain velvets, goods imported by the Scottish Chartered Company trading to the East, and certain articles required for official use. In its significant portions the Act of 1701 :

"Doeth strictly Prohibite and Forbid the Importation of all stuffs of any kind made of silk or hair and the Importation of Calligoes or other Stuffs or any kind made of cottoun or whereis ther is any cottoun, hair or silk ; as also of capes, stockings, gloves, buttons of all sort . . . excepting musline and all plainblack silk stuffs and velvets for women's hoods and skarfs only ; as also velvets and other silk stuffs for states and chairs of state as likeways for pales mort cloaths, foot mantles and the robes of such public officers who are in use to wear velvets ; excepting likeways . . . all such Indian and Persian goods as shall be loaded in Persia and the Indies, and

The
Act of
1701.

thence imported by the Company of Scotland trading to Africa and the Indies. . . .”

Paisley
Gauze.

The regulation and development of the indigenous linen industry was the next matter to receive official attention, and out of the improved linen manufacture grew the Scottish silk industry, of which certain remains are existent. The Humphrey Fulton who founded the silk trade of Paisley was born, according to Paterson's *History of Ayr*, at Midtown of Threapwood, Beith, 17th April, 1713, and he died in 1779. After experience as a packman in Scotland and England, he began to manufacture linens and lawns at Beith, removing in 1749 to Paisley, where about 1760 he introduced the making of silk gauze in competition with the looms of Spitalfields. The experiment was presumably aided by the lower cost of labour in Scotland than in London, and it succeeded so rapidly, according to particulars quoted in Brown's *History of Paisley*, that Fulton often employed 400-600 looms in the Paisley district. Attracted by his success, London firms opened establishments in the town and the local goods were so moderate in price and superior in quality that the manufacturers opened warehouses for the sale of the gauzes in London, Dublin, and other inland towns and even shops in Paris.

Humphrey Fulton left two sons, and the business survived his death for many years. One of the employees of the firm in about 1815 was a Fulton of a different family, which is identified now with the large and famous dyeing firm of Fulton, Sons and Co., Ltd., Paisley. To Mr. Joseph Fulton, son of the last named, the writer is indebted for some particulars linking the Paisley silk industry with that in other parts of the country. Mr. Joseph Fulton writes:—

Links
with
other
Centres.

“One of the fellow-workers of my late father, named Douglas, migrated with all his family, about 1815, to Yarmouth and Norwich, where for many years they were employed by Messrs. Grout and Co., silk crape manufacturers. On retiring, they returned to this part of the country, and in conjunction with Mr. George Douglas (long manager

at Grout and Co.) we started making silk crape Links here, but found the trade rather foreign to our with district. Our idea was that girls employed in other the Paisley thread mills might be able to mani- Centres. pulate silk, but in this we were disappointed. Our whole plant was sold to a firm in Lyons, where we have been led to understand it proved very successful."

Semple's *History of Paisley* shows that in 1780, when the silk gauze trade was at or near its zenith, there were 18 manufacturing firms in the town, of whom six belonged to London, while eight out of the remaining 12 had London warehouses. Brown's statement of the looms in the Paisley district illustrates the remarkable growth of the trade.

	1776.	1781.
Silk Looms ..	2,500	4,800
Linen or Lawn..	1,500	2,000
	<hr/>	<hr/>
	4,000	6,800
	<hr/>	<hr/>

In 1784 the value of Paisley manufactures, computed by W. Carlile in the *Scots Magazine* (July, 1787), was over £579,000, of which £350,000 was attributed to silk gauze. On the same estimate there were 5,000 silk weavers and an equal number of winders, warpers, clippers, draw-boys and others, and the 10,000 workers were assumed to receive an average wage of 5s. per week. The thread manufacture, then in its infancy, was held accountable for an output valued £64,800, and lawns and thread gauzes for £164,000.

The further development of the trade in light silk goods The was checked by the growing production of machine-spun Competi- cotton yarn, with which material cheaper muslins could tion of be made than with silk. The cheapness had another Cotton. reaction. In the words of Mr. Gavin (*Posthumous Works*):

[In 1789.] "The silk manufacture was engrossed by a few great capitalists who would set at defiance all rivalry by poorer men. They were not under the necessity of

The Competi-
tion of
Cotton.

competing with one another to force the sale of goods by underselling and running the prices down to the lowest rate. The raw material of the silk weaving was brought from foreign parts, and sold for cash at the India House; but cotton yarn was spun at home in immense quantities, and could be had in sufficient abundance by any man who could command five pounds of money, or had credit to that amount. Thus hundreds became manufacturers of muslin who could never have produced a web of silk. The market became overstocked with goods. Those who had got their yarn on credit were obliged to sell at an undervalue, or at whatever they got, in order to pay their bills."

The cheaper material was thus ultra-cheapened in its finished form. The trade was demoralised, with ill effects upon the wages of workpeople. Working upon silk: "The weavers' hours of labour were moderate, yet they were so well paid that they could dress like gentlemen, and many of them bought houses with their savings." Working upon cotton, in the market conditions that have been described: "The prices of weaving were reduced to the lowest possible rate. Men were required to work longer hours to make a living, which increased the evil by bringing forward an extra quantity of goods."

The silk gauze trade, which survives in an attenuated form in Glasgow, but has long been extinct in Paisley, ushered in the most prosperous period that the weaving business of the town has ever known.

By the help of a reprint of John Tait's *Glasgow Directory*, 1783, filed in the Mitchell Library, Glasgow, it is possible to give a list of the names of the Paisley silk firms, taken in the heyday of the trade:—

Some old Paisley Silk Firms.	Bennet & Co., silk manufacturers,	Silk Street, Newtown.
	Ellis	„ Snedon.
	Elliott & Dibbs	„ Woodside.
	Ferrier Pollock & Co.	„ Cross.
	Messrs. Fulton	„ Maxweltown.
	James Gibb	„ Bridge Street.
	Hendry & Robertson	„ Newtown.

Joseph Holmes & Co., silk manu- facturers,	Townhead.	Some old
James Lowndes & Co. ,,	Snedon.	Paisley
John Love ,,	New Street.	Silk
James Love ,,	Abbey Bridge Street.	Firms.
John McLellan, silk lish maker,	Wellmeadow.	
Niven Stevenson & Pagan, silk · manufacturers,	High Street.	
William Sempill, gauze dresser,	Gordon's Lane.	
William Stevenson, silk manu- facturer,	New Street.	
William Twige, silk manufacturer,	Bridgend.	
William & John Wallace, silk manufacturers,	Snedon.	

James Monteith, of Glasgow, is credited with being the first to warp a muslin web, employing Indian yarn, and muslins quickly became the staple production of the West of Scotland. Defoe, upon his visit to the district, wrote: "Here is a manufacture of Muslin which they make so good and fine that great quantities of them are sent into England and to the British plantations, where they sell at a good price. They are generally striped, and are very much used by the ladies, and sometimes in head-cloths by the meaner sort of English women."

The unremunerative character of muslin weaving drove Paisley weavers to give attention to the shawls in intricate and beautiful Oriental designs, for which the town won a second fame. In his monograph upon the subject of the Paisley Shawl, the late Mr. Matthew Blair quotes a Mr. Cross to the effect that the introduction of the shawl manufacture is to be ascribed to the French Expedition to Egypt, whence the original models are supposed to have been sent to Europe as presents. In this connection it seems worth while to cite the categorical statements of Challaverel in the *History of Fashion in France* (Trans. 1882, Hoey and Lillie). Upon this authority, the first Indian shawl or "cachemire," seen in France was imported towards the end of the reign of Louis XV. (1715-1774). The example is said to have excited much attention,

Paisley
Shawls.

Paisley
Shawls.

without at first prompting attempts to imitate the article. Guillaume Louis Ternaux is named as the first to think of manufacturing such shawls, and he conceived the idea of acclimatising the Tibetan goat to his own country, in order to have supplies of suitable raw material at hand. M. Joubert, of the National Library, was despatched to Tibet, and returned to France with 256 goats, the remnant of the herd of 1,500 with which he began the journey. These goats were distributed over the southern provinces, but the experiment was a practical failure. The shawls were reproduced later in cotton, wool and silk, and also in hair from Kirghiz goats from Russia.

Paisley took its cue from France, and according to Mr. R. Macintyre's Notes on Textiles in the *Handbook upon Industries*, prepared for the British Association (1901), it was under French supervision in 1824-7 that the first cashmere shawls were made. A Frenchman is said also to have shown how to introduce double grounds to the improvement of the beauty of the goods, accompanied by a reduction of their cost. The shawl trade, which involved an appreciable consumption of thrown and of spun silk suffered fluctuations, and was called "bad" in 1831 (Macintyre). In 1834 the value of the production was said (Blair) to be worth £1,000,000. Number 4 of the *Weavers' Journal*, 1836, said: "Our shawl trade is uncommonly brisk at present," and on 2nd February, 1836, a minimum table of prices for shawls in 1,400 reed was signed upon the part of the employers by the following firms:—

Fixing
Mini-
mum
Sale
Prices.

Robert Knox.	Stewart and Jamieson.
William Houston.	Thomas Bain.
P. Allan & Co.	Wilson and Dow.
Alex. Fyfe & Co.	James Black for J. B. Fyfe.
Walter Lees.	

Weaving was still a large industry in the West of Scotland, and the *Weavers' Journal* (1835) gave the membership of the Union as 10,000, half resident in Paisley and half in 24 villages in Renfrewshire and Ayrshire. In the first issue of their *Journal* the weavers regretted that the "reduction of duty on French silks had operated

injuriously to the English silk weaver." Presumably, in emulation of Spitalfields, they were anxious to obtain power to regulate wages. They seem to have been not unsuccessful in their efforts at direct action, for in April, 1836, they obtained also a minimum price list from the Glasgow and Paisley manufacturers of Turkey gauzes, a list of whose signatures is appended:—

Ovington and Warwick.

David Gowdie & Co.

Archd. Brown & Co.

James Whyte, Junr.

W. Carlisle & Co.

Per Wm. Fulton & Sons, James Fulton.

Coats, Grieve & Co.

Alexander Keith.

Andrew Whyte & Co.

The rates of wages earned by hand-loom weavers during the terrible years of the transition to the power-loom left every reason for complaint. A Parliamentary Inquiry of 1838, under the Commissionership of J. S. Symons, elicited the following particulars as to the fall in wages between 1806 and 1830. The figures refer only to "a certain quality of pullicate" (a cotton fabric), but it is impossible that such a movement should not have its bearings upon weaving at large :

1806.	15d. per ell	32s. 6d. per week.
1810.	12½d. „	26s. 9d. „
1815.	12d. „	25s. 9d. „
1820.	5d. „	10s. „
1830.	3d. „	5s. 6d. „
1838.	3½d. „	6s. 7d. „

"*A Weaver's Saturday*," inscribed to the Commissioner Symons, and written by "One of the Witnesses," describes the miseries of a cruel time with a skill and power creditable to a race and to a trade famous for extraordinary gifts of versification. "*A farthing* on the ell can make the weaver smile" runs one line in allusion to a voluntary increase in weaving prices conceded by the manufacturers. The author's fellows are apostrophised at length in a manner sufficiently shown by these excerpts :

Fixing
Mini-
mum
Sale
Prices.

The
Fall in
Wages.

Account
by an
Eye-
witness.

“ Hard is your fortune, nurslings of the loom,
Cradled in sorrow, reared in joyless toil ;
Stumbling and lost in dull commercial gloom,
Uncheered by hope, your anguish to beguile—
* * *

. . . Among poor weavers, grumbling at their ills ;
Some curse taxation, some their rotten yarn,
And some condemn steam-looms and cotton mills.”

There is a brighter side to the past, and those who remember the silk hand-loom weavers of the '60's and '70's in Glasgow recall that they were always a merry and care-free class, constantly singing at their work. If their wages were not high their wants were frequently not many, and the national porridge formed the staple of their food. Hand-loom weaving is still carried on in outlying places, notably at Larkhall, Strathaven, Stonehouse and Hamilton to supply certain Glasgow manufacturers and a few Macclesfield firms who have weaving-agents in these places. The occupation does not attract the rising generation, which passes into the coal, stone and iron industries to undertake coarser and less healthful employments in return for higher pay. The future is with the power-loom, and the leading Glasgow silk manufacturers have equipped themselves with the best Continental models in looms and with electrical motors to drive them.

The
first
Power
Looms.

Mr. Morris Pollock, of Long Govan, has the credit of introducing the first power-looms into the silk industry of Scotland in or about 1870. Mr. Pollock had been a manufacturer of other textiles in Glasgow before buying the estate of 10 acres at Govan, which now forms part of the site occupied by the Fairfield Shipbuilding Company. There a large silk factory was erected, and was worked by Messrs. Anderson and Robertson, of Govan, after the failure of the original owner. A Mr. John Hyde, whose previous experience had lain in the weaving branch of the trade, was manager for Mr. Pollock, and made an unsuccessful attempt to introduce the spinning of waste silk. English workmen were brought to carry on the

processes, but the yarn produced was difficult of sale, and apparently it was to consume this yarn that the power-looms were brought in. The cloths woven were shipped to India, but the trade was unremunerative. Silk in
Glasgow.

Some earlier attempts to carry on silk-spinning in Scotland are detailed elsewhere in this book (Chapter V, Waste Silk), and it suffices to mention the names of John G. Campbell, whose office in 1839 was at 119, Brunswick Street, Glasgow; of M. W. Ivison, of Hales Street, Edinburgh, and Wm. Casey and Co., Castle Mills, Edinburgh.

The industry and courtesy of Mr. George Robertson, of Govan, have placed at disposal certain particulars regarding a Glasgow man, formerly a silk-spinner in England. While employed at Lancaster, one Archibald Templeton took out a patent for the treatment of waste silk preparatory to spinning, and the facts as to his connection with an eminent family of carpet manufacturers and a Prime Minister of England, may be set out in Mr. Robertson's words:

"The Archibald Templeton who took out the patent was a Scot, and a friend of mine, Mr. Archibald Templeton, of Broomward Weaving Factory, Glasgow, is called after him, and is a nephew. From information received from this nephew and from a daughter of the patentee, I learn that Archibald and his elder brother Thomas started business on their own account as silk-spinners in Congleton but failed. After that Archibald went to London, taking employment as representative of Messrs. James Templeton and Co., carpet manufacturers, Glasgow.

"Thomas Templeton took employment under a spinner of the name of Lowndes in Congleton, and thereafter follows a little bit of romance. Thomas fell in love with and married his employer's daughter. Lowndes had more than one daughter, it appears, for another suitor came along of the name of Bannerman and married a second Miss Lowndes, and it was from some relation of this Bannerman that Henry Campbell (afterwards Sir Henry Campbell Bannerman, who became Prime Minister) took his added name of Bannerman." A Link
with
Politics.

West
of
Scotland
Survivals.

Two of the Glasgow silk manufacturing firms whose names appeared in the *Glasgow Directory* for 1860 may be especially mentioned. James McAulay and Co., who in 1848 were drugget manufacturers, and who started their silk trade in 1850, were succeeded in business by Caldwell, Young and Co., who are at present the principal silk manufacturers in Scotland, and have their factory at Larkhall, Lanarkshire. The business of Alex. Henry and Co., makers of silk gossamers, survives, and is now carried on as a branch of Caldwell, Young and Company, Ltd., whose primary business is the manufacture of mufflers and handkerchiefs. Glasgow competes with Macclesfield in silk mufflers, printed and brocaded handkerchiefs, foulards, crepes, tie cloths and printed piece goods. John Frew and Sons, Ltd., Mr. John Galloway and Mr. W. Smith carry on a somewhat similar class of trade, and the four concerns constitute all that is left of the separate silk industry of the West of Scotland.

Loss
of the
Rangoon
Market.

The heaviest blow to the Scottish silk industry within recent years has been the loss of the Rangoon market, formerly the destination of large and regular quantities of printed silks. The loss is attributed to a combination of circumstances. On the one hand, the German dye-ware companies, in the endeavour to extend their trade, had sent out dyes in small packets for retail sale, accompanied by instructions as to their use. On the other hand, the Japanese, in search of an outlet for their *habutae*, descended on Burma. The native was put in possession at once of cheap colours for printing and cheap fabrics upon which to print, and it does not seem possible that this market for tens of thousands of pieces of silk annually can ever be recovered.

Silk is used by Glasgow manufacturers of mixed goods in decreasing quantity. The spun silk formerly employed for making stripes has been replaced by mercerised cotton in most directions, and the trade in mixed goods has tended to leave Glasgow for Bradford, whither it has been followed by some Glasgow weaving firms. Glasgow was the place of origin of the first of the artificial silks, a gelatine product known as "Vandura." The manufacture

of this article does not seem ever to have attained considerable dimensions, and the local consumption of the improved artificial silks is apparently not large. One firm of silk throwsters remains—Anderson and Robertson, Ltd., of Govan, who work three factories, of which one is at Glemsford, Suffolk. In replacement of the vanished demand for silk for weaving Rangoon cloths, Messrs. Anderson and Robertson have established a business in high-class coloured silks for knitting and sewing. Artificial
Silks.

Edinburgh, the scene of various early efforts in silk manufacture, has now neither spindles nor looms. It has been shown that Wm. Casey and Co. carried on silk manufacture there in the '40's, and the *Glasgow Directory*, 1835-36, describes William Casey as agent incidentally in that city for White and Batt, silk merchants, London. Arnot's *History of Edinburgh* (edn. 1816) states that in 1779, in the capital, there were :

“In the weaving business about 90 looms . . . employed in making silk gauzes, flowered and plain; and cotton and linen stuffs are printed to a small extent.” In 1792, according to the letters of Creech, quoted in Anderson's *History of Edinburgh* (1856), there was an established manufacture of shawls and casimirs.

A note upon Paisley shawls in McCulloch's *British Empire*, 1837, remarked “the trade is principally established at Paisley, but it is also pursued at Edinburgh (in higher qualities) and at Norwich to some extent.”

A more material point shown by Arnot's recapitulation of the exports of Leith in 1778 is that Scottish silk stuffs were then being exported to Sweden, Russia, Poland and Holland; silk gauzes to Spain, and lawns and gauzes to North America.

Dunfermline, famous now and of old for its fine damask linens, in which the highest quality of material and the greatest skill in weaving are necessarily employed, is accountable at least for a *tour de force* in silk manufacture. The particulars are taken from Mr. Bremner's *Industries of Scotland*, a handbook prepared for the British Association, and are given in his own words. It should be understood Edin-
burgh
and
Dun-
fermline.

Edin-
burgh
and

that the weaver in point was improving upon the performance of a forerunner in 1702, who wove a seamless shirt in his loom and forwarded it to the King.

Dun-
fermline.

“David Anderson, weaver of Dunfermline, wove a chemise for H.M. Queen Victoria. It was composed of Chinese tram silk and net warp yarn, and had no seams. The breast bore a portrait of her Majesty, with the dates of her birth, ascension and coronation, underneath which were the British arms and a garland of national flowers.”

The flag of the Dunfermline Weavers' Incorporation, a treasured local possession, is woven of a solid body of silk damasks bearing different designs upon each side, although the fabrics are interwoven.

The South of Scotland, the stronghold of the woollen industry, manufactures primarily tweeds and hosiery, in which silk is an occasional and incidental component rather than a prime material. Upon the evidence of the *Wool Year Book* (1913), the Scottish tweed mills have 300 sets of cards, 230,000 mule spindles and 3,000 power-loom. They employ 11,300 people, and pay about £60,000 in wages. They consume 30 million lb. of raw wool, and make about 18 million yards of cloth, valued at £3,000,000 or over, per annum. Silk enters into these fine tweeds and worsteds chiefly in the form of twist effect threads.

The
South
of
Scotland.

Hawick, the centre of the Scottish hosiery industry, is to be likened to Leicester in the variety of its knitted productions. A few articles are knitted from pure silk, and the market is of increasing interest to waste silk spinners. Probably a larger value is represented by manufacture of silk and wool, resembling those made by a few firms of manufacturing hosiers in Nottingham.

CHAPTER XXXI.

IRELAND.

Whatever the success of the native silk workers in Dublin England before the great immigration from France and the Low Countries, there can be no doubt that the Huguenot invasion marked the beginning of the Irish Silk Industry.

Before the actual Revocation of the Edict of Nantes in 1685, there seems to have been a movement of the persecuted foreign Protestants through the United Kingdom; in 1682 several of them were admitted to the franchise of Dublin, amongst the names being that of Abraham Tripier, "silk weaver." Efforts were made by the Huguenots in different parts of Ireland to found a silk industry, Lisnagarvey (Lisburn) being the first place tried, but while the North was destined to be the home of a much larger enterprise—the linen industry—the silk trade of Ireland has always been centred in Dublin.

Great exertions were made to encourage the settlement of silk weavers there; the French Protestants were admitted free of the city guilds without payment of a fine, collections made to succour the distressed immigrants, and the Irish Parliament, which had been zealously striving to build up textile industries through Ireland, was amply rewarded for its hospitality to the foreigners.

It was in about 1693 that the Huguenot silk workers may be said to have set up their looms in Dublin. Their industrial spirit and high character have left a mark on the city in various ways; and many of them rose to high eminence in its commercial life.

Weaving was at that time, and for long afterwards, carried on in the homes of the workers, and a part of the city known as the Earl of Meath's Liberties, became

Dublin identified with the silk and woollen trades. The Irish the Head-Parliamentary records give much valuable information quarters as to the progress of the craft. In 1707 a petition was of the presented to the House of Commons by Dublin "manu- Industry. facturers of silk and mohair," complaining that their "manufacture of silk and mohair and horsehair buttons had been injured by means and practice of those who of late make horn, cloth and wood buttons, and requesting that these rival manufactures be suppressed."

In an *Essay upon the Trade of Ireland*, published by Arthur Dobbs, about 1729, it is recorded that an average of £38,697 worth of silk was worked up yearly in Dublin. About 1730 there were 800 looms making garment silks, with an incidental employment of three times as many people. There is no doubt that Irish Poplin, or "Tabinet," as it was first called, was then being manufactured, for a petition addressed to the House of Commons against the smuggling of East India manufactures into Ireland, is signed by "merchants, traders, and weavers dealing in silk, silk and thread, silk and cotton, silk and worsted, etc." Protective measures were constantly being called for, and duties were imposed on every foreign material calculated to compete with the young Dublin industry. Foreign silks had to pay one-third more duty than those imported from England or Wales, and even as early as 1705 an additional duty of 1s. 6d. per yard was imposed on Eastern silks and manufactured stuffs, rising in 1729 to 2s. 6d. per pound weight, and in 1745 to 40s. per pound weight. The petition which secured this last privilege came from the Master, Wardens and Brethren of the Corporation of Weavers, a powerful body dating from 1706, which had a representation of three members in the Common Council, and for whose meetings the Weavers' Hall, which is still in existence, was built. The imposition of heavy duties like these naturally encouraged smuggling, and importers of French and Italian silks had every inducement to take the risk of passing the goods through England, silks coming from which were admitted to Ireland at a lower duty than if the goods were declared of foreign origin.

Pro-
tective
Legisla-
tion.

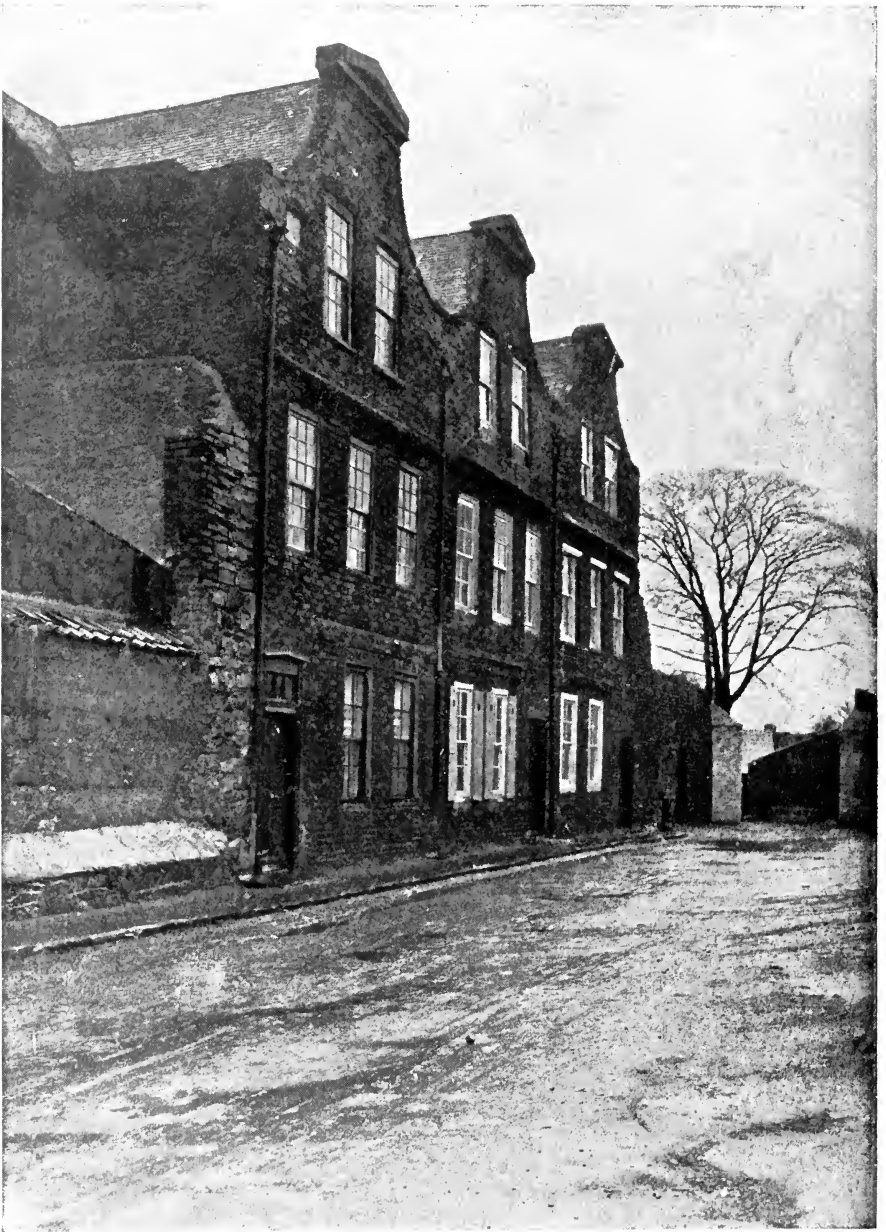


Plate XXXIX. The Huguenot House, Sweeney's Lane, Dublin.

The extreme duty of £4 per lb. was at last imposed on the foreign manufactures, but apparently without the desired result, for in 1763 the Corporation of Weavers represented to Parliament that "whereas in 1730 Dublin had 800 looms, there are now but 50 employed, and many families have been reduced to beggary."

A sum of £8,000 was granted in 1763 by the Irish Parliament to the Dublin Society "for the encouragement of industries," the silk industry being placed first on the list. The plan adopted by the Dublin (afterwards Royal Dublin) Society was "protection" in its crudest form. A premium of 10 per cent. was granted to manufactures on all Irish made silk sold in a public silk warehouse. This warehouse was superintended by twelve noblemen, and twelve others annually chosen by the Corporation of Weavers to examine the quality of the goods sent in for sale. Lady patronesses were selected, and they advised the manufacturers in accordance with the requirements of changing fashions. For a time, with the additional assistance of prizes and exhibitions, the pampered manufacture prospered, and it is stated that in good years, under the system, nearly 3,000 looms were employed. These figures are, however, rather uncertain, and are not in agreement with the Customs' accounts of raw and thrown silk imports. For instance, about 144,000 lbs. (in 1781) is the highest quantity tabulated for these imports of silk, and it is somewhat hard to conceive that good employment on silk goods could be given from this for 3,000 looms.

What is much more striking, however, is the increase of imports in finished silk fabrics towards the close of this highly protected period, the value of these showing a rise from £64,000 in 1774 to £188,000 in 1783, and from the indication of a much smaller percentage in the increase of weight, it would seem as if the growth was in richer classes of silk, probably brocades. Throwsters must have had a fair trade in Dublin during this protected period, about half the imports of silk being in the raw state.

In view of present day discussions, it is interesting to note the effect of the "Spitalfields" Act, as it was called,

Pro-
tective
Legisla-
tion.

Pros-
perity of
pam-
pered
Industry.

Failure
of
State-
Aid
System.

on the Dublin silk trade. This Act of 1779-80 fixed, under penalty, the silk weavers' wages, and gave the Dublin Society complete powers of superintendence over the manufacture. But the policy of interference does not seem to have been a success. After 22 years of State encouragement, during which time £28,000 had been given in bounties and prizes, the silk warehouse was closed, as the plan "had not answered the ends of a general increase and extension of the manufacture."

From the end of the 18th century onward, indeed, the history of the Dublin silk trade is rarely cheerful reading. A 10 per cent. protective tariff imposed at the Union in 1800 helped the industry to a certain extent, but at the close of the twenty years' term, for which this duty was imposed, Dublin weavers were face to face with grave trouble.

Effect of
Abolition
of Duties.

The abolition of duties (for England also) in 1826 on foreign silks was a still more crushing blow. The importation of foreign manufactured silks had been, virtually, prohibited from 1765 until that date. From that time until 1870, when advantage was taken of the Franco-Prussian trouble to develop trade with America, there was a period of stagnation. There is no doubt that Dr. W. K. Sullivan, who was appointed to draw up the Report of the Executive Committee of the Cork Exhibition in 1883, summed up the case justly when he said: "The decay of the manufacture in Ireland, is, I believe, mainly due to the employers, who from want of foresight, indolence or carelessness, let their business get into a crystallised state, which no change of fashion, no competition of new fabrics, no improvement in processes or machines, could influence." Since 1890 a better state of things has prevailed. Long before this, the whole-silk trade had gone, with velvets and ribbons, so that for all practical purposes the only branch of the silk trade had been, as it now is, the Irish poplin portion.

THE HAND-LOOM IN THE SILK INDUSTRY OF IRELAND.

The original Weavers' Corporation of Dublin comprised silk, cotton, linen, woollen and velvet makers—

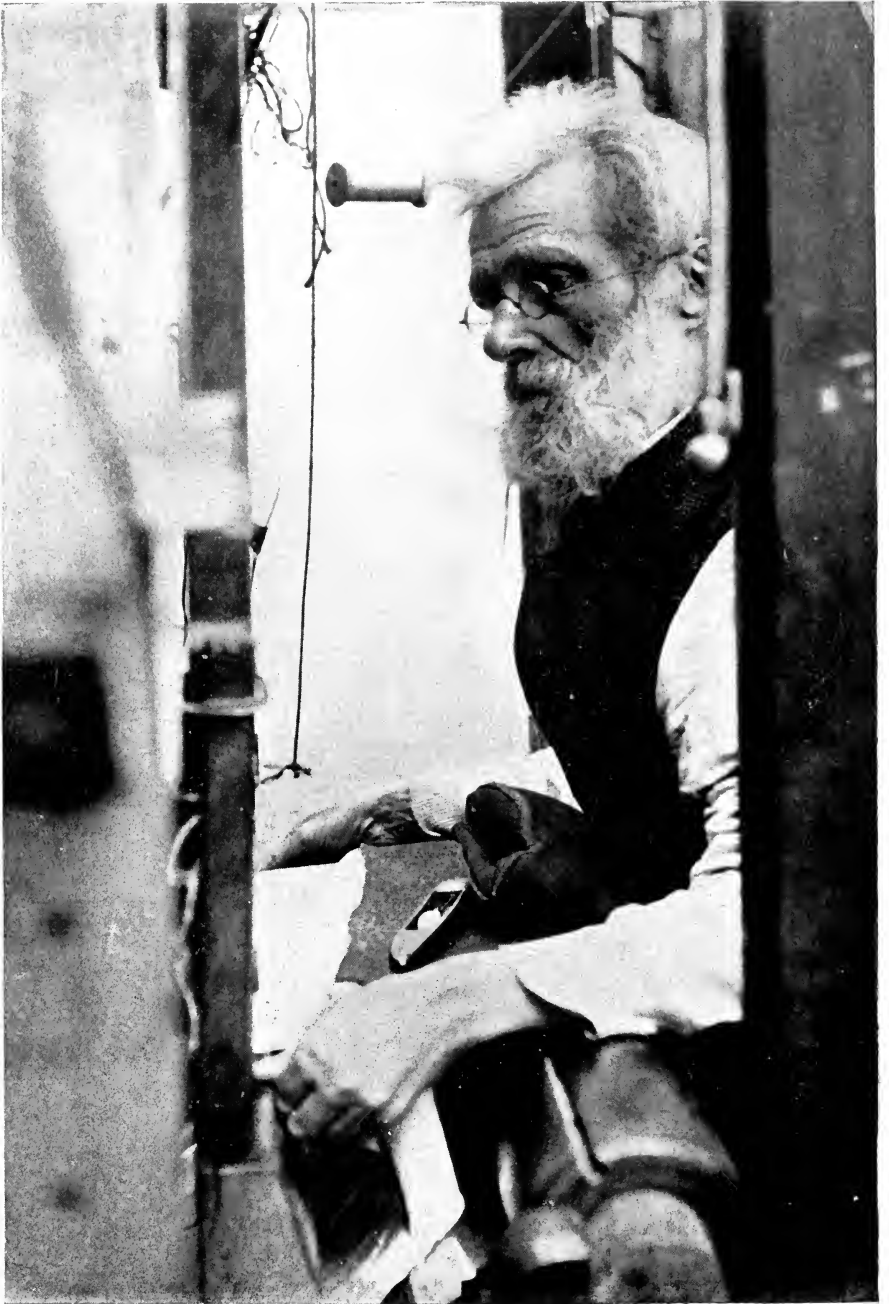


Plate XL.

Hand-loom Poplin Weaver, who wrought for over 60 years at the Craft, chiefly for Atkinson & Co., in whose service he died.

the surviving part of this Union is called the "Dublin Silk Trade," but scarcely any whole silk is woven: Irish poplin, silk warp and wool weft, being the only material manufactured. The hand-loom is still in vogue, with the most modern Jacquard machines, dobbies, etc., attached.

Experiments in power-loom with Irish poplin have not proved successful, the rapid "laying" of the weft failing to give the true poplin "feel." This material, unlike ducape, and similar foreign imitations, requires an easy adjustment of weft, and in the richer makes high speed is impracticable. Piece work obtains in the industry generally, and the apprenticeship system, modified to suit modern conditions, is still in vogue. The more skilful men take apprentices as required, and teach them in the factories, dividing the earnings of the apprentices' looms on a fixed scale, and very much in the old Guild fashion "undertaking" the work from the employer. This gives the weaver-master an interest in training the boys, and works satisfactorily.

The survival of French terms in the poplin trade, although probably not one of the weavers is of pure French extraction, shows the conservatism of the workers. *Couplée*, *côteret*, *rochetée*, *portée*, and many other Huguenot terms, are as freely used as 200 years ago.

Realising that Parliamentary and Vice-regal patronage were alike unavailing, and finding that the taste for lighter dress fabrics had seriously affected the demand for gowns, the poplin manufacturers developed, with great and growing success, the tie business, which now absorbs by far the largest proportion of their loom production. The number of looms working in 1913 was only 200, but the industry is in a healthy growing condition, and these figures are likely to be exceeded in the near future. Considerably more than half the looms are employed in one factory (Atkinson's); and there are at present altogether five manufacturers. The increase in the Colonial trade is a gratifying evidence of the awakened enterprise of the Irish poplin manufacturers. The colourings and patterns are now equal to the productions

Develop-
ment
of the
Tie
Trade.

of any other seat of manufacture, and the constant succession of novelties in a material which used to be of a stereotyped character, gives assurance of further expansion of an interesting trade.

Tapestry Portrait of George II.

A Weavers' Hall Tapestry. John Vanbeaver, "ye famous tapistry weaver" (whose large and valuable works, the "Siege of Derry" and "Battle of the Boyne," still adorn the House of Lords in College Green, Dublin), wrought this exquisite tapestry portrait of George II, who was a great patron of the industry, in 1738. The colouring is still wonderfully fresh, and the picture, which is set in an elaborately carved oak frame, relief work, is on the walls of Atkinson's Poplin Warehouse in College Green.

The tapestry formerly hung over the fire-place in the Weavers' Hall, and was purchased from the Weavers' Corporation by Mr. Richard Atkinson, twice Lord Mayor of Dublin.

It is believed to have been awarded a prize by the Royal Dublin Society, which took such a prominent part in the encouragement of silk weaving.

The Huguenot House, Sweeney's Lane, Dublin.

Old Huguenot House. Of which an illustration appears elsewhere, is one of the finest specimens of the old Huguenot houses in Dublin. These houses were built in 1721 (as shewn on tablet on farthest house), and some of them are still in good condition and well tenanted. They stand close by the site of the Earl of Meath's mansion, and are in the central part of the "Liberties" of Dublin, facing the old "Brass Castle," where James II is said to have coined the last money bearing his image. In these houses, and all around, silk weaving was carried on up to a few years ago.

Weavers' Hall, Coombe, Dublin.

The Weavers' Hall, Coombe, Dublin, also illustrated, was built by the Corporation of Weavers in 1745, and is still in excellent preservation.



Plate XLI.

Tapestry Portrait of George II.,
by John Vanbeaver.

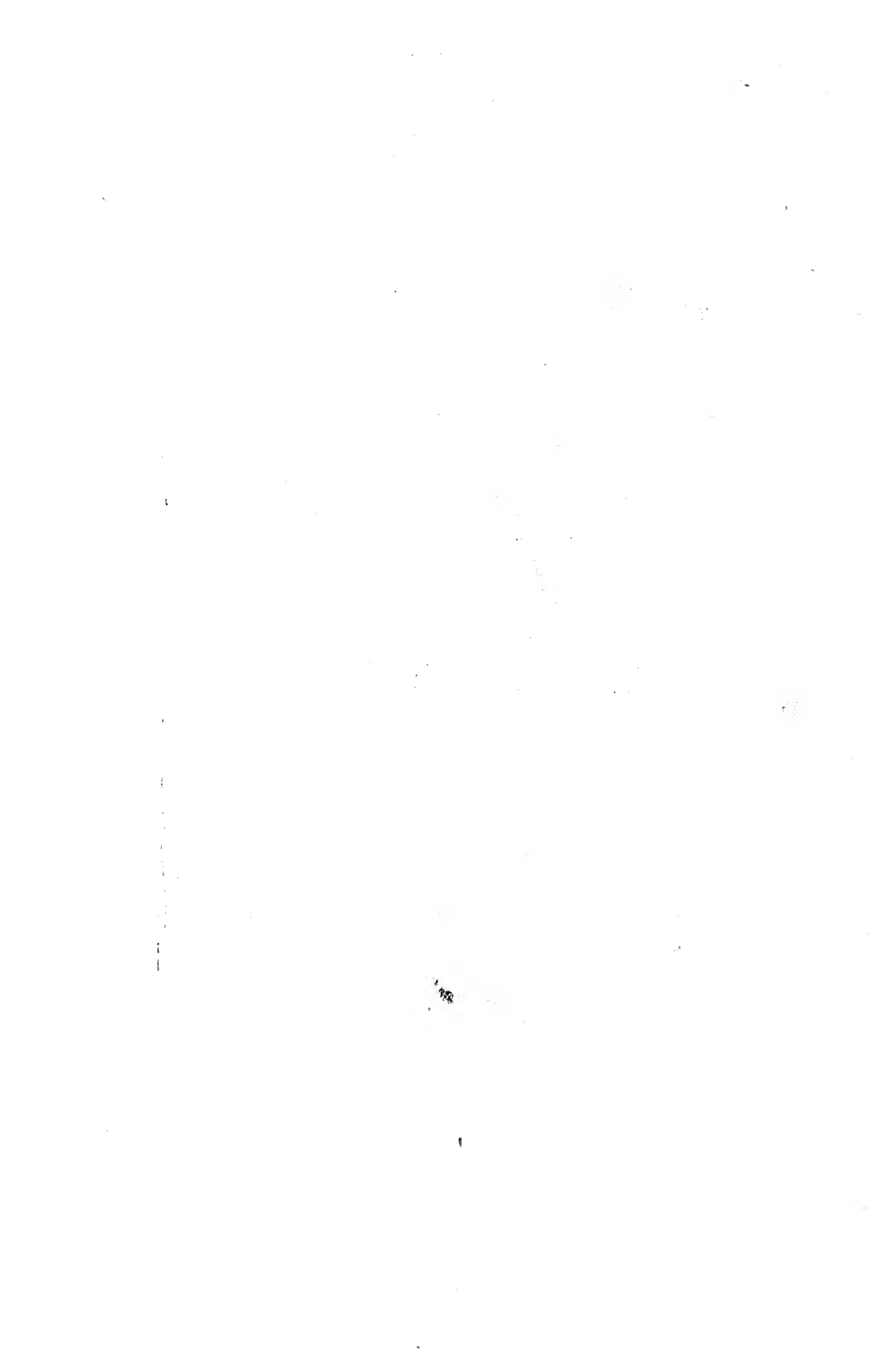




Plate XLII.

Weavers' Hall, Coombe, Dublin.

There is a leaden statue of George II in front, his Majesty attired in Court suit, with full-bottomed wig: shuttles and other weavers' implements are slung across his arm.

The Hall interior is of handsome proportions, cornices and architraves being fine specimens of wood carving, and the mantelpieces magnificently wrought in Irish oak.

The "Weavers' Corporation Chest" is still in the Hall, and has the following inscription on lid:—

"This is the Corporation of Weavers' Chest,
Anno. 1706.

Nathaniel James, Master.

William Peirce, }
Thomas How, } Wardens.

Weavers'
Corpora-
tion
Chest.

On either side of the Hall were the Weavers' Almshouse, and their schoolhouse. These buildings had fallen into decay, but are now rebuilt in modern style, the top floor of each being used as weaving rooms for their out-door workers by Atkinson and Co.

BOOK THREE.

CHAPTER XXXII.

SILK FROM INDIA.

The Future of Wild Silk.

As a contributor to the European markets for raw silk, India has not taken the high place with which she is sometimes credited. India herself is a large consumer of silk alike in piece goods and raw silks, and while she exports a certain quantity of the latter annually, she imports considerably more than is produced. In surveying the position of the Dependency as a source of the raw material, it must however be remembered that it is produced in two kinds, namely the domesticated type of mulberry-fed cocoon, and the wild or tussore variety. It is the former to which references are usually made in early trade reports, and in the references as to silk contained in the records of the East India Company, for although the uses of the tussore products have been known for centuries to the native weavers of India and China, it is only within very recent years that their market possibilities have been recognised in the silk factories of Europe. Now that these are being realised far greater attention is being paid to the wild silks, and there are economists who think that it will be better in the future to concentrate attention on the conditions favourable to their development rather than on the domestic type.

Silk has, however, played no small part in the story of British relations with the Eastern Empire. Wonderful tales of the sumptuous fabrics of the marts of Persia and India had been brought home by the early travellers, and Ludovico di Varthema, who explored the Persian Gulf in 1505 to 1508, recorded that at Khorassan "there is a great plenty and abundance of stuffs and especially of

silk so that in one day you can purchase here 3,000 to 4,000 camels' loads of silk." Moreover, in 1592, some English privateers had made good prize of the Portuguese carrack, *Madre de Dios*, one of a little fleet of six vessels which sailed under command of Ferdinando de Mendoza from Lisbon for Goa, and brought her into Dartmouth, where they displayed not only her cargo of costly spices, but also "raw silk and silk stuffs and other piece goods, taffaties, sarcenets, cloth of gold, calicoes, lawns, quilts, carpets and other rich commodities."

That was an exceedingly important capture, from another point of view, for, as Sir George Birdwood, in his researches into the early letters and other documents relating to the founding of the East India Company, has shown, she carried a copy of "The notable Register or Matiscola of the whole Government and Trade of the Portuguese in the East Indies." Some seven years later, when the Dutch traders raised the price of pepper, and the London grocers took alarm, it was upon the lines of this document that the petition went forward to Queen Elizabeth to grant a charter to "The Governor and Companie of Merchantes of London trading into the East Indies." Thus upon silk and pepper were laid the foundations of the mighty volume of commerce between this country and the Asiatic Continent. Under the command of James Lancaster, that splendid adventurer whose faith led Hudson to try to make the North-West Passage, the first little fleet set forth, but Elizabeth was dead ere they returned, and it was James I who approved the order sent to Plymouth that they should not break bulk till they anchored in the Thames. The ships had brought back altogether a million pounds of spices as cloves, cinnamon and spices, and perhaps even more than that in the reports that they would give as to the possibilities of trade with the Eastern peoples.

If silk did not loom large in this first cargo, by the year 1609 the references to the "goode rawe silk" available are repeated in the early letters from those who went out on these voyages, and in 1614 it becomes the subject of surely one of the earliest efforts of reciprocal trading

Travel-
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Tales.

The
Founda-
tions of
Indian
Com-
merce.

The
Founda-
tions of
Indian
Com-
merce.

as it is now understood. For Sir Thomas Roe was sent out by James I as Ambassador to the Court of the famous Mogul Emperor, Jehanghis, at Agra, with directions to ascertain what silk would be available. The Company desired him to secure "that wee may have good assurance that for their silk they will accept at the least the one-half of English commodities at reasonable rates, especially cloath." After defining what these rates should be, this exceedingly interesting letter goes on: "And the better to explain ourselves what we desire is that the price of silk may be contracted for with more certaintie and some good assurance given that it may be laden cleare of all charge abourd our ships at a Ryall and a half a pound of sixteen ounces, which is the greatest price that we can resolve to give . . . at which price and good condicions as aforesaid we shall be able to take from the Persian yearlie 8,000 Bales of his silk of 180lbs. English each Bale or thereabout."

Roe succeeded in placing the Company's trade on a better footing, and in 1617 three of its representatives—Connock, Tracy and Robbins—dating their despatch "From the Persian Court and Army, 25 days' journey from Spahan," were able to report that through the good interventions of a friar they had secured the promise of from 1,000 to 3,000 bales of silk. As they had not the royals to pay for it in full, they seem to have made terms for part payment in kind, saying that "the King is content to take satisfaction in tin, cloth, sugar, spices and such like commodities."

It is shown elsewhere that under James the silk industry in England had attained considerable proportions.

In 1621 Sir Thomas Mun, Deputy Governor of the Company, drew up an interesting report in which he showed that England was then buying about 1,000,000 lbs. weight of raw silk from Persia, which was being brought home at much less cost on the Company's ships than by the old overland route. In the earlier years of Charles I the trade was well maintained, though naturally during the Civil War and under Cromwell there was a falling off in this and the other more costly and beautiful imports. The

Persian
Imports
of Raw
Silk.

letters about this period tell of much friction and fighting with the Dutch, who were keen trade competitors. But by 1670 the Company, impressed with the idea that it would be profitable to foster the trade and to improve the quality of the silk they were receiving, sent to Madras four factors—to use their own word for their superior assistants—and seven writers—among whom were men specially chosen for their knowledge of silk culture, to be stationed at the factory of Cassimbazar. Meantime too they had been urging upon the native landowners of Bengal the advisability of planting and cultivating the mulberry tree, and further were preparing to engage a number of Italians expert in the treatment of the filatures. The Cassimbazar experiment, however, was not very successful, and was dropped after about twenty years' trial. It was in 1770 that Mr. Wise and Mr. Robinson arrived in Bengal on behalf of the Company with “a staff of reelers and mechanics chosen from Italy and France with tools, implements and models” to begin their efforts. A year later, General Kyd, who is better remembered in these days for his bestowal upon Calcutta of its beautiful Botanical Gardens, and who was famous for his horticultural and scientific knowledge, endeavoured to supplement the efforts of the Bengal Government by bringing over a quantity of the eggs of the Chinese *Bombyx mori*, and to encourage a more rational system of silkworm culture. There was an hereditary silk worm rearing caste—the Pundas—in the Malda and Murshidabad districts, and these with true native characteristics resisted any innovations upon their time-honoured customs. Moreover, it is an exceedingly superstitious caste, and even in these days believes in ghosts, takes precautions to prevent owls flying near the rearing houses, and thinks unless wrong information is given as to the progress of the cocoons the evil spirits will lay spells upon them. Still the industry made progress, and by 1704 the Company was in a position to announce that there was “To be seen at Leaden Hall: China raw silk, Bengal raw silk.” This is interesting in view of the highly Protectionist Act of 1700 forbidding the import of any manufactured silk

Dutch
Com-
petition.

The bar
of Native
prejudice.

from Persia, India or China to Great Britain, which had come into effect. It was the raw material that was wanted in Spitalfields for the brocades and taffaties that the beaux as well as the belles of Queen Anne's days were wearing.

Effect of
French
Revolution.

All through the eighteenth century, the Indian records deal more with fighting than with commerce. There was, notwithstanding, a steady importation of silk from India, and by 1775 the adoption of better means of winding was bringing it into wider demand. The quantities rose steadily from 515,913 lbs. in 1776 to 1,149,394 lbs. in 1784. Following this rapid increase a decline ensued. Commerce was adversely affected by the French Revolution, and the Company, which had large accumulations in its store-houses, was compelled to sell at a considerable loss. The quality of the silk was, however, steadily improving, and in 1796 the Court of Directors received a particularly interesting memorial setting forth that: "We the undersigned manufacturers, understanding from the reports published by the East India Company that the Bengal Provinces are capable of furnishing a more abundant supply of raw silk than hitherto, are of opinion that if due attention is paid in the first instance to reel the same of proper sizes, that after making a due provision for singles, trams and sewing silks, the surplus by being thrown into organzine in this country can be successfully brought into use in our respective manufactories to a very considerable extent in lieu of part of the thrown silk presently supplied by Italy. Considering, therefore, the measure now carrying on by the East India Company as highly laudable and meriting of every degree of support, we trust that they will persevere in the same with firmness, being well convinced that it cannot fail of proving highly beneficial to the national interests. First by giving a country which makes part of the British Dominions the advantages desirable from the production of a commodity which forms the basis of one of the most important of the national manufactures. Secondly, by creating employment at home for a numerous class of our poor, particularly women and children in the throwing of it into organzine. Lastly,

To
replace
Italian
Silks.

by affording a large and more certain supply to the manufacturers in general, it may have a tendency to lower the price of the raw material, and in future to shelter the silk market from the alarming fluctuations that have repeatedly taken place and probably increase greatly the general consumption of the silk manufactures.”

To
replace
Italian
Silks.

Thus was Imperial Preference foreshadowed in the 18th. century, and certainly for about 10 years there was a considerable amount of Bengal silk thrown into organzine, and used in England in those fabrics known to our great grandmothers as sarcenents and florentines, as well as in velvet and ribbon.

The 19th century dawned under the shadow of the Napoleonic conquests, but while trade in England was depressed until first Trafalgar and afterwards Waterloo steadied Europe, other fields of supply were being opened. Against these adverse conditions, the imports from Bengal continued large, although varying from year to year from the 162,747 lbs. of 1810, to the figures of 1829, when high-water mark was reached in the big total of 1,387,750 lbs. Meantime, Dr. Roxburgh, who had compiled the three sumptuous volumes of the *Flora Indica*, which constitute the first contribution to our knowledge of tropical botany, had endeavoured to institute better methods in both mulberry tree growing and the rearing of the worms, and official permission had been given to the then resident of Santipore to incur an outlay not exceeding *Rs.*25,000 on large nurseries of mulberries and rearing with hired labour. Again, no permanent success was achieved, and in the three years following 1834, the Government transferred all its interests in silk to private enterprise. Very little of lasting value had been achieved, and Geoghegan, the historian of silk in India, wrote: “The only direction in which any effective improvements had been introduced was that of reeling and drying. The methods of cultivating the mulberry and the kinds cultivated were in 1835 just what they were a century before. Attempts had been made to introduce new stocks of worms, but the worms introduced from China had not thriven, and the attempts

Struggle
with
Adverse
Condi-
tions.

do not seem to have been made with energy enough to have warranted any measure of success."

Expert
Convict
Labour.

In Bombay, too, a small tentative effort was also made by Mr. Giberne who, in 1827, was Collector at Khandesh. He planted a small mulberry garden at Dhulia, and instructed a few natives who carried on the work so well that when an Italian expert visited the place ten years later he pronounced the silk to be worth fully thirteen rupees a pound. Hoping to extend the effort, the Government of Bombay indented upon Bengal for five convicts skilled in silk worm management, who were sent on a kind of ticket-of-leave with their families to develop it, but they did not come further than Poona, where it was thought there was a better chance of success. These gardens had been started by the Italian—Signor Mutti—who had reported so favourably on the Dhulia silk, and for several years he was able to place raw material on the London market which commanded 23s. to 29s. a lb. Ill-health, however, overtook him in 1840, and in the absence of guiding heads, both these enterprises came to an end. Not infrequently does it happen that private effort succeeds where official undertakings have met with failure, and when the East India Company retired from the field, enthusiasts like Captain Hutton extended their researches far enough to include exceptional knowledge of silk culture even in Afghanistan. He, with Mr. Bashford, endeavoured to carry on the work. Later, the Agri-Horticultural Society of India lent what support it could to the movement. Best of all from the practical point of view large business firms began to put capital into the industry. Murshedabad, Rajshahi and Berhampore became important centres of silk spinning, and in the twenty years from 1836 to 1855 there was a general rise in the quantity of the exports to an average for the period of 1,435,225 pounds per annum.

After
the
Mutiny.

The years 1858 and 1860 are crucial ones in the history of silk in India. In the first of these the Mutiny had been finally suppressed, and the rule of the Honorable East India Company, so strangely and imperially successful in its unique harmonizing of administrative and commercial

powers, had come to an end. It had already ceased to exercise any influence in regard to silk, but no one could foresee what might be the results of so sweeping a change, although it was clear that trade in all directions could not fail to be affected at least temporarily. The year 1860 was also important in the annals of the industry in Great Britain; it was then that the duties on foreign manufactured silks were removed, and the products of the French and Italian looms poured in like a flood. The results of that policy as far as India is concerned were immediate and significant, as will be seen from the following table, which has been compiled by the courtesy of the Board of Trade.

After
the
Mutiny.

UNITED KINGDOM.
IMPORTS OF RAW SILK FROM BRITISH INDIA.
1860-1870.

<i>Year.</i>				<i>Imports of Raw Silk.</i> <i>lbs.</i>
1860	..	..	..	60,510
1861	..	..	..	162,121
1862	..	..	..	469,985
1863	..	..	..	208,029
1864	..	..	..	167,774
1865	..	..	..	183,224
1866	..	..	..	123,561
1867	..	..	..	2,469
1868	..	..	..	32,103
1869	..	..	..	17,845
1870	..	..	..	123,600

The fluctuations are remarkable, and not altogether easy to explain, for silk was in considerable demand, while the crinoline, the wearing of which was associated with the employment of a large quantity of material in dresses had not disappeared. Probably, as a result of the abolition of duties on manufactured silk, the greater part of the Indian production was absorbed by France, and reached England in the form of dress fabrics and trimmings. In the next few years little happened that it is necessary to record,

Remark-
able
Trade
fluctua-
tions.

Remark-
able
Trade
fluctua-
tions.

but a new chapter was opening, whose close is not yet written, and is likely to be of lasting effect in the commercial annals of our Eastern Empire.

The year 1878 saw the first practical step made towards the utilisation of the wild or Tussore silks, which has since had an extraordinary influence on fashion and industry alike. The actual cost of winding and using these silks had been discussed in 1857 in Europe, and at first they were looked upon as mere curiosities. Mr. (afterwards Sir Thomas) Wardle had, however, conducted exhaustive experiments with them, and showed in the Paris Exhibition of 1878 hanks of bleached and dyed Tussore, and the first lengths of plush produced from them. Naturally the exhibit attracted great attention, and a gold medal for it was adjudged to Sir Thomas Wardle, which, however, he asked should go to the Secretary of State for India, on whose behalf the researches had been made. Messrs. Field and Bottrill, of Skelmanthorpe, near Huddersfield, took up the further development of Tussore, and brought out the seal plush, which enjoyed a great popularity for jackets and mantles. The effects of this discovery were immediate. For the mulberry-fed silk that had recovered its market position, there was a diminished demand, while for the wild Tussore the demand increased, and the returns of the Lyons Conditioning House began to show a steady expansion.

Tussore
Silks.

That, however, is looking somewhat ahead, inasmuch as before the full advantage could be taken of the new discoveries, it was necessary to definitely determine the sources of supply. In 1880 Mr. Geoghegan, whose name has already been mentioned, undertook a thorough survey of the subject. In the Bhagulpur, Chota, Nagpur and Orissa districts of Bengal, and in several divisions of the Central Provinces, and the Santhal Parganas, it was found that the Tussore silk-worm was widely distributed. It has (for as many as 200 years) been employed for the weaving of the coarser silken fabrics of native wear. The problem which in these earlier days presented itself to the Indian Government was whether it would be profitable to collect these wild cocoons and reel them for European

exportation. China could, of course, also send in practically any quantity, and the question was what would be the result of the competition? It is not necessary to discuss here the intricacies of the improved methods of reeling upon French or Italian principles that were introduced as this wild silk was introduced into European factories. It is of more interest to record the fact that it proved adaptable to many uses, and no one devoted more careful experiment to it than Sir Thomas Wardle. French experts also took a keen interest in the product, believing that it was bound to exercise a considerable influence in fashionable fabrics. It had its technical drawbacks, and in these early stages was regarded as an inferior product. None the less, it lent itself to an ever widening range of uses, and when seal plush rather passed out of fashion, it was employed for braids, trimmings, fringes, chenille and elastic webbing. In the heavier makes of furniture, brocades and draperies, it could also be advantageously used, for, after long experiment, it was found practicable to bleach it sufficiently for it to take in dyeing the palest colours—a difficulty that at first seemed likely to limit the uses of Tussore silks.

Improved
Methods
of
Reeling.

By the year 1887 the exports from India of these wild silks had risen to 38,875 lbs., worth £195,704, and in 1890 they amounted to 91,124 lbs., valued at £412,803. Since then, exports have been steadily progressive, but it is perhaps hardly necessary to set the figures out in detail. The following table compares the relative quantities of mulberry-fed and wild silks:—

Year.	<i>Mulberry-fed</i>		<i>Wild Silks.</i>
	<i>Raw Silk.</i>	<i>lbs.</i>	
1906-7	210,823	167,519	
1907-8	189,483	139,659	
1909-10	46,873	328,651	

These figures, it should be said, do not represent anything like India's annual silk crops, of either type, and of both France is a much larger purchaser than Great Britain. Two further and later efforts to put silk cultivation on a sounder basis in India must be noted. The first of these

Large
use
of Wild
Silks.

The use
of Wild
Silks.

was started under the auspices of Mr. Cunliffe Lister, afterwards Lord Masham, at Dehra Dun, where he spent something like £50,000 upon the experiment. His idea was to cultivate the silk-worm in rearing houses under skilled supervision, and it was with *Bombyx mori*—the mulberry feeding variety—that his chief endeavours were made. But the experiment could not be described as successful, and in 1892 it was finally given up. The second effort was an official one. The Government of Bengal in 1890 was seriously impressed with the way in which disease was checking silk production. These epidemics in the silkworms took various forms, but in all they had the effect of reducing the silk crop to a marked degree. Pasteur, years before, had given his attention to the subject as “pebrine” had wrought havoc with the worms in France and Italy, and in other silk raising countries. Accordingly, it was decided to send Mr. Nitya Mukerji, a native gentleman of high scientific attainments to study the question of recognising and dealing with these diseases in Pasteur’s own and other laboratories. He has not only written a most exhaustive *Handbook of Sericulture*, which was published under Government order, but in connection with the Civil Engineering College at Sibpur he was able to obtain the starting of a sericultural school at Rampur Boalia to train cocoon rearers in the knowledge that would enable them to avoid these epidemics. The effort has been fully justified, in the sounder and healthier cocoons that have become available.

Epi-
demics
check
Develop-
ment.

Among the most important and interesting of recent efforts to extend silk culture has been that made in Kashmir, which may be held to be due to a suggestion from Mr. John Lockwood Kipling, the father of Mr. Rudyard Kipling. The former was for many years director of the Art School of Lahore, and after a visit to Srinagar in 1889 he laid his views before Sir Thomas Wardle, who in due course brought the idea to official notice. It so happened that Colonel Nisbet, the then Resident in Kashmir, was much interested in sericulture, and had his own views as to the benefit that it might be to the State, and as soon as he had entered into

communication with Sir Thomas, he submitted samples of the natural raw silk for examination. During the early nineties, several pounds were sent to this country, and a length was woven for exhibition at the display held at Stafford House in 1894, but it was not until two years later that Sir Adelbert Talbot, who had succeeded Colonel Nisbet as Resident in Kashmir, called upon Sir Thomas to take any active steps in the matter. Private speculators had heard of the possibilities of the silk, and were anxious to be first in the field regarding it, but both the Maharajah of Kashmir and the Durbar were anxious that it should be made a State industry, and in this ambition they had the full support of Lord Curzon. Sir Thomas Wardle was instructed by the India Office to visit Continental centres of silk rearing in 1897. He was accompanied by Captain Chenevix-Trench, the Assistant Resident in Kashmir, and bought cocoon reeling machinery and the best type of silk-worm eggs to the value of £600. The beginning of the effort was highly successful, and the next year eggs to the value of £1,500 were bought, and in 1899 more than twice this sum was spent in a similar way. Moreover, the Continental distributors of raw silk reported very favourably as to its merits for reeling and weaving, and it soon fetched prices only one to two shillings a pound below those paid for the very finest Italian silk.

After three years' working in 1903, the balance-sheet of the undertaking showed a provisional profit of £40,000—a result pronounced by all acquainted with the history of silk in India to be a wonderful return. This, however, was but the beginning of greater things, for the campaign has made rapid progress, as is indicated by the increased production of silk itself, and in the solid and improved prosperity of the people. Kashmir, therefore, has entered the arena as a producer of raw silk of real influence in the world's markets, and in this important service undertaken by Sir Thomas Wardle in the industry he knew so well, he would have wished no better memorial to himself and his labours than the establishment of a source of welfare to the country whose resources he thoroughly examined before he made the recommendations that have had such remarkable results.

Experi-
ments
in
Kashmir.

Work
of Sir
Thomas
Wardle.

CHAPTER XXXIII.

WASTE SILK. ORIGIN AND USES.

Early Imports of Nubbs. It was not until the factory era that waste silk became an article of prominent commercial importance in Great Britain, but there is evidence that it had a recognised value in relatively early times. At least, silk "nubbs" were imported into England, and the King's Subsidy was paid upon them, before the close of the 16th century. The *Cecil Papers* (*Historical MSS. Commission IV, p. 574*) contain an entry dated 1594, being:

"A note of all sorts of silks brought into the port of London in one year from Michaelmas, 1592, to the same feast, 1593:

	<i>By Englishmen.</i>	<i>The Subsidy.</i>
		£ s. d.
Spanish and other fine silk	11,452 lbs.	572 12 0
Bridges silk	1,664 „	62 8 0
Floret silk	5,013 „	104 8 9
Paris and Filozel silk ..	360 papers.	9 0 0
Thrown and Organzin ..	12,379 lbs.	412 12 8
Long raw silk	1,202 „	40 1 4
Silk nubbs	700 „	1 3 0
		£1,202 5 9

		<i>By Strangers.</i>				Early Imports of Nubbs
			£	s.	d.	
Spanish and other fine						
silk	12,283 lbs.		614	3	0	
Bridges silk	32 „		1	4	0	
Floret silk	1,888 „		39	6	8	
Thrown and Organzin ..	3,252 „		108	8	0	
Long raw silk	2,129 „		70	19	4	
Short raw silk	403 „		5	0	9	
Subsidy			£839	1	9	
Customs			209	15	5	
			£1,048	17	2	

The evidence does not show silk knubs to have had more than a trifling employment at this date, but it does suggest that Floret silk occupied something more than a nominal place. The name is not a household word and perhaps some explanation is necessary. Ephraim Chambers, in his monumental *Cyclopædia of the Arts and Sciences* (1728), gave an outline of French and Piedmontese practice, which sets the meaning of the name beyond doubt :

“All silks cannot be spun and reeled ; either because the balls have been perforated by the silkworms themselves ; or because they are double or too weak to bear the water ; or because they are coarse &c. Of all this, together they make a particular kind of silk called floretta ; which, by being carded, or even spun on the distaff or the wheel, in the condition it comes from the ball makes a tolerable silk.”

“As to the balls, after opening them with scissors and taking out the insects (which are of some use for the feeding of poultry), they are steeped three or four days in troughs, the water whereof is changed every day to prevent their stinking. When they are well softened by this scouring and cleared of that gummy matter, the worms had lined the inside with, and which renders it

The
use of
Floret
Silk.

The
use of
Floret
Silk.

impenetrable to water, they boil them half an hour in a ley of ashes, very clear and well strained; and after washing them out in the river and drying them in the sun they card and spin them on the wheel &c., and thus make another kind of floretta, somewhat inferior to the former.”*

Fleuret is the French form of the word floret, and Porter's *Treatise of the Silk Manufacture* (1830) describes the method of making fleurets from soufflons (*i.e.* very imperfect) and perforated cocoons as practised at this later date. After boiling, drying and beating, the cocoons were placed on a distaff and opened by drawing out fibre from each end at arm's length. The fleurets were carded—sometimes after boiling and beating—with the purpose of obtaining a brighter and more beautiful colour. The completion of one ounce of fleurets was considered a fair day's work for a good spinner. Porter, too, noted the production of an inferior fleuret yarn made by spinning coarse floss and the refuse from the reeling process. *Fleurets de soie* is still an intelligible term in France, although *dechets de soie* (literally waste of silk) has replaced it in the same way that “waste” has replaced “floss” in England. The word has been employed also in German, and Zeising, in a monograph *Über Schappe Spinnerei* (Leipzig, 1911), uses “schappe” and “florete” as synonymous terms.†

Some
Alterna-
tive
Names.

The word is akin to the English flower or flowret, and it might be thought to be by distortion that Floret became Ferret in some documents of the 16th and 17th century. The name occurs in the *Book of Rates* (1583), and “Ferret” silk from Flanders, 7,012 (*lbs.*), figured in the imports of 1668–69. Mr. Ernest Weekley, in his *Romance of Words* (1912), shows that Ferret or Feret is flowret in a semi-Italian form, corrupted from “floreto,” a little flower. Ingoldsby, in the *Housewarming*, used the word as a name for tape:

* Specimens of fabrics made from floretted silk in Italy in the mid-sixteenth century are extant, and one example in which a warp of fine spun was woven with a weft of coarse linen was exhibited at the Manchester Royal Jubilee Exhibition (1887). Vide *History of Silk*, Thomas Wardle, a pamphlet descriptive of the Manchester Exhibition.

† “Diesen gesponnen seidengarne die in Handel den Namen Schappe oder Florette führen.”

“ ’Twas so fram’d and express’d no tribunal could
 shake it,
 And firm as red wax and black ferret could make it.”

The word is well understood in this sense still in Leek, where tape is woven.

Some
 Alterna-
 tive
 Names.

The Paris and Filoselle silk, of which 360 papers were entered at the port of London in 1592-3, was presumably silk ready for the use of embroiderers whose craft was then a well-established one, and it is noteworthy that filoselle is still a trade name for a spun silk thread suitable for use with the needle and formed of very lightly united strands. The learned author of *Textrinum Antiquorum* (1843), who shows incidentally that silk waste was a recognised commodity in the Seville of the 6th century, derived the English “floss” and French “filoselle” from the Greek “plocium,” described in A.D. 575 as “the tow or coarse part of silk.” In this work, Mr. Yates wrote:

“Floss is evidently an altered form of *Plocium*, and Floss silk is what the Greeks and Latins called by that name. It is the loose silk which surrounds the outside of the cocoons, together with the waste produced from imperfect cocoons. The French name for it is Piloselle, analogous to the Greek word, meaning ‘a lock of hair.’”

The *New English Dictionary* traces “floss” to the Italian “floscia,” and French “floche,” and suggests a relation to the Scandinavian word rendered in English “fleece”; all or any of which may be related to the “plocium” of Yates and of Isidor of Seville. “Filosello, sleave and feret” silk are used as synonymous by Florio for the Italian “sciamito.”

A reference in the *Annual Register* (1759) to the “duties now payable upon raw short silk, or capiton, and silk nubs or husks of silk” raises one unfamiliar name for silk material and strengthens a suspicion. In the imports by Englishmen in the document of 1592-93, “Long raw silk” is followed by “Silk nubbs,” and in the imports of Strangers is followed by “short raw silk.” Capiton is an unrecognised term, but either “raw short” or “short raw” silk is a description implying silk waste,

Puzzles
 of
 Nomen-
 clature.

Early
uses of
Silk
Waste.

the produce of reeling, rather more definitely than it suggests anything else, and the 403 lbs. of it may be added with some confidence to the list of silk waste and its products imported in that year.

Silk waste was obviously produced ages before it was imported into this country, for the material has an antiquity co-extensive with that of silk itself. A proportion of defective cocoons from which the fibre cannot be continuously wound is an inevitable incident of the act of rearing silk-worms. Of every cocoon formed by the worm some portions are unfit for reeling, and thus it can be said with literal truth that waste silk has been generated for as long as there have been worms to spin silk or persons to gather and reel cocoons. Waste is created still, both in reeling silk and in the later operation of throwing, in face of all that scientific observation and mechanical ingenuity have been able to effect toward the improvement of the culture and of the methods of reeling. The quantity of the by-product still exceeds that of the net produce, and in ancient times the waste must have been relatively greater. It is interesting to inquire, but difficult to ascertain, what became of the by-product in the far-off ages in China before silk in any form was sent into Europe. The substance is not readily destroyed; it neither burns spontaneously nor decays easily, even in circumstances favourable to the decomposition of animal matter. It must have accumulated in appreciable quantity, and the very difficulty of voiding it as a nuisance would induce a people as thrifty and ingenious as the Chinese to make experiments to turn it to useful account. One of the most elementary purposes to which the waste might be put would be to use it for stuffing, and there is evidence that up to a fairly recent date the material was so employed.* Fifty years ago waste which had palpably served as stuffing was imported from China under the name of "Soldiers' beddings" into this country, and was converted in Yorkshire mills into spun silk.

Its
Employ-
ment
as
Stuffing.

The "unchanging East" is a proverbial term, and it is always a fair inference that practices found in vogue at

* A sample of "waste silk of the cocoons of the mulberry-fed silkworms; stuffing of the bed of the Queen of Burma; brought from Mandalay," was exhibited in Manchester at the 1887 Exhibition.

one date in the past had an indefinitely long history behind them. To use waste silk as a padding for the wadded garments of the country, or to make mattresses, might naturally be the first purposes to which it was applied.

Manu-
facture
of
Silk
Cord.

The interesting question is whether the Chinese discovered for themselves any means of improving the material. It is certain that they made use of some process, although at what point of time cannot be stated. Travellers in China have not distinguished too carefully between the manufacture of waste silk and of net silk, but in *China and the Chinese* (1840), by H. C. Sirr, occurs a passage proving that imperfect cocoons were treated then for the production of twine: "Of the ashes (mulberry prunings), they make a lye into which they throw imperfect cocoons and those which have been bored by the butterflies; the lye causes these to swell, and they are then spun into a strong silk cord."

This is neither the earliest nor the most advanced form of application of waste of which there is a record. It may be recalled that the Chinese practised and understood the manipulation of wool and cotton, so that it is improbable that with their skill they failed to put "floretted" silk to any purpose superior to the manufacture of cord. Du Halde's *History of China* (1736) gives a proof that a couple of centuries ago the Chinese knew how to convert waste silk into comparatively fine yarn. "The Province of Chan-tong," said this author, "produces a particular sort of silk found in great quantities on the trees and in the fields. It is spun and made into a stuff called Kien-tcheou. This silk is made by little insects that are much like caterpillars. They do not spin an oval or round cod like the silkworms, but very long threads. The worms are wild, and eat mulberry and others indifferently." The goods woven from this silk are described as "like unbleached cloth, or coarse sort of drugget; very much valued by Chinese, and sometimes as dear as satin or the finest silks."

Chinese
Spun
Yarn.

It is apparent that this fibre could not have lent itself conveniently to continuous reeling, but direct proof that

Raw
Material
for Cloth
Weaving.

the Chinese had discovered the uses of waste silk as a raw material for weaving cloth is found in a further passage from the same work :

“As the Chinese are very skilful at counterfeiting, they make a false sort of Kientcheou with the waste of the Tchi-Kiang silk, which without due inspection, might easily be taken for the right.”

Yet a further reference to the carding of silk in China is found in the *Society of Arts Journal*, 6 November, 1863, in course of a reference to the ailanthene (*i.e.* tussah) silk-worm :

“In China . . . even the carded silk of this worm is abundantly used . . . it forms the most durable dresses of the peasantry, dresses which are often handed down from father to son.”

The earliest of these references is modern in relation to the antiquity of silk manufacture in the East, but it is not to be supposed that the dates quoted assign the beginnings of the practices named, and at all events Du Halde's evidence is old enough to warrant the belief that the practice was native and not a Western graft. Nor is it not only in China that one may look for early instances of the manufacturing use of waste or unreelable silk. The Eri silk of India and Assam, famous for its long-wearing properties, has been utilised in India certainly for hundreds of years, and it can never have been manufactured otherwise than by the waste silk process.

An entry in the diary of one of the East India Company's Agents (quoted in *The Silk Cloths of Assam*, B. C. Allan, I.C.S., Shillong, 1899), refers specifically to Eri silk, the produce of worms living upon castor oil plants. The goods made from this thread went by the name of *arundee*, and 600 pieces of the cloth and four bales of the yarn were directed to be sent to England in 1679 by the Madras agent of the Company. The diary records that :

“’Twas called *arundee*, made neither with cotton nor silk, but of a kind of herba, spun by a worm that feeds on the leaves of a stalk or tree called *arundee*, which bears a prickly berry, of which oyle is made. . . . ’Twill never come white, but

Eri Silk
of India.

will take any colour ; 'twill not rot or receive any damage by wet . . . and wears to admiration in so much that, when the cloth is first made, 'tis given up and down to poor people to wear and to lay in shops to be footed upon before it is fit to be sold." Eri Silk of India.

The mode of working Eri silk in vogue in recent years has been described with praiseworthy exactitude in his *Monograph on Silk Fabrics* by Mr. A. Yusuf Ali, I.C.S. (Allahabad, 1900), and the method is manifestly a traditional one :

" Eri silk is not reeled but spun, and treated like cotton. The cocoons are first boiled for two hours in an alcoholic solution containing either *sajji* (native carbonate of soda) or ashes of plantain leaves or of indigo plants."

" Eri silk is spun with the usual Indian spinning wheel. . . . The spinner takes a quantity of the silk fibre in her hand, deftly spins out of the mass a piece of thread between her fingers and attaches it to the spindle of the wheel. Resting the wheel against her toes she patiently sits for hours on the ground, moving the handle of the spinning wheel and thus giving a rapid motion to the spindle."

" The yarn . . . is coarse. It is twisted by . . . Method a simple instrument called the *taken* or *batni*. of Working. This consists of a big needle about the size of that used for sewing leather, the lower end of which carries a wooden ball. . . . The needle with the ball is suspended from above, free in the air. The point of the needle is at its upper end and just below it is a small notch like that of the leather needle. The thread is attached at a point near the ball ; two or three turns are given round the needle, and then it is made fast in the notch. About three feet of thread is let out above the needle. The twister quickly rolls the needle between his fingers and his left thigh, which sets the ball rotating rapidly until the impulse

Method
of
Working.

is exhausted, when the process is repeated. After two or three repetitions the yarn let out is found to be sufficiently twisted. It is then wound round the needle and the end of the twisted portion is made fast again at the notch. More thread is now let out above, and this goes on until all the thread has been twisted."

The use of a lye of ashes as a detergent is seen to have been common to India, China and Southern Europe, and it also appears from Mr. Yusuf Ali's work that the process applied to the Eri silk is similar to the method used by Indian craftsmen in dealing with the unreelable portion of the cocoons of other species.

"In the case of the mulberry feeding silkworm, after the glossy portion has been reeled off there is a small quantity of fluffy fibre which cannot be reeled and is called waste silk or *chashm*.* This is mixed with some peafLOUR and boiled, thus dissolving any mucilaginous matter that there may be in it and rendering the substance soft and pliable. After being dried this *chashm* of bombycide silk is spun and twisted in the same manner as Eri silk."

Again, in Watt's *Dictionary of the Economic Products of India* (1893) there occurs a specific reference to the native use of waste silk in Burma :

"As much silk having been obtained from the cocoons as is possible by the crude methods used, the pods are taken out of the pot and, while still moist and warm, are stretched into a kind of coarse knobby thread, which finds a sale in the market for coarse uses."

Practice
in
West
Africa.

Indeed the use of silk in its discontinuous form has been recognised in communities more primitive than those of the East. Mr. F. W. Barwick, who has made the subject of African or *Anaphe* silk his own, reports that in West Africa this brown tussah-like silk, pulled from the cocoon, is mixed by natives with an indigenous brown cotton and spun and woven by them into a

* In commerce : Chassum.

khaki-coloured cloth. The cocoons, which are formed in nests in the forks, or along the boles, of trees, are practically unreelable, and are much more easily utilised if carded. Carded
Silk in
Africa.

THE COURSE OF INVENTION.

It has been seen that waste silk was used to make embroidery yarns in France in the 16th century, and there are reasons for supposing that hand-spun waste silk had also been used in knitting. M. Bon, a Frenchman who invented at the beginning of the 18th century a means of dealing with spider silk, prepared it by carding and made stockings of it. The accounts of inventors are not invariably unprejudiced either in respect of the merits of new materials or the demerits of old ones, but from his statement that spider silk stockings weighed two ounces against the seven or eight ounces of stockings made with common silk, it can at least be deduced that coarse silk yarn was used sometimes for this purpose. The complaints of Katherine Elliott,* nurse to the Duke of York, in 1636 are a little vague as to whether spun yarn was employed in the silk stockings and waistcoats of the period. Her specific charge was against the passing-off of Spanish as Naples silk, and woven for knitted goods, but the probabilities do not preclude the use of "florete." The earliest explicit reference to the employment of silk waste to make cloth in this country is accompanied by assurance favouring the supposition that the invention was new.

The *Domestic State Papers* for 1672 contain an entry bearing upon the purpose to which silk waste—or a particular kind of silk waste—had been applied in this country up to that time. It was a waste "never before known to be useful in this kingdom except for stuffing quilts, or sold into Holland or Germany at 8d. or 10d. per lb." The information is to be found in the certificate of five mercers of the city of London, made in respect of an invention for which letters patent No. 165

Refer-
ences in
State
Papers.

* See Appendix.

Refer-
ences in
State
Papers.

were granted to Edmond Blood, "of our Citty of London, Merchant," in 1671. The document differs from modern grants in containing no drawings or detailed description. It opens with an abrupt form of the royal greeting :

"CHARLES THE SECOND &c., to all to whome theise presents shall come, greeting.

"WHEREAS by the humble peticon of Edmond Blood and alsoe by the certificat of divers of our loving subjects, cittizens, and trading mercers within our Citty of London, wee are given to understand that with considerable charge and paines hee, the said Edmond Blood, had found out 'A NEW manufacture, being a rich Silk Shagg comodious for Garments, made of a Silke Wast, hetherto of little or noe vse, and shagged by Tezell or Rowing Cards, like as English Bayes, Rowed Fustians or Dimatyes, a sort of Manufacture never before knowne or made in this our Kingdome.' And whereas the said Edmond Blood hath humbly besought vs to grant him our Letters Patents for the sole vse and such his Invencon for the tearme of fowerteen yeares, according to the statute in that case made and provided."

Early
English
Methods
of
using
Waste.

The nature of the silk waste in question is not precisely described, and it is open to doubt whether it was the direct produce of silk reeling or was the noil or by-product of some established waste silk combing industry. However, the character of the cloth can be determined by deduction. A shag is a cloth, commonly woollen, with a rough surface, and the document makes it plain that the silk shag was to be roughed (technically "raised") by the use of teazles or of roving cards. In other words, the fabric was to be treated in a manner corresponding to the treatment of most blankets and all flannelettes, and to be made somewhat to resemble baize with a trailing pile of fibre upon its surface. The modern clothier might describe this as "blanket cloth," "fleece-faced," or "moss finished," according to the degree of the roughening or raising. It was apparently intended to make the shag

alternatively of silk or silk and linen, for the certificate of the mercers states that none of them had known or heard of "any such manufactory in this kingdom or elsewhere as the making of a stuff fit for garments of silk, or silk and linen, shagged like English bays." It is noteworthy that Blood's idea has met with modern adaptations, and that there are periodical demands from the United States for silk waste in the form of noils to mix with wool and form the fleecy face of "shag" over-coatings. Shag Over-coatings.

The language of the patent has sonorous qualities of its own, and with the avoidance of repetitions and some circumlocution the document is further quoted:

"Know Ye, that wee, haveing a more especiall and favourable regard to the Invencon aforesaid, and being willing to cherish and encourage all laudable endeavours and designs of such our subjects as shall finde out vsefull and profitable arts, misteries and invencons by granting and appropriating vnto them for some tearme of yeares the fruite and benefitt of their industry, whereby not onely a marke of our favour may bee sett vpon such their ingenuity but alsoe their labor and expences in the attainment thereof may in some measure be recompenced and rewarded vnto them, have given and granted and doe give and grant vnto the said Edmond Blood, his executors admstrators and assignes especiall licence, power, priviledge and authority that hee and they by him and themselves and their deputies, servants An early Patent described. and workmen and such others onely as he shall agree with and noe others shall and may vse, practice, exercize and enjoy the said Invencon. . . ."

The fee exacted was modest, the grant being conditional simply on payment of "the yearely rent or sum of six shillings and eight pence of lawfull money of England att the twoe most vsuall feasts in the yeare, that is to say, att the Feast of the Anunciacon of the Blessed Virgin Mary and the Feast of Saint Michaell the Archangell,

An early Patent described. by even and equal porcons." The document extended warnings to those who might infringe the patent, detailed the powers of search in cases of supposed infringement, and required "all and singular justices of peace, maiors, sheriffs, bayliffs, constables, headboroughs and all other officers and ministers" to be "favouring, helping, ayding and assisting vnto the said Edmond Blood." This paper, sealed with the private seal of the monarch, made the grant revocable in case "it shall bee made appeare vnto vs or any six or more of our privy councill that this our grant is contrary to law or prejudiciall or inconvenient or not of publique vse or benefitt or . . . is not a new Invencon."

Patents of more intrinsic importance also involving the treatment of waste silk have been taken out since Blood's, but in none of these is there an equal charm and quaintness of language, and the fact must condone a digression not absolutely necessary to the proof that waste silk has a long history.

Inven-
tion in
18th
Century.

Various patentees of the 18th century enumerated silk as one of the fibres capable of manufacture upon the machines of their invention. Dr. Cartwright did so in respect of the machine-comb which he devised primarily for treating wool, but this and other references have to be dismissed as speculative and self-protective claims by patentees. The invention of Thomas Wood, manufacturer of cotton, Holcombe, Bury, Lancs. (No. 1130 of 1776), may be mentioned not specifically for its utility or importance—for it does not appear that the machine described could have worked—but as some evidence that waste silk was then occupying attention in Lancashire. Wood invented a "machine or instrument for carding and roving silk, cotton and sheep's wooll." Silk is placed first in the title, although the body of the document treats of "cotton, sheep's wool &c." in one instance, and solely of "the cotton" in another. A patent taken out by Sharp and Whittemore in 1799 for a machine to make cards for carding, cotton, wool and silk gives firm evidence that silk was then being carded, and the fact is well attested in other ways.



SILK SPINNING. 1. Receiving & opening raw material.

Silk Spinning, Receiving and Opening Raw Material—Silk Waste.



SILK SPINNING. 2. Boiling or degumming—silk waste.

Plate XLIII. Silk Spinning, Boiling or De-gumming—Silk Waste.

The most momentous technical development within the English spinning industry of the last hundred years is one that has been almost totally disregarded by the larger public. Attention has been drawn to new silk combs and to the utilisation of new-old forms of silk waste, but these are not of supreme consequence. The great and the distinctive change was the supersession of the old method under which a fibre naturally long was cut deliberately into short lengths and prepared and spun in the manner proper to fibres naturally short; in fact by means not very different from those used for cotton. Long fibres are more valuable textile materials than short ones, and to make long ones short is a step contrary to good management. The improvement which exceeds all others in importance was plainly that which abolished the old necessity for depreciating and disfiguring the raw material and allowed advantage to be taken of the inherent quality of good length. The change implied the production of a stronger and more lustrous, although not necessarily more even yarn. And to set at rest any doubt of the reality and magnitude of the improvement it suffices to point out that it has been adopted by every spinning firm in the English trade, and with not more than three exceptions is the only system in use in English mills now, or for many years past.

In tracing the course of the change which led English silk spinners to abandon the example of cotton and to make the methods pursued in spinning worsted or long flax as their model, it is necessary to refer at some length to the English patent 7228 of 1836. Under this, John Gibson, of the City of Glasgow, throwster, and John Gordon Campbell, of the same place, merchant, obtained protection for a "new or improved process of manufacture of silk, and silk in combination with certain other fibrous substances." Eight claims were registered:

- (1) Discharging from silk waste when the same is in the state of the sliver or rove.
- (2) Dyeing silk waste in the sliver.
- (3) Spinning from dressed waste of long fibres, either in the gum or discharged.

Notable
Tech-
nical
Develop-
ment.

Gibson
and
Camp-
bell
Patent.

Spinning
of long
fibre Silk
Waste.

- (4) Spinning silk waste of long fibres in combination with flax of a similar length of fibre.
- (5) Spinning yarn from silk waste of long fibre in combination with wool.
- (6) The application of a new process to the throstle machine, on the principle of the long ratch, for the new and useful process of spinning silk waste.
- (7) Improvements in the throstle machine by which its utility in spinning silk waste is greatly augmented.
- (8) The application of water to silk waste with long fibres in the process of spinning with the long ratch.

This patent is the earliest upon the British register relating to the spinning of silk waste of long fibre, and is the one responsible for the name "Patent Long Spun" that is sometimes still applied to English yarn. Long and costly litigation arose out of the grant of this patent, and the decisions therein dispose of the idea that this was the first successful attempt to avoid the reduction of the fibre. Indeed a distinction must be drawn between yarn technically entitled to the name "Patent Long Spun" and yarn produced on the throstle machine and upon the principle of the long ratch.

The specification outlines the processes hitherto adopted for spinning yarn from silk waste :

- (a) Passing the waste through a breaker to clear out the more stubborn or knotty ravelings.
- (b) Passing the waste through dressing machines—either in the gum or discharged state.
- (c) Cutting the dressed silk into lengths of two inches, more or less, in a cutting machine, and if need be discharging and drying.
- (d) Scutching the material before carding.
- (e) After carding, preparing the roving by a similar engine to that used for cotton and spinning on the mule jenny, on a similar principle to that of the cotton jenny.

Old
and
New
Methods,

These processes correspond with those in use to-day in the few mills in which the short-spun method survives. There follows in the patent a description of "our novel process by which we produce our new or improved yarn or thread," a few lines of which are enough to proclaim the source from whence the patentees drew their inspiration :

"The silk waste having been dressed in the usual way . . . either discharged or in the gum, we submit it to the drawing, roving and spinning machinery, thereby entirely obviating the supposed necessity of cutting or shortening the filaments of silk waste, a destructive process, which has heretofore been considered as an indispensable sacrifice. . . .

"The kind of machinery we have found to answer best for the drawings and rovings of dressed, heckled or carded silk waste of long fibres is the same as that used by flax spinners, and we adopt the same methods as are practised by them with long or cut line flax."

An action at law disposed of the validity of the salient claims in Gibson and Campbell's patent, and the printed specification issued by the Patent Office is followed by a disclaimer. The claims (6), (7) and (8) referring respectively to the use of the throstle machine, improvements in that machine and to the process of web spinning are formally abandoned. The action *Gibson v. Brand*, although an industrial *cause célèbre*, would seem to be generally unknown to the present generation of silk spinners. The case is a leading one in the annals of English patent law, and the various legal points disposed of in the judgment give it an important place in handbooks of the law of patents. As many as a dozen references to *Gibson v. Brand* occur in one standard manual of British patent law, and the case is reported at length in *Webster's Report*, p. 627, *Manning and Granger I*, p. 79, *Scott's New Report*, p. 844, *Law Journal Report, New Series, Common Pleas*, p. 177. The case was heard in 1840, when plaint was made that the defendant had "directly and indirectly made, used and put in practice the said

Adoption of
Flax
Spinning
Process.

Patentee
in the
Law
Courts.

Patentee
in the
Law
Courts.

invention, and counterfeited, imitated and resembled the same." The defendant pleaded that Gibson and Campbell were not the first inventors and that the invention was not new. It was proved that Brand had ordered silk waste to be spun by certain persons by a process similar to that described and had sold the silk so spun. It was held proved that the yarn produced by the plaintiff's process was very superior in value and beauty to that spun on cotton machinery. Evidence was given on the part of the defendant that long before the date of the patent, silk waste in the long uncut fibre had been spun by the common machinery for spinning flax, and had been sold in large quantities. Mr. Chief Justice Tindal, Mr. Justice Cresswell, Mr. Justice Coltman and Mr. Justice Erskine concurred in upholding the decision given in the Court of Common Pleas. The remarks of the last-named deal explicitly with the question of originality. He observed :

"It appears that the process of spinning silk waste with an uncut fibre had been before practised.

"It is said indeed that this was done in secret, and that it had not been made public, and undoubtedly if this fact were made out I should agree that this would be no objection to the patent. But I think there was abundant evidence to show that to some extent—and indeed to a considerable extent—the process had been publicly practised before the patent was taken out; although it had not been carried to such a state of perfection as under the plaintiff's patent."

The judicial decisions give substantial assurance that a process having the same main effect as that patented by Gibson and Campbell had been carried on before 1836, and after the formal disclaimers made by the patentees, little of the original subject matter remained. The patent became one for—

- (a) Discharging in the sliver or rove.
- (b) Dyeing in the sliver.
- (c) Spinning long fibres, either in the gum or discharged state.

An
Im-
portant
Judg-
ment.

(d) Spinning silk in combination with flax.

(e) Spinning silk in combination with wool.

The word "New" was struck out from the title, and only "An Improved Process of Manufacture" remained.

The information gleaned from Patent Office records is supplemented by additional facts extracted with great care and patience by Messrs. J. and T. Brocklehurst and Sons, Limited, throwsters and spinners of Macclesfield, from the archives of their firm. From these it has been learned that the methods pursued by Gibson and Campbell proved very successful, and that yarn produced by them was used in many fabrics with good results. A number of manufacturers introduced similar methods without licence from the patentees, and the legal proceedings against these parties brought both Gibson and Campbell to insolvency in 1840. In this year Messrs. Brocklehurst, together with Mr. William Wanklyn, silk manufacturer, of Manchester, came to the aid of the patentees, raised money for their assistance, and pressed the proceedings to the conclusion that has already been detailed. In consideration of their help, Messrs. Brocklehurst and Wanklyn were given the right to use the process, free of further cost, and to participate in any extension or renewal of the amended patent rights.

The patent rights were extended. The English and Irish rights expiring in 1850, and the Scottish rights expiring in 1851, were each extended for six years by the Privy Council, for the principal reason that the patentees had lost considerably upon their undertaking up to that time. Under the terms of the agreement made ten years before, Messrs. Brocklehurst were automatically to benefit from any extension without further expense. They came again, however, to the assistance of the owners of the patent in the expense of the renewal. Mr. Wanklyn, on this occasion, took no part in the matter, but James Holdforth and Son, of Leeds, joined in the costs of the appeal, and became entitled thereby to exercise the right of manufacture on the same terms as Messrs. Brocklehurst. John Gordon Campbell had meanwhile died, and his brother Charles Campbell stood as sole representative of

An
Im-
portant
Judg-
ment.

Exten-
sion of
Life of
Patent.

Licenses
to Manu-
facturers.

the original holders of the patent. The right, therefore, to discharge silk waste in the sliver, and to apply to yarn the name "Long Spun," and to stamp the yarn with the words "By Royal Letters Patent and Letters of the Licence," vested principally with the firms of Campbell of Glasgow, Brocklehurst of Macclesfield, and Holdforth of Leeds. Terms were made, however, with certain other spinners, and the following firms held licences until the expiry of the extended patents in 1856 and 1857 :

Hind and Co., Lancaster.

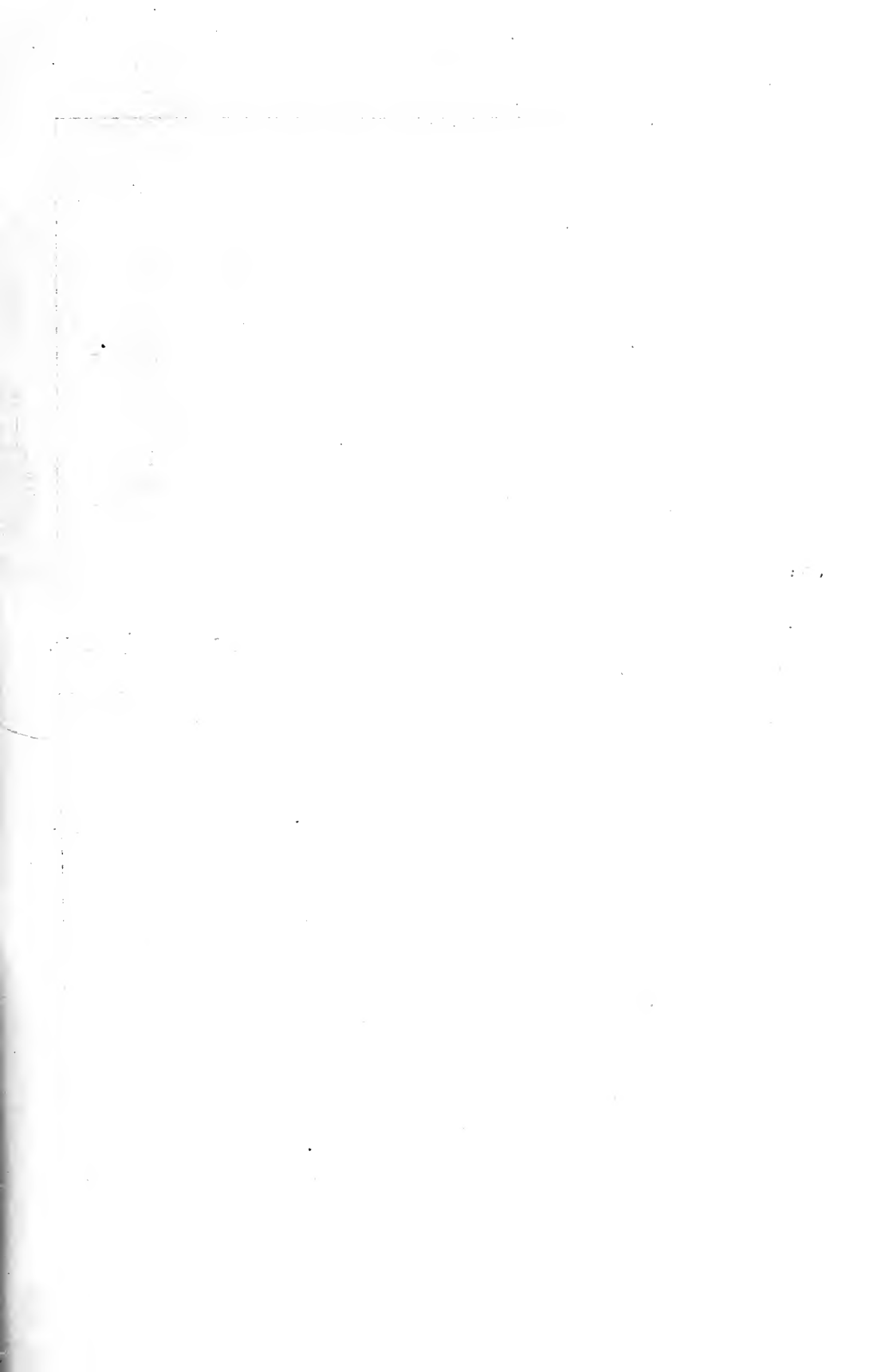
Briggs, Castleton Hill, Rochdale.

Thomas Atkinson, Booth Town, Halifax.

Muir and Co., Port Dundas, Glasgow.

The ruling in Gibson and Brand proved that silk waste of long fibre had been spun independently of any patent before 1836, and there is contemporary testimony that long fibre, discharged not in the sliver but in the undressed state, was spun in Brighouse before 1852 ; in other words, before the expiration of the extension of the patent. Burrow and Monk, who were pioneers of the silk spinning trade in Brighouse, practised the short-spun method originally, but with the assistance of workmen obtained from Holdforths of Horsforth, Leeds, manufacturers began to use the long-spinning process in the manner in which it is still carried on in the town. On the other hand, certain old-established spinners waited until the expiration of the patent rights. At the short-spinning mill at Galgate the machinery for long-spinning was installed in 1863, and was set to work in 1864. At Triangle, near Halifax, Mr. Hadwen, who had begun as a cotton spinner in 1800, added short-spun silk to the list of his manufactures in the year 1826 and long-spun in 1858. At Congleton, Messrs. Reade, who became short spinners in 1829, after carrying on silk-throwing and weaving from 1784, began long-spinning in 1859, or later. The pleas before the Privy Council made on behalf of the Glasgow patentees, suggest that the improved system of working was not immediately lucrative, and it is a matter of tradition that some persons hastened to take up long-spinning before the method had been brought to a satisfactory degree of perfection.

A
Pioneer
Firm.





SILK SPINNING. 4, Dressed Silk Spreading—Silk Waste.

Silk Spinning, Dressed Silk Spreading—Silk Waste.



Plate XLIV.

Silk Spinning, Combing—Silk Waste.

The defendant Brand in the momentous action was probably a neighbour of Gibson and Campbell. That he was not a spinner of silk waste, but had spinning done for him by others appears from the evidence. Harvey, Brand and Co., and Robert Brand and Co., of 1, Ingram Street, Glasgow, were throwsters and silk gauze manufacturers, and it is possible that the defendant belonged to one or other of these firms. The connection of the first-named firm with the silk industry is mentioned in an article in the 7th edition of the *Encyclopedia Britannica* (1842), which expresses the writer's "grateful acknowledgments to Messrs. Harvey Brand and Co., of Glasgow, whose beautiful silk-throwing factory at Blackhall, Paisley, was opened to him."

The same article refers to silk-spinning in Edinburgh in terms which leave no doubt of their meaning :

"Messrs. Wm. Casey and Co., of Castle Mills, Edinburgh, have it in contemplation to introduce such alterations in the spinning of silk waste as will supersede the cutting, carding and scutching processes. This improvement they mean to effect by adopting the principles of flax-spinning, in place of treating the waste in the manner of cotton, the uncut filaments being drawn into a sliver by a modification of the flax gill."

Messrs. Casey presumably had the result of the Gibson lawsuit in mind, and at all events made no secret of their intentions. Whether Michael Wheelwright Ivison, silk-spinner, residing in Hales Street, Edinburgh, was connected with their firm remains an open question.* What is known is that Ivison took out the English patent 7600 of 1838 for objects similar to those of Gibson and Campbell and of William Casey and Co. A single sentence suffices to show that projects for long-spinning engaged attention in several Scottish quarters in the later 'thirties :

"In carrying out my invention, silk waste is to be obtained in the condition it is delivered from the combing without having undergone the process of cutting and carding."

* The name of M. W. Ivison appeared in the *Glasgow Directory* of 1835-36 under the head "Silk Spinner," but was absent from the edition of 1839-40.

Scottish
Spinners.

Work
of
Edin-
burgh
Firms.

A
Glasgow
Patent.

John Gibson, with Thomas Muir, described as silk manufacturers, Glasgow, took out in 1840 a further patent (No. 8641) to clean foul silk waste. The waste, converted into a sliver or rove and reeled into hank, was immersed in water until saturated, then wrung well at a wringing post and scutched. "We find," says the specification, "this saturation has the effect of making the fine fibres adhere to each other more closely, while the scutching, without disturbing the natural adhesiveness of the fine fibre, throws out or partly detaches the nibs and coarse or unequal filaments." It does not appear that any notable results followed.

The spinning of waste silk has been shown to have a longer history than can be inferred from the date of the foundation of any existing spinning mills. It was, however, to the age of existing mills that the Silk Club of Manchester referred in contesting Mr. Samuel Cunliffe Lister's right to be regarded either as the founder of the spinning branch of the trade or as the first to employ the waste silks of India. A letter from this Association of silk spinners appeared in the *Bradford Observer*, 24 March, 1887, and this, with Mr. Lister's reply, effectually disposes of both points :

"Sir,

With reference to the accounts which have appeared recently concerning Mr. S. Lister and his connection with the spun-silk industry, we venture to ask the following question :

Lister's
Entry
into the
Trade.

- (1) Seeing that there are some firms (or their predecessors) which have been engaged in spinning waste silk for nearly 100 years, how is it that Mr. Lister can be said to be the introducer of this branch of the trade?
- (2) Inasmuch as some are now living who over 50 years ago worked the waste silks of India, can it be explained how Mr. Lister was the first to introduce the use of this material?
- (3) What is the quality of the waste silk that Mr. Lister purchased originally at $\frac{1}{2}$ d. per lb.?

We ask these questions without the slightest desire to throw any doubt upon the services that Mr. Lister

has conferred upon the branch of industry in which he is engaged, but we feel that it would be more satisfactory if some explanation of the above could be given.

THE SILK CLUB.

Victoria Hotel,
Manchester,
March 22nd, 1887."

To this letter Mr. Lister sent the following reply:—

"To the Editor of the *Bradford Observer*.

Sir,—Allow me to reply to the queries of my friends of the Silk Club, published in your issue of Thursday.

It would just be as true for someone to say that he was the first to use pig iron as for me to say that I was the first to utilise silk waste. All silk-producing nations have from time immemorial used their waste silk of the better class with more or less skill, and do so now. It is nothing but our superior machinery and mode of treatment that enable us to pay a higher price than the native user, and that causes it to come to our markets. With regard to its use in England, I should imagine—although I have no positive data—that it would be about the time I was born, say some seventy or eighty years ago, when it was first spun by machinery in this country. I remember well the first time that I saw anything of the kind was at Messrs. Holdforths' mill at Leeds—I think in 1846. Having at that time gained some notoriety in wool-combing, Mr. Holdforth asked me to come over and see his silk-dressing machine, and to improve it if I could. I thought then, and still think, that it was one of the rudest and crudest of machines, but, as I know to my cost, very bad to beat. I had no idea, when examining it carefully for the first time, of the long years of toil and trouble, and the ruinous sums it would cost me before I should be able to master it—and I am not so sure that I have succeeded even now, after forty years (that is, for all sorts)—but I can, at any rate, say that I have, so far as I know, invented and patented the first self-acting dressing machine, with plenty of room for improvement for those who may come after me, as I consider my working days are now over.

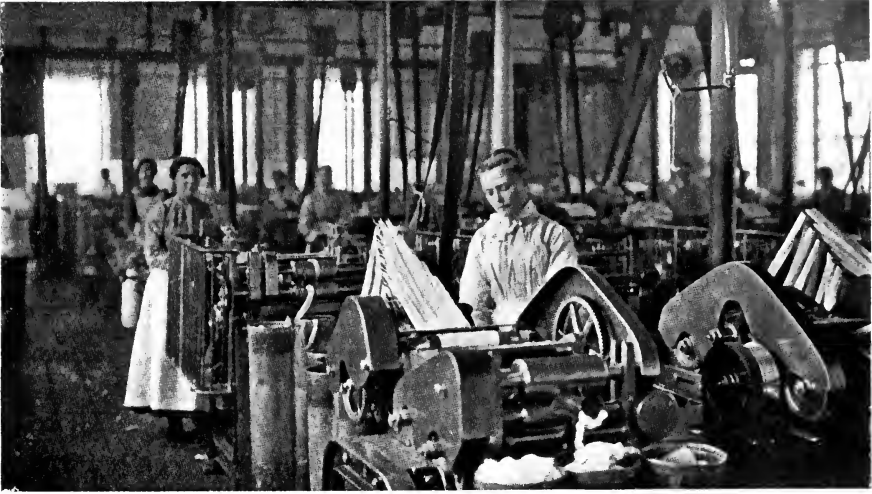
A Reply
to Criti-
cism.

First
Self-
Acting
Dressing
Machine.

Foreign
Com-
petition.

Then as to the waste silks of India, I believe that Messrs. Holdforth were using at the time I visited their works the J.R.W. chassum, known as European flature, and I have no doubt other people were also; but the waste silk that cost me so much time, trouble, and expense to use profitably was the native flature chassum. The late Mr. Spensley, who, no doubt, will be remembered by many members of the Club as being one of the chief waste silk brokers, first called my attention to it—that would be about 1857—and he said, laughing, that they had tried to use it as manure, but that it would not rot. At that time I had no knowledge of silk waste, and to my inexperienced eyes it looked more like oakum than anything else. However, after some experiments, I bought a few bales, say thirty or forty, at $\frac{1}{2}$ d. per pound, and afterwards cleared the lot at 1d. to $1\frac{1}{2}$ d. Years afterwards, when I had perfected my machinery at a vast cost, I had almost the entire trade in my hands, and imported regularly, year after year, several thousand bales—in fact, at that time I scarcely used anything else—and now I scarcely use a bale. It all goes abroad, where all our trade will eventually go. Long hours, cheap labour, and hostile tariffs will tell more and more as time goes on. There were two reasons why the trade could not and did not use native flature chassum, and other low wastes; and the same may be said even to this day, although not to the same extent. First, at that time good waste was so cheap, and the cost of dressing low materials so high, that it did not pay with the ordinary machinery, and required special machinery invented and constructed before it could be used with profit. Then again, supposing it could have been dressed at that time with the comparatively rude gill boxes then in use, no one could make level yarn from it. The intersecting gill—the invention of my last partner, Mr. Warburton—has changed all that, and made it now comparatively easy, whereas, when the sliver of combed native chassum was drawn from my patent silk-combing machine, it was as level as a roving, and no one in Europe could or did make any yarn comparable to it. When Manningham Mills were burned down, in 1872

High
Quality
of
Manning-
ham
Yarn.



*Silk Spinning, Drawing Preparatory for Spinning—
Silk Waste.*



SILK SPINNING. 6. Drawing preparatory for spinning - Silk waste.

*Plate XLV. Silk Spinning, Drawing Preparatory for Spinning—
Silk Waste.*

I think, I had orders for a year's production. The raw material was costing me from 6d. to 1s. 2d., and I was selling on the Rhine two-fold 60s. for 24s. per pound. My respected friends of the Silk Club, we should all like those very pleasant and prosperous days to come back again, but, alas! I am afraid they will never. In these evil days the raw material is double the price, and the yarn less than one-half, and if there be any profit at all, it goes to the foreigner. In conclusion, let me say I sincerely wish prosperity to the Club and the trade.

I am, &c.,

S. CUNLIFFE LISTER.

Swinton, March 26th, 1887.

P.S.—I suppose that the reason of the Silk Club asking for explanations arises from the terms in which the Albert medal was awarded to me; but I had nothing to do with that, as I was ill in bed at the time. I quite agree in thinking that some alteration ought to be made more in accordance with the facts, and I shall endeavour to have such alteration made by the Council of the Society of Arts, as I have not the slightest wish to have accorded to me that to which I am not fairly entitled."

Mr. Lister was as good as his word in the matter of the award of the Albert medal, bestowed upon him in 1886.* A letter from him was received by the Society, suggesting some amendment of the terms in the final clause of the award. The Council of the Society of Arts were of opinion that it would not then be possible to vary the terms which had been made public about a year before.

In *Lord Masham's Inventions* a more extended account is given of that which Mr. Lister did invent. Lord Masham wrote:

"In 1859 we succeeded—I and my partner, Mr. James Warburton—in making the first silk comb, which we patented in our joint names. From the beginning it made a first-rate sliver and fairly clean

The
First
Silk
Comb.

* The terms of the award to Mr. Lister of the Albert Medal of the Society of Arts are thus reported in the *Journal* of the Society, June 4, 1886:—

"The Council of the Society of Arts have (with the approval of the President, H.R.H. the Prince of Wales) awarded the Albert Medal to Mr. Samuel Cunliffe Lister for the services he has rendered to the textile industries, especially by the substitution of mechanical wool-combing for hand-combing, and by the introduction and development of a new industry and the utilisation of waste silk."

The
First
Silk
Comb.

work, but its great fault—a fatal one—was that it produced so little top and made so much noil that it did not pay. . . . The mechanical arrangement was admirable, and it did what had never been done before. It produced a splendid, regular and even sliver, just what was wanted in the spun silk trade.

“Net silk, Italian, was at that time (1859) worth over 40s. a pound, and was anything but level and free from lumps and other imperfections, whereas our Manningham spun silk yarn was in many respects superior and was used as a substitute.

“I was greatly helped by my partner but he took little interest in working it.”

The Lister silk-comb upon this confession shared the common defect of other substitutes for the flat dressing frame which, now as in 1846, remains the mainstay of the English silk-spinner. The intersecting gill—a drawing machine with teeth above and teeth below—used nowadays by spinners in preparing the shorter fibres for spinning, and employed principally upon yarns made from the third and fourth drafts of dressed silk, is claimed both in the letter and book as Mr. Warburton's discovery.

Lord Masham's book says :

“The best thing Warburton did was to invent the intersecting screw gill, which may be said to work two sets of fallers or gills, one up and the other down, but intersecting each other.

“I have no copy of the patent, nor do I remember when it was invented, but in after years I had good reason to know something about it. At first, and for many years, the English spinners would not look at it, but after a time Messrs. Greenwood and Batley took it in hand, and being always first class in their work, made it work so admirably that the foreign spinners adopted it, and with such success as to make nearly as good yarn out of hand-dressed silk as I could with the comb, which they had never been able to do before, as with the ordinary preparing machinery they

The
Inter-
secting
Screw
Gill.

could never make it level and free from thick and thin places. It is very remarkable, but absolutely true, that this very machine was the means of killing the silk comb, which for some years was immensely profitable. Silk
Comb
super-
seded.

“At one time, especially for velvets, Lister and Co. could command almost any price for their yarns, but this intersecting gill changed this, as the yarn from the hand-dressed silk was nearly as level and good as the machine-combed.”

It appears that Mr. Lister was more appreciative of the merits of the intersecting gill machine than were some of his English competitors. Lister and Co. were amongst Greenwood and Batley's earliest customers for the machines, and it may be supposed that the intersecting gill assisted the Lister silk-comb in producing an exceptionally uniform yarn. The supposition is favoured by Lord Masham's repeated declaration that his advantage vanished when his Continental competitors adopted the same machine.

The comb was superseded in its inventor's own mill, and he has added :

“We had, much against my will, to adopt the old system of hand-dressing, and we have some now. The hand-dresser could always beat the comb in the yield, the proportion of top to noil, so that it could always produce a cheaper yarn ; and when by improvements in preparing and drawing they succeeded in getting a level yarn, the comb became obsolete and worthless except for some special purposes, especially making a very superior sliver.

“We had not many hand-dressing machines, and when one day, walking round and looking at them with vexation and disdain, as I thought it a terrible humiliation that I (of all men) should be obliged to adopt them, it suddenly occurred to me that I could make a self-acting frame.

“To my great delight, my self-acting frame went to work, so far as I remember, without a single

The
Self-
acting
Dressing
Frame.

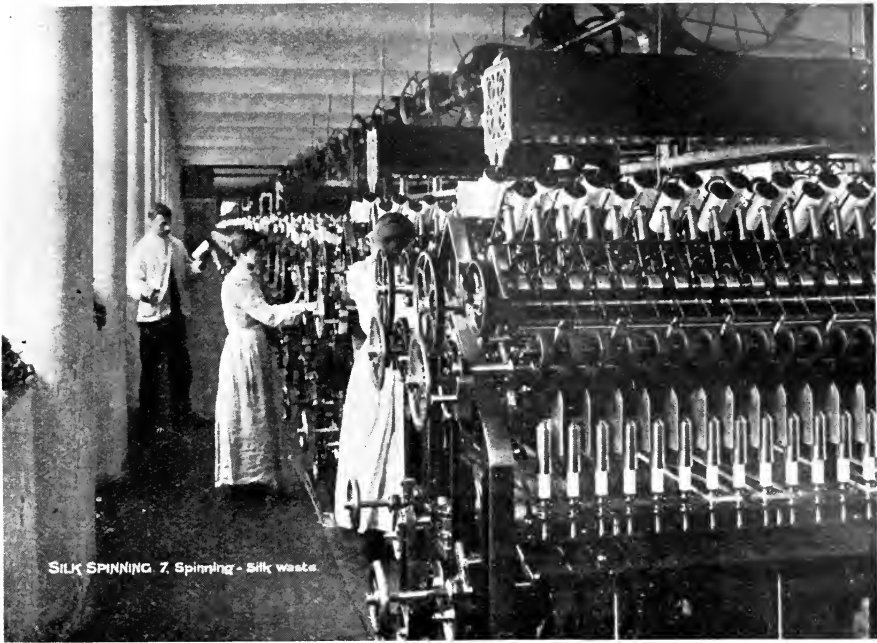
The
Self-
acting
Dressing
Frame.

alteration, and is, I believe, at work to-day. It did not make a sliver (it made a lap). The sliver was an improvement that was made afterwards. It is an immense and costly machine, and requires a great deal of room and power. The first twenty cost us considerably over £1,000 each. . . . Mr. W. Watson has considerably improved them, for which he has taken several patents."

The two pieces of machinery, the silk-comb and the self-acting dressing frame, are the inventions that the waste silk spinning trade owes to Lord Masham's initiative. Their influence has been less felt than his part in the development of the Reixach plush loom, but to arrive at a complete estimate of the great manufacturers' mechanical achievements one has to go outside the silk trade and consider the work done by him in perfecting the wool-comb.

The
Yarn-
Cleaning
Patent.

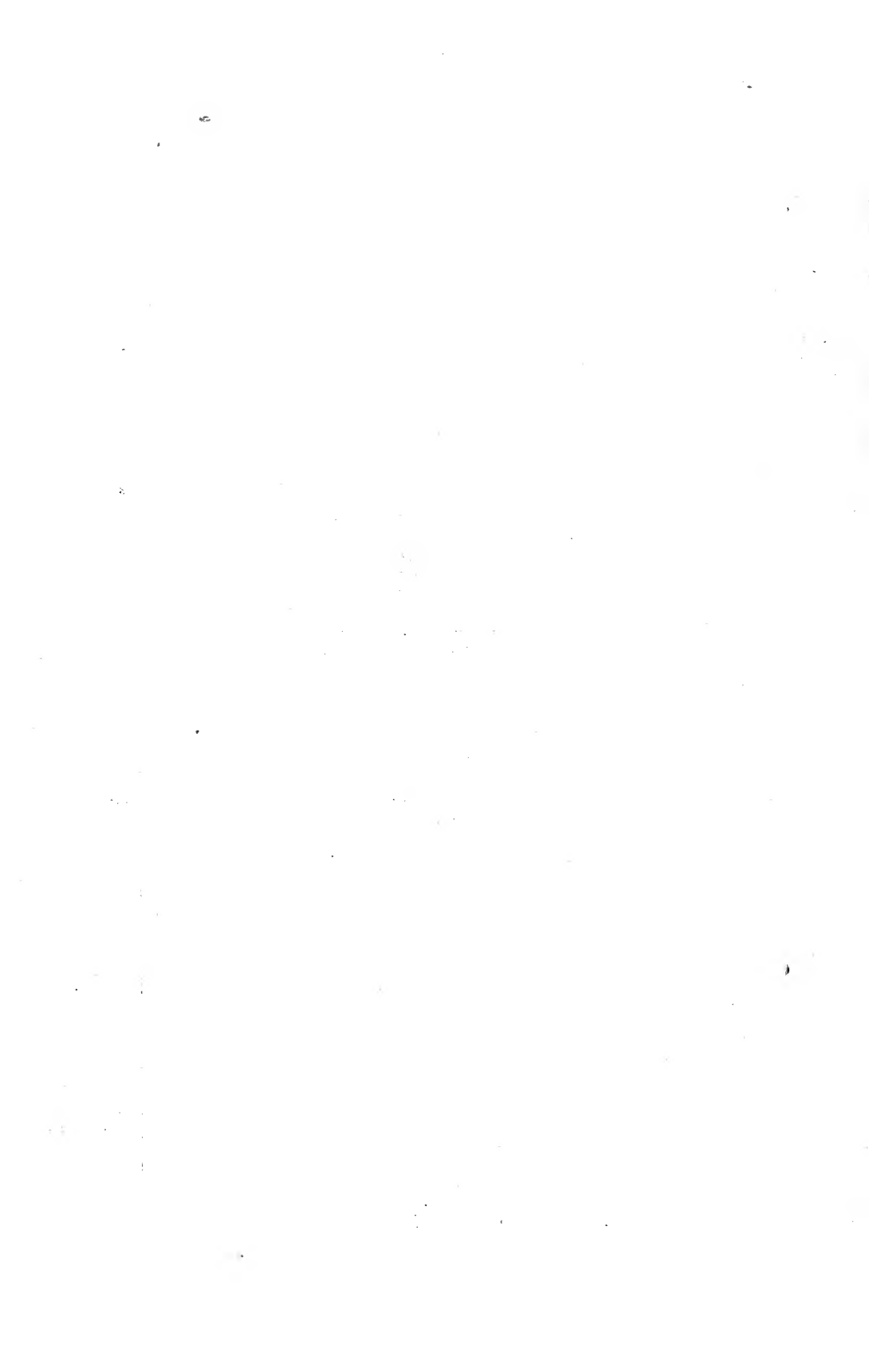
In the course of its manufacture, spun yarn is "gassed," *i.e.*, is passed through a gas flame to burn off protruding ends of its constituent fibres, which, left untouched, obscure the play of light, and hence the lustre of the thread. Some ash remains to sully the colour of the yarn, and it was at one time usual to send yarn out in a distinctly dirty-looking state. Then came the invention by which yarn was gassed as one part of the operation, and cleaned as the other part, and the name "gassed and cleaned" came into being. The improvement is traceable to two inventions of Mr. W. H. Prince and Mr. James Tomlinson, machine maker of Rochdale, who took out patents Nos. 141 and 2194 of 1868, for a means of drawing yarn from the bobbin, gassing it and passing it "round a number of caps to obtain friction enough to clear the loose fibre and smoothe the yarn." These patent rights and the machines for the purpose were sold to Lister and Co., of Manningham Mills, in 1871 or 1872. Subsequently according to information which has been supplied by Tomlinson (Rochdale), Ltd., licences to work the machines were granted by Mr. Lister, or by Lister and Co., to various other spinners. The caps or bars are referred to as "Lister's cleaning bars" in machine catalogues of the present day.



Silk Spinning—Spinning Silk Waste.



Plate XLVI. Silk Spinning, Gassing and Cleaning Yarn—Silk Waste.



The imports of waste silk afford an index to the growth of the spinning industry, although not at all times a perfect one, because spinners have had much larger quantities of home waste at their disposal in some periods than in others. The English silk-throwing trade has undergone great fluctuations, and the importation of waste has not always been equally practicable. The English duty on silk waste in 1787 was fourpence a pound, a charge which would represent one shilling a pound on the yarn produced from it. In 1819, the tariff stood at the prohibitive level of four shillings a pound, or £22 8s. per cwt., and 3s. 9d. a pound on waste from India. The impost was reduced in 1824 to threepence a pound, regardless of origin, and so remained until 1826, when it was further reduced to one penny. In 1829 the tax of a penny a pound was changed to the nominal rate of one shilling per hundred-weight, and later this rate was halved in the case of material from British Possessions, and, later still, was removed entirely. The imports of waste during the earlier years of the factory era have been stated in successive Parliamentary papers as follows :

<i>Average.</i>	<i>lbs.</i>
1815, 1816, 1817	27,000
1821, 1822, 1823	74,000
1831, 1832, 1833	688,369
1839, 1840, 1841	1,055,737

The foregoing statement does not disclose the fact that imports for consumption in 1834 were over one million lbs., over one million in 1835, and over 1½ millions in 1836. Such totals are sufficient signs of the existence of a considerable consumption, and there are numerous independent evidences that the spinning trade was becoming established. Fuller particulars are to be found in the chapters relating to local industry concerning the mill opened at Galgate in 1792, in Leeds before 1812, in Halifax before 1822, in Congleton in 1829, in Brighouse in the 1840's, and that described by Arthur Young in Kendal in 1769. Imports of Waste.

In 1844, according to Geo. Dodd in *British Manufactures*, mills devoted to silk-spinning in contradistinction

Man-
chester
Spinning
Mills.

to silk-throwing, had "increased to an astonishing extent in the last few years, and are situated chiefly in Manchester." The yarn produced was "for cheap shawls, handkerchiefs and other articles, by a process nearly resembling cotton spinning; thus opening up an entirely new manufacture and bringing into use a commodity which was formerly almost useless."

Some other contemporary information is found in McCulloch's *British Empire* (1837), in which it was said :

"A great many Bandanas (particularly in 1834) were manufactured from spun silk for the advantage of claiming the drawback of 3s. 6d. allowed on exportation, the amount of which in many cases realised a large percentage on the manufactured value. On the opening of the trade in 1826 a great stimulus was given to the manufacture of low silk goods generally, and this in particular, owing to the drawback allowed on all manufactured goods above the value of 14s. per lb.; a certificate or debenture for a corresponding weight of Italian organzin imported being produced to entitle the exporter to this advantage. Many Bandanas were in consequence made of so inferior a silk as barely to exceed the manufactured value required by the Act. This trade was also promoted by the low price of the debenture certificate, which in the first instance was to be obtained at 1d.-2d. per lb.; but the demand for debenture increasing in consequence of the large quantity of low manufactured silks bought for exportation, the price speedily advanced; in 1834 it was selling at 1s. 3d. per lb., and its present price is 2s. 7d., with every prospect of a further increase. The inducement, therefore, to export the low goods has to a great extent ceased, and the manufacture of them has consequently been much reduced. The low price at which Indian Bandanas could be purchased in the market interfered with this manufacture, and has led to

Low
Grade
Goods.

the production of better qualities and more tasteful patterns in order to meet this competition.”

The employment of spun waste in this direction was mentioned also by Mr. R. Baggally in evidence before the House of Commons Committee of 1832, when it was said “spun silk may be purchased at Macclesfield for 3s. a lb., woven into bandanas, and receives a bounty on exportation of 3s. 6d.”

The adventitious demand for Bandana handkerchiefs was probably responsible for the appearance of numbers of new spinners about this time, and the same demand may have tempted silk throwsters into the spinning business. Indeed a firm in Congleton, founded long before as a throwing and weaving concern, commenced silk-spinning in 1829, or three years after the opening of this trade by which time the import duty on waste had been reduced to a nominal charge. Soon after 1834 silk warps began to be used in manufacturing stuff goods in Bradford, and to provide a more constant market for yarn than the bounty-fed and short-lived Bandana business. “Bandanas, plain and figured Barcelonas, and fancy and gauze handkerchiefs of entire silk”—to quote further from McCulloch—constituted the handkerchief trade of the period. He added that “the bulk of the silk employed is consumed at Manchester and Macclesfield in the manufacture of Bandanas and Barcelonas,” the remainder was used at “Paisley, Glasgow and elsewhere in the manufacture of gauze and fancy handkerchiefs.” Paisley used spun-silk for many of its famous shawls and table cloths, and a living spinner remembers the good trade with Paisley in 1848.

Further developments in the consumption of waste silk are reflected in McCulloch’s presentation of the average imports in certain later years. From the average slightly exceeding one million lbs. in 1839–41, the progress was as follows :

1850–52	..	..	..	1,693,000 <i>lbs.</i>
1861–65	..	..	..	3,349,000 „
1865–67	..	..	..	3,126,000 „

(Subsequent to the Anglo-French Treaty.)

The Trade in Bandana Handkerchiefs.

Spun Silk for Paisley Shawls.

The
Intro-
duction
of Long-
spinning.

The decade of the 'thirties may be distinguished as that of Bandanas and the introduction of the principle of long-spinning. The 'forties stand out as the period of development in and around Manchester, and of the inception of silk-spinning in Brighouse. The 'fifties were the years of the demand from Bradford and Paisley and the beginnings of spinning in Bradford. The 'sixties brought the Anglo-French Treaty and the removal of duties from foreign manufactured silk. In 1861 the American Civil War broke out, and in 1862 the supply of cotton from that country was equal only to one-third of the requirements. The next two years brought no relief, and not until 1865-66 did the cotton supply resume the normal course. The Cotton Famine, the greatest of all the calamities that have befallen Lancashire, put a premium on all materials capable of replacing cotton, and fortunes were made out of substitutes. Beddings stuffed with silk waste found their way into the market, and men who picked up the material at three-halfpence a pound sold it again at half-a-crown.

Silk materials were high in price in the period between the Cotton Famine and the outbreak of the Franco-Prussian War, and their values at the end of the decade are shown in this quotation from a broker's circular :

CIRCULAR OF T. AND H. LITTLEDALE, OF LIVERPOOL.

7 Jany., 1869.

Foreign : Gum waste	<i>per lb.</i>	5/3 to	6/6
Do. good to fine	"	6/3 "	8/-
Do. knubs and husks.. ..	"	2/- "	4/6
Turkey do.	"	3/6 "	7/-
East India Chassum	"	1/2 "	2/8
" " Cocoons	"	2/- "	4/-
Raws—Tsatlees	"	20/- "	26/-
Canton	"	15/- "	20/-

A Short
Era of
Pros-
perity.

So well informed an authority as the late Mr. Joseph Boden called the period 1870-6 "the most prosperous in the history of the trade," and as in his own person he "paid buyers 10s. per lb. clear profit upon their purchase of a year before," the opinion was well founded. Without knowing precisely what profits

spinners did make in this period, he estimated that those who avoided too heavy contract obligations may have made as much as 15s. per lb. upon yarn. The demands of the lace and fancy dress goods trades, coupled with the disabilities under which Continental competitors suffered during this time of war, created these abnormal opportunities of money-making.

The 'eighties brought plushes which were close imitations of seal fur into favour, and created a large demand for tussah yarn, and the profits were still good enough to tempt Yorkshire capital from other trades into the business. The early 'nineties, after a discouraging opening, provided a large business in Balernos of Bradford make, in which spun-silk was used in conjunction with worsted and cotton for stripes. *Crêpe de Chine*, blouse cloths and moirette skirt cloth came into new prominence and consumed large quantities of yarn. The advent of mercerised cotton in the later 'nineties may have exercised some influence in giving the decade 1900-1909 a humdrum tone. The American panic of 1907 adversely affected the business, and, allowing for incidental fluctuations, there was a general increase in the price of raw materials. The opening years of the succeeding decade have brought a renaissance of the demand for pile fabrics made from tussah yarn and, in view of the inroads made by competing bright materials, the development must be regarded as a fortunate one. Raw materials have risen to higher peaks than in the decade preceding, and classes of silk waste formerly neglected by Continental spinners have now to be bought in competition with them.

The history of the effective employment of the waste of brown silk, the produce of the wild or oak-fed worm began in the 'eighties of the last century. The product had been known before that decade, and Mr. Lemuel Clayton, of Halifax, spoke in 1879, at a meeting of the Society of Arts, of seeing a large quantity four or five years before in the Lower Thames Street Dock warehouses. The material was said to have been unfavourably regarded in London and to have been removed to Manchester, where it remained unsold for two or three years.

A Short
Era of
Pros-
perity.

The
Waste of
Brown
Silk.

The
Waste of
Brown
Silk.

Mr. H. T. Gaddum, of the eminent Manchester merchant firm, in a communication to Sir Thomas Wardle, declared his inability to say when the importation of this article began. Before the last months of 1883, it had been consumed at prices ranging from 6d. to 10d. a pound to make "a low-priced yarn for the manufacture of a variety of different goods requiring a glossy cheap silk." Up to that date the material had apparently owed its market rather to its comparative cheapness than to the especial characteristics distinguishing it from white and yellow silks, the produce of the cultivated worm.

Sir Thomas Wardle elicited from the Lyons Chamber of Commerce the information that until the 'eighties tussah silk waste was even less known there than in England. The Chamber had no knowledge of any importation before 1879, nor did several Lyons and St. Etienne merchants, whose experience was sought. In 1879, 53 bales of raw tussah and 59 bales of tussah waste were brought into Lyons, and in the following year 375 bales of raws and 147 bales of waste. Although the exact date of the introduction of tussah silk has not been found, there is a reference in *British Manufacturing Industries* (1877) which seems to assign an earlier date than that suggested by Mr. Clayton. In a contribution by Mr. B. F. Cobb, Secretary of the Silk Supply Association, these passages occur :

The
Advent
of Tussah
Yarn.

"The great stimulus given to the consumption of tussahs has been the invention of machinery for dressing, carding and spinning these cocoons with waste and floss silk of a higher class."

"What beautiful fabrics may now be made from tussahs and waste silk was shewn by the exhibits of manufactured spun silk in 1873."

This allusion to an invention is obscure, for none was needed. Tussah and white silk are dressed on precisely the same machines, and for occasional purposes are still intermingled in one yarn. Spinners prefer, however, to dress them separately and to blend the two sorts in course of the drawing operation, and it is improbable that a system of mixing the wastes together at an earlier stage

could have presented any advantage. The materials are mixed in order to obtain a lighter "natural" (*i.e.* undyed) colour than is given by tussah alone, and they may also be mixed in yarns for dyeing to relatively dark shades. The admixture is rather exceptional than usual, but the suggestion that it was in mixtures that tussah first came into use is of interest on the technical side. It is probably to the Paris Exhibition that the further passage refers, and the "beautiful fabrics" doubtless include the specimen of silk sealskin in which tussah waste found its supreme utility.

In 1883, or thereabout, the special qualities of tussah obtained recognition, and the price rose from 10d. to 2s. 3d. per lb. under the influence of the demand for imitation sealskin cloth. Re-action followed, and the price, after falling to 1s. 6d., rose to 3s. 3d. in 1887, at which date imitation sealskins were having a great vogue in America. Tussah waste became a more marketable article than tussah net silk, and spinners began to buy tussah raws at 4s. a pound and to cut the hanks and reduce them to the form of waste. They paid—according to Mr. Gaddum's letter—as much as 5s. 3d. per lb. Then the manufacture of sealskins having been seriously overdone, prices fell back to 3s. 4d.—3s. 6d. for raw tussah, and 1s. 2d.—1s. 3d. for tussah waste in 1891, and ten years later the waste was once more a drug at prices lower than in 1883. These particulars emphasise the truth that silk values are singularly subject to fluctuation. The experience has been repeated since, and tussah waste in 1912, again in response to a fashion for long-piled plushes, reached 2s. 3d., the price attained when it first came into public favour.

In a paper in June, 1891, before the Society of Arts, Sir Thomas Wardle related his share in the turning of tussah waste to its highest economic purpose. Being unable to interest English manufacturers in tussah, he caused a quantity to be dyed black and took it to Crefeld with an offer to pay a German manufacturer to convert it into cloth. This was in 1872, and the fabric then made and publicly displayed first at the Paris Exhibition and afterwards in the South Kensington Museum, was believed

The
Advent
of Tussah
Yarn.

The
Demand
for Imitation
Sealskin
Cloth.

Effect of McKinley Tariff. by Sir Thomas Wardle to be the first plumose fabric ever made from this species of material. If Crefeld was the cradle of the trade, England was its growing ground, and at Manningham, Saltaire, Queensbury, Huddersfield and Rochdale large manufacturing developments followed. Exports of seal plushes from the Bradford district to the United States rose from a value of £11,000 in 1883 to £535,000 in the year 1888. For two years longer the trade was maintained at a value of £400,000, to be cut down to a nominal total by the McKinley Tariff guillotine and the sating of American demand. Crefeld and Elberfeld made their original plushes by hand-loom, whereas the English makers used power machines to produce the two millions worth sent to America in 1883-1890, and the large quantity sold in the home and Continental markets.

Silk-spinning has had its reverses as well as its successes, and although the trade as a whole is larger than ever, its path is strewn with the wrecks of fallen firms. Before Mr. Chamberlain's Tariff Commission in 1905, Mr. A. J. Solly deposed that of 24 silk-spinning concerns existent in England in 1870, only nine then remained. There had been newcomers, but of the older firms nine had failed and six withdrawn from the business. Thirty separate undertakings existed in 1886, and by 1904 this number had contracted to that of 1870. In thirty-four years there occurred seventeen failures and eleven voluntary stoppages. Allowing duly for those processes of growth and decay which take place in the industrial as in the physical world, the record is still a significant one and hardly matched in the larger branches of the textile trade.

Decline of British Silk Spinning. Spinners follow the changes of numerous and fickle trades, and there is every assurance that the defection of large markets has been prejudicial to them. However, it is not alone to the closing of markets that we are to look for the reasons of this formidable list of mortality among firms engaged in the business. Silk is subject to fluctuations, and spinners caught unprepared, or lacking capital beyond that demanded for their daily needs, are exposed

to heavy risks. In rising markets the spinner short of surplus funds is unable to buy as freely as he would wish, and upon a fall of values he is not strong enough to hold in stock materials which may fetch better prices later. Fortunes have been made out of fluctuations in value, and similarly fortunes have also been lost. Rapid rises followed by sudden falls are bad alike for rich spinners and poorer ones, for the spinner cannot escape from his obligations to his suppliers of waste, and the yarns sold at top prices in the period preceding the fall are too often never delivered. Prices have only to rise high enough and fall low enough and they strain the resources of the strongest. When the fluctuation is less extreme, all the difference between success and failure lies in the ability to tide over a time of adversity. Those who buy too late and sell too soon are manifestly unable to hold their ground in the struggle to survive.

Sudden fluctuations in the price of silk waste have been traced to different reasons. Short crops, due to disease among silk-worms, war and large speculative buying, have at different times driven up the price. The heaviest falls have been attributable to financial panics, commonly having their origin in America. It is easy to appreciate the consequences of a doubling of the price of raw material within a period of months, followed by a headlong descent to a lower level than at the beginning. Such movements have been known in the purchase price of waste, and they are magnified three times in the cost price of yarn. The late Mr. Joseph Boden, of Manchester, named some of the extreme limits of fluctuation in his paper to the Silk Association in 1905. He showed that in the year 1793 spinners paid about 5s. for waste to make into yarn selling at about 17s. a pound. In 1870-76 two-fold 60s. yarn sold at 27s. to 31s. per lb., and it was added—"as good yarn as that sold at 27s. has within the past three years been obtainable at 6s. 3d." There are long intervals between these dates and the fluctuations noted in the waste market occurred within a long span. "During the past 40 years," Mr. Boden said, "the prices of silk have varied enormously—China waste between 2s.

A
hazard-
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Business.

Fluctua-
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which
spell
failure.

Fluctuations
which
spell
failure.

and 10s. 6d., mixed French between 1s. 10d. and 9s. 6d., China tussah waste between 5½d. and 3s. 1d.” Periods of quiescence have fortunately been known, but a trade is unmistakably speculative in which fluctuations of from 500 to 700 per cent. are possible. At its lowest recorded prices silk waste is still relatively an expensive commodity. The yarn made from it fetches much more than cotton yarn or worsted, but the by-products generated in the course of dressing and spinning waste are not correspondingly valuable. The effect of this disparity is easy to appreciate. As yarn, the waste spun and delivered may be worth 9s. a pound in an ordinary case, but as spoilt material its value is more like ninepence. Therefore unless the spinner checks the production of waste upon his own machinery at every point, and adopts every available means of reducing this source of expense, a heavy and insidious drain is made on his resources. The possible number of leaks in a spinning mill is great, and it is not in spinning silk alone that an unregulated and unsuspected excess production of spinners’ waste has brought disaster to individual concerns.

Silk
Shoddy.

The lowest reaches of the waste silk industry have a greater antiquity than might be supposed, and in point of age the production of silk shoddy may rival that of wool. The present woollen rag-pulling industry of the West Riding is dated from the setting up of a rag-grinding machine in Batley in 1813 by Benjamin Law. There are vague rumours of an earlier beginning in Brighouse, and in any case it is certain that fibre recovered from worsted yarn had been introduced into cloths at much more distant dates. It was in 1801 that three Scotsmen, Thomas Parker of Broomward, Glasgow, Esquire, and William Telfer and Alexander Affleck of the same city, mathematical instrument makers, patented (No. 2469) “improvements in preparing and manufacturing flax, hemp, silk and other materials.”

So far as it related to silk, the patent was for a machine “for preparing wove silk . . . from articles that have been wore”; in short for reducing silk rags to their ultimate filaments. The machine is substantially that

which the woollen trade knows as a grinding machine or "devil," and its product might by similitude be called silk shoddy. The nature of the machine can be learned from the description given by its inventors :

" Fig. 1. A, a cylinder set with sharp teeth in rows across the cylinder in a standing direction, for carding or reducing the article to be prepared or teased. B, a circular brush placed below the cylinder, and made to go at greater speed than the cylinder, by which the article teased or carded is brushed off, and the teeth kept constantly free to produce their full effect. C, a pulley that drives the cylinder, &c. D, the rollers through which the articles to be teased pass to the teeth of the cylinder, the upper roller being sufficiently weighted to keep the articles firm between the rollers. E, a flat brush placed across the cylinder, to keep the articles to be carded down to the teeth of the cylinder, and also to displace them by a motion given to the brush endways. F, a worm on the end of the cylinder A. G, a face wheel on the end of one of the rollers D. H, the feeding cloths, represented by Fig. 2, or the under cloth *a*. The articles to be teased are spread, in order to be drawn under the upper feeding cloth *b*, by which they are conveyed smooth to the rollers, and through them to the teeth of the cylinder.

" Fig. 3, rollers attached to the same machine, or placed on a separate frame, with cutting wheels raised on the rollers to cut articles of silk into breadths required, in order to their being teased."

The by-product of one branch of textile industry becomes the raw material of another as a matter of course. The spun-silk trade is fed with the remains of silk-reeling and silk-throwing, much as the woollen industry is supplied with the leavings of the worsted processes. The manufacture of spun yarn of long fibre involves the production of large quantities of noils and of smaller quantities of spinning waste, all capable of further employment

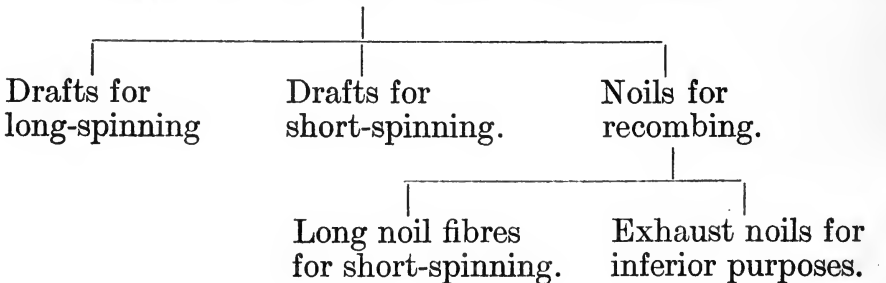
Spun
Silk
Trade.

in yarn of another class. Producers of short-spun yarn take the noils from the dressing-frames of the long-spinners and re-comb them, extracting in the process all fibres of a certain length suitable for their purposes. The soft waste engendered in spinning is freed from its oil and dirt and made to do service in company with material from other sources. The one process is the complement of the other in making the fullest use of the supply.

Noil Spinning. When the short-spinner has taken out from the noils such portions as he can employ, there remains a residue of some 80 or 90 per cent. of exhaust noils, too short, and too much curled into "nibs," to be eligible for yarn of fine count. This supply is the natural food of the noil spinner, whose products serve a different range of purposes. Noils are mixed with woollen to give "snowflake" effects in tweeds, or thick slubs in grotesque novelty yarns. Chenille yarn is made from noils, and by virtue of their non-inflammable nature and cheapness they are employed also for making cloth for ammunition bags. Yarn suitable for stripes in tweeds and for embellishing the ends of pieces of cotton or woollen cloths is made from the better and brighter qualities of material. Noils suitable for no higher purpose are consumed in a lower department of the waste silk industry, the manufacture of sponge-cloths for the cleaning of machinery. The natural affinity of silk for oil, which is as marked as its antipathy for water, promotes their use in this direction, as does the immunity from risk of spontaneous combustion, which is to be gained by using cloths of pure noil silk.

Products and By-products. The products of the waste silk industry lend themselves in the main to a summary in this form:—

Waste silk from the reeler and throwster



The spun yarn, the produce of the drafts manufactured Products in this country, is distinguished for its strength, lustre and By-and purity, and is mainly used for one or other of the products. following purposes :

Weaving : Plain cloths, plushes, stripings or borderings, handkerchiefs, ribbons, upholstery goods and trimmings, small wares.

Knitting : All silk or wool and silk, garments and undergarments, ties, &c.

Lace making : Calais and Nottingham laces.

Sewing : Machine twist, embroidery, crewel, crochet.

The consumption on weaving account is the chief one, and the requirements of the plush trade have for some time been the largest. The hosiery trade takes a small but increasing proportion of the whole, and is a trade which in itself has undergone a wonderful expansion of late years. Material that washes well and wears well is indispensable for many knitted articles, and in these qualities spun-silk possesses an advantage over its nearest competitors. The lace trade is singularly susceptible to dictates of fashion, and although Continental tariffs have a discouraging effect on the consumption of English silk, English yarn is exceptionally suited for the fundamental needs and commands a sale in foreign centres of lace manufacture despite the handicap of the lace market. Sewing silks, in which class are included those for needlework in general, are a speciality of English spinners, and the solid virtues that make English silk threads best for lace assist the demand for sewing silks. Dyed sewing silks are better able to resist wear and atmospheric influences than the mercerised cotton that has replaced them for many purposes. The railway and steamship companies in charging ultra-heavy rates of carriage on consignments consisting in large part of wood and paper, embarrass this branch particularly, and the natural disparity of price between silk and cotton is accentuated disproportionately by the heavy retail profits taken on threads for domestic use.

Sewing
Silks.

At present waste silk is spun into yarn by some 22 mills established in Yorkshire, Lancashire, Cheshire and

Sewing
Silks.

Staffordshire, concerning which fuller particulars are given in the chapters treating of these localities. It is found from analysis of the import and export returns that there was retained for consumption in the five years 1907-11 an average of seven million lbs. of foreign knubs, husks and waste of silk. To this may be added nearly the whole of the waste produced in winding and throwing net silk in this country; a quantity of probably 40,000 lbs. Applying the customary formula that 3 lbs. of waste yields 1 lb. of yarn, an output of 2,347,000 lbs. of yarn may be estimated. The estimate does not materially differ from the 2,306,000 lbs. returned as the output in the 1907 Census of Production. There are signs that the production has increased since the taking of the census. Imports of raw material have been larger in the later years of the quinquennium; trade has been brisker and new and more efficient machinery has been brought into use.

Silk is too much exposed to variations in price to make quotations a good basis of comparison, but its values are always high relatively to those of wool or cotton, and if in comparison with the output of worsted or cotton yarns that of waste silk looks small, it has to be remembered that the volume recorded for 1907 gave a value of roundly one million sterling.

Output
and
Values.

The approximate output being known, it is simple arithmetic to calculate the number of spindles required for its production. There may be a difference of opinion as to the average count of yarn produced at any one time and the number varies with the demand, but spinners for the most part have proportioned their machinery to produce 2/60's.

"Two-thirds of the whole of the yarn produced in the spun silk trade in England is made in two-fold 60's," said Mr. William Watson to the Tariff Commission in 1905. Yarn of this denomination is made by combining two threads of 120's (120 x 840 yards), and the output of one ring spindle is some 13 lbs. per annum of thread of this fineness. Were all the spinning frames ring-frames, it could be shown that 177,400 spindles would be required to spin 2,306,000 lbs. of yarn. Many thousands of the

slower flyer frames remain in use however, and the estimate must be increased. A total of 200,000 spinning spindles does not appear to be an excessive allowance, the less so in view of the information obtained from the manager of a large spinning mill. Adding together coarse yarns and fine ones and including frames which must be run slowly with those which may be run fast, the records of the mill show that 209,000 spindles would be required to turn out in one year the quantity named in the Census.

Some of the machinery required is very expensive when compared with the average cost of conventional textile machines; the raw material is costly; the time consumed in process is relatively long, and consequently the capital engaged is correspondingly greater than for an equal number of worsted or cotton spindles. An amount between £4 and £5 per spinning spindle is not an excessive sum to allow, and it may be computed with rough accuracy that the British waste silk spinning industry employs a capital sum of one million sterling at the present time.

Both in methods and in products the English silk spinning industry differs from that of the Continent. The typical product of English mills is a yarn of long fibres, spun from materials from which the natural silk gum has been thoroughly boiled out. That of the Continental mills is a yarn of fibres shorter than the English, and from which the gum has been more or less incompletely removed by a process of fermentation. The English yarn is the stronger of the two, and the more lustrous in the first instance, for the lustre of "schappe" or Continental yarn is developed in subsequent processes. The presence of sericin or animal gum facilitates the working of silk in certain forms of machine combs and assists in the production of a round thread from relatively short-fibred materials. Continental spinners are able to use shorter fibre than the majority of English mills, and, with the assistance of cheap labour, to turn out a cheaper but different yarn from the English. Continental spinners of certain qualities of yarn compete with English users of the short-spun process for the noils rejected in dressing long silk.

Output
and
Values.

British
and
Foreign
Trade
com-
pared.

British
and
Foreign
Trade
com-
pared.

According to Mr. Boden's address, to which earlier reference has been made, J. S. Alioth and Co. started the first spinning factory in Europe, beginning in 1822 in Basle, and transferring their machines to Arlesheim in 1824. By amalgamation their firm became Chancel, Veillon, Alioth and Co. in 1872, and later La Societe Industrielle de Schappe. Old as the hand-spinning process is known to be upon the Continent of Europe, the larger developments of factory spinning are a product of the last half-century. One of the witnesses before the Tariff Commission (1905), speaking partly upon hearsay, said:

"In 1861, my information is that there was practically only one silk-spinning firm on the Continent, and that was in France. In 1866 there were three firms alone spinning more than all the English firms put together and many small ones. At the present day there are two foreign spinners who certainly spin more than all the 24 English spinners together."

English
Textile
Machi-
nery
Abroad.

The rapid advance after a relatively late start owes much to the employment of English textile machinery, with which certain departments of Continental spinning mills are generally equipped. Lord Masham's reference to the introduction upon the Continent of the English intersecting gill machine (*p.* 415), bears upon this point, and there is a suspicion that the example of a Manchester firm also had its effect. So long as the machines used by this firm for spinning waste were confined to a secluded valley in the Canton Vaud there was a marked superiority in their product over that of Continental mills in general. When the machines were removed to near Milan, their existence became more generally known, and their adoption by foreign spinners followed. On the Continent, spinning has made most progress in the countries identified with the production and manufacture of silk at large, and these countries in general have pursued a protective fiscal policy.

An estimate quoted from a French source places the current annual production of spun waste yarn in the whole world at 5,500,000 kilogrammes (roughly 12,000,000 lbs.).

The German production, disclosed by the census of 1907, is 2,457,000 lbs.; an amount produced upon only 69,590, spindles. The inference is that the yarn is not comparable with British and consisted mainly of spun noils. Mr. Boden, in 1905, assessed the world's production at about 15½ million lbs., allotting 11 millions to the Continent, 3 millions to England, and 1½ millions to China, Japan, America and India. The production has increased since that year, and notably so in the case of Japan.

Japanese silk-spinners have cheap, if not very efficient labour at their service, and are supposed to derive advantages in more than one way from their proximity to the sources of supply. Freight is saved, and they are able to receive the waste wet from the cocoon-reeling machines with its gum in a condition lending itself more freely to discharging than had the material been dried for transport.

Japan
Trade.

The export trade is detailed in the following tables:—

EXPORT OF SILK SPUN YARN FROM JAPAN.
(Official Tables.)

<i>Countries.</i>	1908. <i>lbs.</i>	1909. <i>lbs.</i>	1910. <i>lbs.</i>	1911. <i>lbs.</i>
America	118	3,216	50	3,331
British India ..	126,973	214,413	302,751	375,586
Great Britain ..	—	1,978	31,782	29,951
China	661	9,363	1,452	338
Other Countries ..	131	2,568	107	8,364
	<u>127,883</u>	<u>231,538</u>	<u>336,142</u>	<u>417,570</u>

There is an additional export from Japan of silk drafts, *i.e.* of waste silk freed from gum and dressed in readiness for lapping, drawing and spinning.

The spinning industry of the United States is a comparatively small one, employing some 130,000 spindles, according to the Census of 1909, and the spindles are distributed over six States. There were 24,000 in Connecticut, where the Cheney Brothers started the first American silk spinning mill in 1868, obtaining their machines from England. In 1909 there were in Massachusetts 11,500 spindles, in New Jersey 34,000, in New York 26,000, with a similar number in Pennsylvania, and in Rhode Island 7,000. No distinction is drawn between spinning and twisting spindles in the official

Spinning
in the
United
States.

Spinning in the United States. return, so that of the spindles enumerated only a certain number are as productive in the initial sense. It would appear from the census reports that the greater part of the waste silk spun in America is for consumption by the producer, not for sale in the state of yarn. The quantities spun for sale have been returned at their different dates as :

1899.	1904.	1909.
<i>lbs.</i>	<i>lbs.</i>	<i>lbs.</i>
437,459	570,529	779,462

The spun silk used in America includes the imports, which are considerable, and the totals recorded as used have been :

1899.	1904.	1909.
<i>lbs.</i>	<i>lbs.</i>	<i>lbs.</i>
1,550,291	1,951,201	2,212,972

The following share quotations of large schappe spinning companies, contained in a circular of August, 1912, testify to the prosperity of the industry upon the Continent :

	<i>Capital.</i>	<i>Share.</i>	<i>Quoted.</i>
	<i>Francs.</i>	<i>Francs.</i>	
Filature Lyonnaise de Schappe ..	2,000,000	500	1,200
Filature de Schappe de Lyon ..	12,000,000	1,000	4,000
Filature de Schappe de Russie ..	5,000,000	1,000	3,500
Filature de Schappe de Bale ..	12,000,000	1,000	4,000

One other highly successful Continental undertaking is an Italian one, the Societa per la Filatura del Cascami di Seta, Milan.

Waste Silk Statistics. Of late years Continental spinners have become users of forms of waste such as the Steam Waste from Canton—long the staple material of the English industry—which formerly they did not use. They employ also some wastes of filatures and throwing mills in Western countries, and the following tables of exports from the Far East indicate at least roughly the consumption within the countries named :

EXPORTS OF SILK WASTE FROM CHINA.

(Messrs. Arnhold Karberg and Co.'s Tables.)

<i>Countries.</i>	1909-10.	1910-11.	1911-12.
	<i>Picul Bales.</i>	<i>Picul Bales.</i>	<i>Picul Bales.</i>
France	49,202	57,580	63,988
England	26,763	23,116	28,139
Italy, Sweden and Germany ..	14,927	18,232	22,074
Japan	14,740	17,371	12,754

<i>Countries.</i>	1909-10.	1910-11.	1911-12.
	<i>Picul Bales.</i>	<i>Picul Bales.</i>	<i>Picul Bales.</i>
America	1,568	2,407	3,922
Trieste, Austria	658	1,070	615
Sundry	504	273	—
Total for three seasons ..	108,362	120,089	131,492

Messrs. Arnhold Karberg's table relating to the whole of China is followed by that of Messrs. Herbert Dent and Co., referring exclusively to Canton: Chinese Figures.

EXPORTS OF SILK WASTE FROM CANTON.

(Messrs. Herbert Dent and Co.'s Tables.)

Seasons 1902-3 to 1911-12 (June 1—May 31).

Seasons.	England.	Continent.	America.	Bombay.	Total
	<i>Picul Bales.</i>	<i>Picul Bales.</i>	<i>Picul Bales.</i>	<i>Picul Bales.</i>	<i>Picul Bales.</i>
1902-03	19,261	10,218	979	3,591	34,059
1903-04	19,043	10,981	1,201	2,606	33,831
1904-05	16,318	11,135	2,657	3,949	34,059
1905-06	16,267	10,338	2,410	3,823	32,838
1906-07	14,255	9,759	2,811	3,319	30,144
1907-08	18,907	12,477	2,251	4,491	38,126
1908-09	20,214	8,502	3,301	3,116	35,133
1909-10	12,328	10,199	4,681	3,631	36,839
1910-11	14,084	14,978	8,026	4,032	41,120
1911-12	9,618	11,349	7,055	2,772	30,794
Totals for ten seasons ..	160,295	115,936	35,372	35,330	346,933

It is shewn by the official return of exports of waste silk from Japan that the Japanese production obtains greater appreciation from Continental than British consumers:

EXPORT OF SILK WASTE CURLIES AND KNUBS FROM JAPAN.

(Official Tables.)

<i>Countries.</i>	1908.	1909.	1910.	1911.
	<i>lbs.</i>	<i>lbs.</i>	<i>lbs.</i>	<i>lbs.</i>
America	227,715	179,611	220,901	289,968
Austria-Hungary	482,219	405,305	260,400	485,761
France	7,306,141	6,777,688	7,127,554	6,100,272
England	251,133	75,789	41,774	402,439
British India	129,291	56,143	69,807	91,062
Italy	2,008,598	1,374,202	2,186,264	1,823,556
Switzerland	1,038	11,653	694	373
Other Countries	30,051	24,031	19,361	31,287
	10,436,186	8,904,422	9,926,755	9,224,618
	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>
	77,305	65,958	73,524	68,331

A difficulty in the way of presenting a complete record of the imports of silk waste into Great Britain lies in the inclusion of waste noils along with knubs, husks and waste, British Import Statistics

British in the Statistical Abstracts for the United Kingdom, from
 Import whence the following particulars have been derived. The
 Statistics. Abstracts fail to show the re-exports, and only when these
 are deducted is the net quantity available for consumption
 known.

IMPORTS INTO UNITED KINGDOM.—SILK KNUBS, HUSKS AND WASTE.

1867	23,031	Average 3 yrs.	£16.31	Average 3 yrs. £16.75
1868	..	..	30,550	27,593 cwts.	16.17
1869	..	..	29,198		17.78
1870	31,360		15.68	Average 10 yrs. £14.13
1871	..	..	38,984	Average 10 yrs.	16.03
1872	..	..	33,866	33,005 cwts.	17.98
1873	31,815		14.46	Average 10 yrs. £12.89
1874	..	..	35,141		13.27
1875	..	..	33,787		12.29
1876	29,663		13.69	Average 10 yrs. £12.89
1877	..	..	24,282		13.47
1878	..	..	32,887		11.94
1879	38,268		12.53	Average 10 yrs. £12.89
1880	..	..	55,002	Average 10 yrs.	13.64
1881	..	..	54,119	63,256 cwts.	14.50
1882	44,277		13.29	Average 10 yrs. £9.45
1883	..	..	62,064		14.50
1884	..	..	67,239		13.30
1885	53,047		12.73	Average 10 yrs. £9.45
1886	..	..	68,026		11.99
1887	..	..	65,892		12.38
1888	83,466		11.83	Average 10 yrs. £9.45
1889	..	..	79,435		11.32
1890	..	..	70,634		11.22
1891	77,556		10.62	Average 10 yrs. £9.45
1892	..	..	46,392		11.40
1893	..	..	56,839		10.08
1894	58,469	Average 10 yrs.	9.68	Average 10 yrs. £9.45
1895	..	..	56,435	63,209 cwts.	8.98
1896	..	..	62,923		8.66
1897	54,774		8.40	Average 10 yrs. £8.48
1898	..	..	70,821		7.70
1899	..	..	77,256		7.81
1900	60,720		9.-	Average 10 yrs. £8.48
1901	..	..	48,162		8.38
1902	..	..	55,782		8.57
1903	66,782		7.98	Average 10 yrs. £8.48
1904	..	..	71,450	Average 10 yrs.	8.
1905	..	..	72,055	64,039 cwts.	7.72
1906	66,348		8.17	Average 10 yrs. £8.48
1907	..	..	66,299		9.49
1908	..	..	64,669		9.10
1909	68,132		8.50	Average 2 yrs. £8.88
1910	..	..	78,028	Average 2 yrs.	8.70
1911	..	..	81,261	79,644 cwts.	9.06

The
 Fall in
 Prices.

From the grouping by decennial periods it appears that the gross imports of waste silk and noils rose from about half that amount to 63,000 cwts. in 1880-89, and for two decades remained at that level, with a rise to nearly 80,000 cwts. in 1910-11. The average prices reveal a long fall, but with some appreciation in the last decade.

A more exact account has been summarised from the Annual Statement of Trade, covering a period of five recent years.

British
Import
Statistics

	Imports.	Exports Foreign and Colonial, Knubs, Husks and Waste.	Available for Home Consumption.	
	<i>Cwts.</i>	<i>Cwts.</i>	<i>Cwts.</i>	
1907	64,245	4,254	59,991	
1908	61,388	2,022	59,366	Average
1909	65,149	4,362	60,787	6,965,500
1910	72,320	6,999	65,321	lbs.
1911	73,171	7,727	65,444	

Separating the years to accord with the decennial grouping, it appears that since 1909 the industry has had 65,000 cwts. of waste at disposal, in lieu of the 60,000 of the preceding triennium.

Imports of waste silk noils are inconstant in quantity and are not all retained for consumption. Of late there has been a marked rise in these imports :

WASTE SILK NOILS (FOREIGN AND COLONIAL).

	Imports.	Exports Foreign and Colonial	Available for Home Consumption.
	<i>Cwts.</i>	<i>Cwts.</i>	<i>Cwts.</i>
1907	2,054	753	1,301
1908	3,281	402	2,879
1909	2,983	198	2,785
1910	5,708	1,198	4,510
1911	8,090	2,521	5,569

The export of silk noils, the by-product of English silk spinning also exhibits variation :

EXPORTS WASTE AND WASTE NOILS, PRODUCE OF THE U.K.

1907	6,753 cwts.	1910	10,995 cwts.
1908	6,571 "	1911	19,024 "
1909	7,743 "		

Marked fluctuations occur in the imports into the United Kingdom of foreign spun yarn, and these are attributable to changes in the fashion for goods. For instance, a good demand for velvets stimulates the purchasing of schappe weaving yarns for English looms.

Influ-
ence of
Fashion.

IMPORTS OF SPUN SILK YARN (DYED OR NOT).

	1907.	1908.	1909.	1910.	1911.
	<i>lbs.</i>	<i>lbs.</i>	<i>lbs.</i>	<i>lbs.</i>	<i>lbs.</i>
Germany	16,877	34,983	30,682	41,592	43,406
Belgium	33,850	25,381	23,548	29,461	22,997
France	64,678	68,844	96,147	153,213	218,168
Switzerland	147,507	156,722	172,867	210,338	228,409
Italy	64,458	11,018	21,811	33,028	78,610
Other foreign Countries	5,091	800	2,500	43,197	32,542
	<u>332,461</u>	<u>297,748</u>	<u>347,555</u>	<u>510,829</u>	<u>624,132</u>

RE-EXPORTS SPUN SILK YARN.

1907.	1908.	1909.	1910.	1911.
<i>lbs.</i>	<i>lbs.</i>	<i>lbs.</i>	<i>lbs.</i>	<i>lbs.</i>
20,144	21,928	21,425	20,965	10,915

FOREIGN YARN RETAINED FOR CONSUMPTION.

1907.	1908.	1909.	1910.	1911.
312,317	275,850	326,130	489,864	613,217

Mis-
leading
Returns.

The origin assigned to the import entries cannot in all cases be trusted implicitly, as goods passing in transit through several countries are apt to be ascribed to the country of last departure. It may be—for example—that portions of the imports from the Netherlands and Belgium have their real origin in Switzerland, France or Italy.

In the same way the destinations ascribed to exports are not always final, and confusion is common in goods passing overland through the nearer European ports. A detailed table of the exports of yarn in five past years is appended :

EXPORTS BRITISH SPUN SILK YARN (DYED OR NOT DYED).

	1907.	1908.	1909.	1910.	1911.
	<i>lbs.</i>	<i>lbs.</i>	<i>lbs.</i>	<i>lbs.</i>	<i>lbs.</i>
Germany	109,394	45,238	81,762	99,053	77,180
Netherlands	26,542	12,134	7,261	4,484	2,160
Belgium	8,312	4,981	1,140	2,094	6,297
France	126,036	105,049	81,504	64,582	45,690
Switzerland	15,932	18,312	11,427	13,464	10,806
Spain	314	10,803	11,165	9,513	10,124
U.S. America	535,948	359,460	779,616	924,864	956,061
Other foreign Countries..	40,532	61,745	53,246	70,206	58,326
	<u>863,010</u>	<u>617,722</u>	<u>1,027,121</u>	<u>1,188,260</u>	<u>1,166,644</u>
British India	95,309	90,835	83,967	106,578	54,626
Straits Settlements	37,837	52,812	43,363	46,963	67,791
Australia	16,267	32,070	17,175	28,896	30,334
Canada	19,403	12,568	23,682	39,073	37,456
Other British Countries	3,721	15,514	5,450	10,093	6,489
	<u>172,537</u>	<u>203,799</u>	<u>173,637</u>	<u>231,603</u>	<u>196,696</u>
	<u>1,035,547</u>	<u>821,521</u>	<u>1,200,758</u>	<u>1,419,863</u>	<u>1,363,340</u>

Yarn
Exports.

The table is headed "dyed or not dyed," and it will be understood that the particulars include thread for sewing, embroidery and kindred purposes, as well as yarns for lace making, knitting and weaving. Read in conjunction with the Census of Production (1907), it becomes clear that roughly one-half of the silk yarn spun in England

is exported, unwoven or unworked. The balance finds its way into home industry, but is not all ultimately consumed within the Kingdom, as portions enter into manufactured goods which are subsequently sold abroad. It is the case also that a small proportion of the yarn exported finds its way back into the home market in the form of later stage manufactured materials, perhaps most frequently in the form of lace or embroidery than of woven tissues. No statistics display either these exports of spun silks woven or these re-entries of British yarn in the form of lace.

Yarn
Exports.

CHAPTER XXXIV.

VARIOUS BRANCHES OF SILK MANUFACTURE.

Silk, in its development from the cocoon of the silk-worm into the finished product of the loom, passes through several processes, each process giving occupation to a different set of more or less skilled operatives and forming a separate branch of silk manufacture. This will have been realised by the reader from the general statements in previous chapters, but it now becomes necessary to describe more in detail the operations themselves and to point out the necessity for these different departments of the trade.

Sericulture and Reeling, Throwing, Conditioning, Spinning,* Dyeing, Winding, Warping, Beaming, various classes of Weaving—including Trimming and Braid-making—Silk Finishing, Textile Machine-making, Mounture and Harness-building, Designing and Draughting on ruled paper, and many other minor trades, as well as the wholesale and retail dealing in the raw or manufactured material or the finished products are all comprised under the general name of Silk Manufacture.

Introduced at first from abroad, all branches of the trade, except sericulture, gradually became settled departments of British industry. They give to-day, as they did in the past, interesting and useful occupation to large numbers of British people.

The first-named branch, viz., the breeding of silk-worms and the reeling of raw silk from the cocoons has never been commercially successful in this country. Although many attempts have been made to introduce this branch, especially in the sixteenth and seventeenth centuries,

* See Chapter XXXIII, Waste Silk, Origin and Uses.

they have always for some reason or other failed. In its first stage, therefore, the preparation of raw silk has never become a British industry.

Silk-throwing is the name given to the process of twisting the combined threads of raw silk in such a manner that the silk is rendered hard and even enough to be used for weaving and other purposes requiring strength, elasticity, and regularity of size. "In the throwing mill the raw silk fibre goes through many processes including sorting, washing, drying, winding, cleaning, twisting, doubling or folding, second twisting, steaming, sizing and reeling or skeining, and in all these infinite care has to be exercised in order to produce a perfect thread."*

Silk
Throw-
ing.

The Italians have, ever since they learned the art of manipulating silk from the East in the twelfth century, been the manufacturers of the best thrown silk, and they are continually studying to improve their processes and appliances for the work. They jealously guarded the secrets of their inventions, and it was not until 1717, when John Lombe returned to England, after living some years in Italy, where he had learned the secrets of the process while working as a journeyman, that perfectly thrown silk was manufactured in Great Britain.†

Introduced by John and Thomas Lombe, who erected successful silk-throwing mills at Derby, silk-throwing became in the eighteenth century an important branch of British industry: not only at Derby, were silk-throwing mills established, but at Southport, Macclesfield, Congleton, Leek, St. Albans and other places. Many of these throwing mills are still at work, for it is gratifying to know that, although other countries produce the raw silk fibre, English manipulation of it is still superior in many respects to that practised in other countries.‡

Silk-conditioning is a process of testing, through which freshly imported raw or thrown silk is passed in the interest of the purchaser. It is rendered necessary by the natural affinity which the beautiful thread produced by the silk-worm, especially in its natural undyed state, has for

Silk
Condi-
tioning.

* *Silk*, by Luther Hooper.

† See *Silk Manufacture in Derby*, p. 198.

‡ See note in Appendix, Statistics of Silk-throwing.

Silk
Condi-
tioning.

water. As much as one-third its own weight of water may be absorbed by a given weight of raw silk without its feeling wet to the touch. It is obvious, therefore, that considerable loss might fall on the purchaser of a bale of silk, which is sold by weight at a price varying generally from 16s. to 24s. per lb., unless some means of ascertaining the quantity of water absorbed and retained in it could be accurately determined.

As early as 1799 an agreement was come to by merchants in the silk trade* for regulating the allowances to be made for tare and tret on bales of silk as they arrived from abroad, but in this agreement nothing was allowed for humidity, and it was not until 1851 that attention was called to the fact that a further allowance was reasonable on this account, and a scientific means of discovering the exact weight of water absorbed by the silk was introduced into this country. At the International Exhibition held in London, in that year, an appliance was shown by means of which a few skeins of silk from the centre of each bale could be dried by applied heat and weighed in grammes with the greatest ease and exactness both before and after the drying. Any diminution in weight after this testing indicated the extra allowance for humidity to be made to the purchaser on the whole bale. Sometimes this super-allowance on a bale of silk amounts to as much as six pounds sterling.†

The attention of silk merchants and manufacturers having been directed to the matter soon after the Exhibition, a French merchant named De Larbe purchased the necessary machinery and commenced business in London as a silk conditioner.

Allow-
ance for
humidity.

This undertaking, probably because it was a private venture, was not much supported, and would have been discontinued had not a scientific gentleman, a Mr. Chabot, of Huguenot descent, who had been interested in silk dyeing, induced several manufacturers to form a limited company to take over M. De Larbe's business in their own interest. The first Directors were Thomas Brooks,

* For a list of these merchants see Appendix, note.

† It was agreed that 11 per cent of water is natural to the fibre, accordingly tare is allowed only on moisture in excess of that amount. For a scientific description of the machine and process, see Appendix.

Martin Cornell, Edward Fox, Richard Harrison, George Kemp, William Kemp and Henry Soper. The company commenced operations in 1859. The first premises were in Alderman's Walk, Bishopsgate Churchyard, and the Company afterwards removed to Worship Street, Finsbury. Work
of
London
Com-
pany.

In 1901, in consequence of the falling off of the volume of trade, it was decided to approach the London and India Dock Company* with a view to their purchasing the business and plant. This they consented to do, and the plant was re-erected in a building attached to their up-town warehouses in New Street, Bishopsgate.

The Directors of the Company at the time of the transfer were Arthur W. Bailey, Frank Warner, Henry J. Offord, W. R. Fox, Herbert A. Walters and William Stokes. Henry A. Titford was Secretary and Manager, and he still supervises the work for the Port of London Authority.

Winding and re-winding play an important part in the operations of silk-throwing, but beyond this there is a great deal of winding required in preparing silk for different uses in the textile industry, as well as for sewing, embroidery and kindred arts, in which a vast quantity of silk thread is used. This being so, silk-winding is an important separate branch of silk manufacture. Winding silk from the long skeins on to reels or bobbins has been done by means of special machinery from very early times. Machines capable of winding a great many bobbins at once were not uncommon in the Middle Ages; small machines of cranks and pulleys were worked with foot treadles, but larger ones were actuated by a heavy wheel turned by water or other power. Since then, however, innumerable contrivances have been, from time to time, invented and utilized in this branch of the silk industry, with the result that mechanical silk-winding at its best, falls little short of perfection. Large factories are organised and devoted to this work alone, and an immense number of workers, especially women and children, are employed in it. Doubling, sizing and winding of differently twisted threads, both dyed and

Silk
Winding.

* Now the Port of London Authority.

undyed, for an infinite variety of purposes is carried on in these factories, and much skill, as well as very exact, elaborate and costly machinery, is required in preparing the thread for modern silk-weaving by hand and power, and for other works in which silken thread is used.

Silk
Dyeing.

With the single exception of weaving, there is no branch of silk manufacture of such paramount importance as that concerned with dyeing. At the same time, there is no textile material that lends itself so kindly to the processes of the dyers' art as silk, or so well repays the artificer for the necessary care and skill expended on it.

Great
and Little
Dyes.

The importance of the Dyers' Craft was fully realized in the Middle Ages and the period of the Renaissance; but nowhere in Europe was it appreciated and fostered more than in France, after the introduction of silk-weaving to that country from Italy in the fifteenth century. It was perhaps rather in the beauty of the colours and the excellence of the dyes used than in their delicacy of handling and ingenious weaving that the French silk manufacturers finally excelled the Italians, who had hitherto monopolized the craft of silk-weaving in Europe. In France laws were made and strictly enforced regulating the methods of dyeing, especially with regard to silk. There were two separate guilds of dyers recognised by law. These were called respectively the *grand* and *lesser* dyers, and the dyes themselves were called *great* and *little* dyes. Only common goods were allowed to be dyed by the lesser dyers, because the little dyes, although brighter and more various in colour than the great dyes, were not permanent, and were therefore considered unworthy to be used for colouring such precious material as silk. The test exacted for classification in the great dye class was: "Twelve days' exposure to the summer sun and the damp air of night." If the dye stood this test, there could be no doubt as to the class under which it should be ranked.

All materials dyed by the great dyers were examined by a Government official appointed for the purpose, and were stamped with his mark as a guarantee of good quality. The penalties for deceitfully using inferior dyes on good material were heavy fines and suspension or expulsion

from the Guild of Dyers. If the latter penalty were enforced, it rendered the offender an outcast from the trade either temporarily or permanently.

The colouring pigments used by the Guild of Great Dyers were few in number, and were, with the exception of the crimson of cochineal,* extracted from vegetable substances. Woad† furnished the blue tints; the yellows were derived from Welds‡; and the reds from Madder root.§ Welds dyed upon woad produced greens; Welds upon Cochineal, orange; cochineal upon woad, purple; while cochineal upon a tin mordant gave a brilliant scarlet. A great variety of colours were also obtained from the same dye-stuffs by using different mordants|| when preparing the silk for the colouring process.

Vegetable
Dyes.

In England the art of extracting colours from vegetable substances was practised in very early times. That woad was used as a colouring matter for personal adornment by the ancient Britons is common knowledge, and there can be no doubt that many simple vegetable preparations were used for colouring the homespun wool which was the famous staple product of Saxon England, but little is recorded of the practice of the dyer's craft in this country until the fifteenth century, when the Company of Dyers was incorporated by Edward IV (1472). In the reign of Edward VI, an Act of Parliament was passed limiting the variety of colours the dyers might use to "Scarlet, Red, Crimson, Murrey, Pink, Brown, Blue, Black, Green, Sadnew Colour, Azure, Watchitt, Sheep's Colour, Motley and Iron Grey." It is impossible now to assign the exact tints to some of the colours thus quaintly named, but no doubt they all resulted from the manipulation or blending of the few natural dye-stuffs named above.

It was not until the eighteenth century that Indigo (introduced to France from India) superseded woad as a blue dye. It was known much earlier, but its use was strenuously resisted, notwithstanding that

The
Coming
of
Indigo.

* Cochineal is derived from an insect of the species. See note in Appendix.

† Woad, a plant of the Cruciferous order, common in Europe.

‡ Welds, a plant of the Resedaceæ order, common in Europe.

§ Madder, a plant of the Rubiaceæ order, very widely distributed.

|| Mordants, a variety of the alum or other chemicals in solution. In vegetable dyeing, the silk has to be steeped in such a preparation, in order that it may take the dye-stuff evenly and permanently.

Prohibition of Logwood. the colouring matter of the Indigo plant is precisely the same as that of woad and that the intensity of the blue extract is much greater. In England in like manner, Logwood, which was introduced in the time of Elizabeth, and from which many beautiful dyes were derived, was prohibited under severe penalties. The Statute* not only authorised, but directed the "burning of it wherever found within the realm." Logwood was only clandestinely used for nearly a hundred years, but the Act of Elizabeth was repealed in the time of Charles II† by another Statute in the preamble of which it was declared that, "the ingenious industry of modern times hath taught the Dyers of England the art of fixing colours made of logwood, so as that, by experience, they are found as lasting as the colours made with any other sort of dyewood whatever."

Many other Acts of Parliament passed from time to time testify to the importance attributed to the art of dyeing in England. These Acts were not only intended to regulate the use of the dye-stuffs themselves, but, which is of more importance in the permanence and fastness of the colour, the methods of preparing and working the materials to be dyed in preparation for the colouring process.

Aniline
Dyes.

With the rapid development of the textile industries following the introduction of power-weaving, the art of dyeing became of the greatest commercial importance, and the production of new inexpensive dye-stuffs and easy rapid methods of applying them to textile materials engaged the attention of many eminent chemists.

Mr. (afterwards Sir William) Perkin early in the last century made the important discovery of a means of extracting dye-stuffs of various brilliant colours from coal-tar. The discovery, however, was not commercially applied until experiments had been conducted, both in England and Germany—particularly in the latter country—for at least thirty years. It was between 1855 and 1860 that the new coal-tar or aniline dyes were brought to a sufficient degree of perfection to warrant their use

* 23rd Elizabeth.

† 14th Charles II.

for common manufacturing purposes, and they were accordingly at that time put upon the market. Aniline
Dyes.

At first the coal-tar colours were very crude, but this fault was gradually corrected, and when they were skilfully blended they became equal in quality of tint to the dye-stuffs they superseded, but, like the little dyes of ancient times, they were rather fugitive, and had the additional disadvantage that they faded to a colour that made them unsuitable for use by recognised silk manufacturers. Had they been employed to any degree by the industry, the degradation of silk would have been of a two-fold character, as the artificial weighting of silk had at this period of the 19th century reached a maximum development. It had been found as early as the sixteenth century that silk had a special affinity for certain metallic salts, and that bulk and weight could be largely increased by their use, but it remained for the dyers of the nineteenth century to carry this art to such perfection that sixteen ounces of silk could be and were made to weigh as much as thirty or more ounces.

In course of time some of the aniline dyes were considerably improved in permanence, but it was not until the alizerine* colours were introduced that artificial dyes could be considered as at all satisfactory in comparison with the ancient vegetable dyes. Alizerine
Dyes. When the alizerine dyes are properly applied, they are as permanent, if not more so, than the ancient great dyes, but no manufacturer who values his reputation would make use of these materials without the necessary guarantees. It may be safely asserted that whatever may have had to be done under the stress of manufacturing conditions during the Great War, there has never been shown any tendency during periods of normal trading for silk manufacturers to use any colouring materials less fast than the vegetable dyes.†

There are, broadly speaking, two branches of dyeing in general use in silk manufacture, viz., yarn dyeing and piece dyeing. Most of the best silken materials are dyed before being woven, but many of the cheaper kinds of stuff,

* Alizerine Dyes.

† For Statistics of Silk Dyeing in Great Britain at the present time, see note in Appendix.

both for dresses and furniture, are woven of hard, unboiled silk, and are afterwards boiled off and dyed in the piece.

Warping and Beaming. Warping and beaming were under the old system of silk manufacture which is described in the section on Spitalfields, separate branches of the trade, but since the factory system has prevailed, the warping and beaming are simply departments of the silk-weaving manufactory.

Warping ensures that the requisite number of threads of any desired length are laid in such order that when threaded in the loom the weaver can trace and mend any threads that may be broken during the weaving process. The success of the weaver in his work depends greatly on the delicate process of warping being accurately done.*

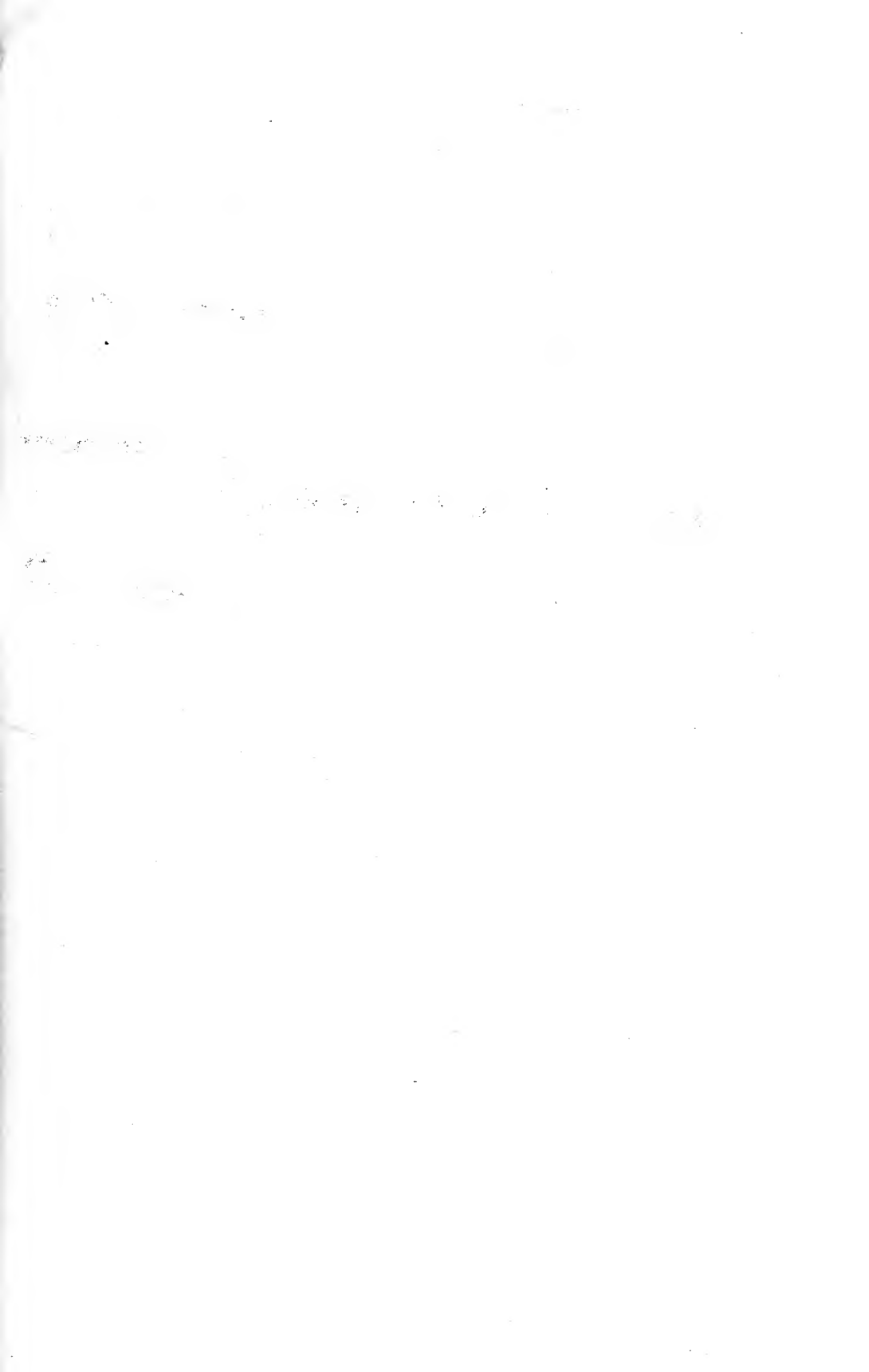
Beaming or Cane spreading† is the name given to the operation of transferring the warp from the warping mill to the back roller of the loom, and is also a work requiring great care and exactitude.

Weaving. The most important branch of all in silk manufacture is that of weaving, and this branch is again divided into two, viz., the Broad weaving division and the Narrow. In ancient times the number of operatives employed in weaving narrow goods—ribbons, tapes, braids, fringes, laces, galloons, etc.,—which were all woven in single widths, far exceeded that of the weavers of broad silks for dresses, hangings, furniture, etc. When, however, after much opposition, the loom for weaving narrow goods, in several breadths at one operation, was introduced, the narrow branch of weaving sank into insignificance, in point of the number of operatives employed by comparison with the broad weaving branch.

Survival of old methods. At the present time almost all narrow goods are woven on power-loom, governed by Jacquard or other machines, thirty or forty breadths at a time. In the very best work, however, and for special upholstery orders the ancient method of weaving one breadth at a time is still in use, and it is interesting to know that within a hundred

* See *Handloom Weaving*, Luther Hooper.

† See Chapter I.



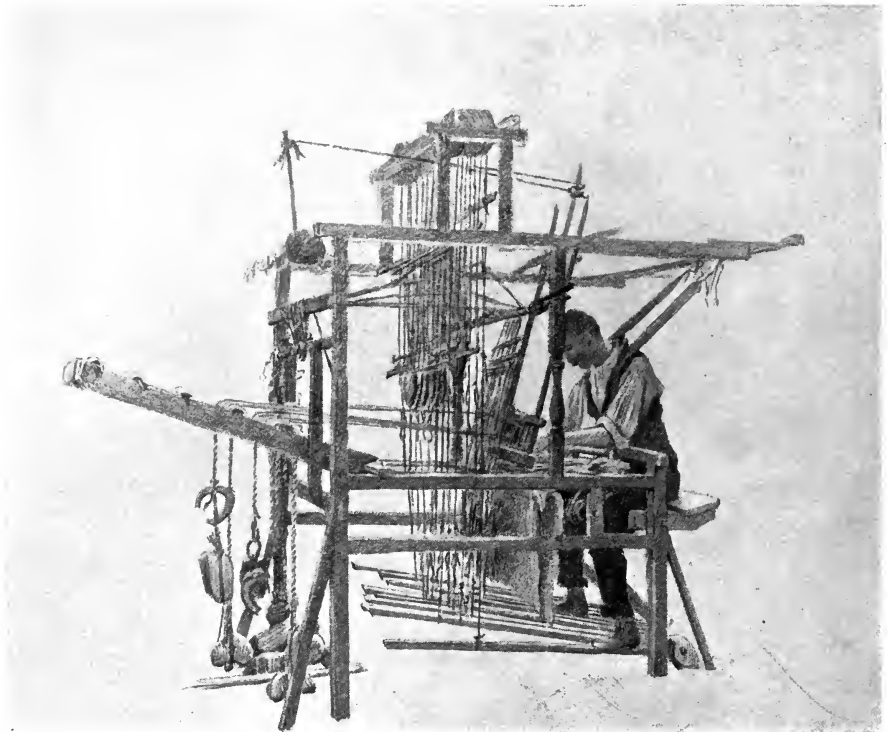


Plate XLVII.

Weaver of Narrow Webs.

yards of Piccadilly Circus, in the heart of London, a factory may be found in which such looms as that depicted in the accompanying illustration are in use. On these looms, some of which are more than a hundred years old, the pattern is tied up by the weaver himself on the harness of string and wood in such a manner as to work out automatically, and is woven in single breadths exactly as in the old times. The reason for this survival is that the trimmings made in this factory, and a few others in London, are for special upholstery orders for which only comparatively short lengths of a particular design are required. All orders for large quantities would now be woven on power-looms several breadths at a time.

Survival
of old
methods.

The broad silk weaving branch is again sub-divided into others for particular kinds of work. There are four sub-divisions of broad silk weaving. These are the plain and fancy branches for the weaving of dress materials, and the plain and figured branches for weaving stuffs for furniture and hangings.

Materials for costume, as well as mixed goods for furniture and hangings, are now, for the most part, woven in factories on power-looms. A considerable quantity, however, of the best webs, especially in the furnishing branches of the trade are still made on hand-looms, and notwithstanding the perfection to which modern textile machinery has attained, there are certain qualities in good hand-woven materials which it seems impossible to obtain by machine weaving.

Silk-finishing, as a separate trade, may be regarded as a modern branch of silk manufacture, but the after-finishing of certain classes of silk and silk-mixed goods by hot pressing and steaming has probably been practised for a long period. Well woven webs, in which good silk or silk mixed with other yarns has been used, rarely require more expert finishing than the weaver himself can give them when he has completed the weaving. Inferior goods, however, whether their inferiority consists in their workmanship or the poverty or adulteration of the materials used in their manufacture, invariably owe the appearance, which renders them saleable, to the clever

Silk
Finish-
ing.

Silk
Finish-
ing.

processes of finishing to which they have been subjected by the expert silk-finisher. At the present time the trade of silk-finishing is a very extensive one, and exceedingly ingenious chemical and other processes, as well as expensive and elaborate machinery, are made use of in the factories where it is carried on.

The other departments of trade depending on silk manufacture, mentioned at the beginning of the present chapter, do not require detailed description here; their scope and importance will be gathered from references to them in succeeding chapters, if they have not already been described in the earlier portion of the book.

CHAPTER XXXV.

THE DESIGNER AND DESIGNING— 18TH AND 19TH CENTURIES.

It was not until the beginning of the nineteenth century that the demand for designs, which had been made possible by the mechanical inventions of the eighteenth century for the production of pattern in textile work, became so urgent that the profession of designer became a separate branch of the textile industry. At the same time it is known that as early as the first half of the eighteenth century there were in Spitalfields a few artists who devoted their talents to the production of such designs and drafts as the silk weavers from time to time required.

Silk
Design-
ing.

It is generally supposed that these early designers of silk fabrics were all of French nationality, but that this is not the case is proved by the existence of a very large and beautiful collection of sketches for silken fabrics which may be seen in the department of designs and drawings of the Victoria and Albert Museum.

A very valuable purchase of a set of early eighteenth century designers' sketch books was made by the authorities of the Museum in 1869. The books contain more than six hundred designs for silk damasks, brocades, brocatelles and all other varieties of figured silk fabrics. Each book contained also a beautifully written index, with the names of the manufacturers by whom the designs were purchased and appropriated. Many of the drawings bear interesting written directions for working out the drafts on ruled paper, as well as for the mounture or harness builder, and the weaver.

Eight-
eenth
Century
Designers.

The earliest of these interesting drawings do not bear the names of the designers, but in one dated 1705 the name of Anna Maria Garthwait appears, and from that time forward most of the drawings are unmistakably by her hand. On one of them she has written "Before I came to London," and on another "When I was in Yorkshire," but these brief notes are the only biographical references to be found on them. These early designs, though very graceful and pretty, are not so particularly adapted for reproduction in silk as some of her later work.

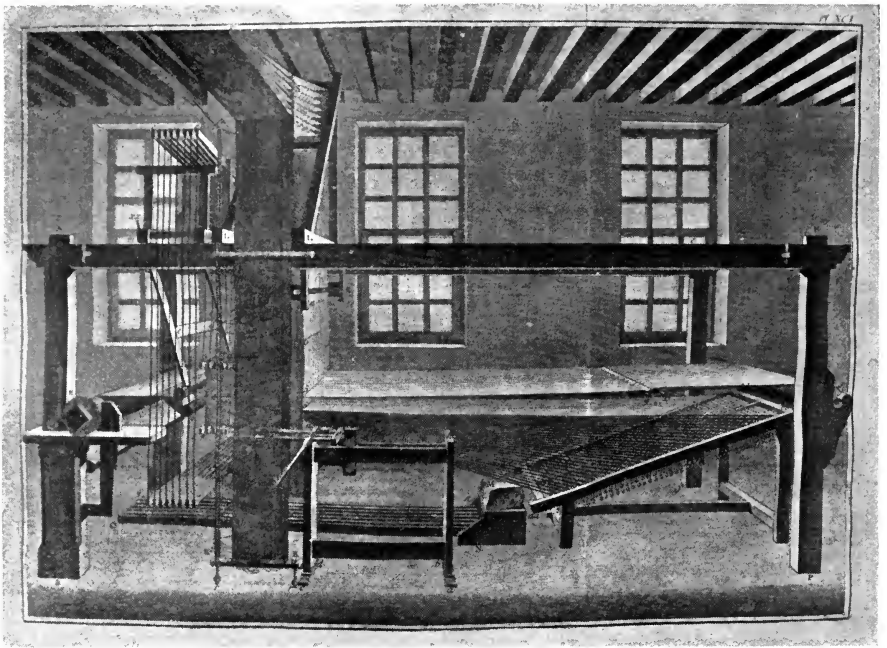
It is most interesting to trace, as it is quite possible to do, the gradual development of the artist's power of design and adaptability to the requirements of silk textile technique. The drawings were all preserved in books and carefully numbered and indexed. The name of the manufacturer to whom each drawing belonged is also given. From this it appears that the method of procedure at that time was for the designer to make a freely-drawn coloured sketch of the subject as nearly to the size, as well as the finished effect of the proposed material as possible. If this were approved by the manufacturer, the designer proceeded to divide the sketch up into squares to correspond with the dividing lines of the ruled paper on which the working drawings, or drafts, were to be made. Each of these divisions was called a design, and as the ruled paper drawing was generally very much larger than the sketch or the finished woven design, this ruling in of larger squares materially assisted the draft-maker in the proportional enlargement of the drawing.*

Methods
of
Working.

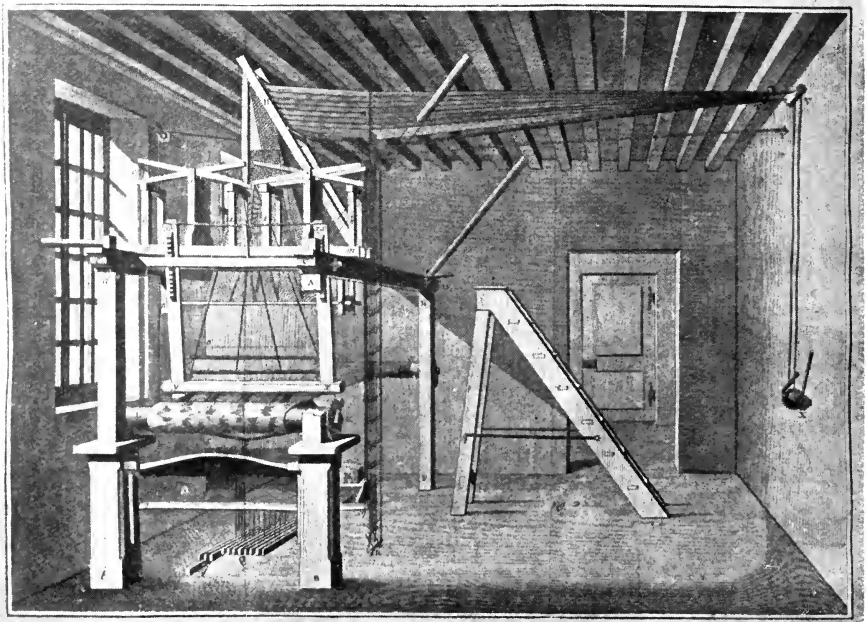
When the draft was completed and approved it was handed over to the manufacturer, and the original sketch replaced in the sketch book and indexed as appropriated by the purchaser. Some of the names which appear in these books are to be found in old documents of the period. Amongst the signatories of the bye-laws of the Weavers' Company, which were issued in 1737, three names occur, Peter Le Keux, in the design book called Captain Le Keux, and James Leman, assistants of the

* The draft being divided into squares also assisted the weaver in tying up the design on the "simple" cords.





*Figured Velvet Loom, worked by draw boy, before
the invention of the Jacquard machine.*



XLVIII.

*Loom for Weaving Silk Brocade, worked by the
same method.*

Court, and Henry Baker, Liveryman. In the index in one place, Mr. Baker is also called Captain Baker. These master silk weavers were probably captains of the "trained bands" so frequently mentioned in eighteenth century records.

Although so various in style and scale and representing the work of over thirty years, most of these drawings appear to be by one hand, and point to the fact that Anna Maria Garthwait was not only an industrious and prolific artist, but one of great individuality. Born in Yorkshire and early showing a natural and becoming taste for ornamental design, she removed to London. Here her rare talent for arranging floral design was more or less quickly appreciated by manufacturers, to whom she had probably been recommended by friends in Yorkshire. After industrious application to work and eager study of the technicalities of silk-weaving, there came assured success and constant employment. The first signed drawing is dated 1705, and the last 1735, and if the high remuneration paid to persons having the rare talent for design, at that time, be taken into consideration, we cannot but conclude that this enterprising lady's business career during the first half of the eighteenth century was most successful. Seldom indeed has such a complete record of an artist's work, connected with manufacture, been preserved.

An
English
Lady
Designer.

The invention of the Jacquard machine at the end of the eighteenth century, and its introduction to Great Britain early in the nineteenth, had the effect of vastly increasing the demand for textile designs so that the occupation of a designer became one of the most remunerative to which a youth with a taste for drawing could be apprenticed.

The
Jacquard
Machine.

The fundamental idea of this machine consists in the substitution of a band of paper, perforated with holes to correspond with the ruled paper draft of the design, for the weaver's tie-up on the cords of the simple. This device was first applied to the draw-loom in 1725, but in 1728 a chain of cards was substituted for the paper and a perforated cylinder was also added.*

* For a description of the draw-loom and its mechanism, see *Report of Lectures on the Loom and Spindle*, by Luther Hooper, Royal Society of Arts, London, 1912; also *Hand-loom Weaving*, John Hogg, London, 1911.

The Jacquard Machine. These early contrivances were placed by the side of the loom and worked by an assistant. In 1745 Vauconson placed the apparatus at the top of the loom, and caused the cylinder to rotate automatically. But it was reserved for Jacquard to carry the contrivance to such perfection that, although many slight improvements have since been made to it, it remains to-day practically the same as when it was introduced in 1801, and this notwithstanding the astonishing development of textile machinery during the nineteenth century and the universal adoption of the machine both for hand and power-loom weaving.

Although the invention was introduced in 1801 to the French public, it was not until 1820 that a few Jacquard machines were smuggled into England and secretly set up. In spite of much opposition, it soon came into general use, first and particularly, for hand-loom and silk pattern weaving, but afterwards for power-loom, so that now all kinds of fancy and ornamental webs are woven by its means.

As a piece of mechanism this machine is a wonderful invention. It can be made to govern all the operations of the loom except throwing the shuttle and actuating the lever by which it is put in operation. It opens the shed for the pattern, changes the shuttle boxes in proper succession, regulates the take-up of cloth on the front roller and works out many other details, all by means of a few holes punched in a set of cards. At first the machine was only adopted in the silk trade for the weaving of rich brocades and other elaborate materials for dress or furniture; but, ever since its introduction, its use has been gradually extending both in hand-loom and power-loom weaving.

The most striking change the use of the Jacquard machine effected in the textile arts was the facility it gave for quickly substituting one design for another. It was only necessary to lift down one endless band or set of cards and substitute another in order to change the pattern.

The result of this facility was that the early part of the nineteenth century witnessed a perfect orgie of fantastic,

Influence
on
Design.

inappropriate ornamentation. The manufacturers of all sorts of ornamental silk and fine woollen textiles vied with each other in the number and originality of their designs. The profession of designer may almost be said to be an outcome of Jacquard's invention. Previously to this time the master weaver, or some person in practical touch with the looms, had arranged or adapted the design, which, when tied up on the loom, was in some cases good for a lifetime, and a few good designs were all that a master weaver required. But with the introduction of the new *draw-engine*, as the machine was called, all this was altered and a restless change of pattern and fashion in design was the result.

In a sensible article deprecating this state of things, a writer in the *Journal of Designs*, April, 1849, says: "Nothing would be a better comment upon our previous remarks as to the inordinate desire for new patterns than the sight of our table loaded with spring novelties; it would at once illustrate the present aimlessness of design, and the hopelessness of any good arising with such a condition of trade. Novelty! Give us novelty! seems to be the cry, and good or bad, if that be obtained, the public seems to be satisfied; perhaps we should say that the *bad*, being generally the most extravagant is the most satisfactory to the ignorant public; and that nothing is too *outré* to be purchased—aye, and even worn by those who would be indignant were their good taste called in question."

In another part of the *Journal* it is stated that a Common's paper in 1846 (No. 445), reports that, out of 8,000 designs registered, 7,000 belonged to woven fabrics, 500 to paperhangings, 175 to metal work, and the remainder to pottery, glass, etc. At the same time the Customs report of the value of exports confirms the statement, for textile exports were valued at £29,000,000, metals £7,000,000, and pottery, glass, etc., £1,000,000.

In the eighteenth and nineteenth centuries designing for textiles and other manufactures was rightly considered to be a most important part of the manufacturing business. The designer's shop was looked upon as one

Influence
on
Design.

Vicious
Fashions.

Status of the early Designer. of the principal departments of the factory or group of factories with which it was connected. Young people aspiring to this highly paid work were carefully selected, and, after a preliminary trial, formally apprenticed for seven years to learn the business. High premiums were often paid for this introduction to and training for a lucrative occupation. It is a pity that so few of the original drawings produced in these old designing shops have been preserved, for those that have escaped destruction, such as the Garthwait collection already described, are of the highest excellence and entirely appropriate for the materials for which they were designed.

As soon as the Jacquard machine was introduced, the demand for original designs so vastly increased that the drawing departments of the manufactories to a great extent discontinued the work of designing and were entirely occupied in translating the more or less amateurish sketches of the numerous tribe of artists who, without any technical training, found it profitable to make designs and carry them round for sale to the various manufacturers. To this casual system of originating patterns for textile and other manufactures, many are inclined to attribute the terrible state of degradation to which the art of ornamental designing had fallen by the middle of the last century. It was from this state that the National System of Art Education, after much mistaken policy and many futile experiments, as well as the teaching and example of such artists as Digby Wyatt, Owen Jones, Charles Dresser, William Morris, Walter Crane, and many others whose names are associated with the revival of arts in England, raised the art of commercial designing to the undoubtedly high position it had reached by the beginning of the present century.

The Degradation of Design.

CHAPTER XXXVI.

THE MANUFACTURER—NEW SYSTEM.

The first half of the nineteenth century witnessed the passing away of the old class of small master craftsmen and the organisers of domestic manufacture as already described, as well as the establishment of the new order of great manufacturer. It was the members of this new order who, adopting all kinds of inventions and scientific processes, built large factories, filled them with machinery, sought out all new inventions, employed multitudes of "hands," opened trading accounts with the whole world, and proudly set Great Britain in the fore-front amongst the nations in manufacture and commerce.

Owing to the value of the raw material of silken thread, and the skill and delicacy required in its manipulation, the silk weaving trade was slow to adopt the changes which in other branches of textile work had so rapidly taken place. Writing as late as 1831, Mr. Porter, in his treatise on silk manufacture, says that "it is doubtful whether the use of the power-loom, however it may be modified, is susceptible of much extension in any save the commonest branches of the silk manufacture."

Since the time that the above was written the improvements in weaving silk by power have been so rapid and so successful that now almost all plain and fancy silk dress materials, as well as low-class furniture silks and silk mixed goods are woven by power in large factories.

In the preface of a publication written by the late Sir Thomas Wardle, in which he describes the improvements in power-looms which he saw in France in 1890,

Intro-
duction
of the
Power-
loom.

Intro-
duction
of the
Power-
loom.

the author writes as follows : “ The object of this brochure is simply to call the attention of the British silk manufacturer to the gradual but certain displacement by the power-loom of the traditional hand-loom for silk weaving for which Lyons has for centuries been so famous, and to show how economics in production in silk weaving are being effected by the change.” One of the changes referred to by Sir Thomas was the replacing in France of the old style of domestic manufacture by a counterpart of that which obtained in England through the machine factory system.

In recent years, therefore, not only in England and France, but wherever silk is woven to a large extent, the hand-loom is giving place to the power-loom, and the system of domestic weaving to factory work. The triumph of the factory system over that of domestic manufacture is, perhaps, more pronounced than that of the power-loom over the hand-loom, for in those branches of the trade where the hand-loom still holds its own, the hand-loom fitted with Jacquard machines are for the most part grouped together in large factories where better oversight and superior economic arrangements are possible.

Although it was in London that one of the first large silk-weaving factories was established, more than three-quarters of a century ago, the system has seldom proved a success in this ancient centre of the silk trade. Most of the factories since set up have been small branches of larger ones established by firms in the provinces.

First
London
Factory.

The first important and successful silk-weaving factory in London was that of Messrs. Walters and Sons—afterwards known as Stephen Walters and Sons. This was established in the year 1824. Shortly after that date, however, the firm established another factory at Kettering, where power-looms were set up, whilst in the London factory only hand-loom were used. Messrs. T. Kemp and Sons also had, a few years after, a small silk factory in Spitalfields and an extensive one at Sudbury in Suffolk. The Spitalfields factory was established about 1830, and the Sudbury one was organised rather later. Messrs. Vavasseur and Rix’s London factory established

in 1850, was first fitted up with hand-looms only, but afterwards power-looms were introduced. This firm is still carrying on business in the old district, and owns the only old established silk factory in London still at work. Silk factories were also started and carried on more or less successfully for some years by Messrs. Robinson and Co., Sanderson and Reed, Foot and Sons, and J. Kemp and Co. At a much later date, Messrs. Bailey, Fox and Co. opened a factory chiefly for power-loom weaving in Old Ford.

The
Modern
Industry.

The organisation of a modern silk factory on a large scale differs little, if any, from that for the manufacture of any other modern commodity of commerce. Such a business, if it is to succeed under the stress of modern conditions, requires an ample supply of free capital, so that the management may be relieved from the strain of mere finance and be able to make purchases to the best advantage and to take all the discounts which are associated with orders for cash or prompt payment. The foundations of success lie in the ability to buy the necessary raw materials at the right time, in the best way and on the most advantageous terms.

The site selected for the factory should be in a neighbourhood where there is an ample supply of water suitable for use in dyeing operations, but, unfortunately, in Great Britain it is almost impossible to find a district where water can be used for power purposes except at intermittent periods. The factory should also be built in a district which is as free as possible from the grime and smoke of great centres of population, and yet at the same time in a locality where there is a plentiful supply of the right type of female labour. It has been stated, and the available statistics support the contention, that the silk trade gives employment to a higher proportion of female labour to male labour than almost any other British industry, the ratio of women to men so employed being about eleven to five. An ideal factory should, and indeed does, enable every operation from the time the raw material enters the works until the finished product is consigned to the customer, to be performed. In order

A
Field
for
Women
Workers.

Self-
contained
Organisa-
tion.

that the manufacturing operations may be properly carried out, and advantage taken of the latest applications of science to industry, the works must possess an adequate staff thoroughly trained on the technical side and the necessary number of skilled workers.

The various stages of the work in a modern silk factory consist of the throwing or the spinning of the raw materials, as described in earlier chapters.* The equipment of the factory comprises machinery for the winding, warping, and beaming of the silk, as well as for weaving, dyeing, finishing, printing, blocking, folding or boxing. This chain of operations implies a large expenditure, not merely in providing the main machinery, but the auxiliary plant necessary for repair work, as well as other auxiliary mechanics' shops. In addition there would be a card-cutting shop and departments for the building of the mounture and the harness and for the processes of warp cleaning and entering.

The general management of such a business should be in the hands of broad-minded, energetic, capable men, who would take care that the high standard of efficiency they set for themselves should be present in the departmental managers and in all sections of the business. The technical staff would naturally include a works chemist, as well as a laboratory, in which research work could be carried out under the supervision of the technical expert. There should also be a designer's studio and a draughtsman's atelier for the preparation and extension of the designs on the ruled paper. If the firm is to be a successful enterprise, equal care should be bestowed on the selection of those responsible for the commercial side of the undertaking. There should be a complete organisation for dealing with the finished products in home and foreign markets. Those engaged in overseas trade should be able to speak and read the necessary foreign languages, and have instilled into them the necessity for quoting to foreign buyers in the currency of the country which is being canvassed for business, and to meet in other ways the wishes of customers abroad.

* Silk-throwing, *see* Chapters XVIII and XXXIV. Silk-spinning, *see* Chapters XX and XXXIII.

The
Com-
mercial
Side.

Beyond all this, the management should be ready to adapt itself to changes of fashion and to initiate new modes by showing originality in cloth construction and in design and colour effects. There should also be evident a willingness to scrap machinery the moment it shows signs of being out of date, and only to work with the most modern equipment. There are, fortunately, in Great Britain many factories which fulfil these somewhat exacting requirements, and which have attained prosperity by a rigid observance of the conditions on which success is founded.

The factory system made more rapid progress in the provinces than in London when modern methods of manufacture began to permeate the industry. At Leek, Macclesfield, Coventry and Manchester the power-loom was adopted at an earlier date, and forced upon manufacturers the employment of the factory system. In the early stages of the industrial revolution, of which one of the chief outward signs was the building of workshops where large numbers of machines could be installed, there was a partial attempt, to which reference is made in the chapter* dealing with the particular centre of the industry, to combine the power system with cottage working, and for this purpose arrangements were made for a supply of power to be available in the homes of the workpeople. Modern business conditions, however, demand that manufacturing costs shall be reduced to the lowest possible level, and this result can only be achieved by the concentration of work in a factory established and managed on the lines indicated and in which the various stages of manufacture are under constant and skilled supervision.

Lead
from
the
Pro-
vinces.

* Chapter XI, "The Coventry Ribbon Trade."

CHAPTER XXXVII.

THE OPERATIVE SILK WEAVER—OLD STYLE AND NEW.

The old
type of
Worker.

The difference between the old and new methods of manufacture and their effect on the persons employed in them is strikingly illustrated by the general characteristics of the hand-loom silk weaver of the old style and the machine factory operative of the present day.

The manipulation and management of a complicated silk hand-loom required a high degree of skill, delicacy of handling, patience and ingenuity on the part of the weaver; the result was that the old hand-loom silk weavers, especially those engaged in the higher branches of this interesting employment, were, for the most part, men of character and high ideals. They loved nature, poetry, philosophy and science, a fact proved not only by the many literary and scientific clubs and societies which flourished in old Spitalfields, but by the honourable roll of weavers who have distinguished themselves in various departments of art, science and invention.

Mechan-
ism and
Mentality

A Lancashire writer contrasting the old and new style of cotton and linen weaver in that county says: "The Old Handloom weavers were broad-minded and had visions of a world happy in the beauty of brotherhood, lofty conceptions of the purpose of existence and high hopes for the future destiny of the human race; whilst the factory operatives of to-day are narrow and undeveloped in mind and body. They, as a class, ignore all serious thought or study in their leisure hours, and seek all that is frothy and exciting in amusement and literature. Put into concise summary, the factory peoples'

houses, clothing, food, education, amusement, morals, Mechan- and religion are all manufactured goods mixed with a ism and deal of shoddy. The stuffiness, narrowness, frailness and Mentality machine automatism of the factory are part of their lives and souls. In short the factory folk have been reduced as far as their work is concerned literally from human beings into mere hands."

The depressing contrast between the old hand-loom weavers and the modern factory hand is still more pronounced in the higher branches of the silk trade. A vivid picture of a silk weaver and his environment, as well as many interesting references to the state of trade at the end of the eighteenth century and the beginning of the nineteenth, is given in a rare pamphlet preserved in the Guildhall Library, London.

Samuel Sholl, the author of the pamphlet,* was, as he tells us, "born at Taunton in Somersetshire, on the 28th January, 1752, of poor though not mean parents." Both his father and mother were weavers and belonged to families in which weaving was the traditional occupation. Like most of the children of the working classes of his time, he had very little schooling.

Young Sholl continued with his parents, and took very kindly to his father's trade, especially to the inventive part of it. Before he was able, for lack of strength, actually to weave, he could, as he writes, "put up a foot figure," which means that he could, reading from a sketch, tie the headles and treadles of a loom together in such a way that when the treadles were worked in a certain order by the weaver, a small ornamental pattern could be woven.

Samuel, when fourteen years of age, feeling himself An capable of working at his father's trade, and having his Instruc- parents' consent, left home and made his way to London. tive There he soon found that he was less proficient in the trade Record. than he had supposed and underwent much privation. However, he learnt much more of his business, gained experience of life, and by application and economy, as he

* *A Short History of the Silk Manufacture in England*, by Samuel Sholl. Printed and published in Brick Lane, London, 1811.

Extracts from an old Pamphlet. says, "surmounted all his troubles." Although he found work in various shops, Sholl did not remain very long in London. He had an offer of a good situation in his native town, which he accepted.

At this time Sholl says of himself: "I was always fond of old men's company, and used to think they knew everything better than myself, in fact I used to think this of every person I met. It took me a considerable time to persuade myself out of this opinion. However, as various things in so large a town as Taunton were frequently wanted, I thought, after some inspection, that I could make improvements in looms and weavers' tools. Thus, under every disadvantage, I became handicraftsman, and by the time I was twenty-one could make and mend looms, shuttles, etc. I soon provided myself with such a set of tools that I could do almost anything that weavers wanted."

Thus prospering in Taunton, Sholl, before he was twenty took to himself a wife. Mrs. Sholl had a sister living in London, married to a silk weaver, and from this sister she constantly received glowing descriptions of the attractions of the great City and the advantages of a silk weaver's occupation and chances there. After he had been married five years, Sholl, in response to a pressing invitation from his brother-in-law, and at the earnest desire of his wife, was persuaded against his inclination again to try his fortune in London. Accordingly, on July 23rd, 1776, he set off by himself, having sold his goods and left his wife and children with his parents till he could arrange to send for them.

London
in the
18th
Century.

Sholl was disappointed at first by finding that his wife's relations could not help him to any work, but after a good deal of privation and ill-health, which he describes in detail with gruesome enjoyment, he at length got into regular employment as a silk weaver, sent for his wife and children, set up his home and little workshop in Bethnal Green, where he continued, made many friends, and brought up his family. Sholl soon became known in the weaving district as a skilful silk weaver and an ingenious inventor, as well as an organizer of Weavers' Clubs and Benefit

Societies. One of his inventions was an improved loom for silk weaving, for which the Society of Arts in 1789 awarded him a silver medal and thirty guineas.* Remarking on this, he quaintly says: "It may be proper here to say a word or two by way of caution to young men of a speculative turn or their ingenuity may otherwise prove a serious injury to them, as has been the case with many to my knowledge. This imprudence has prevented others from meeting with that assistance which might have been useful to them and beneficial to the community. I well weighed any projects before I set out, and always found the trouble worth the pains. My plan was to get up early, perform a certain portion of work, and thereby earn sufficient to pay every one their just due, then devote the remainder of the day to my speculations."† In common with so many mechanics, Sholl sometimes found that others had been before him. This was the case, he tells us, with one of his most brilliant inventions, but the nature of it he does not describe.

London
in the
18th
Century.

On the whole, the autobiography graphically portrays a skilful, ingenious, self-respecting, Calvinistic—but not unkindly—respectable artisan of the period in which he lived. He may be taken as a type of the best class of silk weavers at the end of the eighteenth century and the beginning of the nineteenth.

The pamphlet is rounded off at the end with a few pages of moral reflections, concluding thus: "I have done with temporal things. They were of use to me to procure a livelihood, but now I have done—Farewell! All is worn out with me.

A
Weaver
and a
Philoso-
pher.

My Loom's entirely out of square,
My rollers now wormenteen are ;
My clamps and treadles they are broke,
My battons they won't strike a stroke ;
My porry's covered with the dust,
My shears and pickers eat with rust ;

* *Society of Arts Report.*

† It is similarly recorded of Samuel Crompton, the inventor of the mule for spinning, that his mother, though always kind, was strict and insisted that he should weave a certain length of cloth daily. He was then allowed to amuse himself with mechanical speculations and music.

A
Weaver
and a
Philoso-
pher.

My reed and harness are worn out,
My wheel won't turn a quill about ;
My shuttle's broke, my glass is run,
My drolie's shot—my cane is done."

The first part of the pamphlet written by Samuel Sholl is of great value and interest to the student of industrial development. It gives a vivid and evidently truthful account, from the operative silk weaver's point of view, of the attempts made by the most intelligent workmen to maintain their privileges and customs, to improve themselves in the technicalities of their trade, to maintain a fair price for their work, and to defend themselves against foreign competition at a time when, from causes which have already been discussed, the silk industry of Spitalfields was gradually declining. It is possible to gather from this artless but graphic account by the illiterate but ingenious silk weaver some of the admirable characteristics of the author and his associates, and one cannot but admire the courage, self denial and perseverance which they displayed in their endeavours to carry out schemes for bettering the conditions of their fellow workers, notwithstanding the fact that most of their plans fell short of success.

A consideration of this part of the pamphlet rightly belongs to the section treating of Trade Unions, and will be found in Chapter XXXIX, p. 494, but it may with advantage be read at this point in the above connection.

It would be easy, were it necessary, to multiply instances of the admirable characteristics of those who followed the gentle craft of silk weaving under the old regime. The annals of the Royal Society of Arts and many other learned societies record the names of operative silk weavers who were awarded medals and money prizes for additions to the mechanism of the loom, for new processes of weaving, for inventions or improvements of tools, or for their achievements in mathematics, astronomy, natural history and other branches of science. These things apart, however, from the old silk weaving trade, when thoroughly mastered and industriously practised under

Workmen
Inven-
tors.

a good employer, must have been full of interest and have had a refining influence. Few of this old breed of silk weavers are left, although they often lived to a great age. One such died a year or two ago who had been weaving for just upon ninety years. Amongst the things he had treasured were a most interesting collection of samples of the work he had done, drafts for tie-ups, which he and his father before him had used, as well as tools and all sorts of small weaving appliances. He had begun life as a *drawboy*,* and had worked his way up to a perfect mastery of the weavers' craft in several of its branches.

In contrast to the variety and interesting activity of the life of the old hand-loom silk weaver, the work of the machine factory hand in a great silk-weaving mill would appear to be drab and uninteresting. The modern silk loom almost does the work by itself with unerring exactness. Everything is most carefully prepared before the silk is put into the loom by different workers, each trained to do only one small thing and to do it perfectly. Several looms are supervised by a mechanical engineer, whose duty is to keep all their parts in working order. One set of workers spend all their time clearing the warp threads—that is cutting out knots and small knobs of untwisted silk—as these would hinder the weaving by frequently breaking the threads when brought into contact with the harness and reed. Another class, called joiners or twistors, joins the new warp, thread by thread, to the old warp ends, which are left in the loom for that purpose. The actual weaver has little to do but keenly watch the loom, hour after hour, as it works, on the look-out for broken threads of warp and weft, and for the emptying of the spools in the shuttles. It is one of the ironies of industry that the supreme skill of one man in devising new mechanical processes will often reduce his fellow workers to the rank of machine minders, until fresh channels for the exercise of their skill can be opened up.

A
vanished
Type.

The
modern
factory
hand.

* A weaver's assistant, whose duty was to draw the cards in order to form the design.

CHAPTER XXXVIII.

PARLIAMENT AND SILK MANUFACTURE.

Although it has been necessary in previous sections of this history to refer incidentally to the action of Parliament in relation to manufacture and trade, it has not been possible to convey to the reader a clear conception of the amount of consideration given to the subject of silk and its manipulation by the British Legislature, nor to give any adequate idea of the number and wide scope of the statutes which have been passed from time to time.

From the date of the Great Charter, and even in earlier years, a very large proportion of the enactments agreed to by—to quote from the preamble of the first statute of Edward I, 1275—“the King and Council with Archbishops, Bishops, Abbots, Priors, Earls, Barons, and all the commonalty of the Realm,” were for the regulation of the prices of the necessaries of life—bread, meat, wine, beer, etc.—the price, methods and details of unskilled labour and handicraft, and the rights, duties, responsibilities and limitations of masters and servants and of traders and trading. The *Statute Book* of the reign of Edward III is particularly rich in records of this kind of legislation; no less than one hundred and forty statutes relating to trade are there stated to have been discussed by Parliament and confirmed by that monarch during the fifty years of his reign—1327 to 1377. Two-thirds of these laws had reference to textile manufacture, and amongst them the first actual reference to *silk* occurs, as stated in the chapter on “Beginning of Silk

Legisla-
tion
in the
Four-
teenth
Century.

Industry." The text of this interesting statute freely translated from the antique French, in which it is written, is as follows:—

“ 37 Edward III, Cap. VI. Made at Westminster.

“ Handicraftsmen shall use but one Mystery, but Handiworkwomen may work as they did.

“ It is ordained that artificers or handicraftsmen, merchants and shopkeepers shall be restricted to working or trading in one kind of manufactured goods only. They shall declare their choice before the feast of Candlemas to a Justice of the Peace. The Justices are directed to punish offenders against the Statute by imprisonment for half a year, or a fine at their discretion. But the intention of the King and his Council is that female brewers, bakers, weavers, spinsters and other women employed upon works in wool, linen or *silk*, in embroidery and all other handiwork may work freely as they used to do before this time.”

From this time forward (1363) there are occasional references to silk in the statutes, especially in the laws which were framed for the purpose of regulating the traffic of foreign merchants and the dress of different orders and classes of persons. For instance, in the ordinance for “The Diet and Apparel of Servants,” after directing that the servants of the gentry are not to be extravagantly fed or clothed, but are to be treated in accordance with the estate of their masters, it is expressly forbidden that their garments should be embroidered with gold, silver or *silk*.” Other statutes direct that neither handicraftsmen nor yeomen nor their wives or children are to wear *silk* in any form. Again, “gentlemen under the estate of knights,” unless they own “two hundred mark land” may not wear “cloth of gold, *silk* or silver embroidered vesture.” Those having the latter qualification, however, may wear “cloth of silk and a ribbon sash reasonably garnished with silver.”

There is no direct reference to silk manufacture or silk workers in the printed statutes for nearly a century from the date of 39 Edward III, Cap. VI, where women

Legislation in the Fourteenth Century.

First Reference to Woman Workers

Protec-
tion for
English
Traders.

workers in silk are first mentioned. It is certain, however, that the trade was gradually growing in importance, and that it was regulated, together with other branches of textile work, by the laws and ordinances made for the governance of handicraftsmen in general. In 1455 (33 Henry VI) an urgent appeal to Parliament for protection against the competition of foreign traders, who brought ready wrought silken goods into the country, was made by the silk women and spinsters of the City of London. They complained that great detriment was done to their industry by the intrusion of these strangers. The appeal was successful, as described in the section on alien immigration, and an experimental measure to take effect for five years was ordained for their protection.

Politics
and
Industry.

Arguments for and against prohibition, protection, reciprocity and free trade, not only as regards foreign countries, but between different home districts, seem to have exercised the minds of our forefathers and the ingenuity of their law-makers to a great extent. Previous to the reign of Edward III the disputes which required authoritative adjustment and regulation were for the most part between the municipalities and the more or less organised trade guilds and fraternities, or between handicraftsmen or traders engaged in different branches of manufacture and commerce. With the accession of that monarch, however, an advance from a municipal to a national commercial policy took place; and foreign artificers were invited to settle in England, in spite of the persistent opposition of the guilds of native merchants and craftsmen to the settlement of the strangers. The general action of the King in Council, as proved by the frequent confirmation of the edicts in its favour, was also towards freedom of import and export trade. It is true that occasional ordinances were promulgated prohibiting the import or export of certain commodities, but these had usually some political bearing, as when the export of wool from Great Britain to Flanders was forbidden in order to force the Flemings to abandon the French Alliance.

A good specimen of the early statutes which embody this generous policy in regard to foreign merchants and craftsmen is furnished by Cap. I. of the 2nd of Richard II (1378). This is also interesting as giving in its preamble a graphic idea of the opposition of the native craftsmen and traders to the intrusion of strangers. The statute may indeed be quoted almost at length, with advantage. It read :—

“Statutes made at Gloucester, Anno 2 Rich. II, A.D. 1378.

“Our Lord the King, at his Parliament holden at Gloucester the Wednesday next after the Feast of St. Luke, the second year of his Reign, amongst other things there assented and accorded, hath made certain Statutes and Ordinances, as well for the common Profit of the Realm, as for the maintenance of Peace in his said Realm, in the form following :

Cap. I.

“All Merchants may buy and sell within the Realm without Disturbance.

“First. Because that before this time in the time of the noble King Edward, Grandfather of our Lord the King that now is, in his Parliaments holden at York and Westminster, and also in this present Parliament, great complaint hath been made to our said Lord, for that in many Citties, Boroughs, Ports of the Sea, and other Places within the Realm of England, great damages and outrageous grievances have been, and yet be done, to the King and to all his Realm, by the Citizens, Burgesses and other people of the Citties, Boroughs, and other Towns and Places aforesaid, which have not suffered, nor yet will not suffer Merchants, Strangers, nor other that do bring, carry or convey by sea or by land Wines, *avoir de pois* Sustenance, Victuals, or other things vendable, profitable, and necessary, as well for the King, the Prelates, and Lords, as for all the Commonalty of this Land, to sell or deliver the said Wines, Sustenance, or Victuals, nor other things

Politics
and
Industry.

A
Notable
Enact-
ment.

A
Notable
Enact-
ment.

vendable to any other than to them of the same Cities, Boroughs, Ports of the Sea, and other places, to which such Wines, Sustenance, Victuals, or other things vendable were and be brought, carried and conveyed.

“(2) And by so much those things have been, and yet be sold and let to the King, to his Lords and to all his People, by the hands of the Citoyens, Burgesses and other people Denizens, to a great and excessive Dearth over that they should have been, if the Merchant Strangers and other which bring such things into the Realm might freely have sold them to whom they would.

“(3) They also would not nor yet will suffer the Merchant Strangers that do come, or would come within the Realm, to buy woolls and other Merchandises growing within the Realm, to go, travel and merchandise, or abide freely as they were wont to do, to the great damage of the King, Prelates, of the Lords and all the Realm, and against the common profit, and against the Statutes and Ordinances thereof made in times past in the said two Parliaments.

A Wel-
come to
Merchant
Strangers.

“(4) Our Lord the King considering clearly the coming of Merchant Strangers within the Realm to be very profitable for many causes to all the Realm, by the assent of the Prelates, Dukes, Earls, Barons, and the Commons of the Realm, hath ordained and established that all Merchants, Aliens, of what Realms, Countries, or Seigniories that they come, which be at amity with the King, and of this Realm, may from henceforth safely and surely come within the Realm of England, and in all Cities, Boroughs, Ports of the Sea, Fairs, Markets, or other Places within the Realm, within Franchise and without, and abide with their goods and all Merchandises under the safeguard and protection of the King as long as they shall please them, without disturbance or denying of any person.

- “ (5) And that as well those Merchants, Aliens and A Wel-
 Denizens, and every of them that will buy and come to
 sell corn, Flesh, Fish, and all Manner of other Merchant
 Victuals and Sustenance, and also all manner of Strangers.
 Spicereis, Fruit, Fur, and all manner of Small
 Wares, as *Silk, Gold Wire or Silver Wire, Cover-*
chiefs, and other such small ware, may from hence-
 forth freely and without denying or any manner
 of disturbance as well in the City of London as
 in all Cities, Boroughs, Ports of the Sea, Fairs,
 Markets, and other places within the Realm, Sell
 and Buy in Gross and in Parcels to whom and of
 whom they please, Denizens or Foreign.
- “ (6) Except the King’s Enemies and except that all
 manner of Wines shall be sold by the said
 Strangers in gross and by whole vessels and not
 by retale by any in the said Cities, Boroughs and
 other Towns Franchised, but only by the inhabi-
 tants and Freemen of the same.
- “ (7) And as to all other great wares as Cloth of Gold
 and Silver, Silk, Sendal, Napery, Linen Cloth,
 Canvas, and other such great wares, and also all
 manner of other great Merchandises not above ex-
 pressed whatsoever they be, from henceforth as
 well aliens as Denizens, as well in the City of Home
 London as in other Cities, Boroughs, Ports of the Re-
 Sea, Towns, Fairs, Markets and Elsewhere through tailers
 the said Realm, within Franchise and without, may Pro-
 sell the same in gross to every person foreign or tected.
 Denizen that will buy the same free and without
 denying (except to the King’s Enemies and their
 Realms) as well as by the Bale, Cloth, or by whole
 Pieces at their pleasure, and not at Retail, upon
 pain of Forfeiture of the same Merchandises, but
 only the Citizens and in their own Cities and
 Boroughs, and other good Towns franchised, to
 whom (and to none other strange merchant of
 their Franchise) they may.
- “ (8) And it shall be lawful for them without Impeach-
 ment, to unfold, undo, and cut in their same proper

Privileges
for
Aliens

Cities, and Boroughs, the great Merchandises and other great wares aforesaid, and as well the same, as Wines and other Merchandises whatsoever there to sell in gross and by retail at their pleasure, paying all the Customs and Subsidies due, notwithstanding any Statutes, Ordinances, Charters, Judgments, Allowances, Customs, and Usages made or suffered to the contrary.

“(9) Which Charters and Franchises, if any there be, they shall be utterly repealed and annulled, as a thing made, used, or granted against the common Profit of the People.

“(10) Saving always to Prelates and Lords of the Realm wholly their liberties and Franchises, that they may make their purveyances and Buyings of Victuals, and of other their necessaries, as they were wont to do in old time.

“(11) And saving that the Ordinances made before this time of the Staple of Calais be holden in their force and virtue.

“(12) And it is not the King’s mind, that Merchants, Strangers or Denizens, that will buy and sell their Woolls, Woollfels, Wares, Cloths, Iron and other Merchandises, at Fairs and Markets in the Country, should be restrained or disturbed by this Statute to sell or buy freely in gross or at retail as they were wont to do heretofore.

Some
Trade
Regulations.

“(13) And if it so happen, that from henceforth Disturbance be made to any Merchant, Alien or Denizen, or other, upon the sale of such things in City, Borough, Town, Port of the Sea or other place that hath Franchise, against the form of this Ordinance; and the Mayor, Bailiffs, or other that have the keeping of such Franchise, required by the said Merchants or other in their name, thereof to make remedy, do not the same, and thereof be attainted the Franchise shall be seized into the King’s hand; and nevertheless, they that have done such Disturbance against this Statute, shall be bound to render and restore to the Plaintiff

his double damages that he hath suffered by this occasion.

Regulations for Alien Traders.

“(14) And if such disturbance be made to such merchants or to other in Towns and Places where no Franchise is, and the Lord, if he be present, or his Bailiff or Constable or other Warden of the Towns and Places, in absence of the Lords thereof, required to do Right and do not, and therefor be duly attainted, they shall yield to the Plaintiff his double Damages, as afore is said, and the Disturbers in the one case and in the other, as well within Franchise or without if they be attainted shall have one year’s imprisonment and be ransomed at the King’s will.

“(15) And it is ordained and established that the Chancellor, Treasurer, and Justices assigned to hold Pleas of the King in the places where they come, shall diligently inquire of such Disturbances and grievances, and do Punishment according as afore is ordained.

“(16) And nevertheless the King shall assign by Commission certain people, where and when shall please him, to inquire of such Disturbances and grievances, and to punish the offenders in this particular as before is said.”

Two interesting points in the above Statute, amongst many others, are: (1) The Freedom of Trading by Alien Merchants set forth in the Act was such as would only affect the rich wholesale Merchants of the cities and seaports, and not the local retail traders who alone had the right of cutting up bales of cloth and parcels of goods and selling stuff by the yard or small weight or measure. (2) The lists of wares mentioned in clauses 5 and 7, small and great wares, in both of which classes *silk* holds a most important place.

Effect on Home Industry.

This Act of Richard II, which embodied in itself all the previous political legislation as regards trading and the treatment of alien merchants, may be taken as setting forth the prevailing attitude of the English lawmakers

Effect on in those respects throughout the following centuries.
 Home It is true that owing to local complaints and agitation,
 Industry. in seasons of more or less temporary distress, petitions
 were often made to the authorities to curtail the privileges
 of alien merchants and craftsmen, to whose operations and
 competition were generally, and very naturally, attributed
 the distressful circumstances of the petitioners. More
 or less temporary and local edicts were, on such demands
 frequently issued; a common reason for the departure
 from the ordinary policy being, that, "the poor people
 may be set on work." Legislation, however, limiting the
 liberties of foreign craftsmen or merchants was clearly
 the exception rather than the rule, and there are indications
 that whenever these demands were acceded to, to any
 great extent, or for any long period, the trades and crafts
 which they affected gradually declined in point of
 excellence of workmanship.

Although the good treatment of foreign merchants would
 appear to be sufficiently provided for in the statute quoted,
 it was evidently found necessary, probably because the
 law was not strictly enforced and had fallen into abeyance,
 to restate more clearly this provision of the Ordinance
 in the fifth year of Richard II. An Act passed by Parli-
 ament in that year was as follows :

Laws
 not
 Enforced.

"First it is accorded and assented in the Parliament,
 that all manner of Merchants Strangers, of what-
 soever nation or country they be, being in amity
 of the King and of his Realm, shall be welcome,
 and freely may come within the Realm of England
 and elsewhere within the King's power, as well
 within Franchise as without, and there to be
 conversant, to merchandise and tarry, as long as
 them liketh, as those whom the said *Lord the King*
 by the tenour hereof, taketh into his protection
 and safeguard, with their goods, merchandises
 and all manner of familiars. (2) And for so much
 the King willeth and commandeth that they and
 every of them be well, friendly and merchant-like
 intreated and demeaned in all parts within his
 said Realm and Power, with their Merchandises

and all manner of Goods, and suffered to go and Laws
 come, and unto their proper Country peacefully not
 to return, without disturbance or Impeachment Enforced.
 of any.”

Nor did this suffice, for in the eleventh year of the reign of Richard II it was again found necessary to restate the whole Statute, and still further to strengthen it by many references to the statutes of the “Noble King Edward, Grandfather to the King that now is,” in which full freedom and protection was given to the alien merchants to traverse the land and to sell their merchandise wholesale where they would. It ended with the clear announcement—in Clauses 11 and 12—as follows:—

“Our Lord the King seeing clearly that the said Statutes if they were holden and fully executed, should much extend to the profit and wealth of all the Realm, hath ordained and established, by the assent of the Prelates, Dukes, Earls, Barons, Great Men, Nobles, and Commons in this present Parliament assembled, that the said Statutes shall from henceforth be firmly holden, kept, maintained and fully executed in all points and articles of the same, notwithstanding any Ordinance, Statute, Charter, Letters Patents, Franchise, Proclamation, Commandment, Usage, Allowance, or Judgement made or used to the contrary. (12) And that if any Statute, Ordinance, Charter, Letters Patents, Franchises, Proclamation, Commandment, Usage, Allowance or Judgement be made or used to the contrary, it shall be utterly repealed, avoided, and holden for none.”

The 16th of Richard II, Cap. 1, was evidently Ebb and
 framed as the result of a petition of the Citizens of London. Flow of
 This class, who were becoming very wealthy and influential, Legisla-
 represented that great damage was done to their business, tion
 and the business of traders and craftsmen in general, by
 the alien merchants buying and selling preferably with
 one another, and making a corner to themselves in certain
 manufactured goods and raw materials. By this Statute
 it was made illegal for an alien merchant to sell to another

Ebb and
Flow of
Legisla-
tion.

alien merchant either foreign goods or goods purchased within the realm.

There followed at intervals, evidently in response to petitions of interested manufacturers and traders, more or less temporary and partial statutes against carrying certain manufactured goods or raw materials—the latter generally wool in one form or another, or food stuffs, or gold or silver out of the country. In 1429, for instance—8 Henry VI, Cap. 24—it was ordained that “None shall pay alien merchants in *gold*, but in *silver* only, and that no credit was to be given to foreigners.”

The 25th Henry VI, Cap. 4, is a Statute of Reciprocity, for it enacts that “If cloth manufactured in England shall be prohibited in Brabant, Holland and Zealand, then no merchandise, growing or wrought there within the Dominion of the Duke of Burgoins, shall come into England on pain of forfeiture.”

The 27th Henry VI, Cap. 3, ordains that “Merchant Strangers must bestow all the money they receive for their merchandises upon merchandises—English goods—and carry forth no gold or silver, on pain of forfeiture.”

A Statute made in the second year of Edward IV, Cap. 3, is headed: “Whosoever shall bring into this Realm any wrought silk to be sold, concerning the mystery of silk workers, shall forfeit the same.”

Prohibi-
tion of
Silk
Imports.

The text of this Act is given in the chapter on “Alien Immigration from Italy.” It clearly states that it was enacted in answer to the petition of the silk workers and throwsters of London, where a great industry for spinning silk and making small silk wares had been developed. In Cap. 4 of the next year a much more comprehensive and definite statute was framed, as the complaints and petitions of the makers of small wares of different sorts were added to those of the silk workers. The list of small wares named is so interesting as to be worth quoting in full: “Woollen caps, woollen cloths, laces, corses, ribbands, *fringes of silk*, fringes of thread, laces of thread, *silk* twined, *silk* in any wise embroidered, laces of gold or of *silk* and gold, saddles, stirrups, or any harness pertaining to saddles, spurs, bosses of bridles,

andirons, gridirons, any manner of locks, hammers, pinsors, firetongs, dripping pans, dice, tennis balls, points, purses, gloves, girdles, harness for girdles of iron, latten, steel, tin or of alkemine, any wrought of any tawed leather, any tawed furs, buskins, shoes, galoches, or corks, knives, daggers, woodknives, bodkins, sheers for tailors, scissors, razers, chessmen, playing cards, combs, pattins, pack needles, any painted ware, forciers, caskets, rings of copper, or of latten gilt, chaffing-dishes, hanging candlesticks, chaffing bells, facing bells, rings for curtains, ladles, scummers, counterfeit basons, ewers, hats, brushes, cards for wool, white wire or any of those wares or chaffers."

Restriction of Imports.

In the first year of Richard III, 1483, an Act was passed for the further restriction of Alien—especially Italian—Merchants. This was in response to a petition of the Citizens of London, in which they complained of the great prosperity of the large number of alien merchants who had taken up their abode in London and not only traded and competed with English merchants, but introduced alien handicraftsmen and servants to the detriment of native workmen and servants in London and other great cities. In consequence of this petition, the Act 1 Richard III, Cap. 9, was framed. In it, in addition to the restrictions of former Acts, aliens were forbidden to be hosts to aliens, to have servants or workmen other than natives of England, to practise any handicraft themselves or to take apprentices. Merchants were not to hold wares they had purchased or brought from abroad longer than eight months; they must carry them away to other parts at the expiration of that time or forfeit them. Moreover, aliens might not deal at all in English woven cloth.

Alien Traders lose Privileges.

In Cap. 10 of the same year's Parliament the prohibition of small silk goods is extended for ten years longer.

During the reign of Henry VII, 1485-1509, only one small Act relating to this subject is recorded. It is Cap. 21, year 19. It continues the prohibition of small silk wares, but gives free admission to all great works as well as silk in a raw state.

Regulation of Home Trade.

From this date the Parliamentary authorities seem to have concerned themselves for a considerable time more about the perfecting of the productions of manufacture in the country and the welfare of the English handicraftsmen than the regulation of the trade of alien merchants. The examination and official sealing of goods; the production of raw material and safeguards against adulteration; the number of apprentices a master might keep in proportion to the number of his journeymen, as well as the hours of their labour and the periods for which they might be hired; how the servants were to be housed; the food with which they were to be fed and the holidays they were to enjoy, and the number of times in the year they were to attend church, were all regulated by a bewildering number of special Statutes.

The Great Act of Elizabeth.

These Statutes had, by the year 1562, the fifth year of the reign of Queen Elizabeth, become so numerous and in some respects so contradictory that it was found necessary to codify and revise them. This was the origin of the great Act of Elizabeth known as the "Act of Apprentices," and although from time to time this Act was modified, and sometimes partially fell into abeyance, it continued for more than two centuries and a half the beneficent Charter of the artisan and labourer and in great measure the safeguard of the industrious poor from the oppression of capital. It is remarkable that it was while this Act was in force that the most prosperous period the silk industry in England has ever known was enjoyed by both masters and journeymen alike.

As this Act, its provisions and its effects both when in force and in neglect, has been several times referred to in this book, it is not necessary to recapitulate in full the details of its forty-eight clauses. It will be sufficient to quote its Preamble and briefly to enumerate the subject matter of the clauses as given in the marginal notes of the Statute Book.

"Anno Quinto Reginae Elizabethæ.

"Cap. IV.

"Although there remain and stand in Force presently a great number of Acts and Statutes concerning

the Retaining, Departing, Wages and Orders of The Apprentices, Servants and Labourers, as well in Great Husbandry as in divers other Arts, Mysteries and Act of Occupations; (2) yet partly for the imperfection Eliza- and contrariety that is found, and doth appear in beth. sundry of the said Laws, and for the Variety and number of them; (3) and chiefly for that the Wages and allowances limited and rated in many of the said Statutes are in divers places too small, and not answerable to this time, respecting the advancement of prices of all Things belonging to the said Servants and Labourers; (4) the said Laws cannot conveniently, without the great grief and burden of the poor Labourer and hired Man, be put in good and due execution; (5) And as the said several Acts and Statutes were, at the time of the making of them, thought to be very good and beneficial for the Commonwealth of this Realm (as divers of them yet are), So if the Substance of as many of the said Laws as are meet to be continued, shall be digested and reduced into one sole Law and Statute, and in the same an uniform Order prescribed and limited concerning the wages and other Orders for Apprentices, Servants, and Labourers, there is good hope that it will come to pass, and that the same Law (being duly executed) should banish Idleness, advance Husbandry and yield unto the Hired Person, both in the time of scarcity and in the time of Plenty, a convenient proportion of Wages."

In the first and second clauses of the Statute all former laws with regard to keeping, hiring, working and discharging handicraftsmen, servants, labourers and apprentices are repealed. Repeal of many former Laws.

The third clause enacts that no servant or craftsman shall be hired for a less time than a whole year. A long list of crafts is given to which this rule applies and in this list silk *weavers* and other textile workers occupy a place.

Repeal
of old
Laws.

The fourth clause enacts that every unmarried person under thirty years of age shall marry, and, having no occupation or property, shall be compelled to undertake some kind of service.

The fifth clause forbids discharging a servant before the end of his or her agreed term of service except "consent be given by two Justices of the Peace or the Mayor of the City or Town where the parties inhabit."

Sixthly, "No servant shall depart or be put away but upon a Quarter's Warning."

The seventh clause provides that any persons having no occupation or property shall be compelled to serve in husbandry.

The next fixes the punishment of persons who discharge their servants without due warning and of servants who leave their employers in the same manner.

The ninth clause provides for the punishment of servants who "perform not their duty."

The tenth prescribes that no hired person shall be absent from or leave his occupation without a written permit.

The eleventh that no person may be hired without a testimonial from his last master, and "If any person be found with a false testimonial he shall be whipped as a vagabond."

In the twelfth clause the hours of labour are fixed.

The thirteenth states "No artificer or labourer shall depart before his work be finished."

The fourteenth clause is an amplification of the thirteenth.

Fore-
runner
of
Spital-
fields
Acts.

The fifteenth clause is a very important one, and is of great interest in connection with the Silk industry, for on it were based, two centuries later, the noted Spitalfields Acts of 1773, 1792 and 1811. This clause instructed the Justices of the Peace yearly to assess the wages of artificers and all hired persons. This clause is the longest and most elaborate in the whole Statute, and it is followed by five others in which arrangements for publishing the price lists, the hearing of appeals, the fines for Justices neglecting their duty and for masters and servants giving or taking more or less than the rates of wages fixed.

The punishment of servants who assault their masters or overseers is defined in the twenty-first clause, and the three following clauses provide for the extraordinary work of the hayfield and harvest.

After that the Statute deals with the taking and keeping of apprentices as follows:—

Clause XXV. Husbandmen may take apprentices. (XXVI.) Every householder dwelling in Town Corporate may take an apprentice for seven years. (XXVII.) Merchants may take no apprentice but such as whose parents have property of the clear yearly value of forty shillings by inheritance or freehold. Various regulations for apprenticeship and apprentices are arranged for and stated in the remaining twenty-one clauses of the Act. The most important points being that “No master may keep more than three apprentices unless he employs one journeyman, and for every other apprentice another journeyman,” and that “no person may practise any art or mystery unless he has served an apprenticeship of seven years to it.”

With the exception of one Act for the prohibition of small wares ready wrought from foreign countries, two for regulating some details of the making of woollen cloth, and three forbidding the use of inferior dye-stuffs, there are no more Parliamentary Acts on record dealing with trade or handicraft between 1562, the date of the passing of Elizabeth’s “Act of Apprentices” and 1662, the 34th of King Charles II.

The absence of any legislation during all this time—exactly a century—seems to point to the fact that the arts, handicrafts and trade in general in England were prospering. There is other evidence to show that this was the case, as well as that population and wealth were rapidly increasing. It may also be inferred that the regulations of the Act of Elizabeth in regard to apprenticeship, labour and wages were generally approved, together with those of the other three Statutes which had to do with the rights and privileges of alien merchants, artificers, and traders and the prohibition of certain foreign goods.

In the above-named year, however (34th Charles II, 1662), complaints seem to have been made to Parliament

Fore-
runner
of
Spital-
fields
Acts.

Pros-
perous
Indus-
trial
Condi-
tions.

Pro-
hibitory
Enact-
ments.

that the prohibition of small wares provided for in previous Statutes were being evaded. A new Statute was therefore passed, embodying the former prohibitory Acts and reviving and adding to the penalties for attempting to evade them. As is so often the case with these old Statutes, the Preamble is most instructive and should be quoted :

“ Anno decimotertio and quarto Caroli II. Regis
Cap. XIII.

“ An Act prohibiting the Importation of Foreign, Bonelace, Cut work, Imbroidery, Fringe, Bandstrings, Buttons and Needlework.

“ WHEREAS great numbers of the Inhabitants of the Kingdom are imployed in the making of Bonelace, Bandstrings, Buttons, Needlework, Fringe and Embroideries, who by their industry and Labour have attained and gained so great skill and Dexterity in the making thereof, that they make as good of all sorts thereof, as is made in any Foreign part, by reason whereof, they have been able heretofore to relieve their poor Neighbours, and Maintained their families, and also enabled to set on work many poor Children, and other Persons who have small means or maintenance of living other than by their labours and endeavours in the said Art ; (2) And whereas the persons so employed in the said Mystery have heretofore served most parts of this Kingdom with the said wares. And for the carrying on, and Managing the said trade, they have procured great quantities of Thread and Silk to be brought into the Kingdom from Foreign parts, whereby his Majesty's Customs and Revenues have been much advanced. (3) Until of late, that great quantities of Foreign Bone-lace, Band strings, Needle-work, Cut-work, Fringe, Silk Buttons and Embroidery were brought into this Kingdom by Foreigners and Inhabitants of this Kingdom, and sold to shopkeepers and others Dealers in the said commodities, as well Wholesale as Retail, without ever entering of the same in any of his Majesty's Custom houses, or

Acts of
Charles
II.

paying any duty or custom for the same. (4) By means whereof the said Trade and calling is of late very much decayed, those imployed in the said callings very much impoverished, the Manufacture much decreased and great quantities thereof already made, left on their hands that make it, his Majesty defrauded and many thousand poor people, formerly kept on work in the said Art, like to perish for want of imployment. (5) There being daily great sums of money exported out of this Kingdom for the buying and fetching in of the said commodity, to the great impoverishment of the Nation and contrary to several statutes made 1st King Richard III, 3rd King Edward IV, 19th King Henry VII, 5th Queen Elizabeth, and to a late proclamation made by his Majesty that now is, dated the 20th Day of November last, for the putting of the said Laws into Execution.”

Acts of Charles II.

In Cap. 15 of the same year of Charles II, an Act for regulating the Trade of Silk Throwing was passed, and from its preamble the importance of that branch of silk manufacture in the seventeenth century may be gathered. The large number of persons stated to be employed at this time in the industry has been by some authorities supposed to be exaggerated or the figures to be a misprint. But it must be remembered that the machinery in use for silk-throwing at that time in England was of a very primitive construction, so that the necessary doubling and twisting required by the exceedingly fine thread of raw silk, in order to make it thick and strong enough for use, gave employment to a great many more persons than was the case when more perfect machinery had been invented and introduced at a later period. The preamble of the Act is as follows:—

Regulation of Silk Throwing.

“WHEREAS the Company of Silk Throwers, within the City of London and Liberties, and all their servants and apprentices within four miles thereof *quinto Caroli primi* are incorporated and made one Body Politick, and are known by the name of the

Regulation of
Silk
Throwing.

Master, Wardens, Assistants and Commonalty of the Trade, Art, or Mystery of Silk Throwers of the City of London. (2) And whereas the said trade is of singular use, and very advantageous to this Commonwealth by employing the poor, there being employed by the said Company in and about the City of London (as is expressed in their petition) above Forty Thousand Men, Women and Children, who otherwise would unavoidably be burdensome to the Places of their Abode. (3) And Whereas the present Governors of the said Company by their petition, pray an enlargement of their Charter, whereby they may be the better enabled to avoid the many deceits and inconveniences they daily meet withal by Intruders, who have not been brought up Apprentices to the said Trade, and others who settle themselves beyond the limits of the said Charter, on purpose to avoid the searchers and Supervision of the said Governors, by which means they are at liberty to make and vend what wares they please, to the Disparagement of the said Trade and Discouraging of the Petitioners, and all others of the said Trade that have duly served Apprentice thereunto, according to the known Laws of this Nation."

The Statute of ten ordinances following this preamble was passed, making it punishable by a fine of forty shillings for every month if any person not belonging to the Company of Throwsters practised the trade within twenty miles of London.

Pains and Penalties. Mention of silk is again made in a curious Act entitled :
"An Act for Burying in Woollen only." The opening clause of which is as follows :—

"48 Caroli II Regis, Cap. IV.

"For the encouragement of the woollen Manufactures in this Kingdom, and Prevention of the Exportation of the monies thereof, for the buying and importing of Linen. (2) Be it enacted by the King's Most Excellent Majesty by and with the

advice etc. no person or persons whatsoever shall be buried in any shirt, shift, or sheet made of or mingled with Flax, Hemp, *Silk*, Hair, Gold or Silver or other than what shall be made of Wool only, or be put into any coffin lined or faced with anything made of or mingled with Flax, Hemp, Silk or Hair. (3) Upon pain of the forfeiture of the Sum of Five Pounds to be employed to the use of the poor of the Parish where such person shall be so buried.”

In 1668 another Statute for silk throwsters was passed, which indicates that throwing machinery was being improved, and by this means many people were thrown out of employment. The purpose of the Bill is to limit the number of spindles a throwster might have at work on his machines at one time. Laws affecting Machinery.

There is no mention in the Statutes of James II of the most important event in the whole history of the British silk manufacture: the immigration of the Huguenot silk weavers from France (1685). There is extant a copy of a Petition to Parliament promoted by the Weavers' Company of London against the refugees being allowed to set up in business on the score of their not having served apprenticeship in the country, but the petition was refused and no action was taken by Parliament.

In 1690, 2 William and Mary, Cap. 9, the importation of thrown silk from Turkey, Persia, East India and China was forbidden, but from Italy and Sicily it was allowed if brought direct in English ships. This exception in the case of Italian thrown silk is due to the fact that, although English thrown silk at that time was equal in quality to that imported from the East, none but Italian thrown organzine silk was evenly twisted and strong enough for the warps of the rich damasks, brocades and other broad works which were becoming such an important branch of British industry.

The next Act of Parliament of interest in connection with silk manufacture is that of 2 William and Mary, Cap. 14, which was introduced with a view to raising War Taxation.

money for prosecuting "War with France and reducing Ireland." Amongst a very large number of commodities it was proposed to tax, the following are named: "All Callicoes and all other Indian linen, all wrought silks and other manufactures of India and China (except Indigo). All wrought silks from any other place at half the duty, and all raw silks imported from China or from the East Indies."

Parliament
and
Italian
Thrown
Silk.

In 1693 the attention of Parliament was called to the fact that the difficulty of obtaining fine thrown silk—the production of Italy, Sicily, and Naples—was proving greatly prejudicial to the silk manufacture of the nation, and if longer continued would result in its total loss. It was therefore enacted that "It shall be lawful for any person or persons who do or shall reside in their Majesties' dominions, to bring into this Kingdom from any port or place whatsoever without any restriction (excepting the Ports of France) fine Thrown silk of the growth or production of Italy, Sicily and Naples." A few years later this permit was extended to Leghorn.

By the provision of the second part of 7 and 8 of William III, Cap. 20, a penalty of forty pounds and forfeiture of the goods is to be exacted from any person exporting a stocking knitting frame or any parts of such a machine. The matter is explained in Clause VIII as follows:—

"And whereas a very useful and profitable Invention, or Mystery, hath been lately found out for the better and more speedy making and knitting of Silk and Worsted Stockings, Waistcoats, Gloves, and other wearing necessaries, whereby great Quantities are wrought off in a little time, his Majesty's Dominions abundantly supplied, and great Quantities exported into foreign Nations, to the increase of his Majesty's customs, and the improvement of Trade and Commerce; And whereas several of the Frames or Engines for the making and Knitting of such Stockings, and other wearing necessaries have been of late exported out of this Kingdom whereby the said commodities have been made in Foreign

Prohibition
of
Machinery
Exports.

parts which were heretofore made in this Kingdom only to the great discouragement of the trade in general, and detriment of the said Mystery of Framework Knitting, and the impoverishment of many families which have been thereby maintained. For the prevention of which inconveniences for the future be it enacted," &c.

Several special Acts of Parliament were passed during the reigns of William and Mary and Queen Anne for the purpose of strengthening the position of a Chartered Company called the Royal Lustring Company. The Huguenots had introduced the weaving and particular finishing of a class of silken materials called lustrings (lutestrings), alamondes and reinforces. There being a great demand for these goods, it was deemed advisable to grant a monopoly to a company for examining, sealing and guaranteeing the quality of all such silks produced in London. The Company also had powers to seek out and claim all unauthorised works and smuggled goods of the kind, which, owing to the heavy taxes imposed on foreign silks, were frequently to be found. The Lustring Company was very prosperous while the fashion for wearing these materials lasted, and at one time the shares which were issued at £5 2s. rose to £105. The monopoly was granted for fourteen years, but before that period expired the fashion changed, the demand almost ceased, and the Company was wound up.

Sanction to a Monopoly.

Silks, both wrought, raw and thrown, are frequently mentioned in the many Acts for special war taxation passed in the latter part of the seventeenth century. Duties varying from 10 per cent to 20 per cent were put on or repealed as the advice or petitions of various interested persons or the exigencies of the Government seemed to require. In 1700, the importation of all wrought silks from the East was prohibited, and heavy penalties imposed not only for importing but for wearing them. Buttons and button-holes covered, and sewn with other materials than silk, exercised the minds of the law-makers of this time, and three lengthy Statutes were framed and grievous penalties threatened to button makers,

Restriction of Imports.

tailors, sempstresses and wearers of button-holes sewn with any thread other than silk, and to persons making use of buttons covered with material which had no admixture of silk.

Proposed
Trade
Treaty
with
France.

In the year 1713, at the conclusion of the Treaty of Utrecht, a commercial treaty with France was also signed provisionally, under which the manufactures of each kingdom were to be admitted into the other upon the payment of low *ad valorem* duties. This treaty was, however, violently opposed by the English manufacturers, especially by those engaged in textile trades. Innumerable petitions were presented to Parliament against its ratification; and, after many heated debates, the Bill for rendering the treaty of commerce effectual was rejected in the House of Commons by a small majority.

In the petition presented on this occasion by the Weavers' Company of London, it was stated that "all sorts of black and coloured silks, gold and silver stuffs and ribands were made here as good as those of France"; and that the silk manufacture at that time—1713—was "twenty times greater than in the year 1664."

Mention also is made in a Statute of 8 George I—1721—of the great increase of the silk trade in Great Britain, and encouragement is given for exporting manufactured silk goods. The preamble is as follows:—

"May it please your most excellent Majesty, whereas the Wealth and prosperity of this Kingdom doth very much depend on the Improvements of its Manufactures, and the profitable Trade carried on by the Exportation of the same, which Trade ought, by all proper means to be encouraged, for the more comfortable support and maintenance of great numbers of your Majesty's subjects employed in the making and working of such goods, and for the enlargement of the commerce of Great Britain; and whereas the manufacture of silk stuffs and of stuffs mixed with silk, which is one of the most considerable Branches of the Manufacture of this Kingdom, has, of late years, been greatly improved in this Kingdom, and there is

An
Act of
George I.

reason to believe that the exportation of them into Foreign Ports would considerably increase, were it not obstructed and hindered by reason of the high duties payable upon the importation of Raw and Thrown silk, without any allowance being made upon the said silks when wrought up and exported ; and in Regard the said Raw and Thrown Silk when exported unmanufactured, do draw back great part of the duties paid inwards ; and it seems just and reasonable that the said silks should also enjoy the same Benefit and Allowance upon the Exportation of them. Therefore we, your Majesty's most dutiful and loyal subjects, the Commons of Great Britain in Parliament assembled, do humbly pray your Majesty that it may be enacted ; and be it enacted by the King's most excellent Majesty &c." Here follows the Statute allowing a rebate on exportation on (1) all ribbons and stuffs made in Great Britain of silk only ; (2) all silks and ribbons made in Great Britain of silk mixed with gold or silver ; (3) all silk stockings, silk gloves, silk fringes, silk laces, and stitching or sewing silk ; (4) for all stuffs of silk and gogram yarn ; (5) for all stuffs of silk mixed with linen or cotton ; (6) for all stuffs made of silk mixed with worsted. The rebate allowances ranged from sixpence to four shillings per pound weight avoirdupois.

In 1725, 12 George I, Cap. 34, the first of the Statutes known as the Combination Acts was passed. These became more severe in their provisions at a later date, and at the same time the custom of regulating workmen's wages by the justices—arranged for by the Act of Elizabeth—fell into abeyance, in consequence of which the artizan had no defence against the oppression of a bad master.

In 1732, 5 George II, Cap. 8, a special Act of Parliament was passed awarding fourteen thousand pounds to Sir Thomas Lombe, who had at great expense to himself and by the patient labour of fourteen years—during which time his original patent expired—perfected the art of

An
Act of
George I.

Grant to
Thomas
Lombe.

The
Grant
to
Thomas
Lombe.

silk-throwing and erected large mills and machinery by means of which the work could be done in England even more perfectly than in Italy.*

During the reign of George II two Statutes against fraud in the silk trade were passed and some changes in the duties payable on foreign imported goods were made. Reductions were also made in the duties on raw and thrown silk, but the most significant and most frequent theme of the petitions presented to Parliament by the silk weavers and manufacturers of London at the period was that of the total prohibition of all foreign-wrought silks. This object was not gained till 1773, when an Act strictly prohibiting the importing and wearing of all foreign-wrought silk was passed and remained in force until 1826.

Of this time of strict prohibition, Mr. Porter, writing in the year 1831, points out that British manufacturers of silken goods being thus secured in the monopoly of the home market, and in the British dependencies, gradually became careless, and their productions deteriorated; he also admits that, though the volume of trade was steadily increasing notwithstanding frequent seasons of depression due to changes of fashion, the position of the operative weaver, even in times of prosperity for the manufacturer, was always one of uncertainty and wretchedness.

Regula-
tion of
Wages.

The operation of the local *Spitalfields Acts*, for the regulation of the London silk weavers' wages—1773, 1792 and 1801—has already been described in the section dealing with Spitalfields. The beneficence, or otherwise, of these Acts was much discussed during the time they were in force; and their opponents finally succeeded in obtaining their repeal in 1824, at the same time that Parliament decided to abandon the policy of prohibition.

Beginning in 1826 with the imposition of duties on imports of wrought silks varying from 25% to 40%, and on raw and thrown silks of from one shilling to five shillings per *lb.*, the tariff was gradually reduced, from time to time, until in 1846 the duties had been lowered to less

* This story is fully told in the *History of Silk in Derby*, and the Act is quoted (for it is very instructive) in the Appendix.

than half the above amounts ; but it was not till 1860 that the policy of free trade so prevailed in Parliament as to allow the Government to abolish all restrictions on the free importation of both wrought and raw silk.

CHAPTER XXXIX.

TRADE UNIONS AND ASSOCIATIONS IN SILK MANUFACTURE.

The primary and fundamental object of Trade Unions, like that of the ancient Craft Guilds, is to secure their members in the independent, unimpeached, and regular earning of their daily bread by means of their trade or craft.* The origin and development of the fraternities which flourished in the Middle Ages, having this object in view, is a most fascinating study. Their history begins at the time when families began to be gathered together into communities, and is closely interwoven with that of all the large towns and cities of mediæval Europe. The general history of Guilds and Trade Unions is much too extensive a subject to be dealt with at length, but it is necessary, in a history of silk manufacture, to give some account of the formation and work of such trade societies as have affected that branch of commercial activity.

Methods
and
Practices.

In the first place it is necessary to note that some of the methods and practices of Trade Unions, to which in certain quarters much objection is taken, are not by any means modern innovations specially designed to obstruct trade and cause public inconvenience, but are attempts to regulate the conflicting rights of the individual worker, his employer, and Society at large, and are just such as were practised by the craft guilds of earlier times.

Owing, however, to the great volume of modern trade operations, the competitive system of business, and the discoveries of science, the modern unions and associations differ in one important particular from their prototypes,

* For a full account of the ancient guilds, see Brentano on *Guilds*.

the ancient Craft Guilds. It is in this difference that the cause of most of the evils complained of is to be found. This point of difference is the division of Trade Associations into two separate opposing parties—one of masters, the other of men—each keenly jealous of any advantage the other may gain. But even here there is evidence that as early as the fifteenth century there were disputes and division in some of the largest trades, where, contrary to the usual rule, many journeymen were employed, and masters and contractors were beginning to accumulate capital. As a rule, however, the ancient guild was an association of masters and journeymen, its purpose being the defence and regulation of the rights, privileges and duties of all the members of a trade. Com-
parison
with
old
Guilds.

The extraordinary development of commerce and manufacture during the course of the eighteenth century made it impossible for the officials of the ancient Companies to retain control of the trades as was intended when they were incorporated. They accordingly gradually ceased to attempt the performance of this task. Such as had no halls, or valuable privileges or property of their own, or other interest, collapsed entirely; whilst those with possessions continued to administer their property, but retained no vital connection with the crafts they were established to protect and foster.

As long as the Statute of Apprentices,* passed during the reign of Elizabeth, was in force, the position of the workman in most trades was secure. By this enactment, which revised or embodied all previous legislation of the kind, no one could lawfully exercise or carry on, either as master or journeyman, any art, mystery or manual occupation except he had been brought up therein and had served seven years as an apprentice. Every householder dwelling in city or market town might take apprentices for seven years at least. Whoever had three apprentices must keep one journeyman, and for every extra apprentice one other journeyman. As for a journeyman, it was enacted that, in most trades no person should retain a Statute
of
Appren-
tices.

* 5th Elizabeth, Cap. 4. See Appendix.

Statute
of
Appren-
tices.

servant under one whole year, and no servant was to depart or be put away but upon a quarterly warning. The hours of work were fixed by the Act at about twelve hours in summer and from daydawn till nightfall in the winter. Wages were to be assessed by Justices of the Peace or by town magistrates at every General Sessions first held after Easter. The same authorities were to settle all disputes between masters, journeymen and apprentices, and especially to protect the last-named. A later Act* expressly extends this power of the justices and magistrates to fix the wages of all labourers and workmen whatever.

There is evidence that as early as 1710 this Act, especially as regards the assessment of wages by the justices, had to a great extent become non-effective.† In that year the justices fixed a rate of wages in the woollen weaving trade, but it was not carried into practice. This led to attempts at further lowering of prices by the masters and induced the men to combine, and many struck work. In 1723 an Act prohibiting combinations of workmen in that trade was passed, but so much discontent continued that another Act in the following year ordered the justices once more to fix a rate of wages. Against this the masters petitioned, and the justices refused to act; whereupon the weavers again revolted in very large numbers, and it was not until after much loss by the masters and suffering by the men that the former agreed to abide by the provisions of the Act. When at last they did so peace was restored.

The
Combina-
tion
Act.

The industrial history of the eighteenth century abounds in stories of trade riots and strikes, appeals and petitions to Parliament for the regulation of different trades, the passing of new and the confirmation of old Statutes, which proved for the most part useless, and Acts more or less severe against combinations of workmen culminating in the Combination Act of 1799, with its very severe penalties. Through it all the status of the operatives in almost all trades was falling lower and lower. There is no better

* 1st James, Cap. 4.

† Brentano on *Trade Unions*, p. 104.

illustration of this tendency in the industrial world than is furnished by the story of the change from the old order to the new in the manufacture of hosiery, an important department of which trade was concerned in the use of silk.*

Machinery was, at a very early time, introduced into the manufacture of hosiery in England. The invention of the stocking-frame, as the machine for knitting stockings was called, by a poor student of St. John's College, Cambridge, appears to have given the first decided stimulus to the silk trade on anything approaching to a large scale. In addition to its having the effect of causing the abandonment of the clumsy woollen hose of the period and replacing them with a light and elegant fabric made at a comparatively low cost, the use of the stocking-frame enabled production to be so increased and cheapened as eventually to cause the establishment of a regular trade with the Continent. Keyser, in his *Travels through Europe* in 1730 writes that, "at Naples, when a tradesman would highly recommend his silk stockings, he protests they are 'right English,' and of course his contemporary on the banks of the Thames also protested that the goods made on the same machine at the same time in the little English town of Leicester, were 'right French.'" It was about the year 1589 that William Lee invented the stocking-frame, but it was not until after his death in France, to which country despairing of success in England, he had carried his invention, that the manufacture of hosiery on the stocking-frame became fairly established in this country. Lee lived and struggled on in Paris till 1610, when he fell into great poverty, and died neglected and broken-hearted in a garret. In 1620 it is recorded that the immense value of the stocking-frame had been established in England, and that great numbers of them were being made.

The trade of framework-knitting was not well established in the fifth year of the reign of Elizabeth but in the

The
Influence
of Inven-
tion.

* During the 18th century English silk stockings were in great demand in all the principal countries of Europe. See Felkin's *History of the Hosiery Trade*.

The Influence of Invention. year 1663, Charles II incorporated "several persons, by the name of Master, Warden, Assistants, and Society of the Art and Mystery of Framework-Knitters, of the Citties of London and Westminster, the Kingdom of England and the Dominion of Wales, for ever, with power to exercise their jurisdiction throughout England and Wales; and from time to time to make Bye-laws for the regulation of the said business of Framework-knitting, and to punish persons who should offend against such Bye-laws." By paragraph 33 of the Charter, the Master was directed to "inforce the Statute of the 5 Elizabeth, Cap. 4, or any other Statute as respects apprentices and the occupations of the trade."

By this ordinance of the Charter, therefore, the trade of framework-knitting came under the authority of the Elizabeth's Act of Apprentices. Little notice seems to have been taken of the Act, and the masters employed apprentices in large numbers, often in the proportion of ten and more to one journeyman. This abuse of fixed legal restrictions is not surprising, as besides the lower wages to be paid to an apprentice, the parishes often paid bounties to the amount of £5 for every boy taken from the workhouse.

Early Strikes and Riots.

By this system adult workers, after the expiration of their apprenticeship, often fell into great poverty.* They therefore, in the year 1710, petitioned the Company to carry out the regulations of the Charter with regard to apprentices. The Company refused. This refusal was followed by a riot of the workmen; they destroyed about 100 frames and threw them out of the windows. A peace was patched up between the masters and men but as the system of parish apprentices was continued, the trade became overstocked with lawful journeymen without employment. In 1727 an Act was passed prohibiting under the penalty of death the breaking of frames, which was the men's chief way of revenging themselves on their masters.†

* The management of the knitting-frame required comparatively little skill, as there was little to learn, so that the apprenticeship merely added to the numbers of unskilled adult labourers, for whom there was no employment.

† Felkin.

On May 22, 1745, the Company ordained new bye-laws,* which were confirmed by the Lord Chancellor. These bye-laws contain the first direct mention of the practice of letting out frames on hire to the workmen. After the making of the new bye-laws, the Company tried to enforce its authority throughout the whole country, but, not succeeding in obtaining the assistance and sympathy of the justices and magistrates, lost entirely what little influence it had till then retained.

Intro-
duction
of
Hiring
System.

One of its last efforts was to send deputies to Nottingham, the greatest centre of the trade, to maintain its privileges, but the Nottingham manufacturers remained recalcitrant. They were already employers of the modern style; they had not served a seven years' apprenticeship themselves, and employed unlawful workers, such as journeymen who had not served their legal term and did not belong to the Company, as well as women and children; they often worked with large numbers of apprentices, one having forty-nine, without employing any journeymen. The Company, relying on its ordinances, confirmed by the Lord Chancellor, threatened to enforce these masters' submission by law. The retort was that the members of the Company did not themselves keep the bye-laws; and that instead of preventing frauds and oppressions, they rather committed them themselves. It was said that the London manufacturers were in the same category as those of Nottingham. The latter, threatened with lawsuits by the Company, petitioned Parliament and accused the Company of ruining the trade by monopolies. Parliament seems to have been of the same opinion; the Company became quite unable to enforce its bye-laws legally, and therefore ceased henceforth to exercise any influence over the trade.

Decay
of the
Society
of
Frame-
work
Knitters.

All this time the trade of framework-knitting was rapidly expanding, and the manufacturers were exceedingly prosperous.† Until its retirement from the fray, the workmen seem to have had hopes that the Company would find means to better their condition, but

* *Journals of House of Commons*, vol. xxvi, pp. 790-794.

† Felkin.

Stocking
Makers
Associa-
tion.

when they found it to be powerless to help them, and all hope was gone, they formed a Trade Union under the name of the "Stocking Makers Association for Mutual Protection in the Midland Counties of England." Its special object was to make regulations as to apprentices. This body soon became so powerful in Nottingham that it strongly influenced the elections of Members of Parliament. Mr. Abel Smith was thus returned without opposition in 1778, when the members of the Association marched in procession before his chair, accompanied by two Assistants, the Clerk, and other deputies of the London Framework Knitters Company.* "This formerly authoritative body had," says Mr. Felkin, "another opportunity thus given them, by wise and timely measures, to have rendered themselves useful between the master hosiers and their workmen. The high rents exacted for frames, with certain other charges, had not yet settled into a legalised custom; the best of the journeymen and the wisest of the masters might have been conciliated, and the Charter of the Company revived; but the time was wasted in squabbles about fees, and the Company lost its last hold on the trade."

Except for the mutual support afforded by their own recently formed Union, the membership of which increased and which improved and extended its organization, the workmen had no protection from the oppression of their employers. The laws intended to regulate the trade equally both for masters and their servants were not yet repealed, but they had become inoperative by reason of the lax administration of the justices and magistrates. In one case, indeed, where the moribund London Company bestirred itself to prosecute a manufacturer for taking apprentices contrary to law, the manufacturer was condemned certainly, but only to pay *one shilling damages*. Towards the end of the eighteenth century, notwithstanding that the hosiery trade flourished more and more, and, from the manufacturer's point of view, became very successful, the workers benefited little and wages fell to a very low level.

Law
a Dead
Letter.

* Felkin.

In 1778 the Framework Knitters Union petitioned Parliament for a legal regulation of the rates of payment, humbly representing that "in consequence of low wages, payment of frame rents and excessive employment of child labour, they were unable to maintain themselves and their families." The master hosiers made a counter petition, and as a result a Committee was appointed to enquire into the complaints of the workmen. In the end the motion for enacting a law according to the petition of the workmen was vetoed. When this happened, the employers in the silk branch of the trade attempted at once to further reduce wages 25 per cent, and a strike was the immediate result.*

In February of the following year the framework-knitters of Nottingham again petitioned the House for the regulation of their trades. This petition was followed by others from Tewkesbury, Godalming, Derby, London, Westminster, and Northampton. Witnesses from all these places were examined by a Committee, with the result that shameful exactions on the workmen by their employers were unveiled. According to the evidence of witnesses examined, wages had steadily fallen whilst the prices of food had risen. The deductions the workpeople had to submit to for frame rent, winding, seaming, needles, candles, &c., had, it was stated, so reduced their wages that few could even earn the six shillings named as the average wage in the former petition. The chief abuse was in connection with frame rents, and as the same thing occurred in the following century, although certainly in a modified form, with regard to the Jacquard machines hired out to the weavers in the silk weaving trade, it will be useful to quote particulars of this evidence.

"The value of a frame is from £6 to £8." "For its use the workman has to pay rents from 1s. 3d. to 2s. a week." "The workman is obliged to hire these frames if he wishes to get work." "If a workman has a frame of his own he is refused work." "This rent the workman has to pay whether he has work or not, during sickness, for Sundays or holidays, or when he has no materials, which the

Earnings
of
Frame
Knitters.

The Case
of the
Workers.

* Felkin

The Case of the Workers. employer has to furnish." "Many employers stint their workmen from making more than a certain number of stockings a week, although they could make more"—evidently that they might thus be able to deduct the more frame rent from a certain amount of wages. The report goes on to say that "The workmen had to buy from the employers the materials for making the stockings. The latter then re-bought the stockings from the workmen. But they also often made excuses to leave them on the men's hands.* The workmen," says the Report, "were in a state of starvation. They had to submit to any conditions of their employers. A number of workmen who had signed the previous year's petition to Parliament had had to leave off work. They desired a Bill fixing prices, which would, as they thought, produce a wholesome effect."

The House of Commons considered this report, and on May 10th, 1779, a Mr. Meadows, one of the members for Nottinghamshire, introduced a Bill for regulating the trade of framework-knitting, and for preventing the frauds and abuses therein. It was ably supported by Mr. Robert Smith (afterwards Lord Carrington), who said "the measure was moistened and saturated by the tears of the poor distressed families of the framework-knitters."† Leave was given to bring in the Bill, with only one dissentient voice. Upon this the employers counter petitioned. They said that if the Bill should become law, this "from various causes" would be most injurious to the petitioners and to the wholesale merchants in the trade of framework-knitting. Another Committee was appointed, which was once more to inquire into the state of the workmen. On the 9th of June, it reported that the former statements of the workmen were true, and proposed only a few amendments to the Bill as it stood. The second reading was carried by twenty-four against twenty-three. On the third reading, it was thrown out by a majority of fifty-two to eighteen.‡

A Bill in Parliament.

* The same system was later in operation at Coventry in the ribbon weaving trade.

† Felkin.

‡ *Journals of the House of Commons*, vol. xxxvii, pp. 386, 396, 421, 441.

Mr. Felkin says that "Upon the rejection of the Bill great excitement of the workmen ensued. They crowded to Nottingham, broke the frames of the manufacturers, threw them out of the windows, burned a house down, and destroyed much property belonging to the employers. More than three hundred frames were broken on this occasion. The whole of the employers then promised, if the riots should at once cease, to remove all grievances. On this peace ensued. Public opinion seems to have been on the side of the journeymen, for the workman accused of setting fire to the house was acquitted. Reform Riots.

The workmen found, however, that there was no legal remedy for their grievances, and the district was thrown into a state of ferment, which in varying degrees lasted till the end of the century. The system of rent-charge for the use of stocking frames became fully established, and for about thirty years the construction of machinery was a thriving business. The cost of a machine bore so small a proportion to the rent exacted, that many persons, not in the trade, purchased them with a view to letting them out on hire, and realized a handsome profit in the business. Partial strikes and lock-outs were of constant occurrence; the use of child labour vastly increased, and wages became more and more precarious and dependent on the will of the employers. This state of things continued till 1812, when the Union again applied to Parliament for the enforcement of payment by statement lists of prices, a system which had been in use in the cotton weaving trade for many years, but though a Bill embodying this suggestion passed the Commons, it was unsuccessful in the Lords and was abandoned. On this the workmen in all branches of the trade entered into the Union (1814). In 1813 the repeal of the Act of Elizabeth was considered in Parliament, and notwithstanding that petitions in overwhelming numbers poured in deprecating its repeal, but suggesting its amendment, the counsels of the interested manufacturers, who were in a small minority, prevailed, and in 1814 the Act was repealed.* By this decision Parliament appeared to encourage industrial Act of Elizabeth Repealed.

* 300,000 for amendment; 2,000 for repeal. *Hansard*, vol xxvii, p. 574.

Act of disorganisation. This condition soon became the prevailing Elizabeth one in many trades, as is shown by the Parliamentary Repealed. reports on the condition of the ribbon trade and silk manufacture at Coventry, Nuneaton, Macclesfield and other places which had become great centres of silk weaving.*

From the pamphlet of Samuel Sholl,† the Spitalfields silk weaver, one may obtain a conception of the formation of the first Trade Union in the Broad Silk Weaving branch of manufacture. Sholl's narrative of the origin, constitution and results of this Union, as it is that of one who took part in its formation, and was himself an active member of it, is of the greatest interest. Speaking of the interval between the prosperous time of the Spitalfields industry, and the depression which prevailed before its close, Sholl says:—

“But in process of time, as there was no established price for labour in England, there was great oppression, confusion and disorder. Many base and ill-designing masters took the advantage, in a dead time of trade, to reduce the price of labour. The oppression became so insupportable that a number of journeymen, at the hazard of their lives, resolved to make examples of some of the most oppressive of the manufacturers by destroying their works in the loom. This they effected, but, for want of prudence in their conduct, several fell victims to the cause and lost their lives.” Sholl here probably refers to the same incident as Felkin, in his history of the Nottingham lace trade, quotes. That author speaks of the “gruesome sight of Spitalfields weavers hanged in front of houses where they had destroyed works in the looms during a riot.” Sholl continues: “These considerations awakened the feelings of some of the thinking and well-discerning part of the journeymen and others. They applied to the magistrates, particularly Sir John Fielding, who said he was very sorry for and pitied the journeyman weavers much, and recommended a few of them to meet and draw up a list of prices for their various works. They

Joint
Action
by
Masters
and
Men.

* For the details of this story of the frame knitting trade, indebtedness to Professor Brentano's research is acknowledged by the author.

† The biographical portion of this pamphlet was summarized in Chapter XXXVII.

should also get some of their masters to sign it, and he would try to obtain an Act of Parliament to enforce the same."

Acting on the advice of Sir John Fielding, a Committee of Journeymen and Masters was formed and a list of prices drawn up. The provisions of the Committee were, however, often evaded. There were certainly frequent disputes between the parties concerned, and it was not until the enactment of 13th George III, Cap. 68,* that, as Sholl says, "Peace was produced." According to this Act, the justices of the peace or the Lord Mayor, were on July 1st, 1773, and from time to time, after demand to do so had been made to them, to assess the wages of the journeymen in the silk manufacture. Employers giving more or less than the assessed wages to their workmen, or evading the Act, as well as journeymen entering into combinations to raise wages, were to pay certain fines, the amount of which, after the deduction of the necessary expenses, was to be applied to the relief of needy weavers and their families.

It was soon found that, as Sholl explains at some length, in order to carry out the provisions of the Act and benefit the workmen it was necessary to raise money for legal and other expenses, and as it could not be expected that the masters would subscribe for such a purpose, the journeymen must do it themselves. Moreover, they had to be careful not to offend against the Combination Act. Having stated their difficulties, Sholl continues: "In the following manner, to their everlasting honour, some zealous, spirited and virtuous men proposed to form themselves into a Society in the year 1777, or thereabouts, for mutual assistance should any of their masters oppress them or refuse to abide by the prices for work authorised by the Justices according to Act of Parliament. The Society or Committee was known by the name of the *Union*, and was held for many years at the sign of the '*Knave of Clubs*,' in Club Row, Bethnal Green. It was governed by as wise a set of articles for that purpose as could be passed. The principal author was my friend

Joint
Action
by
Masters
and
Men.

First
Mutual
Aid
Society.

* The first Spitalfields Act.

First
Mutual
Aid
Society.

Adrian Beaumanoir, a man of great ingenuity and ability.”

Sholl's account of the formation and vicissitudes of this Society are rather involved and obscure, but from it it is possible to gather that it took the form of a Committee of delegates from each of the Benefit Clubs and Friendly Societies which were so numerous among the Spitalfields weavers.*

The objects of Beaumanoir and his associates were stated in the preamble of the rules as follows:—

“To secure the price of labour in the broad silk weaving trade, and to defray the expenses of law should any master or journeyman transgress the provisions of the Act of Parliament passed in 1773.” There was to be a Committee and a paid secretary, but how the Committee was to be elected Sholl does not state. The principal work of the Committee seems to have been to collect contributions from the members of existing benefit societies and others who were silk weavers. The payment of a small sum weekly seems to have been the only condition of membership, and Sholl complains bitterly that except in times of excitement little interest was shown, and that consequently the subscriptions were not forthcoming. The officials were to meet regularly at an appointed “House of Call,” in order to receive reports from the trade and weekly subscriptions. The stipulated payment was a penny a week.

In course of time Sholl mournfully records there were divisions and jealousies about procedure and management in this Union, which in 1791 culminated in the formation of a second Society, having the same objects in view as the first.

Although separated, this Society appears to have been on friendly terms with the original one. It is probable that about this time other branches were formed, meeting at different public-houses and representing the various

* It is claimed by the descendants of the Huguenot immigrants that their progenitors were the first to form Benefit Societies amongst working folk in this country. If this be true the Clubs thus formed by the immigrants in London for mutual help in a strange country—where they had no claim on the rates—formed the model for the Friendly Societies which have since grown to such colossal proportions. W. H. Manchée (*Proceedings of Huguenot Society*, vol. 10).

Its
Status
and
Consti-
tution.

branches of the silk weaving trade. On all important occasions, however, all the societies acted together. Sholl gives an account of one such occasion. He writes : " then that great struggle was made against the intention of introducing Bandanna handkerchiefs in a wrought state in this country from India. They surreptitiously introduced a clause into the Bill to answer their purpose. This was in a great measure successfully opposed, and £302 3s. 5d. contributed to pay the expense. After all expenses had been paid, a compliment was given to each of the men employed on this important occasion, being five in number, of £10 each, besides their daily allowance when on business." A silver medal also was given. " For the men to wear on their breasts on all suitable public occasions." Even then there was sufficient cash in hand to purchase £150 bank stock, " The money to be used only for the purpose of opposing the introduction of silk handkerchiefs in a wrought state into this country in the future."

Ban-
danna
Hand-
kerchief
Agita-
tion.

In 1795 a Committee, consisting of delegates from the Union of Journeymen and from a Trade Society which the masters had formed, met and agreed on a general rise of prices. They also decided the rates for newly introduced works of silk mixed with other materials which had by the Act 42 George III, Cap. 44, been brought within the scope of the original Act. This list the justices sanctioned, and the advance in wages was as Sholl records obtained " by peaceable and orderly means."

In 1802 an attempt was made by Sholl and some other men of like disposition to unite all the trade in one Benefit Society, men, women and children, in five different classes. They were :—

- (1) To maintain the sick. (2) To bury the dead.
- (3) To support old age. (4) To educate children.
- (5) To reward merit in the several branches of the trade.

Attempt
to
Amal-
gamate
Benefit
Societies.

Sholl's account of this proposal is very lengthy, but the concluding paragraph is so characteristic as to be worth quotation :

" It was intended to have given every year to the two best boys in the trade a gold and silver medal ;

Some
quaint
Regula-
tions.

to the first best boy the gold medal, and to the second the silver one, with appropriate devices and inscriptions. They were to wear them on their breasts and walk in public one on the right hand of our president and the other on the left, on our yearly feast day, and to sit in the same manner at table.

“It may be asked by some how is all this to be paid for ; I answer by every member in the trade (as provided in the benevolent articles pointed out), in the first three classes to pay 6d. per quarter, and 3d. per do. in the other two. If the trade were united, how soon would they have a great stock, with no other need for it than to apply it to the above benevolent purposes ; as there would seldom be offenders, for they then would know that there was plenty of money to prosecute them, whereas the disunited state we are now in leads them to think we are not able to do so. To encourage genius and industry, it was also intended to have lectures at appointed intervals, which would tend much to improve the youth of our trade, in its true art and mystery.”

By general consent the Society was duly started and called the “Benevolent Society of United Weavers.” A considerable number of members joined, although very important impediments occurred at the same time, chief among them being “the Act to arm the people *en masse*, passed on the general alarm of an invasion from France (as it was said), so the people, dreading being made soldiers, fled in all directions. However, we persevered, and after considerable trouble, we got money enough to buy some bank stock.”

Benevo-
lent
Society
of
United
Weavers.

Unfortunately, this well-planned Union was doomed to failure, for after surmounting all the difficulties of its initiation the treasurer became insolvent and, compounding with his creditors, was only able to pay five shillings in the pound. This so disheartened the majority of the members that they withdrew. After some deliberation





WELSH COLLEGE, 1827

THIS PRINT

COPIED FROM THE ORIGINAL BY J. HUGHES, CLUG.

Representing the Ceremonial FIGURES & DECORATIONS OF THE SILK FLAG — Presented on such occasions when
Wool is Wrought in Scotland by the *Parliament* Dedicated to the



QUEEN'S MOST EXCELLENT MAJESTY

By the Majesty's order of *suppl. to give the Ladies* Commission appointed for the Completion of their *National Work*.

Wool	1 Stone	1 Stone	1 Stone
Woolen Yarn	1 Stone	1 Stone	1 Stone
Woolen Cloth	1 Stone	1 Stone	1 Stone
Woolen Cloth	1 Stone	1 Stone	1 Stone
Woolen Cloth	1 Stone	1 Stone	1 Stone
Woolen Cloth	1 Stone	1 Stone	1 Stone

Published by the Commission at No. 101, Strand, London, 1827.

Plate XLIX.

The Weavers' Flag.

the few remaining subscribers divided what was left of the money and broke up the Society.

One of the many works intended by the United Society of Weavers, which thus came to an untimely end, was the production of an example of silk weaving of such superlative excellence as to confound those persons, especially amongst the "Nobility and Gentry of this Country," who protested "much to the injury of the nation at large and of the silk trade in particular," that British ingenuity in silk weaving was not equal but far inferior to foreign, especially to that of the French.* The proposal was to weave one or more curious flags and publicly exhibit them. By this means the authors of the scheme hoped to put an end for ever to such humiliating aspersions. Notwithstanding the failure of the great scheme, this detail was considered by some members to be of such importance and so likely to appeal to the popular feeling that the idea of weaving the flags survived the general wreck and after a time was proceeded with.

United
Society
of
Weavers.

On March 7th, 1807, a Committee of five of the original promoters of the Union met at the Knave of Clubs, and took such measures as resulted in subscriptions to the amount of £60 being collected by August 1st of the same year. One of the Trade Societies meeting at the Golden Key, Church Street, was then applied to to make choice of such persons as they thought fit for this "great design." Five were selected, viz.: Samuel Sholl, T. Atkins, E. Fletcher, W. Carter and J. Roquez, these being the five original promoters.

This Committee of five, feeling—as the reporter says—too few to deal with so important an undertaking, applied to two other Trade Societies for additional members to help in the work. They also applied to the Permanent Committee of Finance† for the same purpose. Two delegates from each Society were chosen. By this means

National
Flag
Com-
mittee.

* Samuel Sholl.

† This appears to have been a standing Committee elected by the trade for the purpose of raising money for legal and other trade expenses. It frequently appears in Parliamentary reports as "*The Finance or the Society of the Friends of Good Intent.*"

National
Flag
Com-
mittee.

The National Flag Committee was made up to the number of eleven members. The additional names were J. Benson, J. McFarlin, S. Agambar, J. Lemère, J. Randall and T. Frank.

On the 18th June, 1807, a bill was printed and issued with a view to raising more money. This appeal was sufficiently successful to warrant a start being made with the actual work, though some thought it would have been more prudent to have waited a little longer. On the 13th August it was agreed to print 100 letters and direct them to the most skilful persons in the silk-weaving trade inviting them to bring to the Committee such plans as they may have thought worthy and suitable for such a work. As the result of this invitation at the appointed time, various plans were submitted and discussed. The form and dimensions of the banner, as well as the arrangements for weaving it, and the emblematic figures and devices to be embodied in the design, were all settled. They are described in Sholl's narrative as follows:—
“The work was to be two yards wide, a rich crimson satin, on both sides alike, brocaded on each side alike. Within an oval was to appear (1) a female figure, of pensive aspect, reclining on a remnant of brocade, lamenting the neglected state of her favorite art, with some of the implements of her trade lying by her. (2) Enterprise, finding her in that situation, drops on one knee to her, takes her by the right hand, and raises her from the sitting position. She now points with the other to a cornucopia pouring out the horn of plenty on the undertaking, as an emblem of the liberality of the British Nation to support any laudable work. Next stands Genius, touching Enterprise on the shoulder with the left hand, same time pointing with the right, to tell the weavers that what she is lamenting is now revived. A flag is made, the Weaver's Arms in it, and placed on the Temple of Fame. Owing to the border going straight, there must be large blanks in the corners; those are to be filled with emblems of Peace, Industry and Commerce; whilst above appears the all-seeing Eye of *Divine Providence*. The whole edged with a beautiful border, forming at one view

Descrip-
tion of
Design.

a combination of figures and devices emblematical of an over-ruling Providence, and favoured by Heaven with the blessings of Peace and Commerce, the Enterprising Genius of British Artists would convince surrounding nations that their abilities are inferior to none, if encouraged and protected.”

Descrip-
tion of
Design.

For making this elaborate drawing a designer named G. Blatch received three guineas. Various suggestions embodied in it were paid for by sums of a guinea, others only received the thanks of the Committee.*

Having settled the design, a workshop was taken, preparations for weaving were made, and a draughtsman and operative weaver were chosen. The actual weaving was started at the beginning of 1808, and by October of that year subscribers were invited to see the work in progress. According to Sholl, a “number of people came and spread a report that the work exceeded all their expectations.”

The next step taken was to approach the Society of Arts asking for inspection of the work and encouragement for the weavers. The Council of the Society accordingly sent some of its members to view it. The visit is thus reported in their *Journal*.

†“The Society attended with pleasure to the request of the silk weavers, and appointed a Committee to inspect the performance in the loom, who reported to the Society that the specimen of weaving then exhibited to them was superior to anything of the kind they had ever seen or heard of; and that it was well deserving of the attention of the Society. The Committee recommended to the Society that their *silver medal* set in a broad gold border and inscribed to the Patrons and Committee of the *Flag Association* should be presented as a Bounty to them and as a mark of encouragement for the great exertions they had made and the many ingenious devices and improvements now shown in this valuable branch of weaving.”

Grant of
Society
of Arts
Medal.

* For technical details of the work, see note in Appendix.

† Vol. 27, 1809, *Transactions of the Society of Arts*.

The Society agreed with the Committee, and the medal inscribed was delivered by the hands of his Grace the Duke of Norfolk, the President, on May 30th, 1809.

Lack of
Public
Interest.

The Committee imagined that this ceremony would afford a good opportunity for public advertisement. They therefore had a thousand bills printed with an appeal for subscriptions, and distributed them to the people attending it. The result, however, did not answer their expectations, little notice being taken of their appeal. Other plans were tried in order to revive the interest of the trade, as by this time money was so badly needed that they feared the work would have to be abandoned and the two years' work wasted. Sufficient was collected to pay the operators engaged in the weaving, but debts were sadly accumulating.

In April, 1810, still another attempt was made to interest the public. Advertisements were inserted in the *Times*, the *Morning Chronicle* and the *Morning Post* of April 30th and May 1st, inviting the fashionable world to visit and inspect the banner in course of manufacture. To this invitation only one person responded—Mr. Kincaid—and the treasurer suggested that he should attempt to interest the Queen and Princesses in the work. A copper-plate of the Flag was engraved, and a framed impression, together with a letter from the Committee to the Queen, entrusted to that gentleman to convey to her Majesty and their Royal Highnesses, who were then at Windsor. Upon receiving them the Queen replied that although she much appreciated the present of the engraving and gladly allowed it to be dedicated to her, she could not at that time arrange to visit London to see the work.

The
Com-
mittee
in
Debt.

Thus, grudgingly supported by the trade, ignored by the members of fashionable society whom they had hoped to astonish, and disappointed of Royal patronage, the Committee bravely persevered until March 23rd, 1811, at which date the work was completed. It had taken two men, T. Frank and T. Atkins, Junr., three years, less five days, to draft and weave. The total contributions amounted to £571 17s. 4d., and the Committee found

themselves in debt to the sum of £381 4s., exclusive of their own expenses. The weavers' trophy, after having thus cost nearly a thousand pounds, was first sent to the Society of Arts, who, having inspected it, voted a bounty of ten guineas towards the expenses. It was next exhibited, probably at a public-house in Bethnal Green, where few besides the poor weavers themselves saw it. After a short time, it was so neglected that it disappeared. It was generally supposed to have been stolen by some emissary of the weavers' hated rivals, the French.

An
unfor-
tunate
fiasco.

The Union of representative Silk Weavers, burdened with debt, seems to have survived this crushing disappointment but a little while, and the Flag Committee, if one may judge from the remarks of the author of the quaint pamphlet in which the story has been preserved, bitterly regretted the unfortunate undertaking.

It is probable that many more or less permanent Committees of the Trade were subsequently formed for special purposes, such as petitioning Parliament, prosecuting offenders against the Spitalfields Acts, or getting out new lists of prices, but with one exception there seems to be no record of them extant. During the time the local Acts were in force—1773 to 1824—there were no strikes in the silk trade in London. In the higher branches of the trade the operatives required great skill, and were consequently few in number. There was generally, therefore, enough work to keep them reasonably well employed. But in the lower branches, although prices were justly regulated, the poverty of the weavers resulted from insufficiency of work for the great numbers seeking it, and the faulty system of domestic manufacture already described in the Spitalfields section. These conditions obviously could not be altered by means of strikes or combinations.

Trade
Condi-
tions at
end of
18th
Century.

There is an account of one such Trade Committee in the *Morning Chronicle*, February 9th, 1824, just before the repeal of the Spitalfields Acts. The Society or *Committee of Engine Silk Weavers** were urged to join in

* The Jacquard machine was popularly known in Spitalfields as the *Draw Engine* when first introduced. This was, therefore, the Committee of Jacquard Machine Weavers.

Trade
Condi-
tions at
end of
18th
Century.

a petition to Parliament for the repeal of the Combination Acts. When the proposal came before the meeting, the following resolution was proposed: "That protected as we have been for years under the salutary laws and wisdom of the legislature, and being completely unapprehensive of any sort of combination on our part, we cannot therefore take any sort of notice of the invitation held out by Mr. Place." When this resolution was put by the Chairman, "an unanimous burst of applause followed, with a multitude of voices exclaiming, 'The law, cling to the law, it will protect us.'"

Although during the course of the nineteenth century many attempts were made to organise and maintain Trade Unions amongst the London silk weavers, they were never continued for any length of time, nor were they successful in improving the conditions of their own members, much less those of the silk weavers as a class. This was because the evils which the mass of London silk weavers suffered from in the nineteenth century were not such as could be obviated either by combined action or individual effort. The abject poverty which they endured resulted not so much from low prices or from the competition of the power-loom, as some have supposed,* but from the fact that in the lower branches of the trade there was seldom enough work to keep the overwhelming number of candidates for it fully supplied.

At special crises in the trade when unemployment was more than usually prevalent, it was easy enough to organise great demonstrations, such as are described in contemporary records as having paraded the streets with drums beating and flags flying to petition Parliament against some obnoxious enactment or encroachment of the hated foreigner, or to intimidate some oppressive master or unauthorised rival craftsman. Such demonstrations sometimes degenerated into riots, and had to be dispersed by military force; at other times they were successful in their immediate object and having attained it were disbanded. Occasionally flushed with unusual success,

Causes
of Unem-
ployment.

* It was not till quite late in the century that silk to any great extent came to be woven by power or machine looms.

a Union or Society was formed, but as these generally required a regular subscription from members, they were always short-lived, the weavers being too poor to spare even the small amount at which the subscription was invariably fixed.

It seems that almost all records of these short-lived unions are lost, as they were naturally considered to be of little value after the breaking up of a society. An exception, however, to this rule must be made in the case of the last Union of Spitalfields Silk Weavers, which was wound up at a special general meeting held on January 17th, 1908, at the "Lord Nelson," Type Street, Bethnal Green, at which only eleven members were present. At this meeting it was agreed that as so few weavers supported the Union it could not be continued, and that after all expenses had been paid the balance of cash in hand should be returned in due proportion to the subscribers. An original copy of the Rules which governed this Society bears the date 1877. It is entitled "Rules of the London Broad Silk Weavers' Society held at The 'Duke of Glo'ster,' Seabright Street, Bethnal Green Road." The first Rule discloses the fact that the Society was not only to be a Trade Society, but a Burial Club as well. The subscription for a major loom was one penny a week and for a minor loom a halfpenny.

Union
of Spital-
fields
Silk
Weavers.

In 1890, the weaving of furniture silk having been revived by a few firms who had adopted modern methods of manufacture, the principal one being Messrs. Warner and Ramm, of Hollybush Gardens, Bethnal Green, a Society called the "Amalgamated Furniture Silk Weavers' Union" was established. It had a membership of between one and two hundred weavers, and although few if any difficulties on the score of prices arose, it had a fair degree of prosperity. It was soon after this reconstruction of the Union that the Princess Mary Adelaide, Duchess of Teck and her daughter, now Queen Mary, arranged to visit the different centres of silk manufacture as described in her memoirs.* The visit of the Princesses to the factory in Hollybush Gardens was much appreciated by the weavers,

Revival
of
Furni-
ture
Silk
Weaving.

* A full quotation from the memoirs will be found in the Appendix note.

Revival
of
Furni-
ture
Silk
Weaving.

who expressed their gratification in a letter addressed officially to her Royal Highness by the members of the Union.

“It is the greatest pleasure that falls to us to see your Royal Highness and also your executive Committee, exerting yourselves in the interests of British Silk Industries, and we believe and trust that through your kind endeavours a trade that was one of the foremost of English Industries will take its place once again, and we feel convinced that, under the guidance of your Royal Highness and the noble ladies working with you, we are capable, with the assistance of our employers, of producing in the English markets silks of all descriptions to suit the class they are intended for.”

To this letter the Princess Mary directed the following reply to be sent:—

“Her Royal Highness is much touched and gratified by the expressions of gratitude which you have expressed to her and the Committee of Ladies working with her in promoting the interests of the Silk Industry in England. Her Royal Highness is convinced that if the work be carried on as it has been begun, success is sure to attend the effort of those who are endeavouring to revive the industry; for it is not to be denied that the beautiful examples of silk both for dresses and furniture of English manufacture recently exhibited at Stafford House abundantly prove that they can compare favourably with foreign productions of the same kind, and that the trade in England has only to be fostered and encouraged in order to raise it to its former important place among the principal industries of the country. This is the hope of her Royal Highness, which she cordially wishes to be realized.”

Royal
Interest.

When the works of Messrs. Warner and Sons were removed from Bethnal Green to Braintree, the Union was moved as well.

There is a strong trade union spirit among the Macclesfield operatives. The Hand Loom Weavers' Union dates back to 1849, at which date a general price-list for the Macclesfield Silk Trade was compiled. The outside weavers have gradually diminished in number and

seceded from the Union, but the hand loom weavers employed on premises of the various Manufacturers have continued the Association up to the present time. In 1919 the few outside hand loom weavers remaining re-entered the Hand Loom Weavers' Union, so that again it is representative of the whole of the hand loom trade.

The principal Union of Workers in the Macclesfield Silk Trade is the National Silk Workers' Union, which was formed in February, 1903, under the title of The Macclesfield Power Loom Weavers' Association, and was for three or four years confined to power loom weavers only. It gradually increased its operations until it now practically embraces all workers engaged in the manufacturing sections.

Trade
Unions
at
Maccles-
field.

In 1917 its rules were revised, and registration ceased; like many other Societies it demanded freedom of action, which registration precluded.

The Designers became organised as a Trade in October, 1913, and eventually joined up to the National Silk Workers' Union as a separate Section. In September, 1919, the Designers, Card Cutters, Overlookers and Warehousemen, formed what is termed an Administrative Section of the National Silk Workers' Union, holding separate meetings and having a separate Executive Committee, but with one representative on the Executive of the National Silk Workers' Union.

The Dyers and Finishers of the town are all well organised, being members of the National Amalgamated Society of Dyers and Kindred Trades, whose headquarters are in Bradford.

Apart from affiliations to the General Federation of Trades Unions, the connecting link of the different Silk Workers' Unions operating in Macclesfield is the National Association of Unions in the Textile Trade, whose headquarters are also in Bradford.

The National Silk Workers' Union has never had any connection with the Hand Loom Weavers' Association.

A later development is the formation of the Joint Industrial Council for the Silk Trade, which links up various sections of the Trade throughout the country on both the Workers and Employers sides.

The other Trade Union claiming a considerable membership amongst Macclesfield workers is the Amalgamated Women's Society of Women Workers, Throwers and Spinners, whose headquarters are at Leek. To this body the bulk of the hard silk hands belong.

There has also recently sprung up the Macclesfield Power Loom Tacklers' Union, which has its own agreement with the Employers' Association.

CHAPTER XL.

THE SMUGGLING TRADE.

There is a false halo of romance around smuggling which masks the fact that it is mere law-breaking, and many have assigned the smuggler a higher place than he deserves. He lived by outwitting the revenue officer and bringing to groaning taxpayers the benefits of cheap silks, spirits, and tobacco, and might, therefore, from some points of view, be regarded as a public benefactor. Regarded at close quarters his business was only sordid and linked with mean stratagems and violent actions. It was, however, a soulless entity that he defrauded, and the fact that somewhere in the background honest traders and workmen may have been suffering from the effects of his wholesale depredations has too often been overlooked. That the smugglers' operations were an embarrassment alike to traders and to the rulers of the country, and demoralising to those who took part in them, may be readily seen from an examination of the public records.

The stuff of which the silk smuggler was made can be judged from an examination of the record of one band, the scourge of Kent. The Hawkhurst Gang, which was the name given to this notorious body of men, was tolerated by its decent neighbours until its aggressions could be no longer withstood. A declaration was signed expressing abhorrence of and determination to oppose its practice, and a young army officer named Sturt placed himself at the head of a troop of vigilantes—the Goudhurst Band of Militia. An action was fought in 1747 against the smugglers, led by Thomas Kingsmill, *alias* Staymaker, which cost three smugglers' lives and caused many wounds.

Notorious
Gangs
in
Kent.

Notorious It was Kingsmill's fate to be executed two years later, with two companions, and his body was hung in chains. Gangs in Kent. Two others of his band were executed for housebreaking, and two for horse-stealing, and of the rest some were lodged in Newgate. Furley's *History of the Weald of Kent* tells their story, and that of seven Dorset smugglers condemned at Chichester in 1749 for the murder of an Excise officer and of a shoemaker who had turned informer.

Perhaps because they were further from the capital the contraband traders of the south-western coast dealt less in silks than their south-eastern contemporaries. Yet if the lines of the Rev. W. Crowe, apostrophising Burton Cliff, Bridport, have any meaning, silks formed part of the illicit cargo :

“ Burton and thy lofty cliff where oft
 The nightly blaze is kindled ; further seen
 Than erst was that love-tended cresset, hung
 Beside the Hellespont ; yet not like that
 Inviting to the hospitable arms
 Of beauty and youth, but lighted up, the sign
 Of danger and of ambush'd foes to warn
 The stealth-approaching vessel, homeward bound
 From Havre or the Norman Isles, with freight
 Of wines and hotter drinks, the trash of France
 Forbidden merchandise. ”

Dorset
 Smug-
 glers.

The Dorset smugglers were “ ever remarkable,” Charles Roberts wrote in his *Social History of the Southern Counties*, “ for their quiet manner of pursuing their illicit calling.” Instances of brutality there manifestly had been, but “ never a series of violence and bloodshed such as has disgraced so often the south-eastern coast.” They did not, however, lack courage or determination, for at Lyme the “ White Wigs ” sheltered and refreshed themselves in preparation for business in a seaward chamber not a hundred yards away from the former Custom House, and it is written that while avoiding the use of superfluous violence they would not allow themselves to be deprived of their goods when their numbers were strong and those of the revenue officers weak. They were the servants of one Gulliver, who lived to a good old age and amassed

a large fortune at the business. The band was forty or fifty strong, and its members wore a livery of powdered hair and smock frocks, so acquiring their distinctive name.

Trade jealousies account for some allegations of smuggling made in past records, and Thomas Violet's address to the Parliamentary Committee for the Mint (1650) is manifestly not free from a spirit of jealousy. He wrote: "The Customs officers can tell you of the disadvantage and ruin brought on by shopkeepers and another sort of disorderly and unskilful traders called interlopers, made up of factors, clothworkers, packers and drawers, who are the importers of fine spices, silks both wrought and unwrought, fine linen and other fine commodities, made up in small parcels in purpose to be stolen on shore without paying Customs or Excise."

Effect
on
Shop-
keepers.

Whether the size of the package was controlled by the desire to defraud or by the limitations of trading in a small way may be a moot question. Violet is not an unprejudiced witness, but it may, indeed, have been that the smaller and spasmodic importers of the day gave more trouble to the Customs officers than those whose affairs were more regular and in large bulk. Violet's evidence is tainted with jealousy, and in the case of Nicholas Kennard of Rye, prosecuted in 1650 for frauds upon the revenue, there hangs the suspicion of a smuggler's quarrel. The general character of the testimony offered in the records which have been preserved constitute, apart from questions of personal guilt, an engaging relic of the period. The papers are conclusive at least in showing that the connection with smuggling was not limited to any one section of the seaward population in the counties nearest France.

The preamble of an Act of 1696-7 for the Further Encouragement of the Manufacture of Lustrings and Alamodes relates to the "subtil practices of evil disposed persons" guilty of importing foreign silks without paying the "rates, customes, impositions and duties," and bears directly on a matter of some historical importance:

The
Royal.
Lustering
Com-
pany.

"Whereas there are great Quantities of Alamodes and Lustrings consumed by His Majesties Subjects

The
Royal
Lustring
Com-
pany.

which till of late Yeares were imported from
forreigne Parts, and thereby the Treasure of the
Nation much exhausted, but are now manufactured
in England by the Royall Lustring Company
to as greate Perfection as in any other Countrey,
whereby many Thousands may be employed. And
whereas Provision hath been made by diverse
Laws for the Encouragement of the said Manu-
facture and for preventing the Importation of
such Forreign Silks without paying the duties
charged thereon which have been frequently eluded
by the subtil practices of evil disposed Persons.”

Going further, the Act attests the existence at this
time of a system that was to be continued and developed
more highly later, for it menaced those who :

“ Shall by way of Insurance or otherwise undertake
or agree to deliver . . . any such Goods or
Merchandize and every Person . . . who shall
agree to pay any Sum of Money Premium or
Reward for insuring or conveying any such goods
as shall knowingly receive or take the same into
. . . . House, Shopp or Warehouse.”

An earlier Act (4th William and Mary) had laid a penalty
of £500 on the import of prohibited goods or goods brought
in without payment of duty. This further Act applied
the same penalty to the insuring of smuggling transactions
in silks and prescribed :

“ For the more easie and certaine Recovery of the
same itt is hereby further enacted that it shall
and may be lawfull for any person . . . to sue
for or prosecute and to recover the said
Penalty.”

A
notable
Prosecu-
tion.

This provision was soon to have effects of great moment
to a number of silk merchants in London. Seven of
them, John Goudet, David Barreau, Peter Longueville,
Stephen Seignoret, Rhené Baudouin, Nicholas Santiny,
Peter Dehearse and a solicitor, John Pierce, were indicted
in 1698 “ for High Crimes and Misdemeanours.” Importers
had been punished before for trespasses against the interests
of the Lustring Company, but not to such purpose as in this

case in the unfolding of which an elaborate mesh of duplicity was revealed. The conspirators were charged among other offences with contriving the ruin of the Lustring Company. It is certain indeed that smuggling or some other cause brought the English manufacture near to extinction, for of the 768 looms at work on alamodes and lustrings in 1695-6, less than fifty were working in 1698. There was a hint of a foreign plot in one item of evidence. A Mr. Hoffman, merchant of Lyons, who in 1694 offered alamodes for sale to Gabriel Tahourdin, was reported as saying that "for 100,000 crowns the patented company might be broke," and that he was sure the town of Lyons would willingly find the money. A Mr. Grubert, French merchant, "owned there was a contribution made by the French traders to secure themselves in their practices of running French silks against the Company," and that he paid twenty guineas as his proportion to one Lambert, a goldsmith. Grubert's testimony points to a mutual insurance scheme rather than to an organised attempt to break the Company by subsidy.

The circumstances had another spice of interest arising from the collusion of subjects of the realm with the King's enemies. John Brady, master of the 30-ton craft *Providence*, held a passport from the King of France, empowering him to bring over his vessel in ballast to Dieppe and Calais, and giving him liberty to go to Holland to load French silks. One Captain Joseph Sanders, who declared himself the employer of Brady, testified to receiving 5s. per lb. freight for silks and 6s. for laces. Brady carried for Goudet and Barreau, who were apparently the chief powers in the illicit import of French silks from Rotterdam to England. The conspirators used a code for their written messages, in which "Garance" meant alamodes. When they wrote "Carts" or "Calosches," boats was intended. "Geneva and Bruges" meant City of Lyons, "Ostend" stood for Calais, "Oxford" for London, and "Martin Francar," "Daniel Smith," and "John James White" were all synonyms for Goudet and Co. The directions were sometimes more mysterious,

A
notable
Prosecu-
tion.

Illicit
Trade
in
French
Silks.

Illicit
Trade
in
French
Silks.

for the orders of Samuel Blundell, of the *Thomas and Ellen*, were to deliver his cargo of silks to "persons who should set a white handkerchief upon a stick."

A chief of this traffic in Holland was De la Motte, with whom the witness Daniel Baudouin had lived two years. De la Motte owned a dozen looms, and in two years sent nearly 400 pieces of his own manufacture to England, as well as 25,000 pieces of French goods. The book-keeper told the witness the goods were for Seignoret, Baudouin, Goudet, Barailleau and Longueville. The cloths came from Lyons to Holland *via* Antwerp and Lille, and Dutch seals were put upon the cloth in Rotterdam. Mr. Rape conducted a search of the houses in London in which French merchants lived, and in the lodgings of one Ravaud found a piece of French alamode under the bed, and a quantity of Lyons seals in a cupboard. In Peter Montbrun's house 47 pieces of French silk were discovered. At this time, Lyons had, according to Peter Lauze, 4,000 looms, each making ten or twelve pieces of alamode yearly. The statement was disputed by the prisoner Seignoret, who said there were not more than eight hundred.

Superi-
ority of
English
Silks.

Had the French goods been superior, but cheaper, the competition would still have been a harassing one, but it appears that they were inferior. "For proof of the goodness of the Company's manufacture," some of its goods were seized, by arrangement with the Government, as though they had been French, and were sold side by side with French cloths at public sale. Some of the Company's alamode fetched 7s. 9d. per ell, and none of the French goods more than 7s. French and English cloths were mixed to give another demonstration, and the English ones were adjudged by arbiters to be worth 6d.-9d. an ell more than the French. An account of the sale of English goods at the Custom House in 1695 is given in the *Report of the Committee of the House of Commons*, 1698. The record of the first lot is quoted as an example of the rest.

AN ACCOUNT OF A SALE OF FRENCH SILKS, BY INCH OF CANDLE, THE 17TH OF FEBRUARY, 1695-6, AT THE CUSTOMS HOUSE.

Lot 1. Five pieces Narrow Allamode at 5s. 2d. per ell, to advance 1d. each bidding.

		Ells.	Workmen.	Weight.	
				lb. ozs.	
	No. 8428	62½	James Plantier . .	3 4½	} Prices of the Lustring Company. 2½ per cent discount. 5s. per ell.
	No. 8099	65¼	Mark Mulers	3 3¼	
Buyers.	No. 8177	66¾	Jacob Aubry	3 6¾	
John Mire,	No. 8162	64¼	Samuel Clark	3 6	
6s. 2d.	No. 8092	64¼	James Dargent	3 5	

Superiority of English Silks.

The trial ended in the fining of the eight principals no less a sum than £19,500, and pending its payment they were lodged in Newgate. The money was paid in the succeeding year, and applied by the special request of the House of Commons to the erection of the noble Hospital for Seamen at Greenwich, then in course of erection after plans prepared by Sir Christopher Wren. The contribution wrung from the erring silk merchants, supplemented by the proceeds of lotteries, the yield from malt tickets and royal and other subscriptions, was turned thus to a purpose of which the nation has ever been proud.

The royal subscription and the smugglers' fines are mentioned in the public archives. The Treasury papers contain a note signed by Evelyn, the diarist and treasurer of the Hospital, desiring William Lounds to "put their Lordships in mind of his Majesty's £2,000 due at Christmas, and the great arrear due to the workmen" employed on the building. The Royal reply noted on the document was terse, and betrayed signs of irritation :

"The King, when he gave intirely to ye hospitall the fines of ye smuglers was pleased to declare this payment might not be made for the last year."

The law providing regulations for the disposal of seized silks infringing the Lustring Company's monopoly prescribed the manner of their sale, and forbade their retention in the home market. The clause read :

"That no Alamodes and Lustrings . . . that shall be seized . . . shall be consumed or used in this Kingdome, but shall be exported againe and not sold otherwise on Condition to be exported, And for preventing their Consumption in England the

The Seamen's Hospital.

Pro-
tection
of
English
Manu-
facturers.

same shall immediately on Seizure be carried to the Custome House Warehouse in London, and those such as are forfeited shall be sold by Inch of Candle on Conditions to be exported. . . .”

The Royal Lustring Company, as instigators of the Act, displayed at once their own foresight and their appreciation of the astuteness of the silk merchants by obtaining one more provision :

“ And forasmuch as there is no Reason that any of his Majesties Subjects should have Lustrings and Alamodes att a cheaper rate than the Inhabitants of the Kingdome or that it should be more profitable to export forreigne Lustrings and Alamodes . . . than such as are made in this Kingdome That . . . the Exporter shall not be intituled to receive Drawback or be repaid the Duties. . . . Any Law, Statute, Customs and Usage to the contrary notwithstanding.”

The exemplary punishment of the eight Frenchmen was not without deterrent effects, for in 1703 Henry Baker, Supervisor of Excise in Kent and Sussex, reported to his superiors :

“ But for fine goods, as they call them (viz., silks, laces, &c.), I am well assured that the trade goes on through both counties, though not in such vast quantities as have been formerly brought in —I mean in the days when (as a gentleman of estate in one of the counties has within this twelve months told me) he has been att once, besides at other times, at the loading of a wagon with silks, laces &c., till six oxen could hardly move it out of the place. I doe not think that the trade is now so carried on as it was then.”

Effects
of
Exem-
plary
Punish-
ment.

The sterner measures would seem to have gradually lost their effects, as in the year 1746 the Government of the day made the crime of assembling “ to the number of three or more with fire-arms or other offensive weapons to aid and assist in the illegal landing, running or carrying away of any prohibited goods ” a felony punishable by

death. While the high duties remained in force, smuggling, and the degree of complicity in smuggling indicated by the purchasing of contraband goods, was not contrary to the moral sense of the time. The author of the *Wealth of Nations* saw that association in smuggling led to consequences deplorable enough, but his blame descended on the system of which the smuggler was only a product. "To pretend," said Adam Smith, "to have any scruple about buying smuggled goods, though a manifest encouragement to the violation of the revenue laws and to the perjury which almost always attends it, would, in most countries, be regarded as one of those pedantic pieces of hypocrisy which, instead of gaining credit with anybody, seems only to expose the person who affects to practise them to the suspicion of being a greater knave than most of his neighbours. By this indulgence of the public, the smuggler is often encouraged to continue a trade, which he is thus taught to consider as, in some measure, innocent; and when the severity of the revenue laws is ready to fall upon him, he is frequently disposed to defend with violence what he has been accustomed to regard as his just property; and from being at first rather impudent than criminal, he, at last, too often becomes one of the most determined violators of the laws of society."

Kent and Sussex, Essex and Suffolk were the English counties concerned principally in contraband, and McCulloch, in his *Dictionary of Commerce* (1844), said that in the two first-named:

"The whole body of labourers may be said to be in combination with the smugglers; and numbers of them are every now and then withdrawn from their usual employment to assist on their desperate adventures. Lawless, predatory and ferocious habits are thus widely diffused; and thousands who, but for this moral contamination, would have been sober and industrious, are trained to despise and trample on the law, and to regard its functionaries as enemies whom it is meritorious to waylay and assault."

Effects
of
Exem-
plary
Punish-
ment.

Adam
Smith
on the
Moral
Aspect.

Smug-
gling
English
Goods
into
France.

A report by Mr. Villiers (later Lord Clarendon) and Dr. Bowring sheds light on the smuggling of silk in the 19th century. French silks were conveyed into England without duty, and to an extent described by the Director-General of French Customs as *vraiment effrayante*. English goods were landed secretly in France. English bobbinet was a prohibited article, but the Director-General at a period *circa* 1830, estimated the imports at £400,000 a year, and said that bobbinet and other British articles were to be met with everywhere. The French international trade was mainly over the land frontiers, but there was an appreciable sea-borne traffic. Owing to the numerous *octrois* the cost of smuggling into France was greater than into England, and to get goods through to Paris cost on the average 25 to 30 *per cent*. Villiers and Bowring reported that—varying with the nature of the goods—12 to 40 *per cent* was the commission paid in England. So highly developed was the business that smuggling agents attended regularly on 'Change, and security was given for the completion of the contracts made there.

“It is their constant practice,” says the Report, “to deposit the value of the goods confided to their care in a banker's acceptance, as a security for the owner.”

McCulloch's opinion was that in about the year 1840 silks, gloves, ladies' shoes and similar articles were smuggled more extensively than spirits. French writers cited, but not named, in the *Dictionary of Commerce*, estimated the average exportation of silks from France to England between the years 1688–1741 at £500,000 yearly. The estimate may err on the side of liberality, but after allowing for exaggeration it is clear that the trade was a considerable one.

Contem-
porary
Records.

A notice from the London papers of April, 1837, supports the supposition that the underground traffic in silk was expanding at that time:

“Notice has been issued by Mr. W. Stuckey, inspector of silk of St. Botolph-lane, near the Customhouse, intimating that representations made to him inform him that there are a variety

of persons in the metropolis who annually defraud the revenue of nearly £50,000 by the smuggling of foreign manufactured silks. A reward of 35 *per cent* is therefore offered to any person who shall be instrumental in the detection or the conveyance of such goods and likewise seizure; with a further reward on the conviction of the parties according to the penalty inflicted.”

Contemporary
Records.

Additional evidence that the amount of smuggled silk was large is found in Mr. Huskisson's speech in the House of Commons in defence of the removal in 1826 of the absolute prohibition upon the import of foreign-wrought silks. He said :

“ I have lately taken some pains to ascertain the quantity of smuggled silks that has been seized inland throughout the Kingdom during the last ten years; and I find that the whole does not exceed £5,000 a year. I have endeavoured, on the other hand, to get an account of the quantity of silk goods actually smuggled into this country. Any estimate must be very vague; but I have been given to understand that the value of such goods as are regularly entered at the Custom-houses of France, for exportation to this country, is from £100,000 to £150,000 a year; and this of course is exclusive of the far greater supply which is poured in throughout all the channels of smuggling without being subjected to any entry.”

“ In fact, to such an extent is this illicit trade carried that there is hardly a haberdasher's shop in the smallest village of the United Kingdom in which prohibited silks are not sold; and that in the face of day and to a very considerable extent.”

Parliamentary
References.

Huskisson, as Chancellor of the Exchequer, had emphasised the reality of the illicit silk trade in a more dramatic fashion :

“ Honourable members of this House are well aware that bandana handkerchiefs are prohibited by law, and yet ”—he said, drawing one from his

Parlia-
mentary
Refer-
ences.

own pocket with a flourish—"I have no doubt there is hardly a gentleman here who has not got a bandana handkerchief."

Thus there is justification for McCulloch's contention that:

"The vigilance of the Custom house officer was no match for the ingenuity of the smuggler. At the very moment when the most strenuous efforts were made to exclude them, the silks of France and Hindostan were openly displayed in the drawing-room of St. James's and in the House of Commons in mockery of the impotent legislation that sought to exclude them."

The silk goods conveyed privily by night into this country were not at all times of foreign manufacture. Such were the peculiar circumstances created by the tariff change in 1825 that it became more profitable to circulate certain British-made silks through the smuggling agents than by direct sale in the home market. The goods were sold out of the country for the express purpose of being smuggled back after a Customs drawback had been received upon them. When the statutory monopoly was removed and replaced by duties on manufactures of 25 or 30 *per cent*, taxes were still imposed upon the raw materials from which silk was woven in this country. In order to rid manufacturers of an impediment to their foreign trade, it was provided that on exporting silk goods they should be entitled to draw back from the Custom-house the duty paid on an equivalent weight of Italian thrown silk exported. The exporter had to produce a receipt or "debenture" showing that Italian silk had been imported, and these debenture certificates passed from hand to hand. They were bought by sellers of wretchedly inferior qualities of silks. It was nothing to the Customs that the goods exported contained no thrown silk—Italian or other—but were made solely with a view to reaping the bounty. If the cloths presented for export appeared to be worth more than the 14s. a pound specified in the regulations, and if it were shown that some one had indeed paid duty on Italian thrown silk, the debenture had to be honoured.

Smug-
gling
British
Silks
into
England.

From his place in the House of Commons, Mr. Huskisson dealt trenchantly with the facts as to this branch of trade :

“I believe it is universally known,” he said, “that a large quantity of bandana handkerchiefs are sold every year for exportation by the East India Company. But does any gentleman suppose that these bandanas are sent to the Continent for the purpose of remaining there? No such thing! They are sold at the Company’s sales to the number of about 800,000 to 1,000,000 a year at about 4s. each; they are immediately shipped off for Hamburg, Antwerp, Rotterdam, Ostend or Guernsey, and from thence they nearly all illicitly find their way back into this country.”

Ban-
dana
Hand-
kerchief
Frauds.

The importer of the thrown silk on which the refund was obtained sold his privileges, and may with the proceeds have cheapened the articles into which the material entered. So much has to be allowed in considering the distortion of the purpose for which the drawback was provided. It may not have mattered to Parliament whether the original Italian thrown silk or some other was exported, and the English throwster may or may not have had cause of complaint against a system tampering with the margin of Protection granted to him, but it was clear that Parliament could not countenance indefinitely a system which resulted on the one hand in cheating the revenue and on the other in despoiling the consumer.

“These bandanas,” Mr. Huskisson pointed out, “which had previously been sold for exportation at 4s., are finally distributed by the retail trade at about 8s. each.”

Debentures could be bought at first for a penny or two-pence a pound, although later the price rose to nearly three shillings. Certainly in the beginning the trade would seem to have offered extraordinary opportunities of profit to middlemen. A drawback of 3s. 6d. was collected on a 4s. article, and the remaining sixpence of cost, swelled somewhat by the cost of the debenture, double sea-freight and inland charges, resulted ultimately in a realisation of 8s. at the drapery counter.

Large
Profits
Realised.

End of
Organ-
ised
Smug-
gling.

Organised smuggling ended only when the inducement to smuggle was removed by a reduction of duty to a level at which the evasion no longer paid. So long as the duty on woven silks stood at 30 *per cent*, and men could be found to undertake the evasion of duty in return for a commission of 12½ to 15 *per cent*, the business flourished. On the one hand, the revenue lost a large part of its due and on the other was put to an extravagant outlay in its preventive services.

In 1825, when a House of Commons return was made of the value of goods seized by the preventive officers, it was shewn that the 900,000*lbs.* of tobacco, the 135,000 gallons of brandy, the 42,000 yards of silk and 2,100 pieces of India handkerchiefs rescued from smuggling hands realised on sale some £282,400. The upkeep of the preventive service exceeded £2,000,000 in the same year. The credit of the smugglers was lowered as soon as the duties were changed by Peel. The inducement and the glamour departed together, and the Commissioners of Customs reporting on the change said :

“ With the reduction of duties and the removal of all needless and vexatious restrictions, smuggling has greatly diminished, and the public sentiment in regard to it has undergone a very considerable change. The smuggler is no longer an object of general sympathy, as a hero of romance; and people are beginning to awaken to a perception of the fact that his offence is not only a fraud upon the revenue, but a robbery of the fair trader.”

Smug-
gling in
Scotland.

Peel's Commutation Law, reducing the duties to a level which destroyed the economic basis of the professional smuggler's trade, rankled in the minds of the smuggling population. The “ Burning and Starving Act ” was the name found for it by smugglers in Dumfrieshire and Galloway, of whose operations some account is given in an Additional Note to the novel *Guy Mannering*. History and fiction are blended together in Sir Walter Scott's portrayal of Dick Hatteraick in that book. History in the shape of the Additional Note says : “ The prototype of Dick Hatteraick is considered as having been a Dutch skipper named Yawkins . . . sole proprietor and master

of a smuggling lugger called the *Black Prince*." Yawkins and colleagues had as their principal articles of unhallowed commerce spirits and tea; although Hatteraick, in the novel, drew no hard and fast line as to the nature of his commodities. His men wore silk handkerchiefs, and it would be unwarrantable to assume that ever they paid duty on them. Julia Mannering's description of the fight at Hazlewood shows the band "stripped to their shirts and trousers, with silk handkerchiefs knotted about their heads and all well armed with carbines, pistols and cutlasses." Hatteraick was a "gude sort of blackguard fellow—smuggler when his guns are in ballast—privateer, or pirate faith, when he gets them mounted."

Smug-
gling in
Scotland.

The Scottish traffic went by the names equally of the "fair trade" and "the free trade," and Scott's exciseman friend, Joseph Train, testified to seeing frequently upwards of two hundred men assemble at one time on the Galloway coast and go off into the interior of the country, fully laden with contraband.

It will be of interest to deal briefly with the British customs regulations as to silk imports.

Silk manufactures were not to be imported in any vessel under 70 tons burden, except by licence. . . .

British
Customs
Regula-
tions.

Silk goods, the manufacture of Europe, are not to be imported except into the port of London or the port of Dublin direct from Bordeaux, or the port of Dover direct from Calais (3 and 4 William IV).

When the shoot or the warp only is of silk, the article is to be considered as composed of not more than one-half part of silk, and subject to the *ad valorem* duty of 30 *per cent*; but if the shoot or the warp be entirely of silk, and a portion of the other be of silk also, the article is to be considered to be composed of more than one-half part of silk, and subject to the rated duties at per lb., or to the *ad valorem* duties at the option of the officers. (Minutes, Commission of Customs, 14th August, 1829.) But in all cases where the duties charged by weight upon mixed articles would manifestly exceed 30 *per cent*, by reason of the weight of wool or other ingredient thereof besides silk, the article is to be admitted to entry at value. (Minute, 19 December, 1831.)

BOOK FOUR.

CHAPTER XLI.

ROYAL PATRONAGE.

Refer-
ences in
Chaucer. Silk has been identified with great ceremonial from time out of mind, and if we accept the view that the Samite of Early English was a silken fabric, as it well may have been, there is allusion to it in very ancient records, or royal marriages, burials and progresses. To actual silk there is reference in the *Morte d'Arthur* in the lines—

“The King hyme selfen sette
Under a sylure of sylke.”

In Chaucer's days, too, it was known, as witness :

“Of donne of pure dove's white
I wd yeve him a fether bad,
Rayed with gold and right sell dled,
In firm black satin d'outre mes,
And many a pillow and every vere
Of cloth of Raines to sleep on soft.”

But in the history of silk nothing is more striking than the frequency with which royal effort has been made to promote its culture and to encourage the industry. Kings and Governments and Chartered Companies have not only abroad, but in this country, given it a direct support that they have accorded to no other branch of commerce.

In medieval days there were sumptuary laws which limited the wearing of silk to the great only, not so much as is often supposed, to prevent undue extravagance, as to fix the position and calling of the wearers plainly before others. Thus the Act of 1464 ordained that “None

of the Garters or their wives should be allowed to wear purple or any manner of cloth gold, velvet or sable furs under a penalty of 20 marks. That none below Knights, Bachelors, Mayors and Aldermen and their wives should wear satin or ermine under a penalty of 10 marks." Gradually these restrictions ceased to be observed. After the Wars of the Roses, great prosperity dawned for all classes. The rich silks and satins, hitherto reserved for the use of the great ones of the land, were more generally worn and the importance attached to such costly fabrics in connection with Coronations received emphatic testimony in various directions. It was under Henry VI that silk was first manufactured in England.

Use of
Silk for
Corona-
tions.

The Library of Westminster Abbey possesses no greater treasure than its manuscript of *Liber Regalis*, which may well have been the actual copy used by Richard II at his crowning.

In this, which to this day guides the Order of the Sacring of our Kings in minute details, there is explicit reference to the use of silk, as in the direction that "a lofty seat shall be prepared in the royal hall and be suitably adorned with silken cloths of gold on which the King that is to reign is to be raised with all gentleness and reverence"; the clergy are to go "in silken copes with textus censers and the other things suitable to the procession"; the three swords are to be borne by "three earls clothed in silk"; the canopy held during the Anointing is to be a "square cloth of purple silk carried on four silvered lances," and the King himself is to wear a silken tunic and shirt.

Some light, too, is thrown on the quantities of silk required at a Tudor Coronation by the document from the Lord Chamberlain's Series I, preserved at the Public Record Office, detailing the "Emption and Provisions of Stuff" for the Sacring of Henry VII. The patronage was wisely distributed, and the "fyne blue cloths," "the russet clothe for the King's Confessors," "the rede worstedde," and "the rishe clothe of gold tisshue of purpull grounde for a longe gowne for ye King" were bought from diverse good citizens described sometimes as "trillours"

A
Record
of
Henry
VII.

A
Record
of
Henry
VII.

or drapers. But presently there is the whole account due to "Cecyly Walcot, Silk woman," who supplied 25 ounces and three-quarters of "Riban of damask gold," "Riban of Venys gold" for the King's gloves, and a quantity of other gold laces and ornaments. Another "silk woman," Kateryn Walshe, received a very similar order, and at the end is the amount due to "George the Kinge's Tailleur," who among many other things made up a "longe mantelle with a trayne of crimson saten furred with menever, at a cost of twenty shillings," "a longe gowne of purpull velvet furred with ermyns," "a cote of crimson satyn lined with white fustian," "a doublet of crymson satyn," and "two dalmaties, one of crymson satyn and one of white sarsinet."

The Holbein portraits of Henry VIII leave no doubt as to his admiration of velvet trimmed with fur, but it is recorded that his hose were actually of cloth unless by chance someone brought him a pair of silk stockings from Spain. Gascoigne, the poet, who accompanied Elizabeth's suite on her visit to the Earl of Leicester, and wrote of "The Princelye pleasures at the Court of Kenilworth," makes a reference to knitted silk stockings and Spanish leather shoes as the greatest ornaments of dress, and certainly Sir Thomas Gresham, wishing to make a valuable offering to Edward VI, could find nothing more desirable than a pair of silk stockings.

Queen
Elizabeth
and
William
Lee.

Elizabeth's overwhelming vanity expressed itself of course in the most magnificent silks and velvets that the looms of the Continent could supply, and her Silk-woman, Mrs. Montague, delighted her with the gift of a pair of silk stockings. In industrial history, there is perhaps no story better known than the Queen's chilling attitude towards William Lee, the inventor of the mechanism for frame-work knitting.

Hand-knitting in these days had become an almost universal art, though in this country it was rarely applied to silk. Lee's first productions were made of stout woollen yarn, and when Lord Hunsdon, who had held an important command in the military force raised at the time of the Armada, induced her Majesty to come to Bunhill Fields

to see the inventor at work, she showed little admiration for the finished product. Lord Hunsdon, however, believed much in the invention, and later begged that a patent or monopoly might be granted to Lee. The reply is interesting, and indicates how this imperious woman might have expressed herself in regard to the modern Trust:

“My Lord,” she wrote to Hunsdon, “I have the much love for my poor people who obtain their bread by the employment of knitting to give any money to forward an invention that would tend to their ruin by depriving them of employment and thus make them beggars. Had Mr. Lee made a machine that would make silk stockings, I should, I think, have been somewhat justified in granting him a patent for that monopoly, which would have appealed only to a small number of my subjects, but to enjoy the exclusive right of making stockings for the whole of my subjects is too important to be granted to any individual.” Lee worked at his mechanism, and by 1598 was able to make silk hose of so good a texture that when he presented a pair to the Queen, she was able to congratulate him upon their elasticity and evenness, though she did not do much to advance his efforts, and the inventor’s hopes for better things under James I, his disappointments, and his unfortunate experiences and death in France belong to that chapter that tells the story of unrewarded genius.

James I, who by the way had borrowed in Edinburgh from the Earl of Mar a pair of silk hose in which to make his appearance in England, saying, “You wd. not have your King appear like a scrub before strangers,” deserves a leading position among the English sovereigns who have fostered and assisted the silk industry. On the site on which Buckingham Palace now stands he had his own Mulberry Gardens to the extent of four acres, and he had ideas of following the example in this direction to Henry IV of France. At Theobald’s, his favourite country seat in Essex, he also maintained a silk rearing centre, and there exists yet the warrant to pay one Jennings, “Keeper of the Garden at Theobald’s, £50 for

Queen
Elizabeth
and
William
Lee.

James I
assists
the
Industry.

James I assists the Industry. making a place for the silk worms and for providing mulberry leaves." It would seem, too, that he liked to watch and observe the habits of the worms, as a request for three months' expenses on the part of one of his grooms of the chamber, Richard de Lacairlle, was duly accorded, and that these were incurred "whilst travelling about with the King's silk worms whithersoever his Majesty went."

Beyond this, too, James made a really serious effort to popularize sericulture, and as early in his reign as 1607 he granted a licence to William Stallinge to print a book for general circulation of instructions as to mulberry planting and culture, the breeding of silk worms and the reeling of silk. Moreover, his Majesty addressed the deputy lieutenants of the counties and other landowners as to their duty in regard to the planting of mulberries, with the further practical information that 10,000 mulberry trees were available at the rate of 6s. a hundred, while among the State Papers at the Public Record Office is still preserved the Diary of Francis de Verdon, who travelled over the Midlands and Eastern Counties, covering something like 1,100 miles to distribute no fewer than 100,000 trees.

Encouragement of Sericulture. By 1611 Stallinge had 9 lbs. of silk spun, and he received the sum of £258, disbursed by him in various directions in the effort. Meantime, Thoresby, the diarist, has a reference to the length of satin that he saw woven for the Princess of Wales from English reared silk.

The annals of James's reign abound, indeed, with allusions to the King's desire that silk should be pure and well dyed. Adulteration was obviously practised in spite of sharp enactments and the threat of heavy fines, until in a charge preferred against a certain partnership the comment occurs "there never was worse silk made than by these persons." The King's efforts were not successful in creating an English industry in the growth of silk, but his policy was watched with great interest on the Continent, and brought in large numbers of throwsters, weavers and dyers, who settled in London, and whose demands stimulated the efforts of the early East Indian

Companies to bring in the "goods rawe silk," to which such frequent reference occurs. James, however, throughout his reign, believed in sericulture, and it is quite characteristic that towards its close he caused a letter to be addressed to the Treasurer, deputy and others of the Virginian Company, recommending them to pay attention to the breeding of silk worms in preference to the cultivation of tobacco.

Encouragement of Sericulture.

In the troublous reign of Charles I, when the Cavaliers wore velvets, brocades and lace, there appears to have been little attention paid to the home industry, and the State Papers make little reference to it save to record an occasional effort to evade the payment of duty. With the Puritans, silk was of course a mere worldly vanity, and the falling off in the demand for it was quickly reflected in diminished imports from India and elsewhere. Beauty and colour were under a cloud when dress and surroundings were of sombre severity. The Restoration brought about a revival, but the adulteration begun under James I was not forgotten, and unscrupulous weavers used weighting and bad dye to such an extent that a Bill was promoted in Parliament by the honest manufacturers to enable them to deal with frauds which were hopelessly discrediting English silk. Delays arose in connection with the Bill, and ultimately relying on the sympathy of the King, manufacturers resolved to petition him direct. That his reception of their pleas was gracious may be assumed, for a few years later a Bill went through with the express object of encouraging silk manufacture in this country.

Two other events, moreover, show that the King was really interested in the industry, for an effort was made in Barbadoes—one of our oldest Crown Colonies—to establish silk rearing, and in 1668 a small deputation arrived on the Cornish coast bearing the first four hundred-weight of silk raised there as a gift to the King. The second event was that the King, whose interest in science and progress is perpetuated in the Royal Society, was the first to grant a patent for the use of waste silk. This was applied for by one Edmund Blood, of Blackfriars, entitled to describe himself as "Merchant to the King,"

Work of Charles II.

Work of
Charles
II.

who set forth how he "had invented a manufacture as to making a rich and profitable stuff—a silk shag, commodious for garments of silk waste, which was never before known to be useful in this Kingdome except for stuffing quilts or sold into Holland or Germany at 6d. or 8d. a lb." On the certificate of five worthy citizens in trade as mercers that they had never before met with a fabric like it, the Attorney General commended the application to the King, and it would be interesting if it could be traced to know how the claim of the inventor was justified.

Both William and Mary showed a considerable interest in silk manufacture, and received a petition from a number of throwers, "who had brought to practice a certain useful and cheap way by engines of winding the finest raw silk which was formerly brought ready wound, spun and twisted from Italy." They asked for a Charter of Incorporation, and, at the Royal command, the Solicitor General made enquiry as to how far it might be advisable to accord it. That he went about his task sympathetically and conscientiously is shown from his report preserved among the State Papers of the reign. "I do not see," he said, "but that such a Charter as is desired will be good in point of law, if it shall be your Majesty's pleasure to grant it, but that which seems to require the chief consideration is how far it will be convenient and for the public good. Of the subject matter of the petitioners relating to the silk manufacture, wherein great numbers of your Majesty's subjects are employed, I have endeavoured to inform myself, touching the facts alleged in the petition and also what influence it might have upon the employment and business of your Majesty's subjects, concerned in the winding, spinning and weaving of silk in case you should be graciously inclined to gratify the petitioners. To this end I have discovered several throwsters and others concerned in the making of silk, who acknowledge it to be true that the finest sort of silk is not wound in England, that a great deal of it being used here is imported ready wound, and also that that sort of silk can be wound in no other way than by the engines

The
Company
for
Winding
Fine
Silk.

mentioned in the petition. They also say that if the winding of fine silk in great quantities was carried on in England, the throwsters will have the same at cheaper rates, and many of your poor subjects will be employed in the spinning and twisting of the silk as wound here." The King and Queen decided, therefore, to accede to the request, and thus came into existence the Company for Winding Fine Silk.

The
Company
for
Winding
Fine
Silk.

During 1693 King William was conducting the campaign in Flanders Landen. Queen Mary administered home affairs alone, and among other matters to which she directed her attention was the condition of the silk weavers. She instructed the Earl of Nottingham to ascertain on her behalf with all possible dispatch what quantity of fine silk there was at the time in England, in the manufacture of which the poor were usually employed, and for how long the supplies would last them at the ordinary rates of consumption. There was good reason for the enquiry for the year as far as the imports from India were concerned had been a bad one, and was one of three at the close of the 18th century in which the East India Company had to record a loss in this commodity.

Under Queen Anne, there was a foreshadowing of modern "dumping" methods both from Lyons and from Holland; then rather famed for plain black silks as "rez de gennes," "Peau de soys," and "black mantua," but of direct Royal intervention on behalf of the industry there is little sign. The same was the case under the Georges, and even Fanny Burney's intimate revelations as to the dresses and jewels of Queen Charlotte and her daughters do not throw much light as to how far they encouraged Spitalfields and the home products.

Coming to George IV, however, and his gorgeous Coronation, we find a direct patronage of the industry. Not only did it furnish a liberal share of the velvets and satins of royal mantles and Garter robes, but it was Spitalfields that produced the splendid Pallium that we have again recently had the opportunity of seeing. After more than ninety years its soft and supple cloth of

George
IV.

gold came out as brilliant and untarnished as when it was first worn. Brocaded into it in exquisite colouring was the Rose, the Shamrock, the Thistle and the Eagle of Sovereignty. It was a triumph of the weaver's craft, and all who saw it closely realised how far English skill had advanced in this direction.

The Victorian Era. Queen Victoria also had her Pallium made in Spitalfields, and this was also a brocaded cloth of gold. Throughout her long reign, Queen Victoria was a very consistent supporter of the English silk industry in that she gave warrants to well-known firms to supply her with the fabrics she required. Poplin also was much liked by her, and a well known Irish firm used to provide her annually with considerable quantities. The reign of Queen Victoria witnessed, however, the heaviest blow ever inflicted on the home industry in the abolition of the duty on manufactured silks. The "black decades" from 1860 to 1890 saw factory after factory closed down, and skilled craftsmen either in penury or turning to some other trade.

Influence of Duchess of Teck. The modern revival of English silks, which is an established fact, and is recognised by the artistic sense of Europe and America, is due more than to any to our present gracious Queen Mary and her beloved mother, the Princess Mary Adelaide, Duchess of Teck. Perhaps it would be more strictly accurate to put the latter name first, for it is not saying too much to state that her Majesty had from her mother the education which has enabled her in her exalted position to bestow an encouragement so wise, so discriminating and so appreciative of the vast commercial interests involved that the industry stands to-day in a position infinitely stronger than it has had since the duty on foreign manufactured silks was abolished.

In the early 'eighties of the last century, taste in dress and domestic surroundings was very low indeed. The much ridiculed "æsthetic" cult had not shed its eccentricities and excrescences, though there were signs of revolt against the stodgy utilitarianism—the rosewood and reps—of the 'sixties. And the silk industry had fallen very low indeed. The Duchess of Teck, patriotic to her

finger tips, and a firm upholder of every British Influence institution, was one of the first to realise that a great of source of employment and prosperity was fast dying out, Duchess and indeed was almost on the verge of extinction. Her of Teck. circle of friends was wide, and touched life at many points, and she viewed with much satisfaction an effort made by the Hon. Mrs. Percy Mitford, to bring about a fashionable demand for English silk fabrics in 1882. It was about this time that a number of ladies had combined, not wholly unsuccessfully, to draw attention to the merits of British woollen materials, and it was believed that what had been done in that connection might also be tried in regard to silk. Thus in 1882, a little effort was launched, but it had scant effect, in spite of influential approval, for dressmakers could not be induced to move out of their usual grooves of purchase.

The Manchester Exhibition of Queen Victoria's Jubilee year marked a slight movement towards better things. More exhibits were shown in the English silk section than had been anticipated, and it was beginning to be recognised that a whole new field of enterprise was opening up in connection with tussore and wild silks. Among other members of the Royal Family to visit the Exhibition, which enjoyed the honour of inauguration by Queen Victoria, was the Duchess of Teck, and she permitted it to be announced that she should do all in her power to bring about a fashionable and general demand for the silks woven on English looms. A direct outcome of this exhibition was the establishment of the Silk Association of Great Britain and Ireland, uniting the leading manufacturers of the Kingdom for their mutual advantage, and destined to become the important organisation of the industry. At the outset, however, it was not very clear how this body could come into any effective touch with those it was most important to influence, namely the fashionable ladies and their dressmakers. A Ladies' Committee was therefore suggested, and was duly formed, including Lady Egerton in the chair, the Duchess of Abercorn, the late Countess Spencer, the Countess of Wharncliffe, the late Countess of Lathom,

Estab-
lishment
of Silk
Associa-
tion.

Royal Lady Arthur Hill, the late Baroness Burdett Coutts, President of Ladies' and the Hon. Mrs. Mitford. The Duchess accepted the Com- mittee. Lady Rothschild, Lady Wantage, the late Lady Knutsford, and the Hon. Mrs. Mitford. The Duchess accepted the presidency, Lady Egerton of Tatton taking upon her the Honorary Secretary's duties.

By 1890 the scheme was in working order, and the Duchess herself drew up and signed the first report. In the course of this, she said : " We consider that the time has come to invite the attention of the ladies of England to the revival of this ancient industry. In order to do this, the Committee proposes to form a ' Ladies' Silk Association ' on an extended scale. Its numbers will not be pledged to the exclusive purchase of English made silks, but they will be asked to interest themselves and their friends in this British industry and to make enquiry for and inspect English silks before deciding to purchase those of foreign origin."

The next step was to organise the first Exhibition of English silks ever held, apart, of course, from displays made at large general exhibitions. It took place at the house of Lord and Lady Egerton of Tatton, and was surprisingly good considering how slight had been the encouragement previously given to manufacturers to devote themselves to fine designs and the best craftsmanship. The movement grew, and before many months were over something like 800 ladies had enrolled themselves as supporters. It was an undertaking into which the Duchess of Teck threw her heart and soul, and early in 1893 she decided to make a tour of inspection of the chief centres of silk weaving to include Macclesfield, Leek and Bradford. She commenced it, however, at Spitalfields, at the old works in Hollybush Gardens of Messrs. Warner. Now that things can be seen in their true perspective, it is not too much to say that this visit was a turning point in the development of silk manufacture in this country. Accompanying her Royal Highness was Princess Mary, and by her command her usual dressmaker was also present. No detail of the work of weaving was passed over by her ; even the processes of " reading " the design of a sumptuous brocade and transferring it

First Exhibi- tion of English Silks.

to the perforated cards, which are so hopelessly bewildering to the uninitiated, she grasped in all details. With some of the bolder designs then applied chiefly to curtains and wall hangings she foreshadowed the modes that have since become fashionable, realising that they would be superb for Court trains and evening cloaks. She inspected lengths on the looms, and more than once made a singularly happy suggestion as to a change in the colouring. To the men at work at the looms she addressed the kindest words of encouragement, and she left amid the ringing cheers of those who vaguely hoped for the coming of better times.

On May 3, 1893, the nation received with the profoundest delight the news of the engagement of Princess May to the Duke of York. Then it was that the first proof of the importance of the visit of the Royal ladies to Spitalfields was made plain. For both the Duchess and her daughter decided that every item of the trousseau should be of English manufacture. To Messrs. Warner came the honour of providing the wedding dress, and for so historic an occasion as the marriage of the future Queen of Great Britain no effort was too great to produce something splendid and distinctive. The ground was of white satin, thick and rich, yet soft and susceptible of taking graceful folds. The design introduced the Tudor rose, in that form heraldically adopted since the wedding of Henry VII. with Elizabeth, daughter of Edward IV, united the erst-while rivals of Lancaster and York, and with it were clusters of May, symbolic of the name by which the royal bride was affectionately known. Linking these were silver ribbons brocaded into the fabric and tied at intervals with true-lovers' knots. The beauty of the design and the weaving were the fullest vindication of the merits of English silk, and those who saw it, as some were privileged to do before it left the dressmaker's, or upon the fair and gracious wearer at the beautiful marriage ceremony, realised that it was to have far-reaching industrial effects.

The ceremony was indeed a triumph for English silk weavers, for in deference to the known wishes of the bride, the ten young Princesses who accompanied her as

Royal
President
of
Ladies'
Com-
mittee.

Wedding
Dress of
Queen
Mary.

Wedding bridesmaids were all dressed in English made silk and
 Dress lace. According to a long-established tradition of the
 of Royal House, its brides wear white for their "going
 Queen away" dress, and it was a rich cream silk, also made in
 Mary. Spitalfields, sumptuously embroidered in gold, that the
 newly wedded Duchess assumed when she drove with the
 Duke from Buckingham Palace to Liverpool Street Station,
 amid the enthusiastic demonstrations of the thousands
 who had turned out to testify to the popularity of both
 bride and bridegroom. In the trousseau were several
 dresses for day and evening wear of rich brocades, and
 the lighter fancy silks, as well as some in Irish poplin.

After her daughter's marriage, the Duchess of Teck
 continued her active campaign to arouse interest in the
 revival of silk. She visited Stafford to open an exhibition
 there of silks, and both at Leek and Macclesfield made
 short speeches expressive of her intention to do all in
 her power to encourage the movement. Moreover, it was
 largely due to her advice that the technical schools of
 silk weaving in the chief centres of the industry have
 paid the fullest attention to design, which was a primary
 necessity in competition with the products of foreign
 looms. As Duchess of York, her present Majesty continued
 to manifest a practical interest in the revival, and no
 one rejoiced more sincerely than she did, as it became
 evident that the industry was once more becoming vitalised.
 It fell to her Royal Highness to be able to commend it to
 the daughter nations over seas, for when the great tour
 that the Duke and Duchess undertook in 1901 through
 the Dominions and Colonies was under consideration,
 she again gave orders that all her dresses should be of
 British manufacture. The death of Queen Victoria occurred,
 as will always be sorrowfully remembered, only two months
 before the Duke and Duchess were to have started, and for
 a week or two it was uncertain whether the great progress
 would be carried through. But King Edward understood
 how widespread would be the disappointment everywhere,
 if plans were changed, while the underlying idea of the
 tour had never been that of mere pleasure or sightseeing.
 There were high Imperial duties to be fulfilled throughout,

Work of
 Duchess
 of Teck.

and it was therefore appropriate even that they should be performed at the outset of the new reign. One thing, however, was a matter of some difficulty, and that was to prepare an adequate outfit in deepest mourning for the Duchess in the limited time available. It was done, nevertheless, and never were dresses in black silks and satins, crêpes de chine and wonderful gauzes more beautiful or varied as to design, while everywhere that they were worn they constituted an unsurpassable demonstration of what English manufacturers could achieve.

Then came King Edward's Coronation. Two generations—sixty-two years to be exact—had passed since the British people had witnessed a ceremony so august, or so deeply charged with religious significance, and there was a search into all precedents and records, for there were hardly any whose memory could be relied upon as to the details observed in 1837. Queen Alexandra was asked to give encouragement to the English silk weaving industry, and she expressed the hope that ladies attending the Coronation would wear English woven silks and velvets, a wish that naturally carried great weight.

King Edward's patronage of English skill in this direction was very marked. One of the most important of the ceremonial vestments that the Sovereign assumes in the course of the Sacring is the Pallium or Imperial mantle. It is placed over his shoulders by the Dean of Westminster, and clasped by the Lord Great Chamberlain. As soon as the King is seated again, the Archbishop of Canterbury delivers the Orb with his hands and pronounces this exhortation:—"Receive this Imperial Robe and Orb, and the Lord your God endue you with knowledge and wisdom, with majesty and power from on high; the Lord clothe you with the Robe of Righteousness and with the Garments of Salvation. And when you see this Orb set under the Cross remember that the whole world is subject to the Power and Empire of Christ our Redeemer."

Custom immemorial has ordained that this Pallium should be of cloth of gold. Other Sovereigns before King Edward have had the National Emblems interwoven as a brocaded figuring into the fabric itself. His late

Corona-
tion of
King
Edward
VII.

The
Pallium
of Cloth
of Gold.

The
Pallium
of Cloth
of Gold.

Majesty, with that kindly thoughtfulness that was so characteristic of him, desired that the ladies of the Royal School of Art Needlework should have a part in the preparation of this vestment by embroidering upon it the symbolic devices, and it was to Messrs. Warner, of Braintree, that the task of producing the most perfect ground possible in plain cloth of gold was entrusted. It was not an easy task; there were technical difficulties over it that the uninitiated would not realise. A flat smooth surface would have been wanting in light and relief, but at last, after patient experiment, the problem was solved by using for the weft a twist composed of one round and two flat strands of gold thread of infinitesimal fineness. The gold was the purest that could possibly be used, and contained even less proportion of alloy than the sovereign or half-sovereign. For the weft, the finest gold-coloured silk was used, and the result was a truly magnificent fabric which carried the lovely embroideries of the Rose, Shamrock, Thistle and Eagle, as well as the Lotus for India which was employed emblematically for the first time upon the robe of a monarch who was Kaiser-i-Hind as well as King of England.

Again, the Princess of Wales wore an English woven dress—a lovely satin of creamy tint, and worked in a design of leaves and berries in gold of three shades, with her train of violet velvet made at Sudbury. Others of the Princesses had followed her example, and never in modern times had these looms been so busy as in turning out the purple velvet of royal wear, or that in rich crimson for the robes of the peers and peeresses. King Edward's reign saw further advances towards the real renaissance of the industry, and again the Princess of Wales, upon her Indian tour in 1905, gave to silks of English make the foremost place in her outfit, including some of the fine washing types. Nor must the encouragement of Queen Alexandra and her present Majesty to the effort to establish silk weaving in Kashmir be forgotten. The raw silk had been woven in England for the Maharajah of Kashmir, and Sir Thomas Wardle suggested that they should be shown to Queen Alexandra. The Maharajah,

Encou-
ragement
of Indian
Industry.

through the India Office, asked if her Majesty and her Royal Highness would accept lengths of them in the form of beautiful black brocades, and both royal ladies received Sir Thomas Wardle as their bearer, and expressed much admiration of the quality and texture of the woven silk.

After the country had somewhat recovered from its crushing blow in the unexpectedly sudden death of King Edward, and it became possible to think again of the solemnities of the Coronation, their present Majesties gave early consideration to the welfare of the industry in connection with it. The Royal Robe Makers were instructed that the long velvet mantle that would be borne by eight pages was to be of English velvet, but for a time there was some uncertainty as to the Pallium with which his Majesty would be invested. Eventually the King decided to use the magnificent specimen of Spitalfields weaving already described as having been prepared for his last namesake on the Throne. But the Supertunica worn under the Pallium had to be made afresh, and the cloth of gold had to match precisely the ground of the Pallium. Moreover, his Majesty had greatly gratified the Girdlers' Company by consenting to accept from them the belt to which his Sword would be girt, and the Armill or Stole. Enough cloth of gold had therefore to be prepared for these purposes, and the Armill is of especial interest, as it introduced all the emblems of the daughter nations for the first time into ceremonial use on such an occasion. In addition to the Rose, Shamrock, Thistle and Red Dragon and the Eagle of Sovereignty, there was the Lotus for India, the Maple for Canada, the Southern Cross for Australia, the Four Stars for New Zealand, and the Mimosa for South Africa, thus constituting a new precedent of the highest historical interest.

The Queen's dress and train were also of much significance, as her Majesty had them designed in view of their importance and symbolism, not only in Westminster Abbey, but also for the Imperial and splendid scene at Delhi, when she would appear beside the King in full Durbar. The ground of the dress was white satin of the

The
Corona-
tion of
King
George V.

Queen's
dress and
train.

The
Corona-
tion of
King
George V.

most sumptuous character it was possible to weave. Upon it, the workers of Princess Louise's School in Sloane Street worked the beautiful scheme, which showed the English rose and the cable that links the other lands with it, while in prominent place was the Star of India and the Lotus, which is the more appropriately employed, as it is not only the sacred flower of the country, but in some of the older mythologies of the East is associated with the Sovereignty of the waters.

The Queen did still more for the industry in her Coronation year. Early in the season she caused it to be announced that all her dresses would be of English fabrics, and loyally her costumiers carried out her orders. Special designs in brocades were reserved for her, and she gave a new note of dignity and splendour to them in some bold and striking effects. These had a direct influence upon fashions, and rich materials became imperative for Court trains and sumptuous evening cloaks.

Silk
Exhibi-
tion of
1912.

The next outstanding event in Royal patronage of the industry was the personal interest that the Queen manifested in regard to the great Silk Exhibition at Prince's Rink in 1912. This project had occupied more than a year in preparation; it had united all the heads of the industry in a common purpose, and it enjoyed the full recognition of the Silk Association, whose President, Mr. Frank Warner, was also Chairman of the Committee. Not only did most silk weaving, dyeing and printing houses of importance take part in the display, but famous modistes and shops in high repute came forward to illustrate the superb effects of British silks both for fashionable wear and for artistic draperies and hangings. Mme. Paquin, MM. Reville and Rossiter, Messrs. John Barker, Messrs. Waring and Gillow, Messrs. Cowtan, Messrs. Woolland were only a few among those who gave this valuable form of demonstration.

The Exhibition was opened on June 6th by the Princess Christian, and the following day it was visited by the Queen. Upon a loom in the Warner display from Braintree a Court train for her Majesty was being woven in a lovely shade of jade green, with a gold brocading so

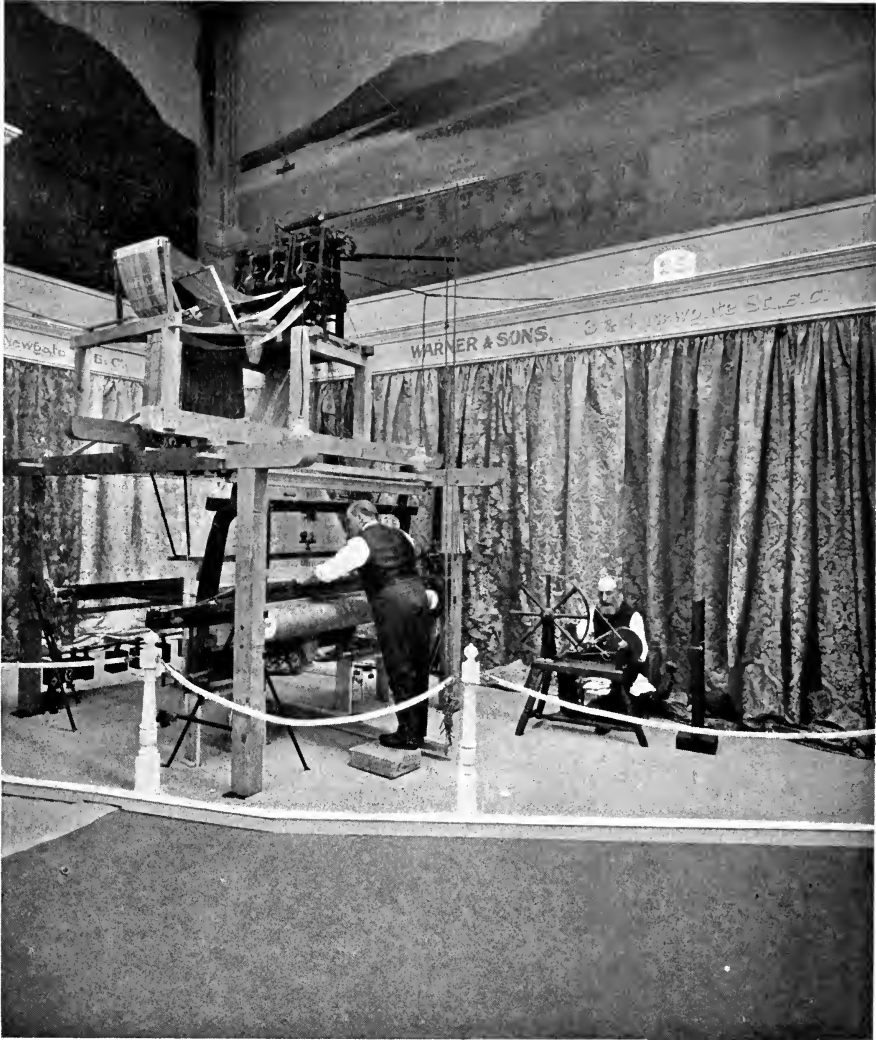


Plate L.

*Loon at the Silk Exhibition, Knightsbridge, 1912—
Weaving Brocade 63in. wide for H.M. The Queen.*



complex that 30,000 strands were involved in the pattern. The Queen expressed her admiration of it, and made a thorough inspection of every exhibitor's stand, giving several orders, and showing a knowledge of technical details that surprised many of the experts. This visit, exhaustive and thorough as it had been, was, however, far from the end of her Majesty's gracious support. On June 12th, the welcome and gratifying announcement came that the King intended to honour the Exhibition with a visit of inspection, and that the Queen would accompany him. It was desired that the inspection should be strictly private, and in order to call no public attention to the presence of their Majesties, even the usual red cloth was not laid across the pavement. The President and the Vice-Presidents, among whom were Mr. A. Barnard Cowtan, Mr. Francis Durrant, Mr. E. W. Cox, Mr. H. C. Marillier, Mr. A. Pether, Col. Herbert Walters, Mr. Arthur E. Piggott, and Mr. H. Langridge, received their Majesties, and others present were Lady Algernon Gordon Lennox and the Hon. Ivy Gordon Lennox, the Hon. Mrs. Percy Mitford and Mrs. Frank Warner. After a few general comments, his Majesty began his round of inspection, the Queen frequently calling his attention to particularly noteworthy features. Something thus early singled out was the magnificent cope with which the Archbishop of Canterbury had been vested at the Coronation of King Edward and of King George. For ground it had a sumptuous silk of Braintree weaving, upon which the correct ecclesiastical and heraldic decoration and symbolism had been designed by Miss Beatrice Cameron and worked by Miss Sheffield. The raw silk from Kashmir was also examined by his Majesty with extreme interest as likely to become a valuable commercial product.

A lovely silk carpet of such close weaving that a hundred knots were employed in the square inch was ordered by the King from Messrs. Charles Hammonds' display, and the Queen was so much pleased with its harmonious colouring that she ordered a replica in fine wool. Messrs. Fleming and Watson, who had a series of reproductions from Georgian designs, showed a beautiful length in rose colour

Silk
Exhibi-
tion of
1912.

Visit of
King
and
Queen.

Visit of
King
and
Queen.

that had been executed to the order of the Princess Royal. At the fine exhibit of Messrs. Brocklehurst, some surprising statistics were mentioned to the King, who smiled with gratification at the statement that the firm has in constant employ a thousand workers, "every one your Majesty's British born subject." A like number are in regular work at Messrs. Grout's factory in turning out exquisite crepes, ninons and soft draping materials. At Messrs. Cowtans' the King paid special attention to some rich lengths that were being executed for a private order, and at Messrs. Stephen Walters', with its record of 170 years' silk weaving in England the King was interested in the silk made for men's ties and mufflers. Meantime the Queen was examining much that she desired to see in fuller detail than upon her former visit. Arrived at Messrs. Warner's stand, his Majesty gave one of those proofs of his sympathy with the workers that have endeared him to all classes by inspecting the Court train that Mr. T. Wheeler and Mr. H. Spooner, two of the oldest and most experienced of the Braintree employés, were weaving. His Majesty asked many questions as to the technical aspect of the work, and the complications of "reading" so elaborate a design. The King was informed that the same man had woven the cloth of gold for the ceremonial vestments of his Coronation, and his Majesty at once congratulated him on "his very excellent work."

Nothing escaped the King's attention. When at length the tour of inspection, that would have been tiring to many, was at an end, his Majesty graciously expressed to Mr. Warner not only the great pleasure that the visit had afforded him, but his satisfaction with his continued efforts to advance an industry which showed itself so well worthy of national encouragement and support.

Notable
Exhibits.

A few days later Queen Alexandra paid the exhibition a long visit, and placed a number of orders. Princess Louise, Duchess of Argyll, was another deeply interested royal visitor, and in her case, concerned so much as she is with the beautiful embroideries often executed to her own designs at the Ladies' Needlework Society, the inspection had the direct purpose of revealing

what was available as a ground for the most artistic needlecraft.

As a memento of the Exhibition, the Queen graciously accepted a magnificently bound volume containing photographs of each exhibitor's display. The outcome of the Exhibition, to the success of which her Majesty's personal example and encouragement had so signally contributed, was a net profit of £455 5s. 10d. Of this sum, £400 was invested for the permanent benefit of the Association's income, and the balance was applied to the practical purpose of enabling the Association to become an incorporated body.

CHAPTER XLII.

THE WEAVERS AND OTHER KINDRED LIVERY COMPANIES.

Ancient
Trade
Guilds.

In his masterly essay on the "History and Development of Guilds and Trade Unions," which although written in 1870, still remains the best exposition of the subject, Dr. Lujo Brentano traces back the connection between the Livery Companies of London, which still for the most part survive, and the ancient Guilds, which played such an important part in the development of Trade and Craftsmanship in former times. These ancient corporations continued to exercise more or less control in the various branches of trade, with which they were formed to deal, until, in the eighteenth century, the operation of varied causes shifted the centre of manufacture from London to the North of England. This revolution in trade and manufacture, together with the individualist tendencies of the nineteenth century, reduced some of the Livery Companies to the position which they now occupy, that of being associations for mutual benefit and good fellowship. It is probable that these corporations would have disappeared altogether long since had it not been that many of them, becoming in course of time very wealthy, had devoted large sums of money to charity and to the promotion of the best interests of their crafts through technical education.

The triumph of the Handicraftsmen and their Association in Guilds having the right to elect their own Wardens or Deans, and other officers, and having power to regulate the details of all trade matters which concerned their various branches of industry, had—after several

centuries of strife—become complete in the early part of the fifteenth century. In London, to quote again from Brentano, “the Craft Gilds appear in full possession of the mastery in the reign of Edward III. The privileges which they had till then exercised only on sufferance, or on payment of fermes, were now for the first time generally confirmed by charter to them by that monarch. The authorities of the City of London, who had in former times contended with all their might against the Craft Gilds, now approved of their Statutes; and by the end of the fourteenth century most of the trades had appeared before the Mayor and Aldermen to get their ordinance enrolled. At the same time, they each adopted a particular Livery, and were henceforth called Livery Companies.* Edward III himself became a member of one of them, that of the Linen Armourers, as the Tailors were then called, and his example found numerous imitators amongst his successors and the nobility of the Kingdom.”†

Ancient
Trade
Guilds.

Livery
Com-
panies.

All the Livery Companies, at the time of their incorporation, as well as the Craft Guilds, of which they were the successors, had a vital interest and exercised a practical supervision and control of the branches of industry and commerce with which they were nominally connected. They bargained with Kings and Over-Lords for Parliamentary rights and privileges which, when obtained, they defended with all their united strength. They elected members of the City Corporation, and consequently had the municipality under their control. They defended their various trades and crafts from the encroachments and competition of unattached artificers and foreigners. They also exercised a more or less wise supervision of the internal affairs of the Guild, maintained the standard of workmanship and the quality of the goods manufactured, and also fixed the amount of the wages of the journeymen and apprentices and the profits of the masters. They regulated the number of apprentices and workmen a master might employ, looked after the welfare of members in sickness and misfortune, assisted widows and orphans, settled disputes of all kinds

* Fraternities had worn liveries previous to this time, but now they became official and distinctive.

† *Brentano on Guilds*, p. 58.

Livery
Com-
panies.

between members, insisted on a due observance of religious rites, and in fact exercised what would now be resented as a grandmotherly supervision and vexatious control over all members of the fraternity.

Associa-
tions of
Masters
and
Men.

The close association of masters and men seems to have been at once the strength and the weakness of the ancient Trade and Craft Guilds and Companies. It answered well, and worked without friction so long as the amount of capital invested in business was small and the master laboured in close association with his men, but with the increase of capital and the expansion of trading operations, a gulf between the master and the artisan opened out and gradually became wider and wider as the interests of the two classes, instead of being as they once were identical, became more and more antagonistic.

During the eighteenth century this division of masters and men into two opposing camps spread into all branches of industry, but was specially noticeable in the silk, cotton and woollen weaving trades in London and wherever else they were practised. Whilst this separation of interests was proceeding, many outbreaks of animosity took place and there was much smouldering fire of discontent, which was only kept in check by severe legislation against combinations of workmen. But when in the nineteenth century, the formation of Trade Unions became legalised, the opposition generally broke out into open warfare, the weapons being strikes and lockouts.

A very large proportion of the total number of the Livery Companies of London—nearly one-fourth—were concerned with the regulation of the silk trade. These were: The Weavers, the Company of Merchant Adventurers and the several other Companies formed for trading in foreign countries, The Mercers, The Haberdashers, The Drapers, The Girdlers, The Merchant Tailors, The Clothworkers, The Dyers, The Broiderers, The Silk Throwsters, The Upholders, The Silkmen, The Hatband Makers, and The Frame Knitters.

The
Weavers'
Company

The Weavers justly claim to be the most ancient of the English Handicraft Guilds.* There is evidence that

* Their first Charter was granted by Henry II, but like the Woolmen their Guild was formed long before his time.

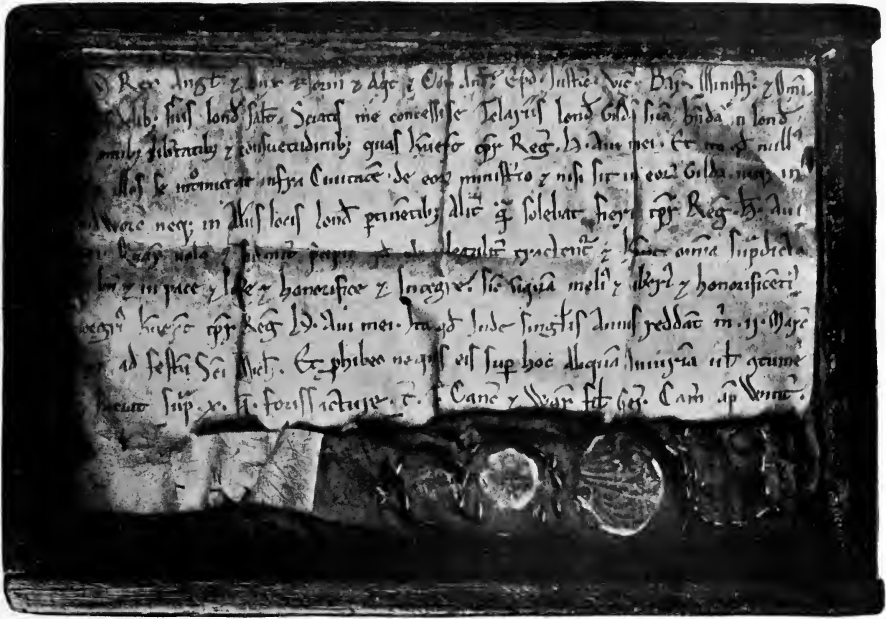


Plate LI.

Charter granted to the Weavers' Company by
Henry II.—about 1155.

a Fraternity of Weavers existed in Saxon times under the name of *Tellaij*.

But the history of the Weavers' Company of London has never yet been adequately treated ; and much research-work remains to be undertaken before it will be possible to clear up all the doubts which arise as to the organisation of the weaving trade in London between the first charter of the Company in the 12th century and the first of the Minute Books now extant, which dates from the reign of James I. What is written here must, therefore, be taken as subject to revision in the light of fuller knowledge. The earliest charter of the Weavers' Company, which is preserved in the Companies' archives, is an *Inspeximus* of Henry II, confirming the privileges granted to the Guild by a Charter of Henry I, and although undated it can, from internal evidence, in particular the names and offices of the attesting witnesses, be attributed with some certainty to the occasion of the holding of a Great Council at Winchester in the month of September, 1155. By the charters of Henry I and II, it was granted to the Weavers of London to have their Guild in London, and that none should intermeddle in their mystery within the City or in Southwark or in other places appertaining to London, except he were a member of their Guild, and the Guild became liable in return to the payment of an annual rent or *Ferma Gildæ* to the King of 2 marks of gold. Some indication of the date of the first incorporation of the Guild, under Henry I, is to be gathered from the fact that the payment of the *Ferma Gildæ* is duly recorded in the earliest *Pipe Roll* preserved at the Record Office, which is now generally attributed to the year 1130.

The Weavers' Company is therefore not merely the oldest of all the City Companies, but was incorporated at least sixty years before the grant of a Commune to the City itself in 1191. Nor is this early incorporation a peculiarity of the trade in London. The same *Pipe Roll* of 1130 records payments of their *Ferms* on behalf of the weavers of Lincoln and Oxford, and the *Pipe Rolls* of Henry II refer to weavers' guilds at Winchester, Huntingdon and Nottingham.

The
Weavers'
Com-
pany.

Oldest
of City
Com-
panies.

Oldest
of City
Com-
panies.

The new civic authorities quickly came into conflict with the Weavers' Guild. On March 20th, 1201-2, King John, in return for an undertaking by the grantees to pay an annual ferm of 20 marks of silver in lieu of the 18 marks theretofore paid by the Weavers, actually granted a charter to the City, suppressing the Guild of Weavers in London. For reasons which are still unknown this attempt at suppression failed. The City quickly fell into arrears with the payment undertaken, and by the year 1203-4 the Weavers were once more credited in the *Pipe Rolls* with their annual payment, but at the increased rate. In 1223 we find the Weavers' Guild depositing the Charter of Henry II in the safe custody of the Treasury for fear it should be extorted from them by the City, and in 1243 the same charter was inspected and confirmed by a charter of Henry III.

Dispute
between
Weavers
and
Corpora-
tion.

This dispute between the Corporation and the Weavers of London is not an isolated event. Traces exist of similar trouble in other towns, where the Weavers were incorporated at an early date, and notably at Oxford, where the Weavers in the ninth year of Henry III, were fined a cask of wine to the King for a writ commanding the Mayor and Provosts to let them have their former liberties. Dr. Brentano, in his preface to the Early English Text Society's volume on *Early Craft Guilds*, published in 1870, arguing from Continental analogies, saw in these disputes the steps by which the wealthier merchant classes sought to subdue the handicraftsmen. Subsequent authors, however, and notably Dr. Gross and Archdeacon Cunningham, founding their opinions upon fuller evidence, doubt the existence in England of such a class struggle, and it is suggested that the early incorporation of, and subsequent attacks on the weaving trade were due to the fact that from the time of the Norman Conquest it was largely in the hands of foreign immigrants. If that theory is correct, a history of the Weavers' Company might well have as a subsidiary title "Eight Centuries of Alien Immigration."

Whatever the cause of these quarrels, they appear, so far as the London Weavers are concerned, to have been

concluded at least as early as the 28th year of Edward I (1299–1300), for in that year the Commonalty of the Guild duly presented their bailiffs to be sworn before the Mayor and Aldermen, and acknowledged the jurisdiction of the Mayor to determine such matters touching the craft as could not be determined by the Guild Court. The Guild did not gain a long respite from their troubles by submission. The Letter Books of the City give glimpses of constant disputes caused by the increasing sub-division of labour in the cloth-working industry, and the consequent rival claims of jurisdiction of the weavers, fullers, dyers, tailors, burdlers and fullers. This was, no doubt, due largely to a healthy expansion of the industry, and the difficulties appear to have been more or less accommodated by the arbitration of the Mayor and Aldermen, when the members of the Guild were called upon to face a far more serious rivalry. The commercial policy of Edward III, which marks an advance from what may be called a municipal to a national point of view, beginning with the sporadic encouragement of weavers from the Low Countries to settle in England, developed into a general statute passed in 1337, in which protection was extended to all foreign weavers practising their craft within the realm, and the import of foreign cloth was prohibited. The export of wool from Great Britain having been prohibited in the previous year in order to force Flanders to abandon the French alliance, there followed a great influx of Flemish weavers into England. The effect upon the rigid trade organization of the time must have been considerable, and the pages of the City Letter Books and the material published by Madox in his *Firma Burgi*, make it possible to trace through the course of the next century the repeated efforts of the native weavers in London by petitions to Parliament and actions in the Courts to force the foreign weavers to come into their Guild, or at least to contribute in the yearly ferm. These efforts do not appear to have met with much success. Not only were the foreign weavers expressly exempted from the necessity of joining the native Guild, but they were actually granted the benefit of independent incorporation, and from 1372 onwards

Dispute
between
Weavers
and
Corpora-
tion.

Amalga-
mation
of
Guilds.

Amalga-
mation
of
Guilds.

the Flemish and Brabant Weavers, and from 1415 a new Guild of linen weavers, yearly presented their officers to the Mayor and Aldermen side by side with those of the original Guild. When and how these rival Guilds were finally absorbed by the Weavers' Company has not yet been discovered.

The fusion would appear, however, to have taken place about the commencement of the reign of Henry VII. The ordinances of the Company, dated the seventh year of that reign, provide that one of the Bailiffs shall be a woollen and the other a linen weaver, "according to the olde ordince," which would seem to show that the Guild of Linen Weavers had been absorbed some time previously, and a deed forming part of the title of the site of the Company's Hall in Basinghall Street, dated the fourteenth year of the same reign, makes mention of three Bailiffs apparently holding office at one and the same time. If that is so the unusual number may have been the result of a further fusion of the woollen and linen weavers with the Flemish and Brabant weavers, who appear to have united in one body of foreign weavers between the years 1371 and 1390. By the reign of Henry VIII, a return had been made to the normal number of two Bailiffs. The constant rivalry of the native and foreign weavers during the fourteenth and fifteenth centuries may perhaps account for the fact that in London the Weavers' Guild failed to obtain that position in the City which would have been won if they had obtained the exclusive control of what was then the principal industry of the country, agriculture apart. Instead we see the rise of the great corporations of capitalist wholesale merchants, who exploited the industry of the craftsman, and permanently relegated the craft guilds to a minor place in the civic organisation. The Mercers (incorporated 1393), the Haberdashers (1407), and the Drapers (1439) may all owe their importance to the inability of the parent company to assert itself in more than one direction at a critical period.

Control
of Trade.

Legal proceedings were often taken to enforce the control of the trade by the Company, and ordinances were made for limiting the practice of the craft to English

weavers. The right of exercising this control was further confirmed by an Act of Henry VII, and the Company's rights were also recognised by charters of Henry VIII and Philip and Mary. Bye-laws regulating their control of the trade were made and approved by Lord Bacon in the reign of Elizabeth, and further charters were obtained from James I and Charles I. During these reigns, too, numerous proceedings were taken to establish the Weavers' Company's rights, and James II extended their jurisdiction to 20 miles round London. The ultimate extent of their rights was settled by a charter of Queen Anne, granted in the year 1707, under which they still remain incorporated. This document confirms their former charters and entrusts to the officials of the Company extraordinary powers of supervision and control over the silk-weaving trade.

Control
of
Trade.

Economic causes were at work during the seventeenth and eighteenth centuries, which gradually limited the scope of the industry of which the Weavers' Company was the guardian. Other companies had been formed for dealing with the different branches of the trade. The crafts of woollen and linen weaving became separate industries; the weaving of braids, tapes, laces and ribbons became quite separated from the broad-weaving branch; the preparation of thread and both skein and piece-dyeing also employed large numbers of craftsmen and women. These specialised industries all became incorporated in separate chartered fraternities. Mercers, drapers, tailors, dyers, clothiers, broiderers, framework-knitters, girdlers, silkmen, silk throwers, and even hatband makers all became thus incorporated, so that to the Weavers' Company was left only the branches dealing with broad silk textiles. In the meantime, however, this department of the industry had become of such great importance, owing chiefly to alien immigration, that, notwithstanding the separations referred to, the Weavers' Company of London still flourished.

In the century following the immigration of the Huguenots the silk industry in London grew to enormous proportions, and it became impossible for the Company to exercise the supervision of the trade which its charter

Hugue-
not
Immi-
gration.

Huguenot
Immigration.

allowed. Much spasmodic activity was, however, exercised by the Company in endeavouring to maintain their control of the industry, and the prevention of competition. Appeals and petitions to the King in Council were constantly being prosecuted to suppress improved machinery, the sale of foreign yarn, and the exercise of the Art by foreigners. At one time, Daniel Defoe was employed to conduct a periodical called the *English Manufacturer*, advocating the use of English-made goods only.

During the course of the eighteenth century the mass of operative weavers in Spitalfields and the district seem to have become very turbulent and unmanageable. On one occasion, for instance, they made a demonstration to demand Parliamentary prohibition of the use of printed calicoes. Troops and trained bands were sent to disperse them, but they were not prevented from tearing off, in angry protest, the printed calico garments of ladies whom they encountered in the streets.

Imperfectly
Trained
Operatives.

By the middle of the eighteenth century the silk weavers of London as a class, if one may judge by references to them in contemporary newspapers and Parliamentary reports, were very much changed from the prosperous, orderly and respectable craftsmen of the Huguenot immigration. The causes of this change have already been pointed out and need not be repeated, but the fact that such a change had taken place accounts for the gradual antagonism of interest and feeling which had sprung up between the Master Weavers, who were mostly Freemen of the City and Liverymen of the Weavers' Company, and the mass of imperfectly trained operatives, who competed with each other for employment in the less skilful branches of the weaving trade. Disputes and riots were of very frequent occurrence, and appeals and counter appeals to Parliament were often made, with more or less success, by the Weavers' Company, the Manufacturers, the Traders, or the operative weavers by their own representatives. Towards the end of the century these disagreements seem to have somewhat decreased, and a certain degree of prosperity in the silk weaving trade resulted from the adoption by Parliament of the policy

Policy
of
Prohibition.

of prohibition, or heavy taxation, on all manufactured silk goods.

In common with the other City Companies, the Weavers' Company, during the eighteenth century and the early part of the nineteenth, gradually lost control of the trade in which it had originated, and retaining only the name and endowments, of increasing or decreasing value as the case might be, of the ancient Corporation, became little more than a benefit society for those born or elected to a freeman's rights in it.

Of late years, however, some of the City Companies have endeavoured to be of use to the industries for the benefit of which they were originally incorporated, and the Weavers have not been behindhand in this movement. They have tried to stimulate the declining energy and skill of the few remaining silk weavers in the East of London by offering rewards of money, badges, certificates and the Freedom of the Company, which carries with it the Freedom of the City of London, to successful competitors for their prizes.

Quite recently the Company have undertaken the task of furnishing to the Board of Trade a panel of competent jurors to serve at international exhibitions in the department of textile industries. They have thus been brought into friendly relations with French and Belgian representatives of these industries. A Standing Committee has been formed to act as occasion may require to diffuse information or to develop the industries with which they are nominally connected. This keeps them in touch with the requirements of to-day, and they officially state that they are prepared, to the extent of their resources, to aid in any movement tending to advance the interests of the silk weaving craft.

The day is past for the Weavers' Company to attempt autocratically to govern the silk industry, but it can and does give the benefit of its prestige and material support to well directed efforts for the improvement and extension of British silk manufacture. In this endeavour it may well be inspired by its ancient motto, "Weave Truth with Trust."

Weavers'
Com-
pany
and
Textile
Indus-
tries.

The Weavers' Company was very zealous in support of the Republican Party during the Civil War, and was greatly impoverished thereby; it never wholly recovered its former prosperity. Curious evidence of the Company's poverty is afforded by many old documents still preserved, of which the following record of the proceedings of the Court of Aldermen of the City of London, dated 10th Oct., 1721, is an example:—

“This day the humble Petition of the Bayliffs, Wardens and Assistants of the Company of Weavers was presented to this Court and Read praying to be excused from their attendance on the Lord Mayor's days for the Term of Five years in consideration of their great Poverty and Incapacity of Defraying the Expenses, and after hearing several of the Members of the said Company relating thereto, this Court doth excuse them from their attendance on the next Lord Mayor's Day.”

The ancient Hall of the Weavers' Company, which stood in Basinghall Street, was destroyed in the Great Fire of London, 1666, but was subsequently rebuilt on the same site. The new building was described as a “Fine and commodious Hall, the interior being neat and good and furnished with a chaste screen of the *Ionic* order.”* In 1856 it was pulled down to make room for suites of offices. Since then the Company has had no Hall in which to meet.

Charities. The Charities administered by the Weavers' Company are as follows:—

Rowland Morton gave, in trust, the 28th July, 1664, several parcels of land to trustees, the income to be distributed to the poor almsfolk, etc.

Alexander Hosea gave, 19th March, 1684, property in Holborn, the receipts to be distributed to the poor of the Company. John Hall, Richard Gervies, John Brigue, and Samuel Saunders also left legacies, the interest to be given to the poor of the Company.

James Limborough, the 25th July, 1774, bequeathed to his executors a fund (now represented by £2,633 4s. 8d.

* Maitland.

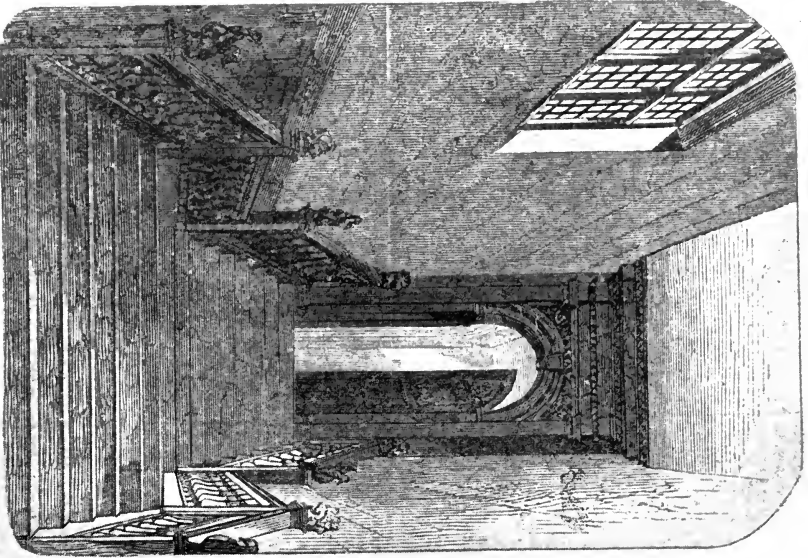
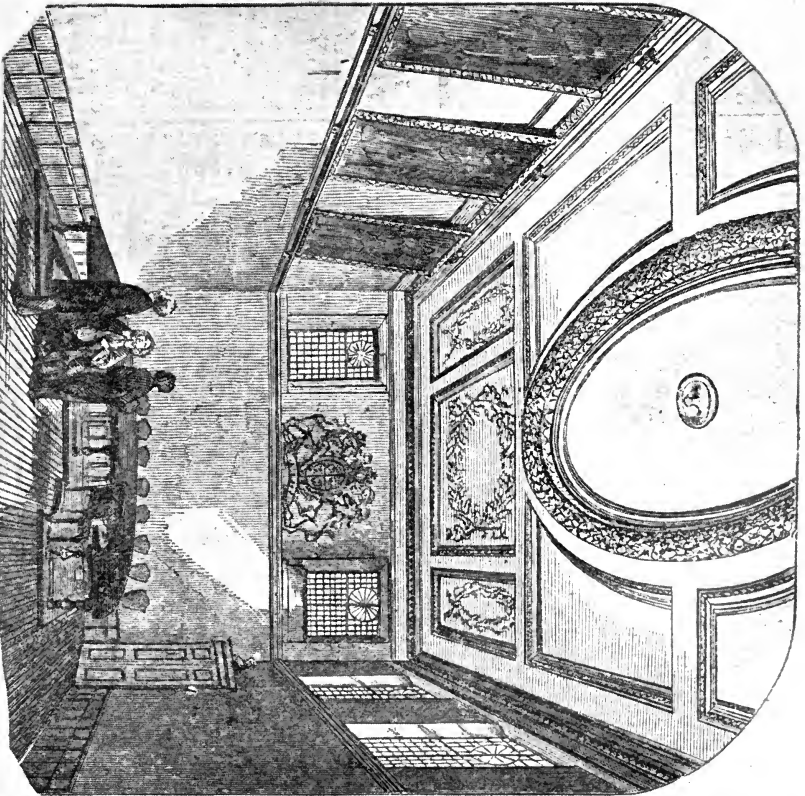


Plate III
Staircase in the Hall of the



Interior of the Hall of the Weavers' Company.

India 3 per cent. Stock) to be by them transferred, after Charities.
the death of his wife, to the Company in trust, the dividends to be applied yearly for ever for the support of an evening lecture, to be preached every Sunday for eight months in the year, beginning in September and ending in April. The lecture is given at Christ Church, Spitalfields, the dividends being paid as follow: £50 to the lecturer, who is appointed every three years; about £21 to the officers of the church, for the expenses of lighting, etc., and the balance to the Company.

Nicholas Garrett, of Wandsworth, gave to the Company, the 16th of July, 1725, £1,000 in East India Stock, in trust, after the decease of his wife, to lay out part in the purchase of six almshouses, for six decayed members of the Company, the remainder to form the endowment. Land was purchased in Porter's field, now Blossom Street, Norton Folgate.

Thomas Carpenter gave, the 29th April, 1731, £300 in trust, that the Company should, with the annual interest, purchase coals and candles for the six poor almspeople.

Several legacies were left to the Company for the purpose of founding almshouses. James Kymier, Henry Baker, Samuel Mills and Thomas Cook were among the donors. They were originally erected in Old Street Road, but are now transferred to Wanstead, the inmates being twelve poor freemen or weavers by trade, and twelve poor freewomen or widows of freemen or weavers by trade. The men receive £20 each per annum, and the women £12 10s. per annum.

Lady Morrison, in the year 1871, bequeathed to the Company a sum of £2,000 free of legacy duty, for the purpose of founding two pensions for one almsman and one almswoman, the recipients to be called "Lady Morrison's pensioners."

There are pensions of £13, £12, £6, and £5 per annum, payable to decayed members of the Company, male and female, or weavers by trade.

The fees payable to the Company are as follows:— Upon taking up the freedom, by patrimony, £3 15s. 0d.; by servitude, £3 7s. 0d.; by purchase, £23 16s. 0d. Upon

admission to the livery, £25 12s. 0d. Upon election to the Court, £157 10s. 0d.

The Woolmen.

An Ancient Livery Company. Although the Weavers claim to be the most ancient of the London Livery Companies, the Woolmen are by some authorities supposed to be of even greater antiquity. Their association is probably coeval with the wool trade of the Kingdom. They seem, however, always to have been considered of less importance than the Weavers, and are only a community by prescription and have no charter. They have, however, the right of ranking among the City Companies, and have a Master, Wardens, and Assistants. According to Maitland's account of the Woolmen's Company, it would appear that they were not only a London Company, but their control of the wool trade extended over the whole country, they having fifty-two halls, with Masters, Wardens, Assistants, and Liverymen in different centres of trade. They had in Maitland's time no hall in London, and no recognised livery.

The Merchant Adventurers.

The Society, afterwards known as the Hamburg Company, was incorporated by Edward I in the year 1296.

This was a Trading Company, and its object was to obtain exclusive privileges in trading with foreign countries. Although this Company became extinct in the eighteenth century, it is of historical importance from the fact of its being the Association of Merchants which laid the foundation of the vast maritime trade of Great Britain. The merchants of the Staple (1389), the Hudson's Bay Company (1497), the Russia Company (1555), the Eastland Company (1579), the Levant or Turkey Company (1579), the East India Company (1601), the African Company (1553), and the South Sea Company (1710), all had their origin in the Fraternity of Merchant Adventurers, and many of them in greater or less degree, as they traded in the commodities of the East, had influence on the development of the silk trade in Great Britain.

The Mercers.

The Mercers take precedence of all the Companies of London. They are not only the wealthiest but claim to be the first of all the fraternities formed in London to be incorporated. Their charter was dated A.D. 1393, the seventeenth year of Richard II. They had the monopoly and control of all dealings in the City of London in silk and small fancy goods such as laces, fringes, girdles, buttons, etc. They became so wealthy, that, as an old writer says, "when the Company in the year 1698 accepted Dr. Ashton's project for providing a maintenance for clergymen's widows, etc., they settled, for that purpose, a fund of about fourteen thousand pounds per annum." "In addition to this, they paid about three thousand pounds per annum in charitable benefactions."

First in Rank.

Sir Henry Colet, Bart., Citizen of London, Prime Warden of the Mercers' Company, and twice Lord Mayor of the City of London, was father to Dr. John Colet, Dean of St. Paul's, who in the year 1509 founded and endowed St. Paul's School.* Amongst other provisions, written by the founder himself in the Old Statute Book, are the following:—

"And ordained there a Master, a Sur-Master and a Chaplain, with sufficient and perpetual stipends ever to endure; and set Patrons, Defenders, Governors, and Rulers of the same school, the most honest and faithful Fellowship of the Mercers of London."

The Drapers.

Third in precedence amongst the Livery Companies of London is the Drapers or Linen Drapers as they were originally called. The members of this fraternity seem to have at first been limited to dealing in linen goods. It is probable that they were forbidden to handle woollen or silken goods for fear of their encroaching on the privileges of the Woolmen or Clothiers on the one hand and the Mercers on the other. Later they were allowed to deal in silken manufactured stuffs wholesale, but it

Livery Companies of London.

* For full account of St. Paul's School, see Maitland's *History of London*, p. 932.

was not until quite late in their history that restrictions on their selling silken goods retail were withdrawn or fell into abeyance.

Fra-
ter-
nity of
Drapers.

The Fraternity of Drapers was incorporated by Letters Patent of Henry VI, A.D. 1439, by the title of *The Master, Wardens, Brethren and Sisters of the Guild or Fraternity of the Blessed Mary the Virgin, of the Mystery of Linen Drapers of the City of London*. Their arms were granted at the time of their incorporation by Sir William Brugges, Garter King at Arms, and confirmed in 1561 by Clarencieux King at Arms.

The Merchant Tailors.

The next Company in order of precedence (the seventh) more or less interested in the use and manufacture of silk is that of the fraternity at first denominated the *Taylor and Linen-Armourers*.

This Company was incorporated by Edward IV, A.D. 1466, but many of the members of the Company being great merchants, and Henry VII himself being a member, he, by Letters Patent, A.D. 1503, re-incorporated the Company by the name of the *Master and Wardens of the Merchant Tailors, of the Fraternity of St. John the Baptist, in the City of London*. In an early account the Company is said to have a stately and spacious hall to treat of their business in, and to be possessed of great estate.

The Haberdashers.

Livery
Com-
panies
of
London.

The dealers in narrow silk goods and other small wares from Italy were called Haberdashers and Milliners or Milaners. They were incorporated by Henry VI, A.D. 1407. They soon became of great importance and very wealthy, ranking eighth in order of precedence.

The Dyers.

This Company, one of the twelve most ancient of the City Fraternities, was incorporated by Edward IV, A.D. 1472, by the name of *The Wardens and Commonalty of the Mystery of Dyers, London*.

The Broderers (Broideres).

This Society, to whose members silk in many forms was of great importance, was incorporated, A.D. 1591, by Elizabeth in the third year of her reign. Their name was the *Keepers and Company of the Art or Mystery of the Broderers of the City of London*. A Silk Society.

The Framework-Knitters.

The Company of Stocking Knitters, unlike the other City Companies, would seem, by the title given to them at their incorporation by Charles II in 1663, to have had control of the trade of frame-knitting, not only in London, but throughout England and Wales. Their title was: *The Master, Wardens, Assistants and Society of the Art or Mystery of Framework-Knitting in the Cities of London and Westminster, the Kingdom of England, and the Dominion of Wales*.

At the time of the incorporation of this Company the silk stockings made by the frame-knitters of England were famous throughout Europe for excellence of quality.

The Girdlers.

The girdle was anciently a very important article of dress, and girdle-making in which much silk was used a thriving trade. The Girdlers were incorporated by Henry VI, A.D. 1449, and their charter was confirmed by Elizabeth, A.D. 1568.

The Gold and Silver Wire Drawers.

This Company was incorporated by Letters Patent of James I, A.D. 1632, and re-incorporated by charter of William and Mary, A.D. 1693. The members of this Company not only had the monopoly of drawing ordinary wire, but, as specially mentioned in their title, "*the making and spinning of gold and silver thread*" for use in rich silk brocades, etc. Livery Companies of London.

The Hatband Makers.

The Company of Hatband Makers was incorporated by Charles I in 1638. Maitland has a note on this Company as follows:—"This Company during the wear of rich

silk Hatbands, was in a very flourishing condition, but the same having for many years been in disuse, the trade is almost dwindled to nothing, insomuch, that there are at present but two or three of the Profession."

The Silkmen.

Silk
Dealers
and
Im-
porters.

By the seventh year of Charles I the importers and dealers of raw silk had become numerous and thriving enough to warrant their being incorporated as a City Company. They obtained their charter in the month of May of that year, A.D. 1631.

The Silk Throwers.

During the course of the Sixteenth Century the art of silk throwing became an important branch of the silk industry, and large numbers of people obtained their livelihood by practising it. It was recognised as a Fraternity, and was constituted a Fellowship, probably in association with the Weavers' Company, in the time of James I. A separate Charter of Incorporation was granted to the Silk Throwers by a Statute of Charles I in 1629, with the title "The Master, Wardens, Assistants, and Commonalty of the Trade, Art or Mystery of Silk Throwers of the City of London."

Associa-
tion of
Silk
Throwers.

In common with the Merchant Adventurers and the other Foreign Trading Companies, the Hatband makers and the Silk men, the Silk Throwers' Company has not survived to the present time. This is probably due to their having no accumulated property in trust to administer. Until very recently even their records and Charter had disappeared, but the latter has been found amongst some old deeds in a City office, and is now in the possession of Wm. Brouncker Ingle, Esq., the Upper Bailiff of the Weavers' Company, 1915-16. The recovered Charter and Bye-Laws are in a perfect state of preservation, but the Minute Books, which would be of great interest, have not yet been found.

CHAPTER XLIII.

THE SILK ASSOCIATION OF GREAT BRITAIN AND IRELAND.

In medieval times most important industries had their Guilds for the regulation and support of their respective industries, and the ancient Guilds of the City of London bring down to modern times the names of some of those interesting Corporations. It was only, however, in the latter portion of the 19th century and the opening years of the 20th, that there was a resuscitation if not of the old Guild idea at all events of the congregating together in an Association, whether as a self-contained organisation or as a section of a Chamber of Commerce, of those who are engaged in a particular trade or industry. A notable example is the Silk Association of Great Britain and Ireland. It was felt a quarter of a century ago that in regard to the silk industry an attempt should be made by those engaged in it to come together and devise some scheme for the common weal. The time and the man were found in the year of the Jubilee of Queen Victoria. The notable Royal Jubilee Exhibition held in Manchester in 1887 was the occasion for the late Sir Thomas Wardle, then Mr. Wardle, of Leek, to organise a silk section in connection with that undertaking. This showed to the millions who visited the Exhibition that the silk industry of the United Kingdom had not by any means been extinguished, but that the root of the excellence of British manufacture remained in it. It was therefore decided by those responsible for the section to take steps, in the spirit of self help, to form an Association for the trade.

Founded
by Sir
Thomas
Wardle.

It was in October, 1887, that a Conference was held at the Exhibition to discuss the question. The Conference,

Founded
by Sir
Thomas
Wardle.

which was presided over by the late Sir Joseph C. Lee, was attended by the most important Silk Manufacturers, Throwsters, Raw and Waste Silk Dealers, Merchants, Spinners, Dyers and Finishers in the country, and secured the attendance of nearly 400 persons, and it was unanimously resolved that a National Committee be appointed to form an Institute or Association of persons engaged in the Silk industry, either as manufacturers, merchants, or retailers.

The Association was formed, and Mr. (afterwards Sir Thomas) Wardle was appointed President and Mr. Arthur E. Piggott, of Manchester, Secretary.* He remained Secretary until 1919, when he was succeeded by Mr. A. B. Ball. The offices of the Association were removed to London in the same year. One of the first actions taken was the formation of sections representing the various special interests of different members to work in co-operation with the London and other Chambers of Commerce in regard to such matters as the following: Silk labour questions, the establishment of Silk agency centres in India, the Colonies and other parts of the world; the training of teachers for mercantile schools; the establishment of commercial museums and exhibitions; the establishment of tribunals of commerce; the registration of firms; the amendment of the Bankruptcy Law; the amendment of the Employers' Liability Act; the modification of the Law of Arbitration; the consideration of the Merchandise Marks Act; the Early Closing Bill; the Rating of Machinery, etc.

Forma-
tion of
Ladies'
Com-
mittee.

The Sectional Committees appointed were the Weaving and Power Loom Committees; the Dyers; Printers and Finishing; the Parliamentary; the Publication; and the Finance. It was also resolved that the Trade Silk Conditioning Co. Ltd. be asked to provide better facilities to English manufacturers to have their silk conditioned.

In May, 1889, in consequence of action taken by the President and Lady Egerton of Tatton, a Ladies' Committee was appointed, of which H.R.H. the Princess Mary

* Mr. Piggott, in June, 1912, was presented with a testimonial by the members of the Association in recognition of his 25 years of service.

Adelaide, Duchess of Teck, became President, and Lady Egerton Hon. Secretary, and it would seem that in the following year, after the exhibition which was then held, the Ladies' Committee became merged in a Ladies' National Silk Association. It ought to be pointed out that the movement owed much to the Hon. Mrs. Percy Mitford, sister to Earl Egerton, of Tatton, who as long since as 1882 visited Spitalfields for the purpose of ascertaining the state of the trade there, and although she retired from her official position on account of ill-health, has never down to the present time failed in her interest in the industry, according further generous help and assistance to the exhibition held in London in 1912. The Ladies' Association has done much good work, and has owed much to those in high social positions who have taken an interest in its fortunes. H.R.H. the Duchess of York, now Queen Mary, on the death of her mother, the Duchess of Teck, succeeded her as President.

Formation of Ladies' Committee.

The efforts of the parent Association, as well as of the Ladies' Silk Association, which has from its foundation been under Royal patronage, have enlisted the sympathetic recognition of King George and Queen Mary. In the year 1901, when King George was Prince of Wales, he first became Patron of the Association, a patronage which was renewed on his accession to the throne, when Queen Mary also graciously consented to become a Patron.

Royal Patronage.

The Association had felt the need of a Journal in which general information in connection with matters of interest to or affecting the industry could be dealt. Finally, in the year 1892, the *Textile Mercury* was appointed the official organ of the Association. This arrangement has continued until the present day, and the *Textile Mercury* has very ably and devotedly served the Silk Association and the industry generally during the last twenty-one years.

The Silk Association has not always been given full credit for its work. One feature, however, that has been steadily kept in view has been the promotion of technical education, and in 1892 action was taken

Technical
Education.

with the object of establishing a Silk School in Manchester in conjunction with the Technical Instruction Committees of the Corporation of Manchester and the County Palatine of Lancaster. A statement of the necessary appliances and plant, with an estimate of the cost, were supplied by a Committee of the Council of the Silk Association, at the request of the Lancashire County Council Technical Instruction Committee, and the scheme was incorporated in the plans of the new building. It was a satisfaction to find on the completion of the building and its equipment in 1902, that the recommendation of the Association had been more than carried out, and that there had been brought into existence an adequate provision for a higher grade technical education in various branches of the silk industry. This has taken the form of a centre for training and research at Leeds University, the committee which had the scheme in hand having decided after visiting Manchester, Leeds and Bradford, that Leeds was the most suitable College of University rank on which could be grafted a silk school. The financial problem has been solved by the offer of the Worshipful Company of Clothworkers to provide the buildings if the silk industry would undertake to find the capital for equipment. The Council of the Silk Association decided to accept this offer, and an appeal was made for a sum of £15,000. The maintenance charges will, it is estimated, be provided partly by a scheme of research and partly by the help of the University and the Board of Education. The principal aims of the school are to provide scientific instruction for those preparing to take positions in the industry, to promote research work, to make available a source of information on scientific questions bearing upon industry, and to stimulate the application of science to industrial processes and the development of artistic tastes in relation to texture, design and colour.

In the autumn of the year 1893 the Silk Association again arranged for a British and Irish Silk Exhibition, her Grace the Duchess of Sutherland having offered the use of Stafford House for such an

exhibition. The Exhibition, which was opened on the 8th of May, 1894, by H.R.H. Princess Mary Adelaide, Duchess of Teck, proved an unqualified success in drawing the attention of the public to the high position held by British silk manufacturers in design and craftsmanship. At the close of the Exhibition, there was purchased by the principal London distributors a large quantity of silk from English manufacturers, and the industry secured the adhesion of the principal distributing firms in London, and also several of the leading Court dress-makers.

In 1896 the President of the Association—Mr. Thomas Wardle—received the honour of knighthood and the congratulations of his many friends upon this expression of appreciation in high quarters of his untiring services on behalf of the silk industry. About this time a deputation attended upon Mr. Joseph Chamberlain, then Secretary for the Colonies, and represented to him the views of the Association as to the desirability of H.M. Government affording some encouragement and assistance in the development of the silk industry, particularly suggesting that the Indian Government should lend an expert to examine carefully and report upon the prospects of the industry in Cyprus. This Mr. Chamberlain considered was a very reasonable request and worth the consideration and adoption of the Government. The Colonial and Foreign Offices were also approached with a view to securing an exhibition of samples representing the silks manufactured in other parts of the world which compete with home products in India and the Colonies, such Exhibition to be arranged through the Chambers of Commerce in London, Manchester, Nottingham, Macclesfield, Leek, Coventry, Glasgow, etc. As a result there was received a considerable collection of silk samples from many places abroad, together with various reports and information in connection therewith, from H.M. Consuls. The samples were a series of silk textiles woven in China, and an interesting group of the production of Swiss looms.

Co-op-
eration
with
Govern-
ment
Depart-
ments.

Silk
Section
at
Women's
Exhibi-
tion.

At the Women's Exhibition in 1900, an interesting Silk Section was formed, under the auspices of H.R.H. the Duchess of Teck, President of the Ladies' National Silk Association, and her Executive Committee, in which some beautiful silks of British and Irish manufacture were exhibited. These demonstrated the fact that British and Irish silks were not inferior in design, colouring, or quality, and were not more costly than those produced by more successful rivals abroad.

In this section there was also a splendid exhibit by his Highness the Maharajah of Kashmir of raw silks and beautiful brocades manufactured from the Kashmir silk by Messrs. Warner and Sons, London and Braintree. This interesting case illustrated the very successful attempt within the previous four years to introduce sericulture into Kashmir, in which Sir Thomas Wardle played so important a part, and as to the possibility of which Sir George Birdwood, a vice-president of the Association, had called attention as far back as the year 1861.

Carriers'
Act
Agita-
tion.

In the year 1901 commenced the agitation by the Association for the amendment of the Carriers' Act, as affecting silk, which the Association has persistently carried on from time to time since, but so far without the desired effect. The matter is a simple one, but none the less important. By the provisions of this Act, passed in 1830, and before railways were in existence, "to secure the more effectual protection of mail contractors, stage-coach proprietors, and other common carriers for hire, against the loss of, or injury to parcels or packages delivered to them for conveyance or custody, the value and contents of which shall not be declared to them by the owners thereof." It was enacted, therefore, that mail contractors, coach proprietors, and carriers should not be liable for loss of certain goods above the value of £10, unless the value and nature of such shall have been declared by the sender, and increased charges paid in regard to the same as a "compensation for the greater risk and care to be taken for the safe conveyance of such valuable articles for which a receipt acknowledging the same to have been insured shall be given if required."

Carriers'
Act
Agitation.

The application to the Board of Trade for the release of silk from this Act led to a conference, under the auspices of the Board, of representatives of the Association, the Silk Club and the Silk Section of the London Chamber of Commerce, with the representatives of the Railway Companies, in December, 1913. It was not found possible to obtain the assent of the Railway Companies to the repeal movement, but as from September, 1914, the Railway Companies agreed that whereas in the past goods containing 30 per cent. and over in value of silk came under the operation of the Carriers' Act, the percentage was raised from 30 to 50 per cent.; the Act now applies, therefore, to parcels of goods containing more than 50 per cent in value of silk. The agitation will, however, be continued until an absolute repeal of the Act as far as it relates to silk goods has been secured. This can only now, it is clear, be obtained through the action of Parliament.

The question of the unification of the numbering of the counts of yarn is another subject which has received attention and satisfactorily arranged. It was in the year 1902 that the union with the Silk Club, Manchester, and the Silk Association was decided upon, and the periodical joint meetings between the two bodies arranged.

The Association, in co-operation with the Silk Club, has also taken steps to remedy anomalies which exist in connection with the carriage rate of silk on spools. Silk on spools was charged for as if the whole contents of the package were silk goods, whereas the proportion of silk to the weight of wood contained in spools, boxes and cases is very small. As a result, a meeting was arranged at the Board of Trade between representatives of the Silk Association and of the Railway Companies, for a discussion of the rates in question. The meeting was held on March 15th, 1905. Finally, the offer was made to come into operation in January, 1906, for reduced rates for silk on reels or bobbins from Leek to various specified places, the offer being accepted, though disappointment was expressed that better terms had not been secured.

Railway
Rates.

The year 1904 was the occasion of an important exhibition in Bradford, which established the reputation

of that town as one of the most important silk manufacturing centres and also demonstrated the remarkable advance made in recent years in the manufacture of the cheaper kinds of silk goods and of fabrics in which silk is used in conjunction with other yarns such as wool, mohair, cotton, etc.

Adultera-
tion
and
False
Descrip-
tion.

In 1905 the Association interested itself in matters of the adulteration and false description of silk, and was in communication with the Marquis of Salisbury, President of the Board of Trade. The Board expressed its willingness to consider most carefully any case that might be submitted to them in accordance with the regulations made by the Merchandise Marks Act, 1691. It was not, however, until 1912 that a case was sent up to the Board of Trade and a prosecution instituted, and it is satisfactory to record that this case and several others that followed in the same year and in 1913 and following years were successful in obtaining decisions of great importance to the silk industry.

Franco-
British
Exhibi-
tion.

In July, 1908, arrangements were made between the Silk Club and the Silk Association for a joint visit to the Franco-British Exhibition in London. The various exhibits were closely inspected by the party, who had an excellent opportunity of comparing the respective merits of the British and the French manufactures. On the whole the balance of opinion seemed to be in favour of the French exhibits, and criticism was centred on the lack of combination and method shown by British exhibitors. It appeared to be a source of considerable satisfaction to the members of the Silk Association and the Silk Club that practically the sole English exhibit upheld so worthily the best traditions of British manufacture. This function was the last occasion at which Sir Thomas Wardle had the opportunity to meet the general body of members, his long and useful career terminating on the 3rd of January, 1909, at the age of seventy-eight. An account of his life and work is included in the chapter on Leek.

The Association had previously (during 1908) suffered loss by the death of Mr. Benjamin Warner, in his eightieth year. Mr. Warner was the head of the firm of

Messrs. Warner and Sons, and father of Mr. Frank Warner,* who subsequently became President of the Association. The Association further sustained a loss by death of Mr. James Kershaw, J.P. for Macclesfield, which took place on the 28th March, 1908, at the age of seventy. A very useful and much respected member of the Council was removed by the hand of death on November 6th, 1908, in the person of Mr. Matthew Blair, aged seventy-one. In character, as stated in the *Glasgow Herald*, Mr. Blair was modest and unassuming. An old-fashioned courtesy pervaded his manner to those below as well as those above him.

In Sir George Birdwood, who died in 1917 full of years and honours, the Association lost an original member, who maintained an active interest in its work up to the time of his death. He acted as a Vice-President for many years. The Association gave recognition to his varied qualities by electing him in 1915 as the first honorary member.

Another notable member whose loss by death took place in 1917 was Sir Arthur Lazenby Liberty, who was also a Vice-President. It was claimed for him that he was the first to embark on a persistent effort to raise the artistic standard of goods, and he was closely associated with the revival of the British silk industry. Mr. Frank Debenham was another eminent Vice-President, whose loss by death in the year 1917 removed a contemporary of those who founded the Association. Mr. Thomas Hebert Hambleton, who died in 1918, and who occupied an important position in the Macclesfield trade, was for many years a member of the Association. Other recent losses by death include Mr. J. M. Campbell, Mr. Edward Ellis Marsden and Mr. William T. Hall.

Following the decease of Sir Thomas Wardle, Mr. Joseph Boden, of Messrs. Kidd, Boden and Co., Manchester, was elected in January, 1909, as President of the Association, and held office for the ensuing year. At the annual meeting of the Association in 1910 Mr. Frank Warner, of Messrs. Warner and Sons, was elected President of the Association, a position he retained until he accepted a special war appointment at the Board of Trade in 1917. On his retirement, Mr. Francis Durant was elected

* Now Sir Frank Warner, K.B.E.

President, and he in turn was succeeded by Mr. H. G. Tetley, of Messrs. Courtaulds Ltd.

Visit to
Brussels
Exhibition.

In September, 1910, a joint visit of the members of the Silk Association and of the Silk Club to the Brussels Exhibition was organised. The then President of the Association, who was a member of the Royal Commission for the Brussels, Rome and Turin Exhibitions, conducted the party to the Exhibition, where it was officially received by Mr. U. F. Wintour, the Commissioner General of the British Section. The disastrous fire in August had destroyed the magnificent display of British silks, but most of the 17 firms who at first participated had again installed beautiful exhibits, which were much admired.

It was also decided in this year that ladies actively associated with the silk trade could become members of the parent Association. The Ladies' National Silk Association, the circumstances leading to the formation of which have already been detailed, is a social body having no trade members, and ladies who have become members of the Association itself are those who in the ordinary way would be ineligible for membership of the Ladies' Association. A special feature of the work of the year 1911 was in the important direction of securing the closer co-operation of manufacturers and distributors, and good results to the industry have followed the steps then taken.

Admission of
Ladies
to
Membership.

The principal event of 1912 was the holding of a British Silk Exhibition in London, under the patronage of H.M. the Queen. A strong list of patronesses was secured including H.R.H. Princess Christian, who opened the Exhibition, which was visited by the King and Queen and other members of the Royal Family. The Exhibition also attracted many other distinguished visitors, and it is satisfactory to be able to record that the income was not only sufficient to cover the expenditure, but to leave a surplus of about £460, which was handed over to the funds of the Association. Of this sum, £400 was invested, the balance being set aside to meet the cost of incorporating the Association, which has since been carried out. The year of the Exhibition was also distinguished by the

organisation of the members of the Association into sections including throwsters, spinners, manufacturers, dyers, merchants and wholesale and retail distributors.

One very important matter which has recently been under consideration has been the question of the adulteration of silk. The Committee appointed to deal with the matter, representative of all branches of the trade, made the following recommendation:—

“That pure silk shall contain no added mineral or other matter, that it may contain all or part of its natural gum, and that any unavoidably added weight caused by the ‘bona-fide’ process of dyeing is permissible.”

At a meeting of the Council of the Association held in Manchester on October 27th, 1914, this recommendation was unanimously adopted, and a copy of it forwarded to the Board of Trade.

Perhaps the most important action undertaken by the Association, and one which promises to have the most valuable and far-reaching results for the industry, was the inauguration in March, 1915, of a scheme of scientific research in silk. At first it was decided to raise the necessary funds by an appeal to the London City Guilds for financial help to supplement the subscriptions to be raised from those engaged in the industry, but the establishment by the Government of the Scientific and Industrial Research Advisory Council provided an opportunity for the adequate treatment of this subject, and a Silk Research Committee having been formed, it was resolved that the assistance of the Scientific Advisory Council should be invoked on behalf of the venture. The appeal was successful, and a three years' course of investigation has been carried out at the Imperial College of Science at a cost of £1,000, towards which sum the Government provided £600 and the Association £400. In order to conform with the conditions laid down by the Department of Scientific and Industrial Research, an approved Research Association for the silk industry has been formed. As a result of the formation of this body, research work will be carried out on a larger scale, and a sum of £2,000 has been allocated for this purpose.

Incor-
poration
of
Associa-
tion.

Silk
Research
Com-
mittee.

CHAPTER XLIV.

THE EXHIBITION OF 1851.

When we remove ourselves to a sufficient distance from an imposing pile of buildings, or a vast natural object, we are able to estimate truly and to judge correctly of its proportion, importance and relation to other buildings or features of the landscape, although we may have failed to realise these values at a closer view. It is so with the events which make history about which contemporary opinions differ and heated partizans have held fierce debates.

The World's Fair, as the great International Exhibition of 1851 was called, held in London, was such an event. We are now, however, at a sufficient distance from it, in point of time, to be enabled to view the undertaking and its effects in true perspective, and to realise that it was the most original and important sociological and industrial undertaking of the nineteenth century.

The idea of bringing the works and productions of all the nations of the earth together for comparison and peaceful rivalry was a truly regal one, and its carrying out and consummation was, as the event proved, a marvel of skilful organisation. Moreover, the after effects of the Exhibition in many directions were as far reaching and beneficial as they were unexpected.

A far-reaching Event.

The idea of holding an Industrial Exhibition in England similar to such as had proved successful in France and Germany was first mooted by Mr. Francis Whishaw, Secretary of the Society of Arts, at one of the Society's meetings in November, 1844. Some encouragement was given to the suggestion, and that gentleman visited the

various centres of industry and endeavoured during several months to bring the scheme to a practical issue. He met, however, with little success, and it was not until the idea had been taken up and expanded to international proportions by his Royal Highness Prince Albert, who had become President of the Society of Arts in the meantime, that the scheme seemed likely to be carried into effect.

Work
of
Prince
Consort.

One of the earliest public announcements of the proposed Exhibition was made in the *Journal of Design*,* as follows:—"From all we hear, we believe that his Royal Highness, as President of the Society of Arts, is engaged in organising the means of forming a great collection of the works of industry of all nations, to be exhibited in London in 1851, and that measures are in progress for ascertaining the willingness of our manufacturers to assist in the gigantic undertaking. With this view we believe his Royal Highness has authorised two or three gentlemen to proceed to the manufacturing districts to collect the opinions of the leading manufacturers and evidence of their desire to assist his Royal Highness in order that the results of this inquiry may be submitted to her Majesty's Government."

Never, perhaps, was a proposal made which at once provoked so much public discussion in the press, not only in Great Britain, but through the whole civilised world. A quotation from one specimen of the most reasonable of the opposition effusions may be given, as it no doubt voiced the narrow opinions of a large class of manufacturers of the time. "And it (the scheme) will come to nothing if the people of England will only examine what its effects will be upon native industry, and at once pronounce their decision, as they ought to do for their own safety, against it."† In the course of an address on the subject of the Exhibition, a conversation with a French manufacturer was quoted by Mr. Hammersley, Master of the Manchester School of Design. "The French gentleman said, speaking of the Designers in a certain town which shall be nameless :

A
Subject
of
World-
wide
Dis-
cussion.

* *Journal of Design*, vol. II, p. 44.

† *Tracts for the Million*, no. VII.

Attitude of Manufacturers. 'I understand that a number of your designers, manufacturers and artizans are not going to exhibit in the Great Exhibition in 1851.' I said I thought that was hardly correct, as I had never heard in England that they were not. He said, 'Oh, but it is true.' I thought it was queer that a man 500 miles from that town should know them better than myself, and I asked him his reason for stating what he had said. He replied, 'Because you dare not exhibit.' That was a stunner to me, to use anything but classical language, and I told him that I did not see why they dare not. He said, 'The fact is you dare not exhibit because by the Exhibition you will show how much you are indebted to us for what you do.' '*

The Mayor of Nottingham,† speaking on the subject of the Exhibition, said: "We have acted too much as if we were the only producers of goods, and that mankind must come to our markets. It will be made plain that we have able as well as numerous competitors, and that they have not sacrificed quality to price to the extent that we have done." Again, "It is high time we English add to our capital and labour a much larger proportion of handicraft skill and good taste."

Appoint-
ment of
Royal
Com-
mission.

On July 14th, 1849, a meeting was held at Buckingham Palace, at which it was decided to ask the Government to appoint a Royal Commission to consider the possibilities of, and, if possible, to carry out the proposed scheme for exhibiting a collection of the works of all nations in London in 1851. This Commission, with his Royal Highness Prince Albert as President, was duly appointed, and at once commenced work. It was from the first stipulated that although the Government of the time agreed to countenance the scheme, no financial help would be given to it, and that all guarantees and subscriptions were to be of a private and voluntary nature. In the face of much active and often scurrilous opposition from one section of manufacturers, the press and the public, and stolid indifference on the part of others, the

* Speech delivered at Nottingham, October 15th, 1850.

† W. Felkin, F.I.S., author of the *History of Machine-Made Lace*.

promoters of the scheme pluckily set to work and, overcoming all difficulties, gradually brought it to perfection on the appointed day. One writer describes the event thus: "On the 1st May punctually to the very day announced so long as sixteen months before, the Exhibition was opened and submitted to the criticism of the world. . . . If in the progress of the great work there has been a little friction it is now altogether forgotten in the brilliant success of the undertaking. The task was a great one, and even some failures would have been excused; but the success hitherto has been quite unmixed, and has surpassed all expectations. Perhaps never since the world began have so many well satisfied faces been assembled together as are now daily congregated in the Crystal Palace. Every one is charmed. As for the opening ceremony, it is pronounced by all as perfect," and so on.

The daily attendances were so large that by the end of the first month, pecuniary success was assured, and discussion at once began as to the disposal of the profits at the end of the Exhibition.

The Times, in a leading article, describes the exhibition thus: "The Great Exhibition has killed everything else. The Court, the two Houses of Parliament, the Nobility, the Gentry, the Commonalty, the Army, the Police, Carriages, Cabs, and Omnibuses are all dancing attendance upon it. The shops are unfrequented, the places of public amusement are deserted, even the railways lose their summer excursionists, Hampton Court and Greenwich exhibit in vain their horse-chestnuts in bloom and their whitebait in season. We question whether even the great Derby day will attract so large a fraction of a million as it usually does. The Exhibition is London, &c., &c."

Of course, the omniscient critics who are ever so ready to deprecate the productions of their own times and their own people took advantage of this opportunity. For instance, in a pamphlet on the Great Exhibition called "Stone the First at the Great Glasshouse," the author writes: "The foreigners have the best of it. The Americans have beaten our ships—picked our locks,—

No
Govern-
ment
Financial
Aid.

Success
in spite
of
Difficul-
ties.

Caustic
Critic-
ism.

the French have utterly routed our attempts at goldsmiths' work, reduced *hors de combat* our shining wares. The Austrians have shown us what can be done in carving and upholstery. Ours has been the workmanship and muscularity, that is all. Nobody doubted we had that. The arts of design and the fine taste that deals with rough materials, alas, as far as we are concerned, are nowhere. The people's mind as at present educated does not admit of it. We are good carpenters, but very bad cabinet makers. We have a world at command, but we have not the divine spirit to reduce it to beauty."

At the reception of the Foreign Commissioners by his Royal Highness, Prince Albert, on the 14th April, 1851, M. Salandronge de la Moruaix was deputed to express the sentiments of the Governments severally represented. In his energetic expressions of their respect, the Commissary told the Prince that "Thanks to the influence of her Majesty and his Royal Highness, the era of barbarous warfare might be considered as terminated, but new lists for combat were offered to the world, in the struggle of progress and civilisation to overthrow by their overwhelming moral force the remains of former antipathies and prejudices."

A
Great
Object
Lesson.

Of course, it has long been evident that both the optimistic and pessimistic prophecies of the effects, local and universal, of the Exhibition were falsified by quickly following events. But, broadly speaking, it may be claimed for this Great International object lesson that it was the first time in history that the idea of the possibility or even the desirability of the friendship of nations, and the advantages of their interdependancy in art and manufacture, had been practically demonstrated. This tempting general subject of discussion must, however, be declined as irrelevant to our subject, for it is the effect, for good or ill, of the Exhibition, on British manufactures, especially on that of silk, which has to be considered in this work.

From the first rumour that an International Industrial Exhibition was proposed to be held in England, the idea was welcomed and eagerly taken up by foreign manufacturers, but especially was this the case in France, where

the British market for French silks was considered to be of great importance.

In order to incite British manufacturers to emulation, reports from foreign centres were translated and published in England by the promoters of the Exhibition. From one of these reports a paragraph, part of a speech on the subject given by M. Dupin,* may be quoted as exemplifying the prevalent feeling in France on the matter. Speaking of silk goods in particular, M. Dupin said: "I now come to the most brilliant of our textile products, to the manufacture of silks. Notwithstanding the high duty which England continues to levy on French silk goods, which is a flattering admission, we have here the proportions which England buys from us in comparison with the rest of the world":

WOVEN SILKS IN FRANCE.

<i>Figured Silks.</i>	<i>To England.</i>	<i>To all Countries.</i>
Figured Silks	20	100
Plain Silks	47	100
Silk Ribands	57	100
Silk Mixed Goods	50	100
Silk Lace	51	100
Fancy Goods	56	100

According to the above table, it will be seen that nearly half the silk goods manufactured in France were bought by England. It was not surprising, therefore, that the French manufacturers readily took advantage of this opportunity offered them of showing in London the products of their looms under such favourable circumstances.

It was probably such reports as these that eventually induced the Silk Manufacturers of London to overcome their scruples and consent to offer their woven silks for exhibition on equal terms with those of their traditional

rivals, although they had at the outset announced their intention of abstaining.

The reasons of this reluctance to exhibit were various, but the chief one appears to have been the fear that some

The
Rivalry
of
France.

Attitude
of
British
Silk
Industry.

* Extract of address of M. Dupin; translated and published by Westminster Social Committee.

The
Rivalry
of
France.

relaxations of the duties charged on foreign goods admitted into this country would result from their exhibition on equal terms with those produced in England. This timidity was the natural result of long periods of prohibition and heavy duties which, according to the best authorities of the time, demoralised the trade and rendered it panic stricken at the least sign of relaxation. Few, if any, efforts had been made by manufacturers to improve English silken goods, either technically or in point of design, although no pains had been spared in order to imitate foreign goods and to cheapen their manufacture so as to undersell the foreigners' high priced materials and at the same time yield a good profit to the manufacturer.

A Low
Grade
Home
Industry.

The higher branches of the trade, in which design and colour were of course all important, had by the London manufacturers, been for the most part, abandoned to the French. Except in the growing power-loom industry of the North, almost all enterprise or enthusiasm had ceased to exist. Although it was still estimated that there were between fourteen and fifteen thousand silk weavers in the East of London, they were languidly engaged in weaving low grades of work which could be made by children, or equally well produced on power-looms.

The high prices at which French silken materials were sold in London were obtained because they alone had any pretensions to refinement of design and beauty of colour. The high prices given, and the great demand for these goods, do not seem to have inspired the Spitalfields manufacturers to emulation to any appreciable extent. They probably found it much easier and more profitable as well as immediately advantageous to supply the demand for cheap grades of plain or quite simple fancy silks to suit the tastes and pockets of the consumers who could not afford to purchase high priced fashionable goods of French make. Under these conditions, the desire and, consequently, the ability of Spitalfields to produce fine goods in silk, such as those for which the district had originally won its reputation, were becoming less and less.

Referring to the decay of the Silk trade in England at the time of the Exhibition, a contemporary writer says: "Of late years there has been a constant tendency to avoid the production of decorated silks and to pay more attention to those of a plain character. This has arisen since the time when restrictive duties were taken off French silks; and the manufacturer who formerly depended on his clandestine means for obtaining patterns of these fancy productions and using them as designs for his own trade was compelled to forego his piracies and depend upon some original source. Now, unfortunately, he had altogether neglected the cultivation of the taste and talent around him, and in his hour of need the slender artistic means, which he had been compelled to provide for the purpose of copying, failed him as a source of that originality by which alone he could now hope to stand.

Low
Grade
Home
Industry.

"The disquietude, therefore, of the Silk manufacturers of this country, and more particularly of Spitalfields, is to be accounted for by the fact that they were totally unprepared for such a competition as that in which they were called upon to take part. Having been so long used to depend upon others rather than themselves, they were certainly not in the best possible condition to exert themselves with any effect."

Fortunately, however, though thus decayed, the old spirit and handicraft cunning of the Spitalfields weavers were not quite extinct, and the Master Weavers, having been persuaded to consent to enter the lists in competition with their foreign rivals, set to work and though the time was short, acquitted themselves well. The result of their efforts, when displayed at the Exhibition, was surprisingly successful, not only in the quantity and variety of the goods displayed, but in their technique and design when compared with the silk works of other nations.

In an article describing the Exhibition in its different sections, the reporter of the *Illustrated London News* wrote: "There are few departments of the Exhibition which will be examined with more interest than that of the Silk Manufacture, since it is one of those in which the well-known

A
Stimulus
to Spital-
fields.

Exhibition as a Lesson of Taste*"; (3) "A Report made for the Institute of France by two French gentlemen sent to England for the purpose."†

A
Woman's
Criticism.

The lady begins her report of the Silk Section with a general description of the exhibits and a comparison of the English specimens with those of France: "My personal investigation of the various descriptions of silk in the Exhibition having commenced in that department of the South Gallery entirely set aside for the productions of the Spitalfields looms, it is to them that I wish now to direct the attention of my readers. Having been frequently informed of the great advantages possessed by the manufacturers of Lyons in the climate and water (used for the purposes of dyeing), which enable them to produce a brilliancy and perfection unattainable in England, I was fully prepared to see even the best of our British silks excelled in effect by their foreign competitors. In the French department there are certainly some plain satins, and Gros de Naples, the chief illustration of which consists in their bright and vivid tints, and which are in this respect unequalled, but, as the English exhibitors have in general selected for exposition pieces possessing so much elegance of design as to render them less dependent on colour for their beauty, the effect produced by them on my mind was one of unmingled admiration. I think that those ladies who have from patriotic feelings systematically patronised the productions of their own country will be enabled to pursue their principle without any sacrifice of taste or inclination."

Spital-
fields
School
of
Design.

The writer then gives a detailed and interesting description of the brocades designed by the students of the Spitalfields School of Design. She writes: "On two silk dresses contained in glass case 16, and exhibited by Mr. Dear, I shall have to touch longer than I have on any that have yet passed under review. They are, in my opinion, almost the *Chef d'Oeuvres* of Spitalfields, and I must recommend them to all lady visitors to the

* By R. M. Wornum—a prize essay written for the *Art Journal Illustrated Catalogue*, for which a price of a hundred guineas was awarded.

† Translated and published in the *Illustrated London News*

Exhibition. They are made by Campbell and Harrison, and designed by the pupils of the Spitalfields School of Design, to whose successful progress they bear ample testimony. The pattern in both dresses is the same. It consists of bouquets of rather small flowers connected with each other, and this forming elegant stripes. The ground is of ribbed silk, in one instance white and in the other black, the effect of both being equally beautiful. The material appears to be of the thickest and richest texture, but entirely devoid of that stiff unyielding appearance often presented by silks of *première qualite*, which although looking as if they could justify the usual encomium and certainly 'stand alone,' appear also likely to resist every attempt made to impart grace or elegance to their folds. I am informed that a dress of the pattern just described either has been or will be presented to the Queen, whose steady patronage of British manufactures has so essentially benefited this class of her subjects. . . . In case 27 is a silk the property of Howell and Co., the peculiarity of which is that it is watered in the loom, or rather that the effect of watering is given by alternations of silk and satin, the narrow stripes of which follow the pattern usually given by the process of watering. On this ground is brocaded a large pattern in green and lilac. The *tout ensemble*, though it must be called handsome, is somewhat too showy to suit the taste of ladies in general. . . . Messrs. Carter, Vavasseur and Rix (No. 50) have among other contributions a brocade dress, which, being somewhat of a novelty as well as being very pretty, it would be unjust to omit from my list. The ground is dark blue, adorned with a pattern of leaves and tendrils in gold colour satin. The designer appears to have been ambitious of producing an effect of more than ordinary excellence, since, not contented with the simple representation of leaves, he has also successfully imitated their shadows. This is done in Gros de Naples of a shade rather deeper than that of the prominent leaf. . . ."

Amongst the French silks, the writer notices "two dresses, pink and green with scalloped flounces ornamented with bouquets very elegant . . . crimson and black

A
Woman's
Criticism.

Praise
for
English
Exhibits.

Exhibition as a Lesson of Taste*"; (3) "A Report made for the Institute of France by two French gentlemen sent to England for the purpose."†

A
Woman's
Criticism.

The lady begins her report of the Silk Section with a general description of the exhibits and a comparison of the English specimens with those of France: "My personal investigation of the various descriptions of silk in the Exhibition having commenced in that department of the South Gallery entirely set aside for the productions of the Spitalfields looms, it is to them that I wish now to direct the attention of my readers. Having been frequently informed of the great advantages possessed by the manufacturers of Lyons in the climate and water (used for the purposes of dyeing), which enable them to produce a brilliancy and perfection unattainable in England, I was fully prepared to see even the best of our British silks excelled in effect by their foreign competitors. In the French department there are certainly some plain satins, and Gros de Naples, the chief illustration of which consists in their bright and vivid tints, and which are in this respect unequalled, but, as the English exhibitors have in general selected for exposition pieces possessing so much elegance of design as to render them less dependent on colour for their beauty, the effect produced by them on my mind was one of unmingled admiration. I think that those ladies who have from patriotic feelings systematically patronised the productions of their own country will be enabled to pursue their principle without any sacrifice of taste or inclination."

Spital-
fields
School
of
Design.

The writer then gives a detailed and interesting description of the brocades designed by the students of the Spitalfields School of Design. She writes: "On two silk dresses contained in glass case 16, and exhibited by Mr. Dear, I shall have to touch longer than I have on any that have yet passed under review. They are, in my opinion, almost the *Chef d'Oeuvres* of Spitalfields, and I must recommend them to all lady visitors to the

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A
Woman's
Criticism.

Praise
for
English
Exhibits.

French
Silks.

brocades, and one with a white ground and a small palm leaf pattern in blue. . . . A portrait of the Pope woven to imitate an engraving and bearing an inscription with the information that it was woven at Lyons in 1848 '*In syn di profunde reneraxione.*' . . . One of the most elegant brocades in the building has a white ground, thickly covered with a pattern of delicate green. Part of the front breadth, however, is woven of a much darker shade of green in imitation of a petticoat from which the dress is represented as being looped back at intervals by bunches of flowers. The effect is admirably given, and at a distance one would not easily suppose it to be one flat surface. . . . Handsome as are many of the materials already noticed, they completely sink into insignificance when compared with some moiré antique shot with gold and silver. Of these dresses, the most magnificent I ever saw, there are four specimens in different colours—white, yellow, pink and green. The last is shot with silver and forms a most beautiful material conceivable for Court or full dress. . . . More pictures and portraits of which," the writer no doubt with truth says, "the utmost praise that could be awarded them would only be to compare them with very inferior engravings." The lady writer was disappointed with the French velvets, but considered the Genoa velvets to be unrivalled.

Clumsy
Designs
and crude
Colours.

It is interesting to note how frequently the terms "good taste" and "elegance" are mentioned by all writers as essential qualities in architecture, furniture and dress at the period in which the Exhibition was held, and how little of these essentials were exemplified in the works with which the Exhibition was crowded. Not only from the report of the Lady writer above quoted is this to be gathered, but from actual specimens of both French and English textiles—especially silks—a few of which remain, out of the many bought by the Commissioners from the exhibits, in the collection of the Victoria and Albert Museum. These are almost without exception debased by clumsiness and inappropriateness of design as well as extreme crudity of colour.

In Mr. R. N. Wornum's essay on the subject of "The Exhibition as a Lesson in Taste," he says: "It is evident

that taste must be a paramount agent in all competitions involving ornamental design when the means and methods of production are equally advantageous; but when this is not the case, the chances are still very greatly in favour of taste over mere mechanical facility, provided low price be not a primary object." After a general discussion of style and ornamentation and a survey of the various classes of objects in the International collection, the writer draws the conclusion that "There is nothing new in the Exhibition in ornamental design; not a scheme, not a detail that has not been treated over and over again in ages that are gone; that the taste of the producers is generally uneducated, and that in nearly all cases where this is not so the influence of France is paramount in the European productions; they are designed almost exclusively in the two most popular traditional styles of that country, the Italian Renaissance and the Louis Quinze—with more or less variation in the treatment of details. There are very few designs of any European country that do not come within the range of these two styles. The few Greek—so called—specimens and the Gothic samples in the singularly styled Mediæval Court are almost the only exceptions as regards European design. . . . All the most able designers of Italy, France, Austria, Belgium and England have selected this (Renaissance) style for the exhibition of their skill . . . in silks, satins, ribbons and in shawls, there does not appear any very evident disparity, but it is notable that many of the best Lyons' specimens are manufactured for English houses." In an article on the textiles in the Exhibition, the writer of the *Art Journal Catalogue*, says: "In shawls, silks, damasks, laces, carpets, etc., it would be difficult to pronounce any decided opinion as to superiorities; we venture to assert, however, that no ribbon in the Exhibition can compare with the 'Coventry' ribbon, woven from a design of Mr. Clack, of the Coventry School of Design."

Lack
of
Origin-
ality.

Praise
for
Coventry
Ribbons.

The third critic's description of the Exhibition referred to originated thus:—At an early stage of the Great Exhibition, the Institute of France deputed two of its

British
and
French
Exhibits
com-
pared.

members, the eminent political economists, MM. Michel Chevalier and A. Blanqui, to examine and report upon the great undertaking. The following is taken from a digest of the lengthy report drawn up by M. Blanqui. In the opening remarks, speaking of the Exhibition generally, the opinion is expressed that "Never was a finer opportunity afforded for the study of the phenomena of production and distribution of wealth throughout the world." After a description of the building in which the collections were housed, which filled them with admiration, the report proceeds: "The English nation has allotted to itself half the space contained in this magnificent two-decked vessel; the other half has been distributed among the other nations. . . . One important matter was wanting in the catalogue, viz., the prices of the objects exhibited. . . . The first fact noticeable was that France and England appeared as the two great rivals, and all the other nations seemed to be present as witnesses to the contest for supremacy. As far as mechanical processes go, France and England seem to be about equal. . . . But when we quit the domain of the mechanical arts and enter that of taste, the difference and the genius peculiar to each nation immediately begin to be felt. The Universal Exhibition has brought to light this fact to the honour of France, and has furnished us with new arguments in favour of commercial freedom. . . ." A critical review of the manufactures of England is then made, which ends thus: "The distinctive nature of the Exhibition of English products is strength, solidity and extent. All the elements of material wealth are there displayed in a methodical order from coal to the most complicated machinery. . . . But it is in the manufacture of woven fabrics of every kind that France has displayed a power and flexibility of production which are incomparable. . . . In the manufacture of silks, Lyons has even surpassed itself at the Great Exhibition. . . . The true prosperity of our country, therefore, rests upon the progressive development of her natural industries, that is to say, on nearly all the arts on which skilfulness of hand and purity of taste are able to exert their influence."

Lyons
Silks.

“ To these alone France owes the high position she has taken this year at the Universal Exhibition. They only require air and light for their extension ; they form the foundation of the manufacturing power of France, and rest upon the firm, imperishable basis of national genius instead of existing by rule and artifices like those under the control of machinery and capital.”

Lyons
Silks.

So far as can be estimated, at this distance of time, from the illustrations in newspapers, magazines and catalogues, as well as from descriptive reports, the superiority of the French exhibits—in the silk department at least—was more in imagination than fact. But, however it may have been in the middle of the nineteenth century, the developments of recent years have clearly shown that France has had no exclusive possession of skill or taste either in Art or handicraft, as will be demonstrated in the succeeding chapter on the Arts and Crafts movement in relation to Silk Manufacture.

Before quitting the subject of the 1851 Exhibition, it is worthy of notice that although there were in the Indian and other Oriental sections of the collection fine specimens of Textile Art and Craft—especially of ornamental silken and woollen goods—little notice was taken of them by the critics or the public. This is more remarkable when we consider that the influence of Oriental art, both at previous and succeeding periods, has been so great and so beneficial. One reference, indeed, was made by a writer when describing the shawls of Paisley—woven by means of a Jacquard machine in imitation of the shawls of India—to the effect that the designs of Paisley were better in detail than those of Cashmere, although the general effect was not perhaps quite so good.

Paisley
and
Indian
Shawls.

The Great International Exhibition came to a close in the October of 1851, after being in many respects a huge success. The organisation seems to have been almost perfect, although trouble began when the difficult matter of awarding the prizes came to be dealt with.* The attendances of the public were so vast that a surplus

* The prize lists were not published till after the close of the Exhibition, and the system of awarding them seems to have given great dissatisfaction.

of three hundred thousand pounds remained in the hands of the Commissioners after all expenses had been paid. By the Exhibition a great impetus was given to British manufacture in its higher branches, and in the Silk Trade this was particularly the case. A few of the Spitalfields Silk Manufacturers discovered that if they exerted themselves they could produce goods that were equal to those of their traditional rivals the French, and so took heart to continue the endeavour still further to improve their manufacture, both in technical and artistic qualities. That they were particularly successful in the case of the furniture silk and rich dress material* branches of the trade, succeeding Exhibitions have clearly demonstrated.

* For men's wear.

CHAPTER XLV.

THE ARTS AND CRAFTS MOVEMENT IN RELATION TO BRITISH SILK MANUFACTURE.

The germinating idea which found expression in the Exhibition of the Arts and Crafts Society, held in London in 1888, had characterised industrial activity throughout the first half of the nineteenth century, and had been exemplified in full activity at the World's Fair of 1851.

It cannot be denied that, early in the century, architecture and all the arts attendant upon it had fallen into a state of lifeless classicism and degraded utilitarianism. The few persons—and they were very few—who claimed to have judgment in matters of taste, were the sole patrons as well as the professors of art ; and even these had no appreciation of any but lifeless imitations and degenerate replicas of the works of a past age. The general public, especially the trading and manufacturing classes, were obsessed by admiration and astonishment at the achievements of mechanical and scientific invention and its application to manufacture, locomotion and the development of material prosperity. They, therefore, had no time or desire for the cultivation of æsthetic delights. All the legal regulations and safeguards touching the relations of masters and men had fallen into disuse, and in the early years of the nineteenth century were repealed. So little was skilled labour in demand that the working classes were for the most part steeped in poverty and hopeless degradation, the consequence of low wages and fierce competition amongst themselves.

Influence
of me-
chanical
inven-
tions.

Chief among the early signs of the renaissance of art in England were the revival of a taste for Gothic

Architecture, owing to the influence of Pugin, and the original work of Turner, the sturdy self-reliant father of natural English landscape painting. Next to Turner and Pugin came the band of enthusiastic young painters known as the pre-Raphael Brotherhood, chief amongst whom was Dante Gabriel Rossetti. The prophet of this new movement was Ruskin, who, in 1843, while yet an undergraduate at Oxford, published the first volume of his great work, "Modern Painters," which at once took its place in the front rank of Critical Art Literature. In the preface to this noble book, the author stated that it was begun as a vindication of the work of Turner in face of the storm of hostile criticism with which the conventional critics of the day were in the habit of greeting each new production of the great painter. One passage may be quoted :—

"But the public taste seems plunging deeper and deeper into degradation day by day, and when the Press universally exerts such power as it possesses to direct the feeling of the nation more completely to all that is theatrical, affected and false in art ; while it vents its ribald buffooneries on the most exalted truth and the highest ideal in landscape, that this or any other age has ever witnessed, it becomes the imperative duty of all who have any perception or knowledge of what is great in art, and any desire for its advancement in England to come fearlessly forward, regardless of such individual interests as are likely to be inspired by the knowledge of what is good and right, to declare and demonstrate wherever they exist, the essence and authority of the Beautiful and the True."

Influence of Ruskin. The influence of Ruskin not only on the professional exponents of art, but on the public taste during the nineteenth century was incalculable. His influence was for good, because he undeviatingly pursued the course definitely indicated in the beginning of his first work, from the preface of which the above quotation was taken.

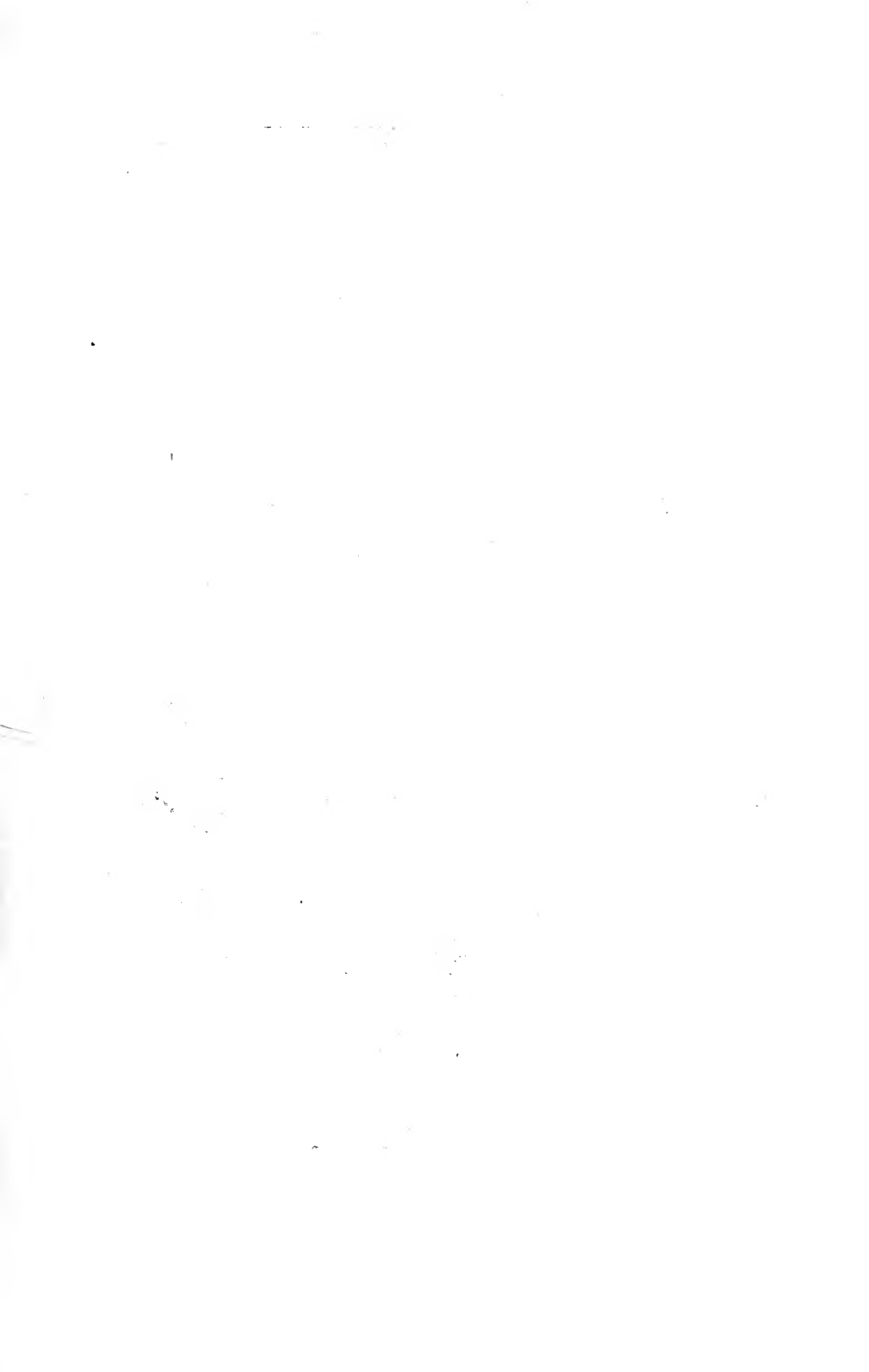




Plate LIII.

William Morris.

One instance of the importance of Ruskin's work was its effect on the enthusiastic coterie of undergraduates who became associated in a life-long friendship at Oxford between the years 1853-1855; and to whose persistent devotion to the principles then and there adopted the world owes the inception and development of the Arts and Crafts Movement.

Influence
of
Ruskin.

At the end of January, 1853, William Morris and Edward Burne-Jones met within three days of their arrival at Oxford. Morris came from Walthamstow, where he was born in 1834, and Burne-Jones from Birmingham. Within a week they became inseparable friends. In a short time a little group of undergraduates, congenial spirits, was formed around them, which some years later, with the addition of Rossetti, founded the firm of Morris and Company, Fine Art workmen in painting, carving, furniture and metals. It is remarkable that the friendships thus formed at Oxford lasted, in spite of many vicissitudes, until the death of Morris in 1896; this was owing no doubt to the astonishing personality and fascination of Morris himself, who was always the central figure of the group.

Originally both Morris and Burne-Jones intended to enter the Church; accordingly, theology and literature were their first studies at Oxford, but soon the intention of taking holy orders was abandoned, and painting, architecture, Gothic decoration and illuminating took places along with literature in their daily interests, and in all these studies the writings of Ruskin, as Morris's biographer says, "were gospel and creed" to them.* The same writer says that "it was from Ruskin's Edinburgh lectures that Morris and Burne-Jones first heard the name of Rossetti and the Pre-Raphaelite school of painters from which they received and to which they imparted so profound an influence."

Morris
and
Burne-
Jones.

Although the Arts and Crafts Movement was particularly associated with the name and personality of Morris, it must not be forgotten that by the time Morris and Company

* Mackail, *Life of William Morris*, Longman, Green and Co.

Revival
of
Gothic
Taste.

started their business venture in Red Lion Square, London, there had arisen a certain demand for more artistic work in many departments of manufacture than could readily be supplied. The revival of Gothic architecture and decoration, and the "Oxford movement," with its insistence on gorgeous ritual, furniture and vestments in religious worship, had contributed to this demand, and the "application," as it was called, of Art to Manufacture was exercising the minds not only of the amateurs of Art, but of business men, who began to see that there was "money in it." Government schools of Art and Design were being requisitioned and founded in different centres of industry, and the terms and catch words of the studios were made familiar to a wider circle by the publicity given to the new movement in the Press.

Although there was abundant evidence at the Exhibition of 1851 of the virility and extensive scope of British manufactures, there was, as pointed out in the last chapter, little evidence of any revival of the art of decorative design, or of judgment and taste in the use of colour, throughout the huge collection of ornamented objects shown. Nor was this peculiar to the British Section, but applied to all European nations, as far as can be gathered at this distance of time. One writer describes the general effect of the display as "one of over ornamentation and crudity of colour," and judging from the illustrations in catalogues and magazines of specially representative exhibits, this criticism was just. The numerous works in the silk classes of all sections, as will have been gathered from the previous chapter, were particularly open to the above charges.

Design
at 1851
Exhibi-
tion.

The only signs of the revival of the arts of design in England to be found at the Exhibition of 1851 were in the Furniture of the Mediæval Court, which, according to a writer in the *Art Journal*, "formed one of the most striking features of the Exhibition, and attracted a great deal of attention."* The design of these articles, which were mostly pieces of Church Furniture, were by Pugin,

* It is true this was not a unanimous opinion.

and the execution was by Mr. Crace. The illustrations given of some of these objects testify to the justness of this opinion. It is evident that church decoration was the first department of art work to be affected by the new movement, and accordingly we find that the earliest improvements in the design of Silk textiles were to be seen in materials intended for use as church hangings and ecclesiastical vestments. Design at 1851 Exhibition.

The International Exhibition held in Paris in 1855 does not seem to have shown much improvement in the Silk department of the British Section; in fact the interest taken in it by the Silk manufacturers of England was very languid. There were only thirty British exhibitors in the whole section, but as soon as the arrangements for a second Exhibition to take place in England in 1862 were announced, interest seems to have revived, and the improvement displayed in the technique, design and colouring of the silken webs of all kinds which were shown at that Exhibition, was very remarkable as compared with the exhibits of 1851.

It was arranged by the Society of Arts, acting in conjunction with the Royal Commissioners, that the International Exhibition of 1862 should not be a repetition of that of 1851, at which no restrictions were made as to the quality and kind of goods admitted, but that it should be an Exhibition of works selected for their excellence, illustrating especially the progress of industry and art, and arranged according to classes rather than to countries. Foreigners were to be admitted on the same terms as the British. Of the Silk Section, which it was agreed by all reporters, showed a great advance in merit, a writer in the *Art Journal* speaks highly, but singles out for special notice the exhibits of Messrs. Daniel Walters and Sons, of London, which consisted of "Furniture silks in great variety of texture and design." The writer goes on to say that "This firm have long been leading manufacturers of this important class of fabrics at their mills at Braintree and Notley in Essex. We give illustrations of four examples of their very beautiful productions, copied for the most part from natural leaves and flowers." On Silk at Exhibition of 1862.

Silk at
Exhibition of
1862.

another page of the catalogue some works of the same firm are reproduced with this description: "This column contains engravings of two of the damask silks for furniture manufactured and exhibited by Messrs. Daniel Walters and Son. They are of the highest quality in manufacture, and successfully compete with the best productions of the Continent. The designs are in all cases of considerable excellence, and in various styles, but are generally quiet in colour and pattern. Messrs. Walters are, we believe, the most extensive manufacturers in England of these productions."

Other manufacturers showed silken materials of designs and colouring, which testified to a revival of decorative art, that was taking place in all branches of manufacture.

The report of the jury in the Silk Section stated that "Our silk manufacturers have made remarkable progress since 1851 in all that constitutes superiority. Whether in design, colour, or texture, or in all combined, we compare the specimens of Silks in the English department with what were exhibited in that year, the improvement is immense. To single out any for special notice would be to make an invidious distinction where there is so much general excellence. The articles in which this improvement is perhaps most obvious are moiré antiques, and fancy goods of almost every variety that is exhibited. But if all this applies to broad goods, much more so does it to the ribbon branch. Coventry has made strides for which we were not prepared, and their portion of the Exhibition rivets the attention of the most careless visitors, be they natives or foreigners. In no respect are they, as a whole, inferior to those of St. Etienne, while as compared with the productions of Switzerland and the Zollverein, they are much superior." Later in the report, referring to the different varieties of plain silk goods which are spoken of very highly, the jurors say: "Buyers of all nations have already availed themselves of the opportunity of comparison which the present Exhibition affords, and texture for texture and value for value, it cannot be gainsaid that these goods of English production are evener, more free from knots and floss, and

Improve-
ments
in
English
Silks.

generally cheaper than foreign silks of the same nominal character.”

Similar reports were made of the British Silk Exhibits in the Paris International Exhibition of 1867, but it will be sufficient to quote a few lines from the official report of that Exhibition, which shows the remarkable progress made between the years 1851 and 1867 in the developing of the Silk trade in Great Britain :

“ Since the year 1851, the English silk trade has made great progress, notwithstanding the many difficulties which beset its path. Between the years 1850 and 1861, the number of silk factories in the United Kingdom increased from 277 in the former year to 771 in the latter.” This increase in the number of factories, although showing, as it does, that the silk manufacturers were adapting themselves to modern conditions, does not indicate as great an increase of trade as would appear, for side by side with the growth of the factories, the decline of the system of domestic manufacture took place as we have already seen. The important fact, however, is made clear by these reports that the quality of British silk goods, both from a technical and an artistic point of view, was steadily improving.

In the Decorative Art Section of the catalogue of the Exhibition of 1862 is found the name of the firm of Morris, Marshall, Faulkner and Co., and in the volume of reports of the juries, the following reference to their work is made :—“ Messrs. Morris and Co. have exhibited several pieces of furniture tapestry,* etc., in the style of the Middle Ages. The general forms of the furniture, the arrangement of the tapestry and the character of the details are satisfactory to the archæologist, from the exactness of the imitation, and at the same time the general effect is most excellent.”

The story of the circumstances which led to the establishment of this firm, so closely associated with the Arts and Crafts Exhibition Society of London, which was formed several years later, is given fully in the biography

* These fabrics were of course embroideries. It was not till many years afterwards that Morris took up tapestry weaving.

Improvements
in
English
Silks.

Decorative
Art.

Decorative
Art.

of Morris, already referred to, and is full of interest, but, as it is not essential to the present history, must be passed over with a short notice. The actual association of the members of the firm began on the 11th of April, 1861, and, to quote from the biography: "Seldom has a business been started on a smaller capital. Each of the members held one share, on which they paid £1. On this and on an unsecured loan of £100 from Mrs. Morris, of Leyton, the first year's trading was done. Premises were taken from Lady Day, 1861, at 8, Red Lion Square. . . . The ground floor of the house was occupied by a working jeweller; the firm rented the first floor for an office and show-room, and the third floor, with part of the basement, for workshops." The circular issued by the new firm is so interesting and informative that it is necessary to quote freely from it. It is headed "Morris, Marshall, Faulkner and Co., Fine Art Workmen in Painting, Carving, Furniture and Metals." The names of eight of the members of the firm then follow in alphabetical order, and it proceeds: "The growth of Decorative Art in this country, owing to the efforts of English Architects, has now reached a point at which it seems desirable that artists of reputation should devote their time to it. Although no doubt particular instances of success may be cited, still it must be generally felt that attempts of this kind have hitherto been crude and fragmentary. Up to this time, the want of artistic supervision, which can alone bring about harmony between the various parts of a successful work, has been increased by the necessarily excessive outlay, consequent on taking an individual artist from his pictorial labours.

"The artists whose names appear above hope by association to do away with this difficulty. . . . It is anticipated that by co-operation the largest amount of what is essentially the artists' work, along with the constant supervision, will be secured at the smallest possible expense, while the work done must necessarily be of a much more complete order, than if any single artist were incidentally employed in the usual manner.

"These artists having been for many years deeply attached to the study of the Decorative Arts of all times

The
New
Spirit.

and countries, have felt more than most people the want of some one place, where they could either obtain or get produced work of a genuine and beautiful character. They have, therefore, now established themselves as a firm, for the production by themselves and under their supervision of—

The
New
Spirit.

1. Mural Decoration, either in pictures or in Pattern Work, or merely in the arrangement of colours as applied to dwelling houses, churches, or public buildings.

2. Carving generally as applied to architecture.

3. Stained glass, especially with reference to its harmony with mural decoration.

4. Metal work in all its branches, including jewellery.

5. Furniture, either depending for its beauty on its own design, on the application of materials hitherto overlooked, or on its conjunction with Figure and Pattern painting. Under this head is included embroidery of all kinds, stamped leather, and ornamental work in other materials, besides every article necessary for domestic use.

“It is requisite to state further, that work of all the above classes will be estimated for, and executed in a business-like manner; and it is believed that good decoration, involving rather the luxury of taste than the luxury of costliness will be found to be much less expensive than is generally supposed.”

It is amusing to note the superior and grandiloquent tone of this circular and the magnitude of its promises* in comparison with the inexperience of the firm and the insignificance of the capital invested in it. It was not surprising, therefore, that the advent of Morris and Co. was the cause of much ridicule, criticism and jealousy on the part of many established firms of decorators of the time. But in spite of opposition and lack of capital, the virility and freshness of the work produced by the firm, the versatility of the members of the firm, especially of Morris himself,† and the general revival of public interest in decorative art enabled the Company to overcome

Work
of the
Morris
School.

* Mr. Mackail attributes this to Rossetti, who, although not a member of the firm, was the trusted adviser of the young men at the beginning.

† Not only so, but Morris was independent of the business for his livelihood, and was able to finance the firm when necessary.

Work
of the
Morris
School.

its first difficulties and carried it forward with increasing success year by year.

The spirit of adventure and daring which is evidenced by the circular, and the inevitable subordination of craft to art, which resulted from the members of the firm being all artists only by training, proved to be both the strength and weakness of the firm. This has also been the case with the numerous associations which have made up what has since been known as the Arts and Crafts Movement. They were strong because of the enthusiasm which was daunted by no technical difficulties, and weak because the artist was naturally inclined to be satisfied with an æsthetic effect, and too apt to neglect the fundamental quality of technical perfection necessary to all works of industrial art.

A more forcible and characteristic example of the fatal disadvantage of a neglect of technical knowledge could not be given than that furnished by an important piece of decorative work impulsively undertaken by Rossetti, Morris, and some of their artist friends, some of whom afterwards formed the Company as just described.

Rossetti's friend, Benjamin Woodward, architect, was engaged in building a debating Hall for the Union Society at Oxford. The hall was just roofed in, and the authorities agreed with the architect that the painted decoration of the roof and walls should be entrusted to Rossetti, who was at liberty to choose his assistants for the work. As soon as this was settled, Rossetti enlisted Morris, Burne-Jones and four other young artists to begin the work at once. Morris's biographer says in his account of the undertaking :

Art and
Technical
Training.

“The story of these paintings, of which the mouldering and undecipherable remains still glimmer like faded ghosts on the walls of the Union Library, is one of work hastily undertaken, executed under impossible conditions, and finally abandoned after time and labour had been spent on it quite disproportionate to the original design. A scheme of mural decoration which was practically new in England, and which involved the most careful preparation

and the most complete forethought, was rushed into with a light heart; all difficulties were ignored, and many of the most obvious precautions neglected. None of the painters engaged in it had then any practical knowledge of the art of mural painting, nor do they seem to have thought that any kind of colour could not be applied to any kind of surface. The tradition of the art of fresco painting was then so wholly lost,* that paintings in distemper were commonly spoken of as frescoes, and were expected to last as a fresco painting would. The walls were newly built, and the mortar was damp. Each of the spaces to be painted over was pierced by two circular windows, and the effect on the design as well as on the lighting of the pictures may be imagined. No ground whatever was laid over the brickwork, except a coat of whitewash, and on this the colour was to be laid with a small brush, like water-colour on paper.”

Art and
Technical
Training.

It is needless to pursue in detail this sad story, which inevitably ended in failure. Before six months were completed, the picture entrusted to Morris had so faded that nothing plainly appeared but a solitary head above a row of sunflowers, and all the other pictures were in more or less the same condition.

It could not, of course, for a moment be implied that in the work which Morris and his associates afterwards undertook, the technical side was as light-heartedly ignored as it seems to have been in this first disastrous experiment; but it cannot be denied that even if Morris himself gave sufficient consideration to the craftsmanship of the various kinds of work to which he from time to time devoted himself so ardently, the general tendency of the rank and file of the adherents to the Arts and Crafts Movement has been to rest satisfied with a low degree of technical merit in the works they have produced. It is questionable whether any advance in workmanship has

Strength
and
Weak-
ness
of the
Move-
ment.

* This is not correct, although it was no doubt unknown to the artists here concerned.

Strength
and
Weak-
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been made as the result of the movement, but it is unquestionably true that the gradual improvement in the artistic qualities of the industrial productions of Great Britain, of which textile manufactures form so large a part, is due mainly to the influences which led to the formation of the Arts and Crafts Societies, which, as we have seen, were the teaching and work of Pugin, Ruskin, Rossetti, and the Pre-Raphaelites, to which brotherhood Morris and his associates belonged.

The art of silk-weaving in its highest branches, although still a handicraft, is of such a complicated nature that, although many local guilds, village industries, and societies of art and craft, have made considerable progress in weaving linen, cotton, waste or spun silk and other materials, the weaving of fine silk, has scarcely, if ever, been attempted by them. With two or three exceptions, therefore, the improvement in the artistic character of British silks has been due to the virility and enterprise of old-established firms who, surviving the disastrous period of transition in the middle of the last century, adapted themselves to the new conditions of the trade—adopted new methods of organisation, and were especially careful to keep in touch with the Victorian revival of decorative art.

Later
Work of
Morris.

Morris and Co. was one of the exceptions referred to. It was not until 1887 that Morris turned his attention to the weaving of silk, and, as usual with him, became absorbed and fascinated with the work. His letters of that time are full of enthusiastic references to the splendid silk-weaving he intended to do in emulation of the Eastern, early Sicilian and Italian brocade and velvet weavers. He was recommended by his friend, Mr. T. Wardle,* of Leek, to engage a Lyons hand-loom silk weaver to set up an experimental loom in the workshop. Morris was soon deep in the study of the mystery and idiosyncrasies of the Jacquard machine.

In the diary of a member of the firm we find such entries as this: "Bazin (the French weaver) began to

* Afterwards Sir Thomas Wardle, founder of the Silk Association of Great Britain and Ireland.



Plate LIV.

Benjamin Warner.

weave, but the machinery not being in good order, he was unable to get on very far." And again: "The cards were making an absurd pattern. W.M. did not know what to make of it." But the initial difficulties were at last overcome, and Morris busied himself in designing and working out patterns and dyeing silks for the damasks and brocades, which afterwards became so well known as the work of the firm.

Later
Work of
Morris.

In course of time more weavers, drawn from Spitalfields and other traditional centres of silk-weaving, were engaged, and the work went forward and became an established department of the manufacture of the firm. In the list of exhibits of Morris and Co., in the first Exhibition of the Arts and Crafts Exhibition Society held in 1888, is the following: "No. 50a, Eight specimens of silk damask, hand-woven; designed by William Morris, executed by Morris and Co."

It is, however, to the work of Warner and Sons, established in the year 1870, that the strong position of British manufactured silks in the higher branches of the trade has been attributed. This firm was founded by the late Mr. Benjamin Warner. He was born in the silk-weaving district of London at a time when the trade was in a state of great excitement and disorganisation.

His father came of a family which had long been associated with silk-weaving and possessed many relics of the Huguenot immigration, amongst which was a book of patterns, some of which had been woven in Canterbury by the refugees who settled in that city and afterwards removed to London.* The elder Warner was a harness maker, mounture builder and Jacquard machinist, a business which required great skill, ingenuity and exactness in order to carry it on successfully. He was also one of the founders of the East London Pension Society, and was its Honorary Secretary from its formation on April 16th, 1824, till his death, which took place in 1839, at the age of forty years.

Benjamin Warner was an only son, and at his father's death, though but eleven years of age, was taken from Warner.

* *Canterbury Book*, see Appendix.

Benjamin Warner. school in order to help his mother to carry on the business. His education was, however, continued by his attendance at evening school, and later at the Spitalfields School of Design, the first State-aided Art School founded in this country. He thus became especially proficient in manuscript, and augmented his slender income by working at night for a firm of law stationers in Chancery Lane. He was throughout life distinguished for his beautiful handwriting.

At first the Warner business was only that of harness building and machine making, but one Monsieur Bernier, designer and draughtsman to the trade, wishing to return to his native city of Lyons, sold his business to Benjamin Warner, who was able to add the business of designing to that which he had already carried on in Punderson Place, Bethnal Green. After several years of this quiet development, Mr. Warner saw his way to further enlarge the business by the addition of another branch.

In 1870, Mr. Warner, in conjunction with two partners, Messrs. Sillett and Ramm, established a small silk-weaving factory at Old Ford. Here the most intricate and important work was done on the premises, but a great deal of weaving was given out in the usual way to domestic or cottage weavers. The business, however, soon outgrew the Old Ford factory, and a larger one was built and furnished in Hollybush Gardens, Bethnal Green. A warehouse and showrooms were also established in Newgate Street, London, almost on the same site as the buildings the firm now occupies.* Notwithstanding the depression of the silk trade in England at the time of its founding and after, as well as the serious competition of the French manufacturers, the new firm steadily progressed, and became known in the decorative trades not only for excellence of material and technique, but for fine artistic qualities, which had undoubtedly for many years been lacking in webs of British weaving.

History of the business. Owing to the renaissance of Art in England, which took place during the middle portion of the nineteenth century, the work of British artists in all kinds of decorative

* These are in the temporary occupation of the Government.

designs gradually became appreciated and in demand throughout Europe. Those manufacturers who were wise enough to keep abreast of the movement found a ready market for their commodities not only in Great Britain but in all the Continental centres of art and fashion, and in America. The Warner firm was one of such, and the silken webs manufactured in Hollybush Gardens worthily maintained the reputation of the British manufacturer, even when displayed in Paris amongst the choicest productions of the French looms.

In 1893 the Bethnal Green factory was rendered historic by a visit of H.R.H. Princess Mary of Teck, accompanied by her daughter the Princess May, now her Majesty the Queen. It was here that the silk brocade for the wedding dress of the Princess May was woven, and since that time the firm has had the honour of receiving other Royal orders, amongst which were the Coronation robes of King Edward VII and those of his present Majesty King George V and Queen Mary.

In 1891 the title of the firm was altered to Warner and Sons, Mr. Alfred Warner and Mr. Frank Warner being taken into partnership after the retirement of Mr. Ramm. The firm had been for some years known as Warner and Ramm, Mr. Sillett having retired in 1875.

In 1895, after the firm of Daniel Walters and Sons, of Braintree, had ceased operations, the Official Receiver made an offer of their mills, plant, and machinery to Warner and Sons. The offer was accepted, and after the purchase, about sixty families of London silk weavers were at once removed from Spitalfields to Braintree. Many, however, refused to leave London, and for some years both factories were kept going; but finally the Hollybush Gardens factory was closed and all the work concentrated at the Braintree mills.

Thus, by means of strenuous good work, foresight, pluck and perseverance, Benjamin Warner, in spite of many obstacles, guided the fortunes of the firm from its beginnings in the little East London workshop to the position it now holds. As a craftsman, the distinguishing characteristics of his work were fine colour and perfection

Renaissance of Art in England.

Warner Factories removed to Braintree.

Notable
English
Work.

of drawing. He could not tolerate careless technique or indifferent design. It has been truly said that "In his striving after perfection the webs he manufactured approached more nearly to the highest productions of France, in its best periods, than those of any other English manufacturer." And also "that much of the present recovery in the English silk industry generally, and the world-wide reputation which English furniture silks in particular have of late years obtained, are due to his persevering efforts." Mr. Warner continued actively to conduct the business of the firm until his 78th year, which he attained in 1907, 12 months before his death. His successors have endeavoured to maintain the reputation he built up.

In 1887 Messrs. Warner exhibited specimens of their work at the Jubilee Exhibitions at London and Manchester. They also took part in successive exhibitions in various places, but it was at the International Exhibition held at Paris in 1900 that they were awarded their first gold medal. This success has been added to from time to time.

Another firm which, although short-lived, did some remarkable work in the best branches of furniture silk-weaving, was the English Silk-Weaving Company of Ipswich. The interesting story of this undertaking it is unnecessary to relate, but it must be mentioned that some of the productions of the Ipswich firm were acknowledged by competent judges to be equal in design, colour, and technique, to any silk-weaving of the present or any other period. It was found impossible, however, to keep up the character of the work and make sufficient profit to warrant continuing the business. So after ten years of development, the Company, which was a limited one, was wound up and the work discontinued.* Two or three more or less prosperous silk-weaving businesses owe their origin to the Ipswich Company, the most successful, perhaps, being the Gainsborough Silk-Weaving Company, of Sudbury, Suffolk. Mr. Reginald Warner, who directs this business, learned the art of silk-weaving in the Ipswich

Furniture
Silk
Weaving.

* A spacious factory was built, and over thirty looms were at work at one time.

factory, and the high merit of his work, both technically and artistically, is widely recognised. Furniture
Silk

The several exhibitions held by the British Silk Association since its foundation have borne witness to the gradual advance in the artistic achievements of the British silk industry, but as they are dealt with in the special chapter on the work of the Association, it is unnecessary to particularise them here. Weaving.

A steady advance in the art and craft of silk-weaving in Great Britain has been clearly demonstrated at the several International Exhibitions held since that of 1867, referred to in the last chapter. It would, however, prove tedious to quote from the numerous reports and critical articles referring to British silk exhibits, all testifying to the same fact. It will suffice to give some extracts from the Commissioners' report of the silk section of the Brussels and Turin Exhibitions of 1910 and 1911, and briefly to review the Art and Craft Sections of the Ghent Exhibition of 1913 and the special British Art and Crafts Exhibition held in Paris in 1914, in so far as they have to do with the art of silk-weaving. At the Brussels Exhibition the report of the Royal Commission states that "The extent and beauty of the silk exhibits formed a striking feature in the important collection of textiles in the British section of the Brussels Exhibition. Silk goods, always attractive and interesting, and more easily adaptable to effective exhibition than any other textile, have always held a prominent position in foreign sections, particularly in that of the French, whose display at Brussels was both refined and elegant. Excepting the French collection of gowns . . . the exhibit of English silks or other dress materials was unsurpassed in variety and excellence by any other country. . . . In fabrics, almost every type and variety of goods was shown. Dress silks, both plain and broché of great excellence, showed the ability of English manufacturers to cater for this important branch of the Silk Market. . . . The great feature of the British silk section was the magnificent display of decorative and furnishing silks. The display received universal praise, and the warmest expressions of admiration from foreign Success
at
Foreign
Exhibi-
tions.

Success
at
Foreign
Exhibi-
tions.

experts and manufacturers, who are the keenest appreciators of skilled artistic workmanship.

“It had long been known that in this branch of silk manufacture our products occupied a high position, but the display at Brussels established beyond doubt that in beauty of design and colour, in the variety and suitability of cloth structure, and in excellence of manufacture, they are not excelled by the productions of any country, and are only equalled by those of France. The goods shown were brocades, damasks, brocatelles, lampas, and figured and antique velvets, in the styles of the sixteenth and seventeenth century, Italian, and in the French periods from Louis XIV to the Directoire. In addition to designs of the modern English school, there were specimens representative of the olden English periods, such as Elizabethan, Stuart, William and Mary, Queen Anne, Chippendale and Adam. A feature of the collection was a display of gorgeously coloured fabrics richly wrought with gold and silver metal threads, for ecclesiastical purposes.

“At Turin the British manufacturers of decorative and furnishing silks again made a most worthy display, equal if not superior in design, colour and texture, to anything shown in the foreign sections.”

An independent report of the Brussels Exhibition directs special attention to the exhibit of Messrs. Warner and Sons and their success in the silk section. “Six isolated show-cases were filled with a great variety of this notable firm’s choicest productions, bearing witness to its great resources in the manufacture of the highest classes of furniture fabrics. Two Grands Prix, with the felicitations of the Jury, were awarded to Messrs. Warner and Sons for their exhibit.

Recog-
nition
at
Brussels
and
Turin.

At Turin in 1911 the same firm exhibited silk textiles, tapestries and printed fabrics in one of the stately rooms, 60 ft. by 30 ft., which were provided in place of the glass case method of exhibiting. The awards to Messrs. Warner and Sons at Turin were four Grands Prix, with felicitations. At the Ghent Exhibition of 1913, in the British Arts and Crafts Section, there were exhibited forty-five specimens

of Messrs. Warner and Sons' hand-woven silks, fourteen of Mr. Edmund Hunter's, of Letchworth, and twelve of Messrs. Morris and Co. There were also numerous interesting specimens of the use of silk in embroidery and of silk mixed with other materials in simple domestic hand-loom weaving. In 1914, at the invitation of the French Government, a British Arts and Crafts Exhibition was arranged in a salon of The Louvre. The principal exhibitors of woven silk in this collection were again Messrs. Warner and Sons, Messrs. Morris and Co., and Mr. Edmund Hunter; Messrs. Warner and Sons showing fourteen, Messrs. Morris and Co. nine, and Mr. Hunter six specimens of their finest work.

Ghent
and
Paris.

The Arts and Crafts Movement has stimulated many efforts to weave artistic silken fabrics, most have had a transitory existence, but some remain. Amongst the latter are the London School of Weaving in Davies' Street, W., the Cullompton Weavers in Devon, and the industry at Windermere, where more than 20 years ago Miss Annie Garnett added to what is known as "The Spinnery" Schools of Spinning and Weaving, the first silk "factory" in the district.

"The Spinnery" weaving sheds are quite primitive, and only hand labour is employed, many of the villagers working at their own homes in spare moments. The textiles woven include silks, brocades, satins, muslins, throwns, tweeds, linens, etc., and all embroideries are worked only on materials made in "The Spinnery," the designs being all original with the exception of a few suggested by ancient things. The work is done in a quiet leisurely way, entirely from an artist's point of view, to which all other considerations are sacrificed, and the aim of the workers is always to reach the best, believing that joy in labour is the first principle of true art. Each web is a centre of interest, built up in design and colour from the beautiful surroundings in which "The Spinnery" is placed. Further, to carry out this idea colour schemes are specially grown and planned in the garden, whose flowers pass into the designs used in the brocades and embroideries.

British
Schools
of Silk
Weaving.

Sir
Arthur
Liberty.

It would be impossible to close this chapter without reference to the late Sir Arthur Liberty, who, although not engaged in the production of silk goods, brought a great influence of an artistic nature to bear on the work of those who were. About 35 years ago, Sir Arthur, then Mr. Liberty, introduced the soft dress satin now universally known as "Liberty" satin, the graceful charms of which were brought prominently before the public at the Paris Exhibition of 1889. Then, of course, followed the Continental imitations, and now it is of world-wide manufacture. It may be claimed for "Liberty" satin that it was the parent of the multitude of soft clinging silken fabrics which are now generally in vogue to-day. Certainly, as far as dress fabrics are concerned, Sir Arthur Liberty, trained in an appreciation of colour by handling Eastern productions such as Chinese embroideries, Persian carpets and Indian shawls in his earlier days, greatly widened the range of colourings and established a taste for certain tones of colour which are now generally referred to as "art shades." Credit is also due to him for endeavouring to create a popularity for English silks by holding from time to time exhibitions of home productions at his premises in Regent Street.

CHAPTER XLVI.

TECHNICAL SOCIETIES AND THE INDUSTRY.

The technical aspect of silk manufacture has been discussed in other chapters, but no history of the industry would be complete which did not contain some reference to the work done by certain of the technical institutions towards the encouragement of improved methods of manufacture.

The Royal Society of Arts has been more closely associated with this work than any other institution of the kind, and indeed the records of the Society show that it has always given attention to the encouragement of the textile industries.

The first paper on silk contributed to the transactions appears to have been that read by the Hon. Daines Barrington, and is published in the second volume of the *Transactions*, issued in 1784. In earlier years than this, however, the Society had offered awards in connection with various branches of the silk industry; the breeding and rearing of silk worms, the improvement of mechanical appliances, and in other fields. It is true that although the names of textile machinists such as Hargreaves, Arkwright and Crompton do not appear on the records of the Society, these do contain the name of John Kay, who may be said to have revolutionized the textile industry by his invention of the fly shuttle. It was not this, however, which introduced Kay to the Society, but his apparatus for making cards, and he demonstrated the working of this machine before one of its Committees. His youngest son, William Kay, worked at the same invention and received an award of 50 guineas for an

Royal
Society
of Arts.

Royal
Society
of Arts.

improvement of his father's apparatus. Robert Kay, an elder brother of William, brought before the Society an improvement of the wheel shuttle, which it is believed was in the form of the drop box. This feature, which was introduced in the year 1760, is believed to have been the first device for weaving cross striped fabrics continuously, it being unnecessary by this arrangement to stop the loom for the purpose of changing the shuttle. A year or two later a prize of £100 was offered for improvements in the stocking frame. The machines submitted were set up in the Machine Room of the Society, and operated by expert workmen. Two prizes were awarded in connection with this competition, one of £80 in the year 1765 to Samuel Unwin, and one of £100 in the following year to John Whyman. The encouragement thus given to the stocking weavers was a great advantage as at that time the trade was in a very depressed condition, owing to the competition of the French weavers.

Concurrently with the steps thus taken to place the manufacturing side of the industry on a firmer foundation, the Society lent its aid towards the various projects for the encouragement of the breeding of silk worms, and a letter published in the *Transactions*, bearing the date October 19th, 1777, describes the experiments carried out by Mrs. Ann Williams, of Gravesend, who at that time had 47 silk worms spinning, and who describes the methods she adopted to rear what she refers to as "her favourite reptiles." She was awarded a prize of 20 guineas. The *Transactions of the Society* also contain reference to the attempt made to obtain silk from the garden spider, but it appears to have been finally decided that the English climate was not suitable for the rearing of silk worms except in abnormal seasons. In the early part of the 19th century the Society resumed its scheme of making awards for improvement in the mechanical apparatus of the trade. Thus, in the year 1807, a prize was given to A. Duff for an improvement in the drawboy, the name given to the mechanical apparatus which superseded the boy who acted as the weaver's assistant. The *Transactions* also make reference to the work of J. Sholl,

Breeding
of Silk
Worms.

who in the year 1810 obtained an award for the further improvement of the drawboy, and prizes were given for improvements on the Jacquard invention which came a little later, the most important of these being that effected by W. Jennings, a weaver or loom maker of Bethnal Green, who suggested a method by which the height of the Jacquard apparatus could be reduced and the machine made in a size which enabled it to be installed in the weaver's own homes. Other improvements which obtained the recognition of the Society included a new form of machine for winding silk for Spitalfields' weavers, which was introduced in 1843. The main feature of this improvement was the substitution of friction wheels for list bands.

There are few references in the *Transactions of the Society* for the first half of the 19th century to papers submitted on the silk industry, but a number of important contributions were made during the second half of last century. Sir Thomas Wardle read his first paper dealing with the wild silks of India in 1879. He made subsequent contributions in the years 1885 and 1891, and in 1895 put on record the improvements which had taken place in the designing, colouring, and manufacture of British silks. His successor in the presidential chair of the Silk Association, Mr. Frank Warner, continued the story of the British silk industry in two papers, which were read in 1903 and 1912. An important series of articles which appeared in the *Transactions* of 1873 from the pen of Mr. Francis Cobb bore the title "Hints to Colonists on the Cultivation of Silk," and the same authority at a later date made a contribution on the rearing of silk worm eggs in Great Britain. Another well-known contributor to the Society's *Transactions* was Mr. Thomas Dickens, who in 1855 read a paper bearing the title "Commercial Considerations of the Silk Worm and its Products," and in 1869 discussed the question of silk supply. Contributions from other authorities dealt with such subjects as the improvement of silk cultivation in India, British silk manufacture from the commercial standpoint, the possibilities of silk culture in New Zealand, and English brocades and figured silks. It is a fairly comprehensive

Im-
provements
in
Machi-
nery.

Notable
Papers
on Silk
Trade.

Notable
Papers
on Silk
Trade.

programme for a Society which has had so many other outlets for its activities, but which, as was indicated by the reading of a paper by Mr. J. A. Hunter on "The Textile Industries of Great Britain and of Germany," six months after the outbreak of war, has not lost its interest in one of the oldest of British industries.

Some useful work on behalf of the silk industry has also been done by the Silk Sub-Section of the London Chamber of Commerce. This was only constituted at the annual meeting of the Textile Trade Section in 1909, but it at once set to work to deal with the many subjects calling for attention and has done good work.

One of the principal matters dealt with in the year 1909 referred to outstanding questions with Japan which related more particularly to the designation of the various types of silk. This subject was considered of such importance that deputations waited on the Japanese Ambassador, the Japanese Minister of Commerce and Industry, and the Japanese Consul General.

In the year 1910 the formation of a Silk Trade Section of the Silk Sub-Section of the Chamber was approved.

A subject which has received special attention of the Section recently is the unjust operation of the Carriers' Act of 1830 in regard to the carriage of silk goods on British railways, and to which more detailed reference is made in the chapter dealing with the work of the Silk Association. Special attention has also been given by the Section to cases of misdescription of silk goods, to artificial silk problems, adulterations and classification of silk, export of silk piece goods, the Japanese and Belgian tariffs, and the general question of railway rates.

London
Chamber
of Com-
merce.

Another technical society which has given attention to silk trade questions, both on the technical and commercial sides, is the Textile Institute, which has its headquarters at Manchester, and whose activities cover the whole field of textile manufacture.

The firm of John Hind & Co. Ltd., dress and blouse manufacturers, was established by John Hind in 1851. He was joined by his brothers, James and Adam, in 1853 and the business was carried on by the three brothers until 1881. In that year Irvine Hind, the son of John, succeeded James and Adam Hind and the business was carried on as John Hind & Company until 1887. From that year Irvine Hind appears to have been the sole partner until 1904, when the business became a private limited company with Irvine Hind as Managing-director. Wyke, Bradford

The present Governing-director and Chairman, is John Sugden Smith, who received his art and technical education at the Bradford Schools and was a Silver Medalist in the Examinations of the City and Guilds of London Institute in 1885. His personal interest in the Silk Association, of which he is Vice-Chairman of the Council, the British Silk Research Association and the Advisory Committee on Silk Production at the Imperial Institute, has been of marked value to the deliberations of those institutions.

The firm, which has gained much credit for its enterprise and ability, specialises in the production of dress and blouse materials and in shirtings of almost endless variety.

The business which was started at Wyke Mills in 1851 was carried on there for more than half a century. In the year 1907 it was transferred to new works at Woodside Mills. This is a typical modern establishment in which electricity is used both for power and lighting purposes.

Another firm, A. Hind & Sons, who are manufacturers of plain and fancy silks for the blouse and dress trade; silk and other sleeve linings; linings for ladies' mantles; plain and fancy moirettes in silk and cotton, also have their works in Wyke.

The business was established in 1881 by Adam Hind, who retired in 1894. The present principal of the business is Fred Hind, who is a Justice of the Peace for the West Riding of Yorkshire. In 1918 Fred Hind took into partnership his two sons, A. R. Hind and F. M. J. Hind, who now assist him to carry on the business.

The works at City Shed, Wyke, were re-constructed in accordance with the latest practice in 1899.

APPENDIX B.

Maitland's History of London, 1775, p. 799.

“Next to this Field, in which are now Duke Street and Stuart Street, was the dissolved Priory and Hospital of our blessed Lady, commonly called St. Mary Spital, founded by Walter Brune and Rosia, his wife, for Canons Regular. Walter, Archdeacon of London, laid the first stone in the year 1197. William, of St. Mary Church, then Bishop of London, dedicated it to the honour of Jesus Christ, and his Mother, the perpetual Virgin Mary, by the name of *Domus Dei et Bentæ Mariæ extra Bishopsgate*, in the Parish of St. Botolph.”

At p. X. of the Report:—

“From Spitalfields your Committee took evidence of a Mr. Ballance, a respectable Manufacturer, who stated that the weaver could earn at the time he spoke from 7s. 6d. to 8s. a week clear of deductions: but that to do this he was compelled to work 14 hours a day: and that this labour is excessive and is incompatible with the Weaver's health; that in 1826 he could earn 14s.; and that 20s. would be sufficient pay; that it is impossible for them to support themselves at their present earnings; that their distresses are truly appalling, there being many men who used to support their families with credit, who are mere paupers.”

At p. XII. of the Report it is stated:—

“The weekly wages a fair average weaver *can*, if fully employed 14 hours a day, now (1835) earn at the work the majority of weavers are employed on (in Great Britain) is stated in evidence by weavers, manufacturers and other witnesses to be as follows:—

At Aberdeen .. 3/6 to 5/6 net.	At Perth 4/9 to 7/9 net.
Dundee .. 6/- ,, 7/- ,,	Preston .. 4/9 ,, 6/1 gross
Forfar .. 6/- ,, ,,	Spitalfields .. 7/6 ,, 8/- ,,
Glasgow .. 4/- ,, 8/- gross.	Stockport .. 9/- ,, ,,
Huddersfield .. 4/6 ,, 5/- ,,	Nuneaton .. 4/8 ,, ,,
Do., a few .. 16/- ,, ,,	Coventry .. 7/6 net.
Lanark .. 5/1 net.	Drogheda .. 2/4 ,, 4/- ,,
Manchester .. 5/- ,, 7/6 ,,	Belfast .. 3/6 ,, 6/6 gross
Paisley .. 6/- ,, 7/- gross.	

Note that these prices are for weavers in full work, which they declared was 14 or 16 hours a day.

In 1817 Handloom weavers' wages throughout the country averaged 4/3½ per week. At this time wheat was 126/- per quarter. This was the worst time. In 1800 the average wage was 13/10, and wheat then sold at 113/-, to which price it suddenly rose from 67/- of the previous year.—Professor J. E. Thorold Rogers in *Six Centuries of Work and Wages*.

The vast majority of silk weavers in the London Trade were employed on the commonest work, for which 4½d. to 6d. a yard was paid. It was notorious that, what with waiting for work and other hindrances, scarcely half a weaver's time was occupied in actual weaving, hence the estimate of 5/- average wage.

Evidence of Dr. Kay before the Poor Law Commissioners in 1837 says:—“A weaver on a Jacquard Loom can earn 25/-; on a Velvet or Rich Plain Silk, 16/- to 20/-; on a Plain Silk, 12/- to 14/-; or *with bad silk*, 10/- or even 8/-.”

In the same Report a witness, Mr. William Fletcher, of Coventry, is stated to have given evidence as follows:—

“There was a middleman called an *undertaker*, who took work (warps, wefts, &c.) from the Manufacturers and gave it out, at *half* the usual rate of wages,

to young weavers who were bound apprentice to him. He paid himself with the other half. These young weavers bound to him for 5-7 years were from 12 to 18 years of age, and the best workers could earn 3/- a week, but most of them earned less."

Norwich Chapter.

Samuel Lincoln, born at Hingham, Norfolk, baptized there 24th August, 1622. Died 1690 at Hingham, Mass.

Great, great, great, grandfather of Abraham Lincoln, 16th President United States.

Samuel Lincoln was apprenticed to Francis Lawes, Master Weaver of Norwich, with whom he took ship on the 8th April, 1637, for Boston, in the American Colony, where he arrived 20th June of the same year.

"The Ancestry of Abraham Lincoln." J. Henry Lea and J. B. Hutchinson. Houghton Mifflin Co., Boston and New York, 1909.

APPENDIX C.

SUMPTUARY LEGISLATION.

Restrictions
on Silk.

1337. No man was allowed to wear anything but English cloth, except the King and royal family; nor any man to wear any facings of silk or furs but such as could expend an hundred pounds a year.

ACTS FOR SILKWOMEN.

Lombard
Importation
of Worked
Silks.

Whereas it is shewed to our Sovereign Lord the King in his said Parliament by the grievous Complaint of the Silk Women and Throwsters of the Mystery and Occupation of Silkworking within the City of London, how that divers Lombards and other Strangers, imagining to destroy the said Mystery and all such virtuous Occupations for Women . . . , to enrich themselves and to put such occupations to other lands have brought and daily go about to bring into the Realm wrought silk throwen, Ribbands and Laces falsely and deceitfully wrought, Corses of silk and all other Things concerning the said Mystery and Occupation ready wrought, in no Manner wise bringing any good silk unwrought, as they were wont to bring heretofore . . .

For Reformation whereof our Sovereign Lord the King . . . hath ordained . . . That if any Lombard, or any other Person, Stranger or Denizen bring any wrought Silk . . . Corses which come from Genoa only except . . . the same . . . shall be forfeit.

The
Prohibition
of
Importation
Extended.

1482-3. Whereas by a piteous Complaint . . . by Men and Women of the hole Craft of Silkewerk of the City of London and all other Cities Towns Boroughs and Villages of this Realm of England, it was shewed how . . . a Restraint was made that certain Things of Silk-work ready wrought should not be brought into the Realm; after which Restraint expired, so great Multitude of Silks ready wrought as Corses, Ribbands, Laces, Call Silk and Colein Silk thrown have been brought . . . by Merchants Strangers and other, that all the Workers . . . have been grievously impoverished for Default of Occupation.

Our Sovereign Lord the King . . . hath . . . ordained, that no Merchant Stranger nor other person after the Feast of Easter next coming shall bring into this Realm . . . to be sold any Corses, Girdles, Ribbands, &c.

1483-4. Continued for 10 years.

1485. And for 20 years.

Velvet
and the
Knighthood.

1566. "No Man under the Degree of a Knight or of a Lordes soone . . . shall wear any Hatte or upper Cappe of Velvet . . . or covered with velvet on payne to forfayte Tenne shillings."

Detriment
to the
Fur Trade.

1590. Handicraftsmen of the Mystery of Skinners of London to the Queen :

"The usual wearing of furs . . . utterly neglected and eaten out by the too ordinary lavish and unnecessary use of velvets and silks drinking up the wealth of this realm."—(*Cecil Papers*.)

1602. Prize Carracks.

Notes of the price obtained at the sale.
Raw silk. 30/- little pound.—(*Cecil Papers.*)

Silk
Prices.

1600-02. Expenditure on Lady Anne Clifford's education.

Item p'd. for sleeve silk, xxxiiis.
" " " lital silkworms, vs.
" " " a pair of grene worsted stockynge for my lady, iiis. iiid.—
(*Papers at Skipton Castle.*)

Purchase
for a child.

1594. The average price of all sort of [imported] silks one with another, per pound, 15/-.

2½ lbs. of such sorted silks will make 5½ yards of the best " Millame tufted taffatas " amounting to 37/6.

Official
Calculation.

The customs on this to the Queen 1/9. Every yard of tufted taffata rated at 9/- the yard, so that five yards yieldeth in customs 2/5½, so that her Majesty loseth in the customs of every pound of silk made into tufted taffata, of that she should have if the same silk were woven on the other side of the seas and brought hither 4¼d.

Say that there were 500 pieces of tufted taffataes made yearly in the realm, as there is no such number made; and every piece 22 yard and 6 lbs. of silk to every piece, so there were but 2/1¼ lost in every of the custom that it would yield if it were made beyond the seas, it would amount in loss to the Queen £54 2s. 6d.

The sealing of 500 pieces of tufted taffataes at 6d. the piece were but £12 10s. 0d.—(*Cecil Papers.*)

1666. An Act for Burying in Woollens Onely.

For the Encouragement of the Woollen Manufactures of the Kingdome and prevention of the Exportation of the Moneyes thereof for the buying and importing of Linnen. Bee it enacted . . . that . . . Noe person or persons whatsoever shall be buried in any Shirt, Shift or Sheete made of or mingled with Flax, Hempe, Silke, Haire, Gold or Silver or other then what shall be made of Wooll onely, or be putt into any Coffin lined or faced with anything made of or mingled with Flax, Hempe, Silke or Haire upon paine of the forfeiture of the summe of Five pound to be employed to the use of the Poore of the Parish . . .

The
Mortuary
Use of
Silk.

Provided that noe penaltie . . . shall be incurred for or by the reason of any person that shall dye of the Plague.

1667 and 1668. An Act to Right the Trade of Silk Throwing.

Whereas the Art of working and throwing of Silk for many yeares past hath of late been obstructed by reason that the present Master and Wardens—part of the Assistants and Commonalty of the Trade Art or Mystery of Silk Throwers of the City of London—have endeavoured to put into execution a certaine By-law by them made neere forty years since restraining and stinting the Freemen of the said Company that they shall not worke with above the Number of One hundred and forty Spindles att one time and the Assistants of the said Company with above the number of Two hundred and forty . . . which is an hindrance to the Growth and Improvement of the said Art and a restraint to the working of Silks in this Kingdome . . . and puts the Traders in that Comodity upon a necessity of using Forreign Thrown Silk: Be it therefore enacted that the said By-law is hereby void and null and the said Company are hereby disabled from making any By-law for the future which shall restrain or limit the Number of Mills Spindles or other Utensils to be employed . . .

Restrictions
upon
Output.

And be it further enacted That no By-law already made or hereafter to be made . . . shall or may limit or confine any Freeman of the said Company to take a lesse number then three Apprentices att any time.

1621. Scots Law.

Servants'
Clothing.

"Servants shall have no silk on their cloaths except buttons and garters and shall wear only cloth fusteans, canvas and stuffs of Scotch manufacture."

1634. Note by Secretary Windebank (of the Star Chamber).

Home
Industry
and the
Revenue.

"The customs of silks manufactured were wont to be £14,000 yearly, now they yield barely £6,000 yearly, the reason of this decay is the manufacturing of silks by strangers here in England. An imposition to be laid upon the strangers' looms."—(*Dom. S.P.*)

A Dyer's
Fine.

1630. Warrant to prepare a pardon for John Trott of London, silkman, fined £3,000 by the Court of the Star Chamber for false dyeing of silk on payment of £2,000 by way of composition.—(*Dom. S.P.*)

1630. An informer's letter.

Method
of Silk
weighing.

"Some three or four rich silk dyers in dyeing raw silk use slip of grindlestones and dust of iron and steel and keeping the same thirty or forty days in working, the silk draws into it the dross of the said stones and iron, so that 16 oz. they make 36 oz. The writer prays that he and such as he shall employ to endeavour about the reformation of this abuse may have some reasonable consideration for the same."

1631. An informer's reward.

Disposal
of a Fine.

"George Melvill and others for discovering the abuse of false dyeing, £1,500 out of fines of offenders"

Reformers
and Silk
Dyeing.

1636. Alleged that the silkmen who in 1631 obtained a charter and pretended to work a reformation had since been the worst offenders in the false dyeing of silks.—(*Dom. S.P.*)

1636. Katherine Elliott, wet nurse to the Duke of York, represented to King Charles I that :

Deceits
in the
Stocking
Trade.

"Divers persons being of no corporation profess the trade of buying and selling silk stockings and silk waistcoats as well knit as woven, uttering the Spanish or baser sort of silk wherewith the said commodities are made, at as dear rates as the finest Naples and also frequently vending the woven for the knit although in price and goodness there is almost half in half difference, there being no usual way or mark to deceive the subtilty. Prays a grant for 31 years of the sealing of silk stockings, half stockings and waistcoats, to distinguish the woven from the knit, receiving from the salesman 1s. for every waistcoat, 6d. for every pair of silk stockings and 4d. for every half pair."—(*Dom. S.P.*)

A Sealing
Monopoly.

1638. Grant to Thomas Potts of the newly erected office for surveying and sealing foreign silks with a fee of 4d. for every piece sealed, for 31 years.—(*Dom. S.P.*)

A Dyeing
Ordinance.

1637. Petition of the Governor and Company of Silkmen of London complains that they have been commanded that no silks should be dyed before the gums were boiled off and that no black but Spanish black be used. (*Dom. S.P.*)

1635. Star Chamber case against John Milward, Governor of the Company of Silkmen, and John Aubrey and others assisting, for combining to cause great quantities of silk to be corruptly dyed and sold.—(*Dom. S.P.*) False Dyeing.

1635. Petition of Edward, Viscount Conway and Killultagh and Endymion Porter, that no plushes, tuff-taffities, damasks, wrought or figured satins, silk programs, silk calimancoes, wrought programs or stitched taffities be made of less breadth than full half yard and a nail within the list.—(*Dom. S.P.*) The Width of Silk.

1639. Tuft-taffeta and broad silk weavers complain of the great quantities of silk stuffs lately brought from China and sold at very low rate. China Woven Goods.

1639. Complaint that by a certain proclamation they are compelled to pay 16d. the pound for dyeing which was wont to be done, accordingly as they could agree, for 10d. or 12d. the pound at most.—(*Dom. S.P.*) Dyers' Prices.

1639. Order of the King in Council in consequence of differences between London and Canterbury silk weavers :

“That there shall be as has been since the erection of the Silk Office, 6d. the pound paid upon every pound of silk both by natives and strangers, also 6d. more by strangers and 2d. by natives upon all silks manufactured.”—(*Dom. S.P.*) Differential Fees for Sealing.

1639. Representation that “whereas raw silk is so much fallen in price as that from 32/- the pound it decreased to 25/- and at this present 16/- and that there is only 8d. in the pound paid thereupon to his Majesty, the whole surplus accruing to the benefit of those trading in that manufacture.”—(*Dom. S.P.*) A Fall of Price.

1623. East India Company.

	<i>Cost in India.</i>	<i>Sold in England.</i>	
Raw Silk	8/-	20/- per lb.	Company's Profits.
(Malyn's Centre of the Circle of Commerce.)			

1599. Charter granted on 31st December to George, Earl of Cumberland, and 215 knights, aldermen and merchants, constituting the East India Company. The East India Company's Charter.

1697. Assaults by mobs on the East India House.

1680. “The English formerly wove or used little Silk in City or Countrey, only Persons of Quality pretended to it ; but as our National Gaudery hath increased it gre more and more into mode and is now become the Common Wear, nay the ordinary material for Bedding, Hanging of Rooms, Carpets, Lining of Coaches and other things ; and our Women who generally govern in this case must have Foreign Silk ; for they have got the Name and in truth are most curious and perhaps better wrought.”—(*Britannia Languens.*) Silk in Common Wear.

1680. “Silk is now grown nigh as common as wool and become the cloathing of those in the kitchin as well as the Court ; we wear it not onely on our backs but of late years on our legs and feet and tread on that which formerly was of the same value with gold itself.”—(*Howell's History of the World.*) Silk Stockings.

1648. “One of the new Captains of the Hamlets, a Silk-Throster and a Tub-Preacher.” Lay Preaching.

Silk for the Scrofulous. 1664. Church wardens provided "silk strings" and "ribbond" for the poor children of either sex that had the king's evil, at a cost, about the year 1664 of 5d. and 7d. each; sometimes the charge was 9d. The strings for the poor of the parish of Minchinhampton and for ribbon in 1688 amounted to £1 5s. 0d.; in 1689 to 7s. 4d.; in 1690 to 4s. 8d. . . . The entries continued up to 1736.—(Roberts' *Social History of the Southern Counties.*)

False Packing in Turkey. 1670. Letter of the Levant Company to British Ambassador complains of the foul condition of the raw silk received from Turkey and asks for endeavours to gain a full allowance of tare, "which may be done by enjoining the factors, out of each parcel they buy, to clean a portion and according to that to estimate the tare of the whole.—(*Dom. S.P.*)

A Silk Robbery. 1665. Advertisement about a robbery on the ship "Prince William of Emden," lying at the Half way Tree by men who killed the master, shut up the men and stole a bale of raw silk value £135.—(*Dom. S.P.*)

Imports 1668-9. "The case of the English weavers and French merchant truly stated," giving reason for discouraging the importation of foreign wrought silks.

The entries of silk at the port of London from Michaelmas 1668 to 1669.

WROUGHT SILK.		THROWN SILK.		RAW SILK.	
<i>Foreign Manufactured.</i>		<i>Imported and Manufactured in England.</i>			
Italy ..	39,457	Italy ..	87,216	Italy ..	14,563
Holland ..	10,557	Holland ..	2,878	Turkey ..	249,502
East Indies ..	14,370	Flanders ..	3,027	East Indies . . .	248
Flanders ..	226				
France ..	1,400				
	71,010		93,121		264,313

Ferret silk from Flanders, imported and manufactured in England, 7,012.—(*Dom. S.P.*, 1671.)

The Alamode Renforce and Lustring Company. 1692. Grant to Paul Clouesly, Peter Le Keux, Hilary Renew and 132 others concerning "the new invention of making, dressing and lustrating of silks called black Alamode, Renforce and Lustrings.

Incorporation of the Governor and Company of Alamode, Renforce and Lustrings.—(*Dom. S.P.*)

A Drawback Privilege. 1695. The Lustring Company were allowed £2,400 abatement on silk imported from Piedmont.—(*Dom. S.P.*)

Deceits at Smyrna. 1654. Letter of the Levant Company to the British Consul at Smyrna: "Our factors abuse us in passing great bales of silk as coals, see this amended and charge what is short of our due consulage."—(*Dom. S.P.*)

A Countess at Fault. 1651. Instructions of the Council of State to the Committee of Examiners ordering the silks seized in coming from foreign parts, belonging to the Countess of Devonshire to be delivered to her, she paying the duties.—(*Dom. S.P.*)

Employment of the Silk Trade. 1681. "England hath already the principal Trade of Woollen Manufactures and now a quicker vent and export for them than ever it had in the memory of any man living. But throughout Christendom I have ever been of the Opinion that generally speaking there are more Men and Women in Silk Manufactures than in Woollen; of which likewise England hath obtained a considerable part,

considering the short time since our Silk Broad Weaving began ; which was but since Mr. Burlimach brought in Silk Diers and Throwsters, towards the end of the late King James or beginning of King Charles the First's Reign. And I am credibly informed the number of Families already employed therein in England doth amount to above 40,000. Now what should hinder but that in a few years more, this Nation may treble that number in such manufactures ; since the East India Company have of late years found out a way of bringing raw silk of all sorts into this Kingdom cheaper than it can be afforded in Turkey, France, Spain, Italy, or any other place where it is made. Insomuch, as with East Indian Silks we serve Holland, Flanders and some other markets from England.—(" A Treatise Wherein is Demonstrated That the East India Trade is the most National of all Foreign Trade.")

1681. "The Silks which the Company commonly bring in are the main part of them Taffaties and other plain or striped Silks and Pelongs, such as are not usually made in England but imported from France, Italy and Holland ; where lately when Pelongs were scarce, many were made and imitated at Harlem and and from thence imported into England . . ."

The East India Company's Imports.

"Taffaties, Sarcenets, &c., which are brought from India cheaper than than they can make them at Home. Whereas in England our Silk Manufacture consists not in these plain silks but in Flowered Silks and Fancies, changed still as often as the Fashion alters . . ."—(A Treatise, v. *supra*.)

1681. "The Dutch have a standing Contract with the King of Persia for all his Silk ; which may amount to 600 Bales yearly."—(A Treatise, v. *supra*.)

The Dutch and Persian Silk.

1689. An Act for the Discouraging the Importation of Thrown Silke :

Whereas the Importation of some sorts of Throwne Silks with this Realme is greatly prejudiciall to the Exportation of the Woollen Manufactures thereof and tends very much to the Impoverishing great Numbers of Artificiers whose Livelyhood and Subsistance depends upon the Throwing of Raw Silk and if longer permitted may endanger the Overthrowing of that Art or Mistery in the Nation : And whereas of late great quantities of Throwne Silke have bene imported from severall Parts—Places in Europe which are not the places of its Growth or Production and thereby the true interest and meaning of the Art made in the twelfth years of King Charles the Second Entitled An Act for the Encouragement and Increasing of Shipping and Navigation is evaded : For the prevention of which mischiefs and for the better Encouraging the severall Manufactures of this Kingdome and of that usefull and Nationall Trade with Turkey and the better supporting the Art of Throwing Silke in this Realme and the Poore therein employed, Bee it declared and enacted . . . That the Throwing of Silk is not nor ought to be construed a Manufacture within the intention of the said Act for the encouraging and Increasing of Shipping and Navigation and that noe Throwne Silke of the Growth or Production of Turkey, Persia, East India or China or of any other Country or place (except onely such Throwne Silke as is or shall be of the Growth or Production of Italy, Sicily or of the Kingdome of Naples and which shall be imported in such Shippes or Vessells and navigated in such manner as in the said Act of Navigation is directed or allowed . . . and which shall come directly by Sea and not otherwise) shall at any time after the five and twentyeth day of May in the yeare of our Lord one thousand six hundred and ninety be brought or imported into the Kingdome of England Dominion of Wales the Islands of Jersey or Guernsey or the Towne of Berwicke upon Tweede under the Penaltie and Forfeiture of all such Throwne Silke soe imported . . . one moyety whereof shall be to the use of the King and Queene Majestyes . . . and the other moyety thereof to such person or persons as shall seize informe or sue for the sume to be recovered by Bill Plaint

Silk and the Woollen Manufacture.

An Embargo on Eastern Silk.

Information or other Action in any of their Majesties Courts of Record wherein noe Essoigne Protection or Wager of Law shall be allowed.

1693. An Act for the importation of fine Italian, Sicillian and Naples Thrown Silke :

The Use of Italian Silk. " Whereas it hath been found by experience that the importation of Italian, Sicillian and Naples Silk by the ways prescribed by (Act 2 W. & M.) in regard of the great difficulties and hazard occasioned by the present War with France is greatly prejudicial and if longer continued will endanger the losse of the Silk Manufactory of this Nation be it therefore enacted . . . That from and after the Twentieth day of December One thousand six hundred ninety and three it shall and may be lawfull to and for any person . . . to import or bring into this Kingdom from any Part or place whatsoever (excepting the Ports of France) during the present Warr with France and three months after fine Throwne Silk of the growth or production of Italy Sicily or Naples.

Names of Italian Qualities. Provided always That this Act nor any thing herein contained shall extend to give liberty to bring over land and import any Italian thowne silke that shall be courser then a sort thereof knowne and distinguished by the name of Third Bolonia Nor any Sicillian Throwne Silk that shall be courser then a sort knowne . . . by the name of Second Orsoy nor any sorts of Silks commonly called Trams of the growth of Italy Sicily or Naples . . .

1662. 14 Car. II, p. 407, Vol. V. An Act for regulating the Trade of Silk throwing :

The Throwsters Company. Whereas the Company of Silke throwers within the City of London and Liberties and all their Servants and Apprentices within foure Miles thereof were *quinto Caroli primi* incorporated and made one body politique and are known by the name of the Master Warders Assistants and Commaltie of the Trade Art or Mystery of Silke throwers of the City of London: And whereas the said trade is of singular use and very advantageous to this Common wealth by imploying the Poore there being imployed by the said Company (as is expressed in their Petition) above Fourty thousand Men Women and Children who otherwise would unavoidably be burthensome to the places of their abode: And whereas the present Governours of the said Company . . . pray an Enlargement of their Charter whereby they may be the better enabled to avoid the many Deceipts and Inconveniences they dayly meet withall by Intruders who have not beene brought upp Apprentices to the said Trade and others who settle themselves beyond the limitts of the said Charter on purpose to avoide the Searches and Supervision of the said Governours by which meanes they are att Liberty to make and vend what wares they please to the disparagement of the said Trade and discouraging of the Petitioners and all others . . . that have duely served Apprentice :

Throwsters' Apprentices. For remedy whereof Bee it enacted . . . That from after the Twenty fifth day of December . . . in the yeare of our Lord One thousand six hundred sixty and two no Person or Persons whatsoever shall directly or indirectly use exercise continue or sett up the said Trade Art or Mystery . . . unlesse such as are or shall be Apprentices . . . or shall have served seven yeares Apprentiship thereunto att the least upon pain that every person so offending . . . shall pay forfeit and lose the sum of Forty shillings for every moneth the said persons shall use and exercise the said trade . . .

Be it further enacted . . . That all and every person persons whatsoever now using or exercising as Masters the said Art Trade or Mystery . . . att the least within the said Cities of London and Westminster and the several suburbs thereof or within twenty miles compasse of them . . . shall be admitted and are enjoyned to enter themselves into the said Societie or Corporation . . .

Thefts of Silk. And whereas there is a necessity lying upon the Silk throwers to deliver to these Winders or Doublers considerable quantities of silke which being of good

value is by evil disposed person many times unjustly deceitfully—falsly purloined imbezeled pawned sold and detained to the great damage and sometimes the utter undoing of the Thrower who employes the said person. Bee it further enacted . . . That every such silke winder and doubler who shall att any time . . . purloyn imbezell &c. any part of silk delivered . . . by any Silk thrower . . . that in every such case . . . the Winder or Journey man so offending as the buyer and Buyers Receiver and Receivers of such Silke being thereof lawfully convicted by confession of the party . . . or by one Witness upon Oath in give and make to the party and parties greived such recompence and satisfaction for such their damage and losse and charges . . . as by the said Justice or Justices or Cheife Officers shall be ordered and appointed.

Provided that no more damage be given or awarded then the party greived shall prove hee is damnified and hath expended . . . And if the party or parties shall not be able or sufficient to make recompence . . . nor doe make recompence or satisfaction within fourteen dayes . . . then the Party or Parties . . . shall be apprehended and whipped or sett in the Stocks in the place where the Offence is committed or in some Markett Towne in the said County neare unto the place . . . and for the second Offence to incur the like or such further punishment by whipping or being put in the Stocks as the Justices of the Peace . . . shall in their discretion thinke fitt and convenient . . . Provided alwaies that it shall and may be lawfull to and for any Freeman of the said Company of Silk Throwers to sett on work and employ any Person or Persons being Native Subjects to His Majesty and no others whether they be Men Women or Children to turn the Mill tye threads double Silke and wind Silke as formerly they have used to doe although such Person or Persons . . . shall not have served or been bred up as Apprentices to the Trade . . .

The
Stocks
for
offenders.

Provided and be it enacted that the said Corporation shall not by vertue of this Act . . . make any Orders Ordenance or By-Lawes to sett any Rates or Prices whatsoever upon the Throwing of Silk to bind or inforce their Members to worke att but that their respective Members shall be left att Liberty to contract with their respective Employers and also with the Person that they employ at such Rates as they . . . shall agree upon.

1692. A Joint-stock Throwing Company.

Proceedings upon the petition of John Sherbrook, Samuel Howard, Robert Aldersey and Humphrey Simpson of London, merchant, Thomas Bates, Barton Hollyday and Thomas Lessingham of London, silk throwers on behalf of themselves and others. They show that they and several others concerned with them have, with great expense and industry, brought to practice a certain useful and cheap way, by engines, of winding the finest raw silk which was formerly brought ready wound, spun and twisted from Italy. They propose to bring raw silk from Italy, Turkey and other countries, and by that means to employ vast numbers of poor people and save considerable sums of money paid for the silk now imported ready twisted from foreign parts. In regard such undertaking will require several thousand pounds stock for the management of the same, which amount be raised nor the undertaking so well managed as by a joint stock, they pray to be incorporated by the name of the Governor's Company for working fine raw silk. —(*Dom. S.P.*)

Improvements in
Silk
Throwing.

1692. Warrant to prepare a Bill. Provisoes to restrain the Corporation from throwing or winding any Turkey silk.

1696-7. Portions of an Act for the Encouragement of the Manufacture of Lustrings and Alamodes.

A Relief
from
Sealing.

And whereas several Weavers have certaine Pieces of Black Alamodes and Lustrings by them which have been sealed by the Officers of the Customs or Royal Lustring Company and are lyable by Law to be forfeited . . . and the said Weavers would incurr other Penalties yett in Commiseration of their condition itt is hereby further enacted that all and every such Pieces of Alamodes and Lustrings as doe or shall appeare upon both by One or more credible Witnesses (who have never been prosecuted for importing Goods without paying the Duties . . .) to be manufactured within this Realm . . . shall be brought to the Royal Lustring Companies Warehouse and the Evidence . . . being there produced shall be marked and sealed gratis . . .

And be it further enacted That all Black Alamodes and the Lustrings where-soever manufactured which shall be formed in the Custody or Possession of any Person or Persons not marked and sealed with the Mark and Seale of the Custom House or of the Royal Lustring Company . . . are hereby declared and adjudged to be forfeited.

1697-8. An Act for settling and adjusting the Proportion of Fine Silver and Silk for the better making of Silver and Gold Thread :

Regulations
for
Wrapping
Wire.

“No guilt wire shall be couloured with Verdigrease or Dead Head or any other forced Colour . . . And for all Gold and Silver . . . reduced into Plate there shall be allowed at the least Six Ounces of plate to cover Four Ounces of Silk the finest of which Silk shall not run above Sixteen Yards to the Peny Weight Troy . . .

“For the future all Gold and Silver Plate shall be spun close upon well boiled and light dyed Silk only (except Frost being run thin and spun upon differing coloured Silk).”

1697-9. The Lustring Company's Silk. And whereas the said Royal Lustring Company have Seventeen Bails of Fine Italian Thrown Silk in Amsterdam . . . (Statutes.)

1709. An Act for employing the Manufacturers by encouraging the Consumption of Raw Silk and Mohair Yarn :

Whereas the Maintenance and Subsistence of many Thousands of Men Women and Children within this Kingdom depends upon the making of Silk Mohair Gimp and Thread Buttons and Button-holes with the Needle and great Numbers of Throwsters Twisters Spinners Winders Dyers and others are employed in preparing the Materials . . .

And whereas the Silk and Mohair . . . is purchased in Turkey and other Foreign Parts in Exchange for the Woollen Manufacture of Great Britain . . . an Act was made in the Tenth Year of the Reign of His late Majesty King William the Third (of glorious memory) intituled an Act to making or selling Buttons made of Cloth Serge Drugget or other Stuffs . . . but that the intended Encouragement by the said Act has in a great Measure been rendred ineffectual by a late and unforeseen Practice of making and binding of Button-holes with Cloth Serge Drugget or other stuffs . . . to the great Discouragement of and Abatement in the consumption of Raw Silk and Mohair Yarn and the utter ruin of numerous Families. Be it enacted . . . that no Taylor and other Person whatsoever . . . shall make sell set on use or bind . . . on any Clothes or Wearing Garment any Button or Button-Holes made of or used or bound with Serge Drugget Frize Camblet or any other Stuff of which clothes are usually made upon Forfeiture of the Sum of Five Pounds for every Dozen of such Buttons and Button Holes.

The
Regulation
of Button-
Covering
and
Button-hole
Bindings.

1719. Defoe on the Spitalfields Riots.

“This is certainly a Truth that none can Contradict, that the Humour of the People running so much upon the wearing painted or printed Callicoes and Linnen, is a great Interruption to our Woollen and Silk Manufactures, lessens thus Consumption, and by Consequences takes from the Poor so much of their Employment as bears a Proportion to the Decrease of Consumption.

“ . . . The universal Female Fancy that pushes us upon such a great Consumption of Callicoes gives room for ; and sets all our Trading and Sea-faring People upon running in a prodigious quantity of Foreign Callicoes, that is to say Callicoes printed by Foreigners.”—(*Mist’s Journal*, June 27.)

1719. “We are oppressed and insulted here in the open streets . . . we are abused frightened, stript, our clothes torn off our backs every day by Rabbles, under the pretence of not wearing such clothes as the Weavers please to have us wear.”—(*Mist’s Journal*, Aug. 15.)

1719. “We will find out particular Manufactures suitable for our wear, and fix our fancies upon them, beautify and adorn them in our own Work, and make them as gay and as Pretty together as Callicoes, such as Spittlefields never saw . . . Let the Weavers therefore consider . . .”—(*Mist’s Journal*, Sep. 12.)

1739. Goods made of long wool, silk, mohair and cotton mixed :—

Norwich crapes.	Stockings.	Alapeens.	Northamp- tonshire Manu- factures.
Silk druggets.	Spanish poplins.	Anterines.	
Hair Plush.	Caps and gloves.	Silk sattenets.	
Hair camblet.	Venetian poplin.	Bombasins.	

and divers sorts of different stuffs both figured, clouded spotted, plain and striped, too tedious to name.—(“Observations on Wool, and the Woollen Manufacture by a Manufacturer of Northamptonshire.”)

1760. The East India Company introduced the Italian mode of reeling silk into India.

1783. The English Silk Duties.

The saying of Dr. Swift that in the arithmetic of the Customs two and two, instead of making four, make sometimes only one, holds perfectly true in regard to such heavy duties, which ought never to have been imposed.—(*Ency. Brit.*) Dr. Swift on the Silk Duties.

1783. The Export Bounties.

The bounties sometimes given upon the exportation of home production and the drawbacks which are paid upon the re-exportation of the greater part of foreign goods have given occasion to many frauds and to a species of smuggling more destructive of the public revenue than any other . . . The goods, it is well known, are sometimes shipped and sent to sea, but are soon after clandestinely re-landed.—(*Ency. Brit.*) Re-Landed Goods.

1800–25. Bombazines in Keighley.

These goods were made with silk warps and worsted weft spun from fine Norfolk or Kent wool, the worsted being thrown upon the face. There were two widths of this article, the narrow about 18–19 inches and the broad 40–50 inches wide. They were principally sent abroad. The late John Rishworth, Fell Lane, made this class of goods in the first quarter of the 18th century.—(*Textile Manufacture in Keighley*, John Hodgson, 1879.) Yorkshire Bombazines.

1822. British Crape.

Worsted
Crape.

Stephen Wilson patented (No. 4714) his "British Crape," employing two wefts of worsted on a common worsted or other warp; these wefts being spun from five to seven times harder than for ordinary weaving and having their twist in opposing directions.

1825. Advertisement at Macclesfield, 19th February.

Macclesfield
Workpeople.

"To overseers, guardians of the poor and families desirous of settling in Macclesfield.

"Wanted immediately from 4—5,000 persons from seven to twenty years of age to be employed in the throwing and manufacturing of silk. The great increase of the trade having caused a great scarcity of workmen, it is suggested that this is a most favourable opportunity for persons with large families and overseers who wish to put out children.

"Applications to be made, if by letter post-paid, to the printer of this paper."

1825. Advertisement at Macclesfield.

"Wanted to be built immediately one thousand houses."

1826. Manufacturers' Costs.

"Some of these statements make the cost of manufacturing plain goods in this country 44 per cent. above that in France and considerably more on figured and fancy articles."

Mr. John Williams, Member for Lincoln:

"The business of silk-throwsters occupied about one-third of the capital in the Trade."—*Hansard*, 23/2/1826.

(Mr. Ellice's Motion for a Select Committee on the State of the Silk Trade.)

1835. Failures of Throwsters.

Want of
Capital.

"The late failure among the English throwsters may be ascribed to their want of sufficient capitals in a trade so susceptible of variation from the caprices of fashion and from the fluctuation of the money market.—(Ure's *Philosophy of Manufactures*.)

PATENT SPECIFICATIONS.

SOME 17TH CENTURY PATENTS.

1681. No. 213. John Joachim Becher; a new way or instrument for the winding of silks.

1690. No. 265. John Barkstead; the winding and throwing of silks.

SOME 18TH CENTURY PATENTS.

Lombe's Patent.

1718. No. 422. Thomas Lombe: "Found out and brought to perfection three sorts of engine; one to wind the finest raw silk, another to spin and the other to twist the finest Italian raw silk into organzine in great perfection, which was never before done in this our kingdom.

1725. No. 482. Thomas Teeton: "An engine or machine called a straiter for the better and more easy perfecting the throwing and manufacturing of all sorts of fine, single and double raw silk."

1703. No. 519. Richard Wilder: Improvements in throwing.

1733. No. 542. John Kay : The fly-shuttle.

1744. No. 611. George Garrett : Method of combing wool with silk to be used instead of mohair yarn for "lutherines, rufferines, princes stuff or prunellas which was chiefly used in making clergymen's gowns."

1765. No. 823. Richard Williams : Making fine thin and light cloth of silk and wool with the same appearance as superfine Spanish cloth and Irish ratteen ; the warp of slack thrown silk, the shoot "superfine Spanish abb yarn."

1769. Richard Arkwright : Water frame.

1770. No. 960. Peter Noaille : Crossing silk in throwing.

1770. No. 974. Thomas Crawford's Winding, tramming and doubling.

1772. No. 1009. Samuel Unwin : Machinery for "winding, doubling and running of silk, &c."

1772. No. 1013. John Crumpler : Throwing to make silk and tiffany.

1776. No. 1123. James Woolstenholme : "New kind of goods 'velvateens,' being an improvement on velvarets, 'far superior.'"

1784. No. 1437. Joshua Bennett : A stuff called "Prince's everlasting union" of worsted, mohair and silk.

1786. No. 1524. Nicholas Gordelier : Throwing and winding.

1787. No. 1606. Thomas Sandys : Throwing and organzining.

1792. No. 1896. Peter Atherton : Machine for twisting, winding and doubling.

OLD ADVERTISEMENTS.

1813. Tottenham Mills.

TO SILK-THROWSTERS, Manufacturers, and others, requiring substantial and extensive Premises, most judiciously planned, capable of carrying on one of the first concerns in the Silk Line in all its branches, with a powerful Steam Engine on the most approved principle, well supplied, four miles from London, and near the navigable river Lea.—To be SOLD, by Private Contract, all those newly-erected Premises, called Tottenham Silk Mills, comprising a good family House, with three others, and one for the superintendent, with large garden, yards, engine-house, and requisite buildings ; two factories, four stories high, one of which is completely fitted up with machinery, on the new and most approved principle, ready for use, and warmed by steam pipes ; the whole is inclosed by a high boundary wall ; adjoining which is about 10 acres of very rich meadow land, well supplied with water ; the whole held under a very long lease, at a moderate ground-rent. For particulars apply personally on the premises. Time will be given for payment on approved security.—(Advertisement.) *The Times*, 31st Dec., 1813.

1813. Parish Children.

TO PARISH OFFICERS. Wanted immediately, 10 or 12 HEALTHY STRONG GIRLS, for a silk manufactory in the country, from the age of nine to twelve years—the utmost care will be taken of the children's morals and health. School will be kept of a Sunday, for their education; 20 or 30 more will be wanted soon. Enquire at No. 18, Paternoster-row.—(Advertisement.) *The Times*, 1st Dec., 1813.

1813. A Sales Notice.

AUTUMN and WINTER DRESS, in all seasonable colours, of the best quality, in velvets, superfine Merino wool cloths, poplins, lustres, bombazeens, cottage stuffs, sarsnets, satins, elegant long and square silk India shawls, veils, hosiery, &c., to the amount of 20,000*l.*; together with an entire new elegant article for Dresses, peculiarly adapted to the autumn season, and warranted for durability, at only 3*s.* a yard, worth 5*s.*, the whole of the above having been purchased in lots for ready money, from the needy manufacturers, which enables the proprietors to submit them to the inspection of the fashionable world, on singularly advantageous terms, viz., from 20 to 50 per cent. cheaper than the regular trade prices; by way of explanation of the charge of the whole, the prices of the velvets and Merino wool cloths for pelisses and mantels, are from 3*s.* to 6*s.* under the regular charge; the satins, lustres, bombazeens, poplins, and plain and twilled sarsnets, from 1*s.* 6*d.* to 4*s.* under price; the long and square India silk shawls, and all articles of family mourning, are equally cheap. This will well suit ladies or gentlemen who have commissions. No abatement is ever made from the marked price.—R. THOMAS and Co., 193, Fleet Street, corner of Chancery-lane.—(Advertisement.) *The Times*, 17th September, 1813.

1813. Fashionable Goods.

SUPERFINE CLOTHS and VELVETS for Ladies Dresses, in the following and other fashionable colours: emerald greens, beet roots, rubies, maroons, crimson, scarlets, carmine purples; also innumerable shades in elegant drabs, together with black and white, and various other colours; also sattins, poplins, bombazeens, lustres, sarsnets, and family mourning. The largest stock in London of the above prime articles are offered to the fashionable public by THOMAS and Co., west-corner of Chancery-lane. The above stock will be an acquisition to Ladies or Gentlemen who have large commissions, or traders, who have to recharge their goods, having been purchased under peculiar circumstances, 20 to 40 per cent. saved. T. and Co. make no profession of manufacturing, but remind purchasers that ready money is the loom amongst makers and other dealers that commands goods at the lowest prices. No abatement from a regular marked price. Letters must be paid.—(Advertisement.) *The Times*, 27th November, 1813.

1813. The Shawl Trade.

ORIENTAL and EUROPEAN COSTUME.—EVERINGTON respectfully announces to the Nobility, Merchants and the Public, that he has on sale a splendid Selection of Indian, Scotch, Parisian, Abyssinia, Patent Seal Wool, Cashmere, Vigonia, La Plate, Valencia, Merino, Welch Whittle, and Don Cossack Shawls. The designs are the most magnificent of Oriental and European costume, the colours beautifully variegated, and of matchless brilliancy. To be had exclusively at his Warehouse, wholesale, retail, and for exportation. The full value given for India shawls, fine worked muslins, &c.—10, Ludgate-street, near St. Paul's.—(Advertisement.) *The Times*, 29th November, 1813.

1813. SATIN GAUZE.

"We understand that the grand article now in request among the most distinguished Belles of Fashion is the beautiful Cossack Satin Gauze, manufactured solely by Layton and Shears, No. 11, Henrietta-street, Covent-garden; it is an article of unprecedented beauty. The superb collection of white and coloured satins, rich figured sarsnets, &c., are sold at the above celebrated house, at 5s. in the pound cheaper than any where else in the metropolis."—(Advertisement.) *The Times*.

QUOTATIONS.

A Kachari Proverb (Assam):

"If the milk is good what matters the quantity;
If the cloth is silk, what matter if it be torn."

—(*Silk Cloths of Assam*, B. C. Allen.)

1541. An Act for Greate Horses :

"And all and every other person temporall . . . whos Wiff . . . shall were any gown of sylke . . . or any Frenche hood or bonnet of Velvett . . . shall kepe one (charger) for the Saddill."

Silk-weaving
and the
National
Defence.

1699. "The Weavers and Silk and Mohair Throsters of London are so very Numerous a Company, that according as they flourish or fail, most other Trades feel the good or ill effects of it.

Contem-
porary
Progress.

" . . . From the Restoration of King Charles the Second, to the beginning of the present Revolution, this profitable and necessary Broad-Weaving Trade was increased 19 parts in 20 to what it was before.

" . . . That happy and Ingenious Invention of both Silk and Worsted Crapes, gave new Life both to the Wooll and Silk Manufactory.

" . . . This profitable and necessary Trade of Silk throwing and weaving, by which vast Multitudes of People . . . lately lived comfortably. First in the winding it raw, whereby Thousands of Seamens Wives and Children and other People many miles round the City (who now starve) earned their Bread, to perfect it for the Throster.

Seamen's
Wives as
Silk-
workers.

" . . . When our London and Canterbury Weavers against the Spring-trade have provided many Thousand pounds worth of Lustrings Tabby's, and other as good Silks as the World can afford, in comes an East India ship freight with Dammask and Sattins, which being exposed on their Stage makes the Mode for that Spring; and the English Fabricators must keep that years Goods, or sell them to vast loss . . . Thus for several years have the London and Canterbury Weavers been disappointed . . . and fallen into worsted Weavers."—"England's Advocate." "An Intreaty for Help in Behalf of the English Silk-Weavers and Silk Throsters." 1699.

Eastern
Com-
petition.

1719. "How can we sit still and see the Bread-taken out of our labouring Peoples Mouths, even by those very Men who ought to be equally concerned with us to prevent it? The Weaving and Use of Callicoos is evidently the Ruin of our Manufactures. . . . 'Tis a great Mistake to suggest that Spittlefields alone complains. . . ."—"A Brief State of the Question between Callicoos and the Woollen and Silk Manufacture." 1719. Anon.

The
Competi-
tion of
Cotton.

"It is not the printed Callicoos or Linens that hinder the Manufacture of Raw Silk, but the great Quantities of wrought Silks imported from Holland and Italy."—"A Brief Answer." Mr. Asgil, 1719.

Dutch and
Italian
Silks.

1735. The Silken Trade in Ireland.

The
Irish
Industry.

"Eight Silk-Throwers may work fine and coarse Silk Weekly 300 Weight, besides Italian-thrown Silk made use of. Ribbons and Silks made in Ireland are good, as are their Shaggs, Velvets and Garden-Sattins, and Brocades of Silk, Gold and Silver, equal those made in England; but the Expence attending the several Operations Silk pass through, before compleatly Manufactured, being much the same in Ireland as in England; Irish-made Silks are not to be exported to Profit."—"Thoughts on Trade" (presented in MS. to several Members of Parliament). By E. A. Lloyd, Silkthrowster.

1828. Average Rates of Throwing in England.

SIMPLE FAÇON OR WEIGHT AND WASTE.

			<i>Deniers.</i>	<i>s. d.</i>
Italian or Bengal Tram	..	for	24 to 30	2 9 per lb.
Do.		"	30 " 40	2 3 "
Do.	Singles	"	40 " 50	1 9 "
Do.	Do.	"	50 " 70	1 6 "
Orgazine	..	..	18 " 22	5/- to 5 6 "
Do.	..	..	24 " 29	4 6 "
Do.	..	..	30 " 48 avg.	4 0 "

N.B.—At these prices no washing of silk is allowed. If washing be allowed, the Throwster would gladly undertake it at 1/- per lb. less.

GRANDE FAÇON (Weight for Weight).

			<i>Deniers.</i>	<i>s. d.</i>
Orgazine	..	..	24 to 28	6 0
Do.	..	..	28 " 50	4 9

BRUTIA SILKS.

Fine Singles	..	..	} <i>Simple Façon.</i>	<i>Grande Façon.</i>
Middling Do.	..	..
Coarse Do.	..	..
			2/-	2/9

COSTS IN FRANCE AND ENGLAND.

<i>England.</i>		<i>s. d.</i>	<i>France.</i>		<i>s. d.</i>
Cost in Italy	..	20 0	Cost in Italy	..	20 0
Export Duty, Lombardy	..	10	Export Duty	..	10 0
Expenses to Calais	..	5	Expenses to Lyons	..	2
Import Duty	..	1	Throwing	..	2 2½
Throwing in England	..	2 9	Waste, say 5 per cent.	..	1 1½
Waste, say 5 per cent.	..	1 2½			
		25 3½			24 4¼

AVERAGE PRICE OF WEAVING PER YARD.

		<i>In France.</i>	<i>In England.</i>
Gros de Naples	..	6d.	7d.
Figured dress silks	..	8d.—9d.	1/-
Light Satins	..	6d.	7d.
Heavy Satins	..	10d.	1/-

—A View on the Silk Trade, 1828. Richd. Badnall, London.

1828. "I cannot avoid expressing my decided opinion, that where a Silk factory is fully employed and where the machinery is good, at the present price of Throwing Silk, and at the present low rates of wages, the Silk Throwster can have no cause whatever to complain."—(Badnall.)

BRITISH MUSEUM AND GUILDHALL RECORDS.

The records of the Guildhall and the British Museum throw considerable light on conditions in the silk trade at various periods, and in what follows some of the more interesting of these records are reproduced in chronological order. Those at the Guildhall it will be noted date from the early part of the 16th century and those from the British Museum from the early years of the 17th century.

The records deal with a great variety of subjects particularly with the relations between immigrants and home weavers and the enactments made from time to time to preserve the purity of silk fabrics.

GUILDHALL RECORDS.

17th June. Thomas Exmewe, Mayor [1518].

At this Court came George Medley and Edmund Wotton Wardens of the Mercers and presented to the same Alverey Ravson mercer to whome they have geven th'office of Coen Weier of Silks in the stede and place of Thomas fisher deceased. Et admissus etc.—*Letter Book, N, fo. 82b.*

11th February, 9 James I [1611–2].

Whereas the righte honorable the Lord Maior having received informacion of a greate quantity of corrupte and folshe silke comonly called heavy Waighte silke which was locked opp in a great Chest in the house of Josephe Cocke a silkeman free of this Citie did therevpon send some officers to make searche for the same, who being resisted by the said Cocke and absolutely denyed to have righte or searche thereof his Lopp. did therevpon comit the said Cocke to prison for his contempt and disobedyence therein. And afterwardees conventing him to this Courte upon Saterdag last who in open Courte being demaunded whether he wold submitt himselfe to the authority of his Lop. and suffer the said silke to be serched and seene and so to be enlarged of his ymprisonment he utterly refused so to doe offering bayle for his fourthcominge and thincking thereby to avoyd any course that should be taken by his lop. for the serche and vew of the said silke. Wherevpon the said Cocke being convented before the righte honourable the Lordes and others of his Matyes. most honorable Privy Councill vpon Sunday last and there Loppes. having heard at large what could be objected by Cocke in his excuse. And finding his aunswere full of obstinacy and neglecte of his Lops. authority in this behalfe did order and decree that Mr. Sheriffes or either of them should repayre to the house of the said Cocke and there take Inte order for the searche and vewe of the said silke in the presence of the said Cocke and to proceed with it yf it should be found false and defectiue according to the vsage and custome of this Citie in like cases. And further the said Cocke was by there Lops. comitted to the Marshallsey vntill other order be taken where he now remayneth. Now this day Mr. Sheriffes made reporte to this Courte That they in the prsence of Mr. John Gore Mr. Aldram Deputy Mr. Dyos the cities remembrauncer and other good citizens, and also in the presence of the said Josephe Cocke himselfe who was sent for to that purpose caused the chest to be opened and ther found two hundreth thirtye fower poundes and six ounces of heavy dyed silke which they caused to be delivered to the custody of the Chamblaine of this citie. This Courte (approving and allowinge the carefull proceeding of Mr. Sheriffes) doe order that an Inquest of Office be presently drawne and a Jury sumoned to be sworne tomorrowe morninge in the Kings Courte holden before the Lord Maior and Aldren of this City to enquire whether the said silke be falsely and corruptly dyed to the deceipte of his Matyes. subiects yea or no. To th'end such further proceedings may be taken as shalbe fitt.—*Letter Book, E.E., fo. 36.*

Letter from Sir Thomas Bromley, Lord Burghley, the Earl of Sussex, Sir James Croft, Sir Christopher Hatton and Sir Francis Walsingham.

From *Letter Book Z*, fo. 134. Also entered in *Journal 21*, fo. 104.

After our right hartye comendacons. Whereas the Queenes Matie. ys geven to vnderstand that of late the pryces of Velvets and all other sylkes are verye much enhanced w'thout any iust cause, onelye vppon a greedye desyre of Gayne to sell the same at their pleasure at this tyme appoynted for a solempne assemblye. fforasmuche as suche gentlemen as are to gyve their necessarye attendance vppon her Maties. p.sone fynde themselves verye muche agrieved wth the excessive charge thereof, And we are credyblie enformed that not longe sythen the same were solde at suche rates or at lesse as are containyd in a scedule hearin inclosed. Wee have thught convenient to signyfye so much vnto you and to requyre you in her Maties. behalfe furthwth vppon receipt herof to send for all such psons. of anye the companyes of that Cytye as comonlye vse to sell anye such sylkes and wares and to comaunde them that from hencefurthe they forbear to sell anye sortes of suche stuffe, but accordinge to such rates as are conteyned in the said scedule as they and everye of them will vppon her highnes indignacon and there pill answere theire contempte. And so prayenge you that hereof there be no defaulte, we byd you right hartelye farewell. ffrom St. James the seconde of April 1581.

	Yor. lovinge frendes,		
Bromley Canc.	W. Burghley.	T. Sussex.	
James Croft.	Chr. Hatton.	Fra. Walsingham.	

A RATE OF CLOTHE OF GOLDE AND SILKE.

*Clothe of golde of two threedes	.. .. .	liijs. iiijd.
Of syngle threed	.. .. .	xxxvs.
Of Myllen makinge	.. .. .	xxxs.
Velvet Crymosyn	in	xxviijjs.
and purple	{ Grayne	{ xxvjs. viijd.
Velvet black	Of three pyles	xxvjs. viijd.
	Of two pyles	xxiijjs. iiijd.
	Of pyle Di ..	xxjs.
Velvet of Colors	Of Resortat	xviijs.
	Of 2 pyles	xxs.
	Of pile Di ..	xviijs.
Sattyn Crymosyn and purple, in grayne	Of Resort'	xvjs.
	Of Genoa	xiijs. iiijd.
	Of Bolonia best	xiijs. iiijd.
	Of Bolonia Second	xijs.
Sattens blacke and Colors	Of Florence best	xjs.
	Of Ordynarye	xs.
Damaske of the kyndes for the lyke pryces.		
Taffytas Crymosyn and purple in grayne the ell	..	xvjs.
Taffitas black and Colors	Rych	xvs.
	Second	xiijs. iiijd.
	Ordynarye	xjs.

* Explanation of the prices is as follows:—53/4, 35/., 30/., 28/., 26/8, 26/8, 23/4, 21/., 18/., 20/., 18/., 16/., 13/4, 13/4, 13/4, 12/., 11/., 10/., 16/., 15/., 13/4, 11/., 9/., 8/., 6/8, 5/., 4/., 13/4, 10/.

Taffetas Sarcenett the ell	{	Geon wtout corde ..	lxs.
		Wyth corde ..	viijs.
		Seconde sorte ..	vjs. viijd.
		Thyrde sort ..	vs.
		Ordynarye ..	iiijs.
Sylke grograyne	{	Of the best ..	xiijs. iiijd.
		Of the Second ..	xs.

The seconde of April 1581.

T. Bromley Canc'.
James Croft.

W. Burghley.
Chr. Hatton.

T. Sussex.
Fra. Walsingham.

Guildhall Journal I, 72b. (29 Feb., 1419-20.)

Die Jouis ultimo die Februarii Anno Henrici V^{ti}, septimo Maior Recordator Knolles Merlawe R. Chichelo Waldern' Crowmer Fauconer Wotton H. Barton W. Seuenoke Norton Widington Pyke Perueys Michell Reinwell Radulfus Barton Pyke [*sic*] aldermanii J. Botiller.

Licet tamen nullus operaretur [*sic*] infra Civitatem nisi per dispensacionem istius Curie* vel nisi liberus fuerit istius Civitatis Quia tamen alieni textores panni linei sunt pauperes et necessarij communi proficuo tocius populi Ideo per dispensacionem istius Curie admittuntur in priuatis venellis locis et sameris suis operari Ita quod dum exercent operacionem lineam sint sub scrutineo et superuisu Magistrorum liberorum Telariorum linei panni &c.

[*Translation.*]

On Thursday the last day of February in the 7th year of Henry V. The mayor, recorder, Knolles, Merlawe, R. Chichelo, Waldern, Crowmer, Fauconer, Wotton, H. Barton, W. Sevenoke, Norton, Widington, Pyke, Perveys, Michell, Reinwell, Ralph Barton, Pyke [*sic*], aldermen; J. Botiller.

Although no man may work within the city except by dispensation of this court, or unless he be a freeman of this city, yet because foreign weavers of linen cloth are poor and necessary to the common profit of the whole people; therefore by dispensation of this court they are admitted in private lanes, places, and their chambers, to work. So that while they exercise linen work they be under the scrutiny and supervision of the Masters of the free weavers of linen cloth, &c.

Guildhall Journal 4, 57b. 23 Hen. VI. [1444-5].

Die Veneris viij. die Januarij M. et Aldr. vt supra.

Isto die consideratum est quod telarii extranei recipiantur ad juramentum suum ut [solet?], et quod soluantur annuatim camerario civitatis† quinque marcas sterlingorum ad quod fideliter faciendum ipsi annuatim die recepionis Juramenti sui inueniant quator de retabilioribus‡ personis misterere sue qui se obligent per vium recognitionis ad soluendam summam supradictam Anno tunc sequenti ad quam ordinacionem perpetuis temporibus observandam ipsorum custodes astringuntur vinculo iuramenti et eorum successores imperpetuum erunt conformatim obligati pro quo summa dicti telarii erunt examinati de contribucione quacunq[ue] facienda domino Regi de pensione xx. marcarum ei annuatim soluendarum et crescente ipsorum numero crescet dicta pensis secundum ratam porcionem dicte summe ad numerum xxj. personarum predictarum [*sic*].

* *Interlined*: Videlicet festo Finis Pasche proximo.

† *Interlined*: "ad festum Iohannis Baptiste et Vatalis Domini per equales porciones."

‡ *sic*: stabilioribus?

[Translation.]

On Friday the 8th of January. Mayor & Aldermen as above.

On this day it is considered that foreign weavers be received to their oath as [is wont] and that they pay yearly to the chamberlain of the city 5 marks sterling, and that faithfully to do this they find yearly, on the day of the receipt of their oath, four of the more [substantial] persons of their mystery who shall bind themselves by way of recognizance to pay the sum aforesaid in the following year; to observing the which ordinance for all time their wardens are bound by the chain of an oath and their successors shall be for ever conformably bound for which sum the said weavers shall be examined of every contribution to be made to the lord King of the pension of 20 marks payable yearly to him, and as their number grows the said pension grows according to the due portion of the said sum, to the number of the 21 persons aforesaid.

28 Nov., 1497. Mayor and Aldermen.

Memorandum that on Tuesday the 28th November in the 13th year of the reign of Henry the Seventh it was agreed by the Mayor and Aldermen that the Indenture and Composition between the Weavers denizens and Weavers strangers should be on their Petition entered of Record :—

This Indenture made &c. between the Bailliffs Wardeyns and ffelauship of Weuers denezyns on the one ptie. and Rowland Marten henr. Asshe Willam. Taute hobard Stakefman Michell Passe, James Willamson henr. Busshe John Shillyng Simon Marten Petre Deffle Willam. Marten Cornelys Wandewell Mathewe laurens Andreau Clerk Philip Deboke Deryke Wanelew Mark Kyng Reyngnold Arde Andrewe Busshe John Holand Angell Selonder Barnard Raymond Corneles lukenor henr. Gonner and Watkyn Wandoffe Weuers alienes enhabited in the Cite of london and the suburbes of the same and in the Burgh of Southwerk on the other partie Witnesseth that where vpon dyeds variaunces and Cont'uersies before this tyme hadde and moued betwen the said parties dyeds accordes agrements and composicions haue ben had and made before this tyme, And sithen that dids variaunces and Cont'uersies hath fallen betwen the said parties aswell for the breche and non p'fourmance of the said Agrements and Composicions as for dids other maters and causes conc'nyng the said pties. in and for the exc'cisynge of their said Crafte and otherwise not comprised in the said Agrements nor Composicions, And therefore nowe for the adnowdyng and eschewyng of ye said variaunces cont'uersies and debates and for a fynale peas accorde and vnytie to be had and p'petually to contynue betwen the said parties in tyme to come. It is nowe fynally accorded Aggreed and couenanted betwen the said parties as hereaft. doeth ensue any Corporacion concord Aggrement and Composicion heretofore hadde or made betwen the said parties and their p'decessours or any of them in anywise not wt.stondyng that is to say :

the first Article It is accorded and agreed betwen the said parties that the said Weuers denezeyns Citezeyns and the said Weuers alienes enhabited and all they that hereaft. shall entrite in the said Cite Suburbes and Burgh shalbe from hensfurth hadd reputed and taken as one entier ffeliship of the said Gilde of Weuers denezeyns any Corporacion or ordenance heretofore had or made notwithstanding.

the scde. And also yt is agreed and couenanted betwen the said parties that the said Rowland Marten henr. Asshe Willam Taute hobard Stakefman Michell Passe James Willamson hern. Busshe John Shillyng Simond Marten Petre Deffle Willam Marten and Cornelys Wandewell at the specyall labor of the said Weuers denezeyns shalbe accepted taken and enhabited to be ffremen of the said Citie in the said Crafte of Weuers and haue and enjoye all the libties. and priuelages appteynyng and belongyng to the same. Also it is couenanted and agreed betwen the said parties that the said Mathewe lawrence Awdrean Clerk Philip Debloke

the iiiide.

Deryk Wanclewe Markas Kyng Reynold Arde Andrewe Busshe John holand Angell Selonder Barnard Remond Cornelys lukenor henr. Gonner and Watkyn Wandeffe and all other Weuers of Wolen or lynnyn alienes that nowe be or hereaft' shall come and be in this Realme of England shall at their pleasur set up shopp and vse their Crafte and occupacion within the said Cite Suburbes and Burgh wtoute geynsaying int'vpcion or impedymnt of the said Weuers denezeyns or of the Weuers Citizeyns of the said Cite or any of their Successours paying at the setting vp of their said Shoppes to the Weuers denezeyns and their successours iiij^s. or a juell of the same value and also paying for eu'y loome aswell lynnyn as wullyn to the said Weuers denezeyns Citezyns and their Successours yerely aft' the rate as the same Weuers denezeyns Citezyns shall pay toward their charges of their ffeoffermte to the kyng our sov'reign lord. And also it is couenanted and aggreed that if the said Weuers denezeyns Citezyns or their successours hereaft' shall enable any of the said Mathewe lawrence Awdrean Clerk Philipp Deboke Derike Wanclewe Markas Kyng Reynold Aide Andrewe Busshe John holand Angell Selonder Barnard Remond Cornelys lukenor henr' Gonner or Watkyn Wandoffe or any oth' Weuers aliene or Straunger that shall hereaft' sette vp shop in the said Cite Suburbes Burgh to be accepted fremen in the said Cite of the same Crafte that then all such p'sones as they shall so enable shalbe come fremen of the said Cite of the same Crafte if the pryuelages rules and ordenances of the said Cite will it suffre withoute any thing paying to the said ffealiship of Weu's denezeyns but to pay such charges as shalbelong onely to the Chambre of london. And also it is aggreed betwen the said parties that the said Mathewe laurence Awdreaw Clerk Philip Deboke Deryk Wanclewe Markas Kyng Reyngold Arde Andrewe Busshe John holand Angell Selondre Barnard Remond Cornelys lukenor henr' Gonner and Watkyn Wandoffe and all oth' Weu's aliens Straungers that shall sette vp shopp in the said Cite Suburbes or Burgh shall accept and sette aworke all workemen instructed in the said occupacion aswell foreyns and alienes as denezeyns wt'oute lette or Int'upcion of the said Weuers denezeyns or Citezyns or their Successours. And also it is aggreed that the said Rowland Marten henr' Asshe Willam Taute hobard Stakeman Michell Passe James Willamson henr' Busshe John Shillyng Simond Marten Petr Deffle Willam Marten Cornelys Wanderwell Mathewe lawrence Awdreaw Clerk Philip Debocke Deryk Wanclewe Markas Kyng Reyngold Arde Andrewe Busshe John holand Angell Selondre Barnard Remond Cornelys lukenor henr' Gonner and Watkyn Wandoffe shall have and enjoye all such Apprentices Journeymen an S'aunts as they nowe have accordyng to their Couenantes and Aggrements withoute lette or int'rucion of the said Weuers Citezeyns or their successours. And that from hensfurth the same Weuers Straungers shall in nowise take an App'ntice but if he be born vnder ye obleyzaunce of the Kyng our sov'reign lord. And also it is aggreed betwen the said parties that the said Mathewe lawrence Awdrean Clerk Philip Debocke Derik Wanclewe Markas Kyng Reyngold Arde Andrewe Busshe John holand Angell Selondre Barnard Remond Cornelys lukenor henr' Gonner and Watkyn Wandoffe and all others Weuers alienes Straungers that hereaft' shall sette vp Shopp wt'un the said Cite Suburbes or Burgh their s'aunts or Journeymen shalbe vndre the obedience rule correccion and gov'nance of the said Weu's denezeyns Citizeyns and their successours. And also it is aggreed that eu'y eleccion of the Baillies or Wardeyns of the said Gilde or Weuers denezeyns ij. p'sons of the Weu's Straungers for the tyme beyng fremen of the said Cite shalbe chosen and admitted to be Baillies or Wardyns of the same crafte with other p'sons to be chosen by Englishshmen so that one of the said Weu's aliens so chosen and admitted to be one of the Baillies of the same Crafte and that the other so chosen and admitted to be a Wardeyn of the same Crafte And also it is aggreed that aswell as James Cok shall have either of them wekely of the Aliens of the said Weu's Citezeyns and

the iiiith.

the vth.

the viith.

the viiith.

the viiiith.

the ixth.

the xth.

the *xith.* their Successours vij. during their lyues &c. Also it is ordeigned and agreed between the said parties that the said Weuers Straungers at noo tyme hereaft' amonge them self shall make assembles or Congregacione of any Guyld or Brederhed oute of the ffeaulship and Guyld of the said Weuers denezeyns in eschewyng of dyverse Inconvenyences that might ensue thereof but that they may joyntly and holly hold assemble with the said Weu's denezeyns ffurther-
 the *xiiith.* more it is agreed between the said p'ties that what p'son so eu' of them or of their Successours that breketh or disobeyeth the said Composicions and Aggrements or any of them shall forfait and lese for eu'y such breche or disobeysaunce xs. st'l the one half th'of to be applied to th' use of the Chambre of london and the other half to the co'em boxe of the said ffeaulship.—*Journal* 10, fo. 113.

Court of Aldermen. 15th May, 9 Elizabeth [1567].

Item yt was ordered that the Wardens of the Carpenters and Hurp' the Carpent' of the bridge house shall view the Weavers newe hall and esteme as nere as the[y] can whither the carpenter that made yt did ou'see himselfe in making of the price for the doinge thereof or not and make reporte here of there opinions therein wt. convenyent sped.—*Repertory* 16, fo. 208.

Court of Aldermen. 1st October, 1605.

Item the petition of William Lee Mr. of Arts first Inventor of an Ingene to make silk Stockings made to this Court for his freedome of this Cittye by Redempcon, and for certein roomes to be granted vnto him in Brydewell to work in is by this Court referred to the consideracion by Sir Stephen Soame Sir John Garrard Sir Thomas Bennett Sir humfrey Weld and Sir William Romney Knights or anye three or more of them and they to make report to this Court of their opinions touching the same.—*Repertory* 27, fo. 87.

Court of Aldermen. 19th December, 1606.

Item. Whereas Wm. Halshierst Estranger havinge in his possession nine papers of black silk all of it verye rotten not merchantable nor fitt for anye good vse, and hee as himself confessed here in open court knowing the same to be defective as aforesayd procured one Henrye Sands a broker to offer the same to sell for him with intent to deceive the Kinges maiesties subiects therewith. And aswell the said Halshierst as the sayd Sands being for the cause aforesayd convented before this Court and they bothe confessing the same; It is therefore ordered and adiudged by this Court that all the sayd rotten silk saving one paper to be kept for a sample shalbe this p'sent daye burnt at the standard in Cheapesyde. And both the sayd partyes for their sayd fraudulent dealing to stand openly vppon a stage at the burning thereof wth. either of them a skayne of the sayd silk about their necks, to shewe the cause of their punishment.—*Repertory* 27, fo. 320b.

Court of Aldermen. 10th February, 1606 [1606-7].

Vppon the peticon of certein silkmen of this Cittye shewing to this honourable Court the greate abuses vsed by the Silkdyers in and about this Cittye in dyeing of Coale black silks, co'enly called London heavey dyed silk wch. silks to the greate decept of the buyers thereof have of late tyme bene vsuallye augmented by dyeing to double waight That is to saye, everye pounce to waighe two pound or more, Whereuppon the lord Maior and this court called before them all the said Silkdyers. And vppon examinacon it playnely appeared that the sayd deceptfull abuse was much encreased by certain of those dyers who have vsed to buye silks for themselves to dye and sell agayne to others and to rayse greater gayne to themselves have by deceptfull meanes added and p'cured in their owne

silks a greater and extraordinarye encrease of waight and afterwards put the same deceitfull dyed silk to sale to the king's subiects, and that some of the sayd dyers for favor or other respects have deceitfully dyed some p'ticular mens silk with a greater encrease of waight then to others for reformacon of which abuses it is ordered that all the sayd dyers shalbe everye of them bound to the kings Matie. by Recognizance in Cti. a peece wth. this condicon following vizt. :—

The Condicon of this Recognizance is such, That if the sayd Recognitor nor anye other for him, by his meanes or to his vse, neither directly nor indirectly shall after the last daye of March now next coming dye or p'cure to be dyed anye sort of rawe silk in skeynes, into the color co'ently called Coaleblack or London heavye waight black silk. But shall dye all such rawe silk as he shall after the sayd last of March dye black, into the color comonlye called light waight black, nor shall augment p'cure know or suffer to be augmented by dyeing or otherwyse howsoever the waight of anye sort or kind of rawe silk whatsoever above the quantities hereafter mentioned, That is to saye for everye pound haberdepoitz waight of orgazine silk the quantitye of sixe ounces encrease and not above and for everye pound haberdepoitz waight of thrown silk, or of anye other sort or sorts of rawe silk the quantitye of eight ounces encrease and not above, and so for everye pound of silk in greater or lesse quantities after that rate and p'porcon, nor shall after the sayd last of March for favor gayne or anye other respect by dyeing or otherwyse make or encrease or suffer consent or procure to be made or encreased the waight of any rawe silk of any sort or kind whatsoever, to anye person or p'sons whatsoever more to one then anye other, nor shall dye or p'cure to be dyed after the sayd last of March any rawe silk for himself to sell the same againe. That then etc. or else etc.—*Repertory* 27, fo. 430b.

Court of Aldermen. 21st April, 1607.

Item forasmuch as Wm. Pixley, Barborsurgeon, exercysing the trade of a silkedyer and dayly vsing greate deceit in dyeing of silks to the hurt of divers his maiesties subiectes refuse to become bound by Recognizaunce to his maiestie for his true and iust dealing accordinge to an order of this Court lately taken for avoyding of such lyke deceipts in such sort as the rest of the silkedyers within this Citye libertyes and suburbes are alreadye entred into. It is therefore ordered that the sayd Pixley shall for his contempt in that behalf be comitted to the gaole of Newgate there to remayne vntill he shalbe willing to be bound as the others alreadye are.—*Repertory* 28, fo. 11.

Court of Aldermen. 12th March, 1610 [1610—1611].

Item. This day the Silkemen of London p'ferred their peticon to this Court complainyng of divers deceites and fraudes vsed by sundry silke dyers in dyinge of blacke and coloured silke. Whervpon it is ordered by this Court that aswell the p'sons therein offendinge as also anye witnes whome the Silkemen shall produce shalbe examined upon certaine Interrogatories for the better manyfestinge and attestacon of the said frauds and deceites and that my Lord Maior shall appoint some Citizens of experience to be p'sent to see a quantitie of the said false dyed Silke washed and scoured and the Corruption taken out of the same, so as the fraud may be apparently discovered and knowen.—*Repertory* 30, fo. 85b.

Court of Aldermen. 2nd April, 1611.

Item. It is ordered by this Court that John Stubbes one of the S'rienats of the Chamber shall p'sently this afternoone and at other tymes hereafter as shalbe thought convenyent attend certaine of the Silkemen of this Citye who shall repaire to the seu'all houses of George Pitt, John Deardes, Thomas Deardes, Robert

Smyth and John Milles, Silkdyers and others that vse to dye silke wth. increase of waight wthin. this Citty or the liberties thereof and shall there make diligent search whither they have any silke in their custodye that is not yet dyed and whose silke the same is and also what quantitie of silke they have ready dyed or now in dyinge wth. increase of waight in their seu'all keepinges and to whome the same belongeth. And the said Silkmn shall also make enquirye and informe themselves as neere as they can what and how much silke the said silkdyers or any of them have received to be dyed wth. increase of waight since the sixth day of March last. And for the better aide and assistance in the p'mysse it is further ordered and this Court have appointed the Wardens of the Dyers to accompany the said Silkemen if they shalbe by them thervnto called and requested. And it is lastly ordered that the said John Stubbes shall specyally warne the said Silkdyers and eu'y of them p'sonally to be and appeare at the Sessions of the peace to be holden for this Citty at the Guildhall tomorrowe mornynge by seaven of the clock as they will aunswere the contrarye yf they make default.—*Repertory* 30, fo. 91b.

Court of Aldermen. 30th July, 1611.

Item whereas at a Court heere holden the Tenth day of february 1606 and in the tyme of the Maioraltie of Sr. John Wattes knight vpon complainte made vnto that Court of the great abuses vsed by the Silkdyers in and about this Citty in dyinge of Coleblack Silke comonly called London heavy died silke for reformacon therof it was ordered that all the said Dyers should be eu'y of them bound to the Kinges Matie. by Recognizaunce in Cti. a peece wth. Condicon That after the last day of March then next followinge they should not dye any sort of Rawe Silke in Sakynes into the Color comonly called Coale blacke or London heavy waight black silke but into the coulour comonly called light waight blacke nor should augment by dyinge or otherwise howsoever the waight of any sort or kynd of Rawe Silke whatsoever' above the quantities hereafter menconed that is to say for ev'y pound haberdepoitz waight of organzine silke the quantity of sixe ounces increase and not above and for eu'y pound haberdepoitz waight of throwen silke or of any other sort or sortes of Rawe silke the quantity of eight ounces increase and not above and so for eu'y pound of silke in greater or less quantities after that rate and proporcon as in and by the said order and Condicon more at lardge appeareth. Now forasmuch as this Court p'fectly vnderstandeth that the toleratinge of such increase of waight as is before menconed hath bred further abuses and deceiptes so as by such deceitfull dyinge they have increased and made one pound of silke to waigh above two poundes to the great defraudinge of his Maties Subiects and Scandall of the gou'nite of this Citty, Therefore after often examynacon of the said abuses and deceipts and due deliberacon had thervpon this Court doth gen'ally thinke fitt and so order that from henceforth it shall not be lawfull for any p'son or p'sons whatsoever' wch. now or hereafter at any tyme shalbe a dyar of silke or wch. shall vse the exercisinge or dyinge of silke wthin. this Citty or the liberties therof to dye consent or p'cure to be dyed any sort of Rawe silke before the Gumme be clearly discharged out of the same nor in any sort wherby there shalbe any increase of waight other then of necessitie must be to make the Coulour by the dye added thervnto nor shall augment procure consent or suffer to be augmented by dyinge or otherwise the waight of any sort of Rawe silke whatsoever' and shall dye all blacke silke into the Coulour comonly called black spunysh silke or Spanysh dye silke or such like dyed silke, The said Toleracon in the tyme of the Maioraltie of Sr. John Wattes or any other order to the contrary not withstandinge.—*Repertory* 30, fo. 162.

Court of Aldermen. 15th April, 1624.

Item: It is thought fitt and so ordered by this Court that Mr. Mosse the Citties Soliciter shall att the Cittie Charges take care for the drawinge of an Act to be

p'ferred to the house of p'liament for reformacon of Corrupt and heavie dyed Silke throughout the Realme of England. And to attend Sr. Heneadg ffynch Knight and Recorder Mr. Comon Srieant and Mr. Stone about the penning of the said Act wh. is to be p'sented unto this Court for allowance thereof before it bee exhibited to the house of p'liamt.—*Repertory* 38, fo. 108b.

Court of Aldermen. 28th September, 1624.

Item. This daie vpon the humble peticon of Thomas Worsleye dyer, this Court doth authorize the said Thomas Worsleye so farr as in them lyeth to search and fynde out by all the best wayes and meanes hee can in all places within this Cittie and libties thereof from tyme to tyme all corrupt and heavye dyed silke, either in silke or in lace or wares made thereof or mingled therewith and the same silke lace or wares so found to seaze and bringe to the Guildhall there to be kept till order be taken by this Court for the disposinge thereof accordinge to the Act of Comon Councill made in that behalfe.—*Repertory* 38, fo. 236b.

Court of Aldermen. 2nd December, 1624.

Item. This daie the matters complayned of to this Court against Edward Worsleye Silkdyer who haveinge authoritie from this Court to search and seaze all corrupt and heavie dyed Silke and lace within this Cittie and libties hath without the licence of this Court and contrary to Lawe made Composicon with divers persons in whose handes hee had seazed divers quantities of silke as Corrupt and heavie dyed and made restitucon of the same to the p'ties and for and concerninge some other his misdemeanors and by this Court referred to the hearing and Examinacon of Sr. Thomas Middleton and Sr. Martyn Lumleye Knights and Aldermen, and Mr. Aldr'an Hamersleye or any two of them and theye to certifie this Court of their doeinges and opinions and vpon their report the said Worsleye for the same his offence was by this Court committed to the Gaole of Newgate there to remayne until other order bee taken for his enlargement.—*Repertory* 39, fo. 36.

Court of Aldermen. 15th October, 1721.

This day the humble Petition of the Bayliffs Wardens and Assistants of the Company of Weavers was presented to this Court and Read praying to be excused from their Attendance on the Lord Mayor's days for the Term of Five years in consideration of their great Poverty and Incapacity of Defraying the Expenses and after hearing several of the Members of the said Company relating thereto, this Court doth Excuse them from their attendance on the next Lord Mayor's Day.—*Repertory* 125, fo. 558.

RECORDS FROM THE BRITISH MUSEUM.

The Ballance of the Trade of Forreign Wrought Silkes.

We pay for Silk from Holland Custom 2 p. Ct.	2	Harleain MS. 1243, f. 207b.
For Comission and all Charges there	.. ..	1
Charges in Bringing by the Packet boate	.. ..	1
Our Custome here pays	.. ..	5
Our Merchants cannot expect to gett Less for the Bringing them hithen to a Markett	.. ..	5
The Silk man that Sells to the Weavers	.. ..	4
The Workmanship cheaper there then here when made in Silkes	.. ..	5
Insurance by Sea	.. ..	2
		—	
		25	
		—	

The greatest Weavers bring their Silkes from Italy on their own Accot. and so have their Goods made Cheaper by 25 p. Cent. then wee at present, without a further Impost on throwne Silkes which the house is at present about.

The totalls of the seuerall kindes before Written—entred aswell by English as Marchant Strangers [last of February, 1601].

Harleain MS. 1878, f. 82b.	Veluett	39349	yardes.
	Satten	33274	yardes.
	Taffeta broade	99318	yardes.
	Spanish taffeta	00566	yardes.
	Towers taffeta	01007	yardes.
	Sticht taffeta	02251	yardes.
	Siluered taffeta	00146	yardes.
	Leuen taffeta	09716	yardes.
	Tustaffetta broade	01517	yardes.
	Tustafeta narrow	01457	yardes.
	Sarcenetts	21891	Elles.
	Spanish silk and fine silk	24226	poundes.
	Orgasine and thrown silk	32975	poundes.
	Rawe silk, longe silk	22722	poundes.
	Shorte silk	05173	poundes.
	Brigges silk	01002	poundes.
	Ferret silk	16862	poundes.
	Paris silk. Felozel silk	00714	poundes.
	Cambricks	16085 $\frac{1}{2}$	di. peeces.
	Lawnes	15684 $\frac{1}{2}$	di. peeces.
	Sletia lawnes	13893	di. & q'ter peeces.

EXTRACT.

Marginal Summary.

Lansdowne
MS. 172,
ff. 297-335.

This Indenture made the 13 day of July, 2 James I [1604] between the Kings Majesty of the one part and Thomas Bellott and Roger Houghton of London Gentlemen of the other part.

Demise to them and their assigns all Manner of Customs and subsidies of Velvets* Sattens taffetaes sarsenets silke grogrames, and all manner of silks and all manner of raw silk and lawnes.

During the space of 15 years to be accompted from our Lady day last past before the date of these presents.

to be brought into any port or Creek of England Wales or Towne of Berwicke directly or indirectly.

they paying to the King at the receipt of the Exchequer the sum of [£]8977 9s. 7d. at Michaelmas and Lady Day by equall portions.

none of the said goods to be landed without a certificate under the hand of the lessees or their deputy that they be satisfied for the customs and subsidies of the same.

That none [of his Majestys] Officers but the said lessees and their deputies shall grant any bill of store provision or portage for any of the said goods.

All forfeitures of the said goods seized by others then the said lessees or their deputies shall owe their custome to the lessees, for which they shall defalte so much of their half yerres rent.

No part of the Said Goods so forfeited and seized by the lessees or their deputies shalbee pardoned by the King.

* These are more fully detailed in the body of the document.

the said Goods not to be vttered or vented abroade before they bee sealed and the sole sealing thereof is here given and demised to the said lessees and their deputies.

even such Kindes of Wares made within the Kings dominions shall not bee vented or vttered till they bee sealed by the said patentees and lessees or their deputies.

Authority given to Gl. L. Treasurer, Chancellor etc. uppon complaint by the lessees of any grievance received by them to the premisses of these presents by the sd. Act to deminish and abate so much of the said rent etc.

if the rent reserved vppon this demise bee vn timer, or any part thereof, by the space of 60 Daies after any day of payment, then this demise to bee vtterly void.

the lessees shall from time to time under their handes notify what persons they have appointed for their deputies in every port for the execution of the premisses.

[Endorsed.]

The farme of Velvets Silkes and Lawne. 13 July, 2 R.R. Jac.

To the Quenes most excellent Matie.

Humbly besechethe your most Excellente Majestie, your highnes faiethfull and humble servauntes Thomas Bullocke and Roberte Redhedd, that it may please your Majestie of your aboundante grace to graunte, that they and there assignes, maye have the whiteninge of all suche rawe silke as now is, or at anny tyme hereafter shalbe browghte oute of any the partes beyonde the Seaes into this your Majesties Realme of Englande, before the same be converted into any other dye or culler. They takeinge for there so doinge, *vid.* of every pounce accordinge the usuall rate now accustomed withoute any other imposition or exaction, And that it shalbe lawfull for theme, there deputies and assignes from tyme to tyme, to sease uppon, and take into there handes (as goodes forfeited), All suche Silke, as they shall hereafter finde to be died, before the same be, by them or there deputies, (and no other), whitened: accordinge your Majesties most graciou graunte in that behalf. That thereby the abuses used to your Majesties subiectes, contained in certeine particulars hereafter followinge maye be dewly reformed. And your poore and faithfull servantes, as they ar there unto most dewtifully bounde, shall delaye praye for the continewall preservation of your most excellent Majestie in all blessed felicitie longe to reigne over us.

Lansdowne
MS. 107,
f. 54.

The abuse used in dienge of Rawe Silke before the same be whitened.

Whereas all rawe silke generally oughte to be whitened before the same be died into any other culler, aswell for the avoydinge of the Drosse, which otherwise it will take in the dyeing, as for the better receauinge of suche culler as the same shalbe converted into. The Merchauntes and Retaylors of those silkes, doe only cause suche parte thereof to be whitened, as they doe converte into anny riche or lighte culler, bycause the deceite therein will sonest be discovered. But all suche silke as is died into blacke culler, Whereof is made sowinge silke, buttons, lace, frindg and suche like comodities used amongeste the greateste multitude and meaneste sorte of your Majesties Subiectes, is not whitened at all. By reason whereof it receaue.h suche drosse in the dyeing, as every pounce in weichte, is increased to as muche more after it is died: to the great losse and detriment of your Majesties Subiects, aswell thorough the increase of the seid weichte, as thorough the rottennesse of the said silke receaueth by the drosse, not being whitened before the dieing.

(f. 55b.)

[Endorsed.]

The humble petition of your Majesties faithfull and obedient servauntes
Thomas Bullock and Roberte Redhedd.

for

The whitening of all suche rawe silke as shalbe brought into this your
Majesties Realme of Englande.

Lansdowne
MS. 152,
f. 237.

In Queene Elizabeth daies, was an Acte of Parliament made that no made ware, (that is to saie) any made ware that is wrought by handie-craft-men, because she should sett her owne people at work, but after that the English men were not so skilfull in trades, to make all kinde of wares, Therefore there was a tolleration graunted that merchaunts brought in, payinge their custome as they did before, But now is the people mightely increased bothe in number of people and in all good skill, and skillfull of all kinde and manner of trades as followeth, Silke weaving of silke lase of silver and Gould lase, and broode tufted taffities, all kinds of broode stufte and fustians but especiallie the throinge of rawe silke by silke throsters, which be mightelic increased and dothe an number of poore people at worke in London and about London and in Middlesex, and can be proved that many thousands of poore people are employed by windinge and throinge of silke and gett their lyvings by yt. Now further some a fewe merchaunts do bringe in so muche throwne silke, likewise died silke, that it dothe hurte this number of poore people, that they cannot be employed and sett at worke, that they cannot gett their lyvinge with the trade that they have learned, because there is so muche made ware daylie brought into this land, especiallie throne silke and dyed silke. Therefore wee crave in the behaulf of the number of poore people, because all kinde of vyttells groweth scant and deare, and the number of poore people do dailie increase.

Therefore it shall please his highe maiestie in his greate wisdome to consider the greate number of the poore handie-craft-men to sett a new taxation or imposition uppon all made ware that shalbe brought heureforat or hereafter into England, as for throne silke, died silke and orgessine and naples and ferrett, two shillings or haulf a crowne uppon every pound of throne silke, or died, besides the old ancient ordynarie custome, and whosoever bringeth in any by stealth it shalbe forfeited and the partie laied in prison, and this wilbe the right occasion, wherby the merchaunts will bringe in the silke rawe and unwrought, and soe the kings people shalbe employed and sett at worke, by their trade and handy crafte.

f. 238b.

[Endorsed.]

Touch. an imposition desired to be put uppon wrought silk beyond the seas
that poore people here, uppon the rawe silke may be set on work the
more plentifully.

13 July, 1608.

6 Aug., 1612.

Lansdowne
MS. 152,
f. 332.

Touching the stay of importation of all manner of silke wrought by itself,
or with any other stuf in ribbons, laces, girdles, and points.

19. H. 7. cap. 21. silk weavers	} the importation of silke ribbons, laces, pieles points and imbrodered stuf prohibited.
3. E. 4. cap. 6. Embroderers	
1. R. 3. cap. 12. by strangers	

(f. 333b.)

[Endorsed.]

Notes touching the silke weavers petition.

6 Aug., 1612.

The Bailieffe of the fraternitie of Silkweavers of London did heretofore preferre their petition to the Maior, and Aldermen of the said citie, desiringe thereby that their said petition might by them be commended to the right honourable the Lords and others of his Majestie's most honourable privye councill. The which was done accordingle. And thereupon the same was by their Lordships referred to the right honourable Sr. Julius Cesar and the right worshipfull Sr. Francis Bacon.

Lansdowne
MS. 152,
f. 330.

The said petitioners by their said petition did shewe that it was enacted in Anno 19^{mo}. H. 7, that no man should bringe into this realme to be sold any manner of silke wrought by it self, or with other stuff in Ribbands, Laces, girdles &c. upon panie to forfeite the thinge so brought.

The said petitioners did further shewe, that the same Lawe was at that time a very necessary Lawe for the settinge of many people on worke, and is now much more necessarye, then at that time it was, for that the kingdome doth now much more abound with people, then at that time it did.

This statute beinge dispensed withall by (non obstante) wares ready wrought are brought into this kingdome to the greate prejudice of the petitioners.

The humble suite of the said petitioners is that the said wares may not be brought in ready wrought, but may be wrought within the kingdome as by lawe and equitie they ought to be.

(f. 331b.)

[Endorsed.]

The Imbroderers petition.
6 Aug., 1612.

10 Sept., 1612. The silkweavers and imbroderers of London.

1. The multitude of Strangers of those trades to be restreyned.
2. And the statute of restraint of bringing into England forreine manufactures of that kind to be put in practise.

Lansdowne
MS. 152,
f. 235.

The Farmour of the silke farme.

That the rawe silkes will amount to a such custome and the said wrought commodities.

That an infinite number of subiects shalbe set on work.

That bad stuf and falsely wrought is brought over which would be amended here.

That this importation is flat against the statute of 19 H. 7, 21 cap.

The ffarmour of the generall Customes.

1. The Kings custome thereby wilbe diminished.
2. Leagues and treatises wilbe broken.
3. Our necessary commodities wilbe restreyned in other countries to a greate losse of our nation, then gaine to these few petitioners.
4. The first ground of that lawe was upon a contention of sphere betwene E. the 4 and the then Duke of Burgundy.
5. That the use of that lawe hath here allwais suspended.
6. That our clothes were at that time forbidden in the lowe Countries, and sent onely breighd from time to time.
7. That proclamations have been made against the practise of that lawe.
8. All informations in the Exchequer, and elsewhere in the statute alwais stayed, and none executions upon it.
9. That by like and the same statutes the like manufacturers prohibited to be imported, but never practised.
10. (f. 235b.) If the prohibition desired should be granted it were nedeles; for time hath drawn the custome of such commodities from 2,000*l.* yearly to an other, by reason of our peoples making here of these manufactures.

[Endorsed.] (f. 236b.) 10 Sept., 1612.

The silke weavers and the embroderers for the prohibition of the importation of silke manufactures.

1 Rich. 3, cap. 9. Strangers artifices in this kingdome.

Additional
MS. 29975,
f. 39.

A Com. under the greate seale of England dated xxvi^o die Junij Anno xviii^o Re Jacobi Angl etc. made to Sr. Thomas Coventrye or. Sollicitor generall, Sr. Thomas Lowe Alder. or. of Citty of London, Sr. John Jolles Alderman of the Citty of London, Sr. ffrancis Goffton one of or. Auditor of or. Impreste, Sr. William Pitte, Knights, Robert Heath Recorder of or. said Citty of London, Richard Deane one of the Sheriffs of or. said Citty of London, Esquires. Or any fflower or more of them the said Sr. Tho. Coventrye and Robert Heath being two.

The said Com. are aucthorised to calle before them or any fflower or more of them whereof the said Sr. Thomas Coventrye and Robert Heath to be two all such Silkedyers Silkmen Silkeweavers and other persons as they shall thinke fitt by whome the truthe may best appeere (as well by examination of them upon oathe as by any other good wayes and meanes as to them shall soonne meete) to discover what abuses ffraudes and deceipts have beene or are in any sorte put in practice, used done or committed in the dying of any manner of silke eyther Blacke or in Colors by any person or persons as well in those silkes which come ready dyed from fforraigne parts as in those which are dyed within this Realme of England and in the dominion of Wales or eyther of them whereby there hath beene any increase of weight more then of necessity ought to be to make the Colours by the dye added there unto, without corrupt matter or stuffe applied or used to increase the weighte thereof, And in what manner the same is or hath beene done, What corrupt matter or stuffe hath beene soe used in dyinge such silke, and generally what other ffraudes deceipts and Abuses have beene or nowe are usually done or put in practise in the dying of Silke for private lucre or gaine to the deceipte of his Mats. Subiecte buying useinge or weareinge the same, What plotte Combinations conclusions or Agreemts. have beene made betweene merchante Silkemen, Silkedyers Weavers Haberdashers or other persons to contynewe the said deceipts frauds and abuses in false dyinge of silkes, What meane unexpert dyers or other unskillfull persons not trayned upp in the trew dying of Silkes have beene and are used and ymployed in dying of silkes for the private benefitt and avayle of themselves or of any merchante Cittizen or any other person or persons whereby the Subiecte hath beene endamaged hindered and deceived as aforesaid, And all other matters circumstance and things within their discretions they shall thinke fytt to be knowne founde out and discovered concerning the premisses, whereby the said Abuses Corruptions falseties and deceipts may be the more playnelye manifested and a corse of reformation therby the better and more speedely understood sett downe and put in execution.

(f. 39b.) And ffrurther the said Com. or any fflower or more of them whereof the said Sr. Tho. Coventrye and Robert Heath to be two are aucthorised to conferr with the said Silkmen Silkdyers and Weavers or other persons aforesaid of the best and fittest courses, waies and meanes to be used and taken for reformation of the said falseties and deceipts as well in the Silkes dyed in fforraigne parts and ymported, as in the silkes dyed within this Kingdome. And howe the meane unexpert dyers and other persons unskillfull in the trade of dyinge of silkes by whome the greatest parte of the said abuses are committed may be barred and excluded from dying of silke and such as are skillfull honest and well experienced in the arte or mystery may be therein whollie ymployed to dye the said silk truly without increase of weight above his true nature.

And for the better effecting thereof to conferr with the said merchants Silkmen or other persons what reasonable prices and allowances are fitt and Requisite to be paid and given to the Silkdycers by the pounce for their paynes in dyinge the said silke truly without fraude or deceipts, and what courses the said skilfull silkdycers will yeild unto for engaging themselves unto his Maty. to dye all manner of silkes hereafter without such fraude or deceipt. And what Allowance the said Silkdycers wil bee contente to yeild upon the pounce of silke dyed to such person or persons as his Maty. shall from tyme to tyme ymploye carefully to searche and look unto the execution of such courses of reformation as shalbe sett downe therein.

And upon examination conference and discussing in and about the premisses and upon consideration thereupon had and of any other matter or circumstance tendering to the execution of his Mats. pleasure here informerly declared. The said Commissioners or any ffower or more of them as aforesaid are aucthorised and required to sett downe in writeinge under their hande the substance and effecte of theyre proceedinge upon this his Mats. Com. Togeather with their opynions and Judgments what they should finde and hould fittest to be done and the best and lykelyest Course to take effecte for reformation of the said frauds corruptions deceipts and abuses and settlemente of the said trade of Silkedyinge in a just and true Course whereupon his Maty. may give such further direction as in his highness Judgment shalbe thought meete.

Authority given to the said Com. or any ffower or more of them as aforesaid by warrante or otherwise to call all such persons before them who yf they shall refuse to come or comeinge before them shall refuse to be examined upon oathe or otherwise then his Mats. pleasure is the said Com. should certefy the names of such person or persons for refuseinge whereby his Maty. might take such ffurther Course as to Justice shall apperteyne for doeing of all which his Mats. letters pattents shalbe unto every of them a sufficient warrante and discharge, ffor the more ease and expedition in the said service, his Maty. hath commanded that such of his Mats. Officers whome the said Commissioners shall thinke fitt and require shalbe ready and attendante upon them etc. The said Commission is to continue in force and the said Commissioners to proceed in the execution thereof, albeyt the said Commission be not contynued from tyme to tyme by adiournement.

(f. 40b.)

[Endorsed.]

An abstracte of the Com. for dyinge of Silkes.

Hen. 8. A project for bringing in the weyning of Silke into England.

The transcript of Antony Gwydot's Letters to my Lord.

To my most honourable Lorde.

Knowing myself unhabil to satisfie to the obligacons and debts which I owe unto the kings Majestie our Souveraigne Lorde dayly labouring in mynde and contynually thinking in what manner I may in any parte shewe my dewtie towards his highenis, and being fewe days passed at Messina I took fantasie to speke with certaine weyvers of Silken cloth and maistres of that Crafte, which ben those kinds of workemen that haue within these 15 years so profitted the said Citie which (destroyed as it was) at this daye is chief and principall Citie of the Realme of Cecile, and the Citizens of the same growne so Riche that it is marvail to see them and all by the same said crafte.

Ffor the which considering the Towne of Hampton for lacke of exercise of Workemen to be almoste destroyde and also howe good it wolde be to haue such a crafte in the said place. Cheefely for the commoditie of the Kings Majectie and the benefite of his Subjects. Also that (the sayd crafte increased in the said place,) (which I doubt nothing so that by your Lordeship the same may

Cottonean
MS.,
Titus B. v.,
f. 195.

be favoured) the Normands and Britons which haue gon to Lyones, three or four &c. myles for Clothe of Silke, schall haue more commoditie to repaire to Hampton for the same, for that they may bring and Carrye their merchaundizes thither by See, where as to Lyones they cannot, and they schall haue of all sorts of silke as good Chepe as at the said Lyones. I Resolued with myself secretly to haue communication with one of the best maistres of the said crafte in the said Citie of Messina, also at florentyne. Nevertheless making hym Large offer, and to such effecte that in the (f. 195*b*.) name of God the 24th day of february last with 24 persones men and woomen practised in the said craft, he schippyd hymself upon a schip of Raugy (?) for hamptun. Among the which ben eight married men with their wyves and chyl dren, and all necessaries that may pertaigne to their said Craft. The which (I assure you) hath not ben done with lytell daunger of my lyfe, and without grete expensis to conueye them a waye with all their necessaries for their said craft. And all things with my labour I schall thinke well bestowed, when I perceiue that your good Lordeship shall take it for well and that I haue made good deternation as I perswade my self to haue done. And because I wolde knowe parte of your Lordeschip is mynde upon the said besynis, that is to say that the same may be desirous the said Crafte to be well applyed at this present, as it is my desire, being never so good occasion as nowe for these preparations of warre in all thies parties, which given small courage to such crafte, I will if ye schall thinke good take mo men at florence, Luke, Jeane, and Venyce to the number of six or eight famylyes the connyngest men of all Italy, for they cannot be without their wives and servaunts practysed in their crafte, they must haue also all their necessaries pertaynyng to the same, which muste needs be grete travaile and coste to Remoove their habitation so hoolly, nevertheles if ye encourage me, let me alone with the rest, notwithstanding that the burden is much weighty and hevy for my schulders that I shall haue neede of some helpe, as I haue written to my father in Lawe at Large (f. 196). Wherefore it may please your Lordeschip to be so good that I may be answered by the same or sum other for you. One onely grace I demaunde of your Lordeschip in this affaire, which is to be intermediator to the Kings Majestie to give me privilege for 15 or 20*i*. years. No man to may within the Realme make or let make any such kinde of worke but under me and my name, which me seemyth no unreasonable Request, having ben at such labour charge. And I haue good confidence when ye schall see the saide Crafte in Hamptun, and that the Kings grace the qualities of the men brought thither, ye wilbe Intercessor to the same to give me sum helpe and courage to amplifie the said Crafte the which (I doubt not) but in fewe years shalbe as well practised by thinglysch nation as any other.

Themperors Majestie twoo years passed being here in Napolls dyd give grete privilege and gifts unto ye brethren named frauncys and Augustin Cordes Wyllames for to set up the said Craft at Antwarpe, which (I understand haue so done being a crafte of great proffit and Reputation) humbly beseeching your Lordeschip to write half a dozen words to the Maior of Hamptun to well intreate the 24*i*. persones which I haue sent thither, that they be not preiudiced but privileged in what parte so ever they dwell. And when they of Hamptun might haue commoditie for a certayne tyme to give them eight or ten howses of two or three nobils by the yere Rentfree. It shuld be well Employed upon them by whoes writing of their good entertaunement, within fewe monethis without any costs or chargs to us they wold resorte thither to dwell. But being the Towne poore (f. 196*b*.) I will not require you to desire it of them, notwithstanding it wolde make to a good purpose and also the Towne of Hamptun shuld be gretey refreshed to haue 30*i*. or 40*i*. howseholds of one craft. And bycause your Lordeschip can consider the same better then I, I enlarge no farther in the same mater.

Yf the Kings Majestie or your Lordeschip may be pleased that I shall bring over a maistre that worketh upon tellets or other cloth of golde, ye shall see other

workemen then ever I have seene there. And it may please you to be advertised that the maistre that is with the 24th. persones for to work damasks, Satyins, velvets, crymysen and taffata, all Italye hath no better, ye may set hym to what thinge ye will whether badge or any other thing and shortly he will speede you.

Likewise if it may please you to have a coonnyng palar maker .after the manner of Italy or for gardynes or a paynter I haue commoditie to prove your desire with such as ye never had in those parties.

When I may haue your Lordeschip's answer I will departe from this cuntrey, and if I may be hable to prove the Kings Majestie, your Lordeship or yours in Napolls, Rome, florence, or Venyce, or any place wheresoever I am moste redy to beye according my dewtie, for I desire nothing so much as to do you service, and bycause your Lordeschip understandeth more sleeping then I can do waking I enlarge no farther. I haue preferred certain things for the Kings Majestie, and for the queens'is gaine not forgetting your good Lordship. I trust by the feast of Mydsomer to be in Inghland desiring you to contyneu good Lord unto my father in Lawe, who truly hathe suffered enough for me.

CATALOGUE DESCRIPTIONS OF CHARTERS.

G. 22. Indentura qua Maria filia Johannæ Savage pomit se ipsam Harl. Ch. 55.
 apprenticiam Roberto Udale, aurifabro London, et Katerinæ uxori ejus, sylke- [Photo-
 woman, ad artem qua dicta Katerina utitur, erudiendam, ad finem septem graphed.]
 ammorum. Test. Thoma Myrfyn, tunc Mayore Lond., Thoma Aleyne et Jacobo
 Spencer, vicecomitibus. Dat. 22 Feb. 10 Hen. VIII [1519]. Signata "p. me
 Robtu Udale." 2 Seals.

Release from the Crown to Samuel Dashwood, Stephen Evance, Henry Add. Ch.
 Furnese, Knt., Frank Dashwood, merchant of London, and others, of the moieties 44892.
 belonging to the Crown of three consignments of raw silk imported into the Port
 of London from Amsterdam, contrary to the Statute. Dat. 14 Oct. 5 William
 and Mary [1693]. Great Seal.

Warrant addressed to Thomas [Pelham] Holles, Duke of Newcastle, Keeper Add. Ch.
 of the Privy Seal, for the issue of Letters Patent to William Martin of Fenchurch 29385.
 St., London, hosier, and Ann Robinson of Woburn, co. Bedford, spinster, to
 protect for 14 years their invention of a new method of manufacturing silk mitts
 and silk gloves. Westminster, 17 Jan., 1766. Paper Seal and Revenue Stamp.

" Extract."

" WHEREAS William Martin of Fenchurch Street in Our City of London,
 Hosier and Ann Robinson of Woburn in Our County of Bedford Spinster have
 by their petition humbly Represented unto us that they have by long study
 application and Great Expence invented a method entirely new and not hitherto
 practiced of making and manufacturing of Silk Mitts and Silk Gloves which said
 Invention they have with great Application and at a Considerable Expense brought
 to perfection so as to be of General Utility and benefit to the Subjects of this
 Our Kingdom."



APPENDIX D.

“The demolition of all Protestant temples throughout France; the entire proscription of the Protestant religion; the prohibition of private worship, under confiscation of body and property; the banishment of Protestant pastors from France within fifteen days; the closing of Protestant schools; the prohibition of parents to instruct their children in the Protestant faith; the injunction, under a penalty of five hundred livres in each case, to have their children baptized by the parish priest and brought up in the Roman Catholic religion; the confiscation of the property and goods of all Protestant refugees who failed to return to France within four months; the penalty of the galleys for life to all men, and of imprisonment for life to all women detected in the act of attempting to escape from France.”—*The Huguenots*, p. 157. Smiles.

Revocation of Edict of Nantes—What it involved.

“At this time (1687) a dreadful persecution raging in France against the distressed Protestants, they were obliged to seek refuge in most Protestant countries; many thousands of them came into this Kingdom, as appears by fifteen thousand and five hundred of them being relieved in this year, by money arising from a brief, whereon was collected the sum of sixty-three thousand, seven hundred and thirteen pounds, two shillings and threepence. Thirteen thousand and five hundred of the said refugees settled in this city and parts contiguous, besides such as wanted no charity. On this melancholy occasion the Citizens of London exerted themselves in a very laudable manner, striving to out-do one another in their charitable benefactions, for the support of their afflicted Christian brothers.”—*Maitland's History of London*, vol. 1, p. 485.

Assistance to Destitute Huguenots.

- Boyde, J., Spital Square, E.
- Brooks, T., Spital Square, E.
- Campbell, J. & Co., Spitalfields, E.
- Campbell Harrison & Co., Friday Street, E.C.
- Carter Vavasour & Rix, 9, Trump Street, Cheapside, E.C.
- Casey & Phillips, 13, Spital Square, E.
- Cornell & Co., Nuneaton, and 15, St. Paul's Churchyard, E.C.
- Courtauld & Co., Norwich.
- Duthoit, I., 26, Steward Street, Spitalfields, E.
- Graham & Sons, 31, Spital Square, E.
- Grout & Co., Foster Lane, City.
- Hill & Co., 30, Spital Square, E.
- Houldsworth & Co., Manchester.
- Le Mare & Sons, 27, Spital Square, E.
- Robinson, I. & W., Port Street, Spitalfields.
- Stone & Kemp, Spital Square.
- Vanner, J. & Son, Spitalfields.
- Walters & Son, Wilson Street, Finsbury, and Kettering.
- Winkwork & Co., Manchester.

List of Silk Manufacturers from the Art Journal Catalogue of Exhibition, 1851.

The above are all manufacturers of one or more kinds of furniture or dress silks. There were many other exhibitions of silk fabrics, but they were only dealers in silk goods which had been made for them.

Illustrated London News, February 28th, 1860.

Advertisements.
Note 2.

1. "Jas. Spence & Co., of 77 & 78, Saint Paul's Churchyard, beg to state that, in consequence of the proposed abolition of the duty on French silks and the competition already begun to be exhibited in the Home Markets, they have succeeded in securing several large lots of new spring silks at 6d., 8d. and 1/- per yard under the regular prices."

March 16th.

"Knight & Company having secured at immense discount the entire stock of a French manufacturer, are offering dress lengths of silks at prices far below the cost of production."

"French Silks at 13/9 the Robe! A manufacturer's entire stock of striped Chêne and checked French washing silks at 13/9 the full dress."

"Spring Silks duty free."

"New French breakfast dress silks."

"Commercial Treaty with France!! (Spring silks Duty free.)"

"Dress silks, Half price!!!"

"Family Mourning and Black Silks at half price!!!"

Etc. Etc.

Reports from Committees of House of Commons, Vol. XIII, Session 19th Feby. to 10th Sept., 1835.
Note 1.

The Select Committee appointed to examine the Petitions presented to the House of Commons during the last and present Sessions from Handloom Weavers, and to Report their Observations thereupon, and who are empowered to Report the Minutes of the evidence taken before them from time to time in the House:—

"Have examined the matters referred to them, and have agreed to the following Report."

The Report fills over four hundred pages of closely printed matter, and presents in every clause an unmitigated picture of industrial misery.

At p. x of the Report:—

"From Spitalfields your Committee took evidence of a Mr. Ballance, a respectable Manufacturer, who stated that the weaver could earn at the time he spoke from 7/6 to 8/- a week clear of deductions: but that to do this he was compelled to work 14 hours a day; and that this labour is excessive and is incompatible with the Weaver's health; that in 1826 he could earn 14/-; and that 20/- would be sufficient pay; that it is impossible for them to support themselves at their present earnings; that their distresses are truly appalling, there being many men who used to support their families with credit, who are mere paupers."

At p. xii of the Report it is stated:—

"The weekly wages a fair average weaver *can*, if fully employed 14 hours a day, now (1835) earn at the work the majority of weavers are employed on (in Great Britain) is stated in evidence by weavers, manufacturers and other witnesses to be as follows:—

At Aberdeen ..	3/6 to 5/6 net	At Manchester ..	5/- to 7/6 net.
Dundee ..	6/- to 7/- "	Paisley ..	6/- to 7/- gross.
Forfar ..	6/- "	Perth ..	4/9 to 7/9 net.
Glasgow ..	4/- to 8/- gross	Preston ..	4/9 to 6/1 gross.
Huddersfield ..	4/6 to 5/- "	Spitalfields ..	7/6 to 8/- "
" (A few) ..	16/- "	Stockport ..	9/- "
Lanark ..	5/1 net	Nuneaton ..	4/8 "

Coventry .. 7/6 net Drogheda .. 2/4 to 4/- net.
 Belfast .. 3/6 to 6/6 gross

Note that these prices are for weavers in *full* work, which they declared was 14 or 16 hours a day.

Extract from a List of Prices in the several Branches of the Silk and Silk-mixed Manufactures as settled from time to time by the Lord Mayor, Aldermen and Recorder of the City of London and the Justices of the Peace for the County of Middlesex and the Liberty of His Majesty's Tower of London in their respective Quarter Sessions, in pursuance of Two several Acts of Parliament made and passed in the 13th and 32nd Years of the Reign of George III, commencing in the year 1795. Compiled by James Buckridge, Senr., and printed by E. Justins, 34, Brick Lane, Spitalfields.

PERSIANS.—April, 1805.

2 threads in the reed, 120 shoots to the inch, or under.

					s.	d.	List of Prices issued in 1821.
20 inches in width or under	—	1100	or under,	per yard	..	0 5	
From 20 to 23 inches	—	1400	ditto	„ „	..	0 7	
„ 23 to 27 inches	—	1600	ditto	„ „	..	0 8	
„ 27 to 31½ inches	—	1800	ditto	„ „	..	0 10	
„ 31½ to 36 inches	—	2200	ditto	„ „	..	0 11½	

PLAIN TAFFITIES.—April, 1806.

1 thread in a reed, single or double, 2,600 or under, at yard, if 2 threads in a reed, 1,800 or under, at yard, single or double.

						s.	d.
27 inches or under	..	..	..	..	..	0	8
27 to 31½ inches	..	..	..	..	..	0	10
32 to 36 inclusive	..	..	..	..	..	1	0
37 to 42	„	..	..	..	..	1	2
42 to 45	„	..	..	..	..	1	3

Taffities not to exceed 75 shoots to an inch; should it exceed 75 shoots, to be paid as Sarsnet.

PLAIN TWO-THREAD SINGLE SARSNETS.—April, 1805.

120 shoots to the inch or under.

						s.	d.
1,000 or under, 17 inches or under, per yard	..	..	..	..	..	0	6
For every 100 in the reed, exceeding 1,000, extra	..	..	..	..	..	0	0½

SARSNETS SHOT COTTON.

80 shoots to the inch or under.

						s.	d.
1,100, 2 threads single, 20 inches or under	..	..	..	..	..	0	6
For every 100 in the reed, extra	..	..	..	..	..	0	0½

FLOWERED SARSNETS.—April, 1806.

20 inches or under.

						s.	d.
1,000, 2 thread single, 50 lines or under, per yard	..	..	..	..	..	1	0
1,100 „ „ „ „ „ „ „ „	..	..	..	..	..	1	1
1,200 „ „ „ „ „ „ „ „	..	..	..	..	..	1	2
If any of the above are made 2 double to advance	..	..	..	..	..	0	1½

MANTUAS SHOT COTTON.—*April, 1805.*

80 shoots to an inch, or under.

	<i>s.</i>	<i>d.</i>
1,100, 3 or 4 threads, or under, 20 inches or under, per yard	0	8
1,300 or under, from 20 to 22½ inches	0	10
1,400 " " " 22½ to 24 "	0	11
1,500 " " " " " " "	1	0

MANTUAS SHOT SILK.

120 shoots to the inch, or under.

	<i>s.</i>	<i>d.</i>
1,100 or under, 20 inches or under, 3 or 4 threads in the reed, per yard	0	9
From 20 to 22½ inches, 1,300 or under, per yard ..	0	11
" 22½ to 24 " 1,400 " " ..	1	0

PLEATED TABBY.

	<i>s.</i>	<i>d.</i>
6 double, 36 shoots or under, per yard	3	6
Pleated tissues, on mountures, with binders out of the ground—45 lines or under	3	6
For every line extra	0	1
One thread extra binder	0	3
Two threads ditto	0	6
Plate three-quarters	2	7½
Ditto one-half	1	9
Ditto one-quarter	1	0

HANDKERCHIEFS.—*April, 1805.*

Black Fringed Twilled.

Two or three threads in the reed, made with Dounce Warp.

For Twilled Handkerchiefs, 3 Thread Dressed, per dozen.

	£	<i>s.</i>	<i>d.</i>
27 inches and under	0	6	3
30 " " "	0	7	6
36 " " "	0	12	0
42 " " "	0	17	3
48 " " "	1	4	6
54 " " "	1	12	6

LOVE HANDKERCHIEFS.—*Aug., 1795.*

	£	<i>s.</i>	<i>d.</i>
28 inches and under, 2,200 or under, per yard ..	0	5	6
30 ditto	0	6	0
32 ditto	0	6	9
34 ditto	0	8	0
37 ditto	0	10	0
41 ditto	0	12	6

This includes the price for the border shuttle and the dressing also.

MODES.

Half-ell two or three thread Modes.

20 inches or under.

							<i>s.</i>	<i>d.</i>
800 or under	..	..	..	..	..	per yard	0	4
900 ditto	..	..	..	..	..	ditto	0	4 $\frac{1}{2}$
1,000 ditto	..	..	..	..	..	"	0	5
1,100 ditto	..	..	..	..	..	"	0	5 $\frac{1}{2}$
All above 1,100 to advance	..	..	..	..	..	"	0	1

CHAIN TABBIES.—*July, 1795.*

							<i>s.</i>	<i>d.</i>
1,000 or under, 6 double, per yard	..	..	..	..	..	..	1	2
1,100 "	"	"	"	"	"	"	1	3
1,200 "	"	"	"	"	"	"	1	4 $\frac{1}{2}$

VELOUR A LA REINE.—*July, 1795.*

							<i>s.</i>	<i>d.</i>
1,000 or under, 6 double, with 1 lost shoot, per yard	..	..	..	..	..	..	1	8
Ditto with 2 lost shoots	"	"	"	"	"	"	2	2
Ditto terry velour, with 1 lost shoot	"	"	"	"	"	"	1	10
Ditto with 2 lost shoots	"	"	"	"	"	"	2	4

BARETTES.

							<i>s.</i>	<i>d.</i>
1,000 or under, 4 double, or under, per yard	..	..	..	..	..	..	1	3
1,100 "	"	"	"	"	"	"	1	4 $\frac{1}{2}$
1,200 "	"	"	"	"	"	"	1	6
1,000 or under, from 4 to 6 double	"	"	"	"	"	"	1	6
For every 100 reeds extra	..	..	..	..	..	..	0	1 $\frac{1}{2}$

BROGLIOS.

							<i>s.</i>	<i>d.</i>
1,000 or under, 4 double, or under	..	..	..	..	..	..	1	4
1,100 "	"	"	"	"	"	"	1	5
1,200 "	"	"	"	"	"	"	1	6 $\frac{1}{2}$

FLORENTINES.—*April, 1806.**Twenty inches in width, or under.*

							<i>s.</i>	<i>d.</i>
1,000 or under, 4 double, or under	..	..	..	..	..	per yard	1	1
1,100 "	"	"	"	"	"	"	1	2
For every 100 reeds extra	..	..	..	..	..	"	0	1 $\frac{1}{2}$
If treble in the leish, extra	..	..	..	..	..	"	0	2
If 4 threads in the leish, extra	..	..	..	..	..	"	0	4

SOI DE DEVIL.

							<i>s.</i>	<i>d.</i>
1,000 or under, 4 single, or under, on 12 lambs, and 12 treadles	..	..	..	..	..	per yard	1	1 $\frac{1}{2}$
1,000 or under, from 4 to 6 single, ditto	..	..	..	..	..	"	1	3 $\frac{1}{2}$
For every 100 extra	..	..	..	..	..	"	0	1

POPLINS AND TABBINETTES.—*April, 1806.**Half-ell, 20 inches or under, 2 threads, single in the leish.*

	<i>s.</i>	<i>d.</i>
1,000 or under per yard	0	6½
1,100 " " "	0	7
1,200 " " "	0	7½
1,300 " " "	0	8
1,400 " " "	0	8½
1,500 " " "	0	9
For every 100 extra " "	0	1

TABIRETT.—*April, 1805.**Four double, or under, shot yarn or cotton.*

	<i>s.</i>	<i>d.</i>
800 or under, 35 shoots to the inch, or under, per yard	0	8
900 or under, 35 shoots, or under .. " "	0	9
1,000 or under, 35 shoots, or under .. " "	0	10
If more than 35 shoots to the inch, to be paid for every 5 lines extra	0	0½
The master to find the yarn or cotton, wound on bobbins.		

GINGHAMS.

	<i>s.</i>	<i>d.</i>
1,000 or under, on thread tabby, with bias stripe, 3 double or under, where bias no tabby, shot incl or cotton, 24 inches or under, per piece		
7 yards in length plain	4	3
If barred with 4 changes, or less, per piece	5	0

SAXAGOTHAS.

800 or under, 1 or 2 threads in a reed, with a single or double cord, price the same as Ginghams, widths, shoots, bars, &c., the same.

VELVETS.

Narrow Velvets.

Two thread ground, 1 thread double pole, or under.

	<i>s.</i>	<i>d.</i>
1,000 reed or under, 21 inches or under .. per yard	4	0
1,100 " " " " " " " " " "	4	3
1,200 " " " " " " " " " "	4	6
1,300 " " " " " " " " " "	4	9
1,400 " " " " " " " " " "	5	6
If part double, and part treble pole, to be paid as all treble..	0	3
Stocking-tie ditto	0	3

On the above article, no count under 1,200 to be made with a bias leizure.

SILK GENOA.

	<i>s.</i>	<i>d.</i>
900 reeds or under, 21½ inches or under .. per yard	5	9
1,000 " " " " " " " " " "	6	3
If any double in the ground, extra .. " "	0	6

FOOT FIGURED VELVETS.

	<i>s.</i>	<i>d.</i>
From 700 to 1,000, 4 double, or 4 single, on tabby or twill ground, made barred, 2 cut and 2 terry, more or less, on 1 roll per yard	6	0
1,000 counts or under, 6 thread, satin ground or under— per yard	6	6
Tying in the whole of the ground .. " "	7	6

SHAGS FOR HATS, OR OTHERWISE.

	<i>s.</i>	<i>d.</i>
1,200 or under, from 21 to 24 inches, with 2 threads, stocking or tabby ground, 1 thread double pole or under, on 1 roll or 1 treadle per yard	4	1
25 inches, 1,250 or under " "	4	3
26 inches, 1,300 or under " "	4	6
27 inches, 1,350 or under " "	4	9
28 inches, 1,400 or under " "	5	1

SATINS.—*April*, 1806.

	<i>s.</i>	<i>d.</i>
1,000 four or under per yard	0	7½
All counts under 1,000 to be paid as 1,000, and all counts above 1,000 to be paid as 5 thread.		
1,000 or under, five thread per yard	0	8
" " six thread " "	0	10½
" " seven thread " "	1	1
" " eight thread.. .. . " "	1	2½
" " nine thread " "	1	4
" " ten thread " "	1	5
" " eleven thread " "	1	7
" " twelve thread " "	1	9

DAMASKS.—*July*, 1805.

	<i>s.</i>	<i>d.</i>
1,200, 5 thread or under, 50 lines to the inch or under— per yard	2	0
1,000, 6 ditto ditto " "	2	0
1,100, 6 " " " "	2	2
1,200, 6 " " " "	2	4
To advance for every 100 above 1,200	0	2
And for every 5 lines above 50, to advance	0	1
If shot with any other material than silk and made upon the same principle as silk damask, to be paid the same prices.		

AT A GENERAL MEETING
OF THE
MANUFACTURERS OF THE CITY OF NORWICH,
HELD AT THE
HALL IN THE MARKET PLACE
ON FRIDAY, THE 5th OF JULY, 1822.
JOHN W. ROBBERDS, ESQ., IN THE CHAIR.

THE FOLLOWING PRICES FOR WEAVING WERE AGREED TO BE PAID FROM
THIS DAY.

BOMBASINES.			
<i>Rate.</i>			<i>Pence.</i>
24-3	..	..	10
26-3	..	..	10½
28-3	..	..	11
30-3	..	..	11½
32-3	..	..	12
33-3	..	..	12
34-3	..	..	12½
36-3	..	..	13
38-3	..	..	14
40-3	..	..	14½
42-3	..	..	15
44-3	..	..	15½
46-3	..	..	16
48-3	..	..	16½
50-3	..	..	17

} Per dozen.

COLOURED BOMBASINES.
Four-pence per Dozen advance for
Coloured Silk and Coloured Shoot.

PLAID BOMBASINES.
Two-pence advance for the Ground
Shuttle, and One Penny for every
additional Shuttle.

BATAVIAS.
20-2 from 2s. 6d. to 2s. 9d. per Dozen.

BRILLIANTS.			
<i>Rate.</i>			<i>Pence.</i>
14-4	..	..	16
15-4	..	..	17
16-4	..	..	17
17-4	..	..	18
18-4	..	..	18

} Per dozen.

CAMBLETS.							
<i>Rate.</i>	18 to 24		Above 24		Above 27		
	Inches.		Inches.		Inches.		
	Sing.	Dou.	Sing.	Dou.	Sing.	Dou.	
	Per Doz.	Per Doz.	Per Doz.	Per Doz.	Per Doz.	Per Doz.	
12-4..	12	11	13	12	14	13	
13-4..	12½	11½	13½	12½	14½	13½	
14-4..	13	12	14	13	15	14	
15-4..	13½	12½	14½	13½	15½	14½	
16-4..	14	13	15	14	16½	15½	
17-4..	14½	13½	15½	14½	16½	15½	
18-4..	15	14	16	15	17	16	
19-4..	16	15	17	16	18	17	
20-4..	17	16	18	17	19	18	
21-4..	18	17	19	18	20	19	
22-4..	19	18	20	19	21	20	
23-4..	20	19	21	20	22	20	
24-4..	21	20	22	21	23	22	

CAMBLETEES, under 18 inches.							
<i>Rate.</i>							<i>Pence.</i>
18-2	plain	..	..	..	..	..	11
20-2	checked	..	..	..	..	..	12½
21-2	plain	..	..	..	..	..	11½
22-2	checked	..	..	..	..	..	13
23-2	plain	..	..	..	..	..	12
24-2	checked	..	..	..	..	..	14
25-2	plain	..	..	..	..	..	12½
26-2	checked	..	..	..	..	..	14½
18-3 and upwards,	plain.						13
18-3 and upwards,	check..						15

} Per dozen.

Spotted Cambletees, Threepence per dozen
more than Plains.

Clouded Cambletees, One Penny per dozen more than Plains.
 N.B.—Exceeding 18 inches, to be paid as an equal rate of Camblet.

WORSTED PLAIDS.

To be paid the same as Camblets, advancing One Penny per dozen for every Shuttle after the first.

LUSTRES.

Rate.

70-4

60-4

50-4

To advance or fall Sixpence for every Ten Score.

If 27 inches Drawn, Sixpence per dozen more than NARROWS.

CALIMANCOES.

Rate.			Pence.	
18-3	10	} Per dozen.
14-4	..	..	10½
15-4	..	..	10½
16-4	..	..	10½
17-4	..	..	11
14-5	..	..	11½
15-5	..	..	12
16-5	..	..	12½

Clouded, One Penny per dozen extra.
 Spotted do. Threepence per dozen more than Plain.

FLOWERED CALIMANCOES.

Rate.			Pence.	
14-4	..	..	16	} Per dozen.
15-4	..	..	17	
16-4	..	..	17	

Checked, One Penny per dozen extra.

Brocaded Calimancoes, from 2s. 3d. to 3s. per dozen.

OLD NORWICH COLOURED CRAPES.
 Narrow and Broad.

21-2 .. 12 Pence per dozen.

DORSETTINE.

DUROYS.

Rate.			Pence.	
19-3 figured	..	..	12	} Per dozen.
19-3 flowered	..	..	14	

FLORENTINES, 12 Pence per dozen.

FLORETTES, see TOYS.

HAIRBINES.

Rate.			Pence.	
22-4	16	} Per dozen from 18 to 27 inches.
23-4	..	..	16½
24-4	..	..	17
25-4	..	..	17½
26-4	..	..	18
27-4	..	..	18½
28-4	..	..	19

One halfpenny per dozen advance above 24 to 27 inches.

One Halfpenny per dozen more advance above 27 inches.

MECKLENBURGHES.

20-2 from 2s. 3d. to 2s. 6d. per dozen.

CORDED POPLINS.

Rate.			Pence.	
21-2	..	..	13	} Per dozen.
22-2	..	..	13	

PRUNELLS.

20-3	11	} Per dozen.
22-3	..	..	12
24-3	..	..	13
26-3	..	..	13½
28-3	..	..	14
29-3	..	..	15
30-3	..	..	15

CRAPES.

50 score to 59 score White 12 Pence.
 60 score to 69 score do. 13 "
 70 score to 79 score do. 14 "
 80 score to 100 score do. 15 "

Coloured Crapes Twopence per dozen more.

Twilled Crapes One Penny advance above plain.

Figured Crapes Sixpence per dozen advance above Plain.

Plaid Crapes, as *Coloured*, and to advance One Penny for every additional Shuttle.

ROSETTS 13d. per dozen.

SINGLE SATTINETS.

Rate.		Pence.	
14-5	12	} Per dozen.
15-5	.. ..	13
16-5	.. ..	14
17-5	.. ..	15
18-5	.. ..	16
19-5	.. ..	17
20-5	.. ..	18
21-5	.. ..	19
22-5	.. ..	20
23-5	.. ..	21
24-5	.. ..	22
25-5	.. ..	23
26-5	.. ..	24
27-5	.. ..	25 $\frac{1}{2}$
28-5	.. ..	27
29-5	.. ..	28 $\frac{1}{2}$
30-5	.. ..	30

Double Sattinets, One Penny per dozen less.

SATTINS.

Rate.		Pence.	
15-4 and under, coloured..		16	} Per dozen.
15-4 ditto, white	.. ..	14
16-4 coloured	.. ..	16 $\frac{1}{2}$
16-4 white	.. ..	14 $\frac{1}{2}$
17-4 coloured	.. ..	17
17-4 white	.. ..	15
18-4 coloured	.. ..	18
18-4 white	.. ..	16
19-4 coloured	.. ..	19
19-4 white	.. ..	17
20-4 coloured	.. ..	20
20-4 white	.. ..	18
21-4 coloured	.. ..	21
21-4 white	.. ..	19
22-4 coloured	.. ..	22
23-4 white	.. ..	20
24-4 coloured	.. ..	25
25-4 white	.. ..	23

Bed Satins, the same price as other Sattins.

From 24 to 30 inches One Penny per dozen advance.

Above 30 inches Three Pence advance.

One Shilling per Piece be allowed to such Weavers who provide their own Tows, etc.

Common Brocaded Sattins, 2s. 6d. per dozen.

Variegated Brocaded Sattins, from 2s. 9d. to 3s. 6d. per dozen.

NARROW DAMASKS.

Rate.		Pence.	
15-3 coloured	.. ..	14	} Per dozen.
15-3 white	.. ..	13	

TOYS AND FLORETTES.

Rate.		Pence.	
18-2 foot	11	} Per dozen.
18-2 draft	.. ..	13
14-3 foot	.. ..	13
15-3 foot	.. ..	13
16-3 draft	.. ..	15

J. W. ROBBERDS, Deputy Chairman.

J. W. Robberds and Sons.
 Harvey and Lohr.
 William Herring and Co.
 Worth, Carter and Worth.
 Booth, Theobald and Booth.
 J. C. Hamp.
 Thomas Barnard.
 Joseph Oxley and Sons.
 William Willement.
 Martyn Willement and Sons.
 P. and C. Etheridge.
 Coopers and Torris.
 John Brownfield.
 Robert Blake.
 John Francis.
 Thomas Martineau and Son.
 Cornelius Tipple.
 Joseph Gibson, Jun.
 Jer. Graves and Son.
 William Bossley.
 Colman, Willett, and Oxley.
 William Robinson.
 H. R. Priest.
 James Purdie and Sons.
 Ephraim Hinde.
 John Cater.

(Printed by Matchett and Stevenson, Market-Place, Norwich.)

LIST OF PRICES FOR HAND-LOOM WEAVING IN NORWICH
AND ITS NEIGHBOURHOOD.

AGREED TO BY MANUFACTURERS AND OPERATIVES, MARCH, 1846.

BOMBAZINES AND PARAMATTAS.

Broad and Narrow White.

<i>Rate.</i>	<i>Single.</i>	<i>Per doz.</i>
		<i>d.</i>
30-3 & under		8
32-3 " "		8½
34-3 " "		9
36-3 " "		9½
38-3 " "		10
40-3 " "		10½
42-3 " "		11
44-3 " "		11½
46-3 " "		12
48-3 " "		12½
50-3 " "		13
52-3 " "		13½
54-3 " "		14
56-3 " "		14½
58-3 " "		15
60-3 " "		15½

Double Bombazines to be paid three half-pence per dozen above single ditto.

WORSTED AND SINGLE STUFFS.

Broad and Narrow White.

<i>Rate.</i>	<i>Per doz.</i>
	<i>d.</i>
28-2 & under	10
30-2 " "	10½
32-2 " "	11
34-2 " "	11½
36-2 " "	12
38-2 " "	12½
40-2 " "	13
42-2 " "	13½

Tammet and Satin Stripes upon the Worsted to be paid the same as on Challi.

ITALIAN NETS.

<i>Rate.</i>	<i>Per doz.</i>
	<i>d.</i>
60 to 68	19
69 to 76	20
77 to 84	21
85 to 92	22
93 to 100	23

TWILL CHALLI.

<i>Rate.</i>	<i>Per doz.</i>
	<i>d.</i>
50-2 & under	8
51-2 to 58-2	9
59-2 to 66-2	10
67-2 to 74-2	11
75-2 to 82-2	12
Diaper, Twills, 8 Havel, 1d. dozen extra.	

SPLIT, OR GAUZE SILK.

Broad and Narrow White.

<i>Rate.</i>	<i>Per doz.</i>
	<i>d.</i>
50 and under	8
51 to 55	8½
56 to 60	9

SPLIT, OR GAUZE COTTON.

Coloured.

<i>Rate.</i>	<i>Per doz.</i>
	<i>d.</i>
64 & under	9½ 2 shuttles
65 to 70	10 " "
71 to 76	10½ " "
77 to 82	11 " "

SILK NETS.

Broad and Narrow White Plain.

<i>Rate.</i>	<i>Per doz.</i>
	<i>d.</i>
60-2 & under	12
61-2 to 65-2	12½
66-2 to 70-2	13
71-2 to 75-2	13½
76-2 to 80-2	14
81-2 to 85-2	14½
86-2 to 90-2	15
91-2 to 95-2	15½
96-2 to 100-2	16
Gauze or Ground Net, every shoot 1d. per doz. extra.	

Twilled Nets, 2d. per doz. extra.
Cotton Nets, 1d. per doz. below Silk
Nets.

FANCY SPUN BOTTOM SHAWLS.

Ground White.

Rate.	Per doz.
	d.
45 and under	8
46 to 50	8½
51 to 55	9
56 to 60	9½

Coloured Warp, 1d. Ditto Shoot, 1d.
Satin to be paid by Challi List. Shuttles
to be paid the same as other fabrics.

First Set of Treadles (above the ground),
1d. per dozen extra, and one half-
penny for every additional set.

Doubling Silk or Cotton, 2d. per dozen.
Twelve Treadles, being a round Tread,
1d. per dozen extra.

Cotton Bottom Shawls to be paid as
Spun Bottom Shawls.

Stoved or Washed White Warp and
Shoot to be paid as coloured.

THIBET SHAWLS.

Rate.	Per doz.
	d.
26-2 and under	9
28-2 " "	9½
30-2 " "	10
32-2 " "	10½
34-2 " "	11
36-2 " "	11½
38-2 " "	12
40-2 " "	12½

FULL SATINS.

Broad and Narrow White.

Havcls.	Rate.	Single.	Per doz.
		d.	d.
6	50-3 & under	12	12
-	51-3 to 55-3	12½	12½
-	56-3 to 60-3	13	13
-	61-3 to 65-3	13½	13½
-	66-3 to 70-3	14	14
8	50-4 & under	14	14
-	51-4 to 55-4	14½	14½
-	56-4 to 60-4	15	15
-	61-4 to 65-4	15½	15½
-	66-4 to 70-4	16	16

Havcls.	Rate.	Single.	Per doz.
- 10	50-5 & under	16	16
- -	51-5 to 55-5	16½	16½
- -	56-5 to 60-5	17	17
- -	61-5 to 65-5	17½	17½
- -	66-5 to 70-5	18	18
- 12	50-6 & under	18	18
- -	51-6 to 55-6	18½	18½
- -	56-6 to 60-6	19	19
- -	61-6 to 65-6	19½	19½
- -	66-6 to 70-6	20	20

TAMMET PRINCETTAS AND DOUBLE
WORSTED WARPS.

Broad and Narrow White.

Rate.	Single.	Per doz.
		d.
28-2 & under	9	9
30-2 " "	9½	9½
32-2 " "	10	10
34-2 " "	10½	10½
36-2 " "	11	11
38-2 " "	11½	11½
40-2 " "	12	12
42-2 " "	12½	12½

CAMLETS WHITE.

Rate.	Per doz.
	d.
15-4	13
16-4	13
21-4	15
23-4	15
21-4 Colored Coating, Treble Shoot, 19d. per dozen.	
Mohair Warp, 1d., and Shoot 1d. per dozen extra.	

SPOTS OR BRILLIANTS WHITE.

Havcls.	Rate.	Per doz.
		d.
S & under	36 & under	12
" "	38 " "	12½
" "	40 " "	13
" "	42 " "	13½
" "	44 " "	14

SPOT OR SPLIT WHITE.

Havcls.	Rate.	Per doz.
		d.
12 & under	40 & under	12
" "	42 " "	12½
" "	44 " "	13
" "	46 " "	13½
" "	48 " "	14

CRAPES, OR CHALLIS, BROAD AND NARROW WHITE, per dozen.
SATIN STRIPES.

Rate.	Plain.	Ends.			
		500 and under.	501 to 1000.	1001 to 1500.	1501 to 2000.
	<i>d.</i>	<i>d.</i>	<i>d.</i>	<i>d.</i>	<i>d.</i>
60-1 and under ..	8	9	9½	10	10½
61-1 to 68-1 ..	8½	9½	10	10½	11
69-1 to 76-1 ..	9	10	10½	11	11½
77-1 to 84-1 ..	9½	10½	11	11½	12
85-1 to 92-1 ..	10	11	11½	12	12½
93-1 to 100-1 ..	10½	11½	12	12½	13
101-1 to 108-1 ..	11	12	12½	13	13½
109-1 to 116-1 ..	11½	12½	13	13½	14
117-1 to 124-1 ..	12	13	13½	14	14½
125-1 to 132-1 ..	12½	13½	14	14½	15

Mock (or Twill) Satins 1d. per dozen above plain Challi price.

If above six Satin Havels, one half-penny per dozen extra; and one half-penny per dozen for every additional six Satin Havels. If above 12 Treadles, 1d. per dozen extra. If 12 Treadles, or more, being a cross tread, 1d. per dozen extra.

For every additional 500 ends, half-penny per dozen extra.

FILLOVERS.

Width.	Inches.	Rate.	Per Cover.		Rate.	Per Cover.	
			<i>s.</i>	<i>d.</i>		<i>s.</i>	<i>d.</i>
6¼	55	.. 30 to 50	2	6	51 to 70	2	9
6¼	outwidth from 55 to 60	.. " "	2	9	" "	3	0
7¼	64	.. " "	3	0	" "	3	3
7¼	outwidth from 64 to 70	.. " "	3	3	" "	3	6
8¼	73	.. " "	3	6	" "	3	9
8¼	outwidth from 73 to 79	.. " "	3	9	" "	4	0

N.B.—Doubling Shoot, 2d. to the Shilling for the colours doubled.

6 Satin Havels and under, 3d. per Cover extra.

8 Satin Havels and under, 4d. per Cover extra; and 1d. per Cover for every additional 2 Satin Havels.

500 Satin Ends and under, 4d. per Cover, and 2d. per Cover for every additional 500 Satin Ends.

Presses, 3d. per Cover.

For cutting Tiers, 2s. 6d. per day without boys; with boys, 3s. 6d. per day.

LUSTRES.

Rate		Per doz.		Rate.		Per doz.	
		<i>d.</i>				<i>d.</i>	
1000-2 Double	21	1300-2 Double	22½				
1100-2 Do.	21½	1400-2 Do.	23				
1200-2 Do.	22	1500-2 Do.	23½				

14 inch, 3d. per dozen above the common width.

Extra Treadles, 1d. per dozen extra.

Satin paid same as on other fabrics.

BOMBAZETTES, BROAD AND NARROW WHITE.

Rate.		Per doz.		Rate.		Per doz.	
			d.				d.
24-3 & under	.. ..	10		32-3	.. ..	12	
26-3	" "	10½		34-3	.. ..	12½	
28-3	" "	11		36-3	.. ..	13	
30-3	" "	11½		38-3	.. ..	13½	

CHECKED MOUSLIN DE LAINS.

Rate.		Per doz.	
			d.
64-1 & under	.. ..	10	two shuttles.
65-1 to 70-1	.. ..	10½	do.
71-1 to 76-1	.. ..	11	do.
77-1 to 82-1	.. ..	11½	do.

CROSS-BAR DRESSES.

Rate.		Per doz.	
			d.
64-1 & under	.. ..	10	two shuttles.
65-1 to 70-1	.. ..	10½	do.
71-1 to 76-1	.. ..	11	do.
77-1 to 82-1	.. ..	11½	do.

N.B.—Colouring and Checking on the Worsted Shoot Fabrics to be paid for as follows:—Coloured Shoot 1d. per dozen above White. Ditto Ground Warp, 1d. ditto. Checking first Shuttle, 1d. per dozen advance each additional one, ½d. ditto. With extra Treadles, 1d. ditto above common Checking. The Checking Silk to be calculated and paid as Yarn.

(Printed by order of the Norwich Hand Loom Weavers' Union.)

M. SMITH, *Chairman.*

G. LYNES, *Secretary.*

(Fletcher and Alexander, Printers, 8, The Walk, Norwich.)

Anthony Francis Haldimand; James Vere Nephew & Co.; James Cazenove & Co.; Francis Menet & Co.; Charles Theo. Cazenove & Batard; A. & A. Favene; Prinsep & Saunders; Edward Gwatkin; Doxat & Divett; Zaccaria Levy; Nathaniel & James Pattison; Charles Morris & Co.; Marling & De Ferre; J. Matteux & Co.; Macrill, Hutton & Barber; Rougement & Fisquet; Charles & J. P. Robinson; Wombwell, Gautier & Co.; Francis Baring & Co.; W. Bosanquet.

List of
Merchant
in 1799.

For regulating the allowance for tare and tret, but which was of a very crude nature and no account taken of the varying humidity, and a month allowed to the buyer to send in any claim to the seller, which often led to disputes, it was not until the great Exhibition of 1851 held in London, that attention was called to the fact that a further allowance was reasonable on account of the weight of moisture absorbed by the silk itself, and a scientific means of discovering its exact weight was introduced into this country. An apparatus was shewn, and is still in existence and being used, by means of which a certain number of heads or skeins are drawn, after the bale has been weighed nett, from different parts of the bale, and divided into three parts of about one pound each, which are each weighed in most accurate scales to grains troy of which 7,000 go to a pound avoirdupois. Two portions are opened out and cotton loose ties placed on them so as to hang inside the apparatus heated by gas, and kept there so long as they cease to lose any more weight, which could be seen by a balance, and a thermometer placed inside to shew that the heat did not exceed the required temperature, for if it did so it would render this test and also the samples useless.

Silk
Con-
ditioning

The third portion is kept in reserve in case of the two tests shewing more than half per cent. difference when this third test is tried, and added to the two others, and an average taken of the three.

After the samples have been dried absolutely, they are weighed, and the difference between the received and the dry weight, plus 11 per cent., the recognised and accepted natural moisture of the raw reeled silk gives the weight for invoicing.

These skeins are placed again in the bale, which is packed in a sealed wrapper with the necessary notes shewing the working.

A small beetle, which feeds on a variety of the cactus plant that is peculiar to Central and South America. A valuable crimson colour is obtained from it by boiling, which becomes scarlet, if the boiling takes place in a tin vessel, or a small quantity of tin in solution be mixed with the boiling liquid. Cochineal was not known in Europe until after the conquest of Mexico by the Spaniards in 1518. In 1858 it was cultivated successfully in Teneriffe, but the vines failed through disease. 260,000 lb. of cochineal were imported by England in 1830; 1,081,776 lb. in 1845; 2,360,000 lb. in 1850; 3,034,976 lb. in 1859; 47,790 cwt. in 1870, since which year, owing to the introduction of coal tar colours, its use has rapidly declined.

Cochineal
Insect.
(*Coccus
cacti*).

An Act providing a recompence to Sir Thomas Lombe for discovering and introducing the arts of making and working Three Capital Italian Engines for making Orgazine Silk and for preserving the Invention for the benefit of this Kingdom.

5th Georg
II,
Cap. VIII
A.D. 1733

Whereas the Riches, Strength and Prosperity of this Kingdom depend upon the Trade thereof; and whereas the introducing and improving such new arts and inventions, as will employ great numbers of our poor, keep our money at home and increase the profitable trade carried on by the exportation of our own manufactures, tend greatly to the securing and enlarging of the general trade and commerce of Great Britain, and ought by all proper ways and means to be

encouraged; and whereas Thomas Lombe of London, Merchant, now Sir Thomas Lombe, Knight, did with the utmost difficulty and hazard and at very great expense, discover the arts of making and working the three capital engines made use of by the Italians to make their Organzine Silk and did introduce those arts and inventions into this Kingdom; and whereas his late Majesty, King George, was graciously pleased, by his Letters Patents bearing date the Ninth Day of September, in the fifth year of his reign, under the Great Seal of Great Britain, to give and grant unto the said Thomas Lombe, now Sir Thomas Lombe, his Executors, Administrators and Assigns, especial licence, full power, sole privilege and authority to exercise, work, use and enjoy, his new invention of three sorts of engines by him the said Thomas Lombe found out, never before made or used in Great Britain, one to wind the finest raw silk, another to spin and the other to twist the finest Italian raw silk into Organzine, within that part of the Kingdom of Great Britain called England, the Dominion of Wales and the Town of Berwick upon Tweed; and the whole Profit, Benefit, Commodity and Advantage from time to time coming, growing, accruing and arising by reason of the said Invention, during the full term of Fourteen Years from the date of the said Letters Patents, according to the Statute in that case made and provided and did thereby require every other Person or Persons, Bodies Politic and Corporate, within that part of the Kingdom of Great Britain called England, the Dominion of Wales and the Town of Berwick upon Tweed aforesaid, that neither they nor any of them do directly or indirectly make, use or put in practice the said Invention; or any part of the same during the said Term; and whereas the said Sir Thomas Lombe since the granting of the said Letters Patents both at a further great expense erected large buildings and therein set up the said engines or machines and put the said Invention in use and practice on the River Derwent, at the Town of Derby, for making Organzine Silk and applied himself with the utmost care and diligence to improve the same, in order to render it of the greater use and benefit to this Kingdom; but by reason of the long time required to finish and complete the said buildings and Engines and to instruct so great a number of people as were necessary to work the said engines and the great obstruction this undertaking received by the King of Sardinia's prohibiting the exportation of raw silk which the said engines were made to work and afterwards by reason of the great difficulty of bringing the manufacture to full perfection, which could not be effected by the most diligent application, until about a year ago, the said Sir Thomas Lombe has been deprived of the benefit intended by the said Letters Patents; therefore for providing of a proper Recompence to the said Sir Thomas Lombe and preserving the said Invention for the benefit of the Trade of this Nation; may it please your Majesty that it may be enacted. *And be it enacted by the King's Most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons in this present Parliament assembled and by the authority of the same, that out of any or all of the aids and supplies granted to His Majesty for the service of the year, One Thousand, Seven Hundred and Thirty Two, there shall and may be applied and paid to the said Sir Thomas Lombe, his Executors, Administrators and Assigns, the sum of Fourteen Thousand Pounds, as a Reward and Recompence to him for the eminent service he has done this Nation in discovering, introducing and bringing to full perfection, at his own great expense as aforesaid, a work so useful and beneficial to the Kingdom; and the Lords Commissioners of His Majesty's Treasury, or the Lord High Treasurer, for the time being, are hereby authorised and empowered to direct the payment of, and issue the sum of Fourteen Thousand Pounds to the said Sir Thomas Lombe, his executors, administrators or assigns accordingly.*

II. *Providing always and it is hereby enacted that it shall be lawful for His Majesty, his Heirs or Successors, under His or Their Sign Manual, to appoint any person or persons from time to time, to view and inspect the said Three Engines, to*

take a perfect and exact model thereof and to deposit the same in such a place as His Majesty, his Heirs or Successors shall appoint, to secure and perpetuate the art of making the like engines for the advantage of this Kingdom; and in case the said Sir Thomas Lombe shall refuse or not permit such person so authorised to take such model, he shall forfeit and pay the sum of Fourteen Thousand Pounds to the use of His Majesty, his Heirs and Successors, to be recovered by Information in any of His Majesty's Courts of Record at Westminster.

The following is a summary of an Act containing divers Orders for Artificers, Labourers, Servants of Husbandry and Apprentices.

The
Apprentice
Act,
5th
Elizabeth,
Cap. IV.

1. A Repeal of all former statutes which concern the Hiring, Keeping, Departing, Working or Ordering of Servants, Labourers, Handicraftsmen and Apprentices. These are all repealed in order that a new Act may be framed prescribing and limiting the wages and other orders for apprentices, servants and labourers, so that idleness may be banished, husbandry and handicraft improved and service be made to yield to the hired person both in the time of scarcity and the time of plenty, a convenient proportion of wages.
2. Certain statutes excepted from the general repeal.
3. No person shall engage or retain a servant, labourer or apprentice for a shorter term than one year.
4. All persons having no other means of support shall be compelled to serve in some art craft science or labour according to the tenour of this statute.
5. No person shall put away his servant, nor any servant depart from his master before the end of his term unless so determined and allowed by a Justice of the Peace or Mayor.
6. No servant shall depart or be put away but upon a Quarter's warning.
7. All persons between the ages of twelve years and sixty years not being lawfully retained in service or apprenticed to any trade or craft, shall be compelled to be retained to serve in husbandry by the year with any person who may require such service.
8. Forfeiture for putting away a servant within his term or at the end of his term without warning.
9. Punishment of a servant for refusing to do his duty in service or departure.
10. None may depart from a city, town, parish, etc., without a testimonial.
11. Any person retaining a servant without a testimonial shall forfeit for each offence five pounds, and any servant forging or using a forged testimonial shall be whipped as a vagabond.
12. The times of labour shall be, in summer from five of the clock in the morning till betwixt seven and eight of the clock at night, and in winter from spring of the day in the morning until night. Two and a half hours being allowed during the day for meals and drinking.
13. Any artificer undertaking to do any special work may not depart until it is finished on pain of imprisonment, so long as his wages are paid.
14. Masters also are to fulfil their contracts.
15. Wages of Servants, Labourers, Artificers and Apprentices shall be assessed by the Justices of the Peace or Sheriff, etc., proclamations of the rates of wages to be made publicly every year.
16. Alterations in rates of wages also to be publicly made.
17. Justices to be fined for neglecting to fix rates of wages.
18. Fine for paying more than the legal rate of wages.
19. Punishment of servants that take more than their legal rate of wages.
20. All engagements, whether in writing or not, contrary to the above, to be void.

21. Severe punishments for assaulting master, mistress, or overseer.
22. All artificers may be called on to work in pay-time and harvest.
23. Provision for extra work in neighbouring counties.
24. Unmarried women between the ages of twelve years and forty years may be compelled to service if they have no means of support.
25. Husbandmen may take apprentices by indenture.
26. Every householder over twenty-four years of age and exercising any art or craft, may take an apprentice for seven years by indenture.
27. Merchants or traders may only take apprentices whose parents have freehold property of the yearly value of forty shillings.
28. Special rules for taking artificer apprentices in market towns not corporate.
29. Special rules for taking merchant apprentices in market towns not corporate.
30. Apprentices may be instructed in one craft only.
31. None may use any manual occupation unless he has been instructed in the same.
32. The parents of apprentices to woollen weavers must have freehold property to the annual value of three pounds at least.
33. He that hath three apprentices must keep one journeyman.
34. Some exceptions to the liberties of Norwich.
35. The punishment for refusing to be apprenticed. The remedy for the Apprentice who is misused by his master and for the master when the Apprentice does not do his duty; also why and where an Apprentice may be discharged of his Apprenticeship.
36. None can be apprenticed but those under 21 years of age.
37. The duty of Justices and other Officials to see these statutes carried out.
38. Payment of Justices, etc., for these duties.
39. Who shall benefit by the fines forfeited under this Act.
40. A proviso for the Cities of London and Norwich.

The eight remaining clauses of the Act are concerned with matters of detail in its working out, but are not of general interest.

From a "Short Historical Account of the Silk Manufacture in England," by Samuel Sholl, 1811.

The Design.—The Proposer and Founder of the work was Samuel Sholl.

The plan for brocading on both sides alike was invented by John Lemere of London.

Mr. Geo. Blatch of London suggested all the figures in the picture and the all-seeing eye.

Mr. W. Lovel of London suggested a bee-hive as an emblem of industry.

W. Carter of London proposed the border and the Weavers' Arms.

The outlines were drawn by a famous artist and were drafted by a native of London.

Thomas Franke wove the work. He was a native of Canterbury.

Description of the loom and apparatus:—

	ft.	in.
Height of loom frame	6	6
Pulley Frame for ground harness in three rows on top of loom	2	10
Highest part of table from ground floor	10	0
Lowest " " " " " "	7	0
Width of tables with 25 rows of mullets	2	9
Tables in depth	4	4
Comber Board, depth of	0	4 $\frac{3}{4}$
From ground harness to Breast roll	1	3

Technical
Details
of the
Weavers'
Flag and
its making.

	<i>ft.</i>	<i>in.</i>
From ground to figured harness	1	4
Two simples, with lashes, to draw the ground harness to obtain a ground, opening with two powerful engines, first from loom	1	6
Second engine from loom, with a stand to support the ceiling, and row of pullies above	5	8

“The above simples were made of double bruckle cord; and as no cord would stand the pull of the engines, the weight was so great, we put wire in its stead, to the harness. To prevent the tail to the mounture from being too wide it was parted in four: the bottom ones crossed through the top part. The mounture was curiously curved to make room for the cords, all tied up very neat, and does great credit to the builder. Account of the work:—2,448 double, 34 dents to the inch, making in the whole in single threads 63,648, planned for 48 lines to the inch; 13 double threads to the mail, each mail making a dent's threads, and of course the same number of cords as mails, that is 2,448; the weight of lead in the work, upwards of 500 lbs. There were five rolls used to this work, one for top satin, one for bottom, one for binder, another for breast roll covered with flannel, for the work to run over to the knee roll where the work took its span, two strong cheese and suns to the same.

“The weight on the spand or canes 2,000 and upwards, to draw in the notch of the work with two iron tantoos, and a third to move round the breast roll to help it at the same time, or perhaps the plate may have been injured. To make the cross border required, 18,470 lashes and 36,940 brocade sheets. The body of the work, on an average, took to the inch 4,500 lashes and 9,000 brocade sheets to the inch. The figure within the oval measures six feet six inches; to the extremities of the border, seven feet and a quarter of an inch: blanks and all, making seven feet eight inches and a quarter. The quantity of lash and number of simples would have been so great, that it was deemed impossible to perform the work in the usual way, so the workman read in two inches and a half at a time; when that was wove, reeled out the lash, and read in the same quantity again.”

“Time employed on the Flag concern, from beginning to end:—

To strengthening loom	3 weeks
To Building Monture	5 „
To reading in figure and reeling out lash	46 „
To mending threads	26 „
To dark days when no work could be done	26 „
To exhibiting the work while in progress	7 „
To doubling and winding silk, plate, etc.	4 „
To holidays, sickness, waiting for sundries	13 „
Neat time left to make the work	26 „

Making the whole just three years from the commencement to the completion, wanting five days.

At the Manchester Exhibition in 1887, great pains were taken to draw attention to the claims of British manufactures, and after visiting the section set apart for the exposition of English silks, Princess Mary caused it to be known that she would do all in her power to bring about their reinstatement in public favour.

This pronouncement was followed almost immediately by the formation of “The Silk Association of Great Britain and Ireland,” and once more the uphill task was essayed of restoring the commercial activity that formerly prevailed in the silk districts of this country. Again the obstacles in the way were found insuperable, and in spite of every effort to prevent the further decline of the English silk trade, several factories had to be closed, with the natural consequence that numbers of operatives were thrown out of work. It seemed impossible to

A Memoir of H.R.H. Princess Mary Adelaide, Duchess of Teck, 1900. Vol. II, p. 268–271. Kinloch Cooke.

make headway against public opinion, and even the stoutest hearts began to despair of success.

Matters were in this position when it was decided to appeal to Princess Mary for advice and assistance. Without hesitation, her Royal Highness threw herself into the spirit of the undertaking, and putting herself at the head of a Ladies' Committee which, with Lady Egerton of Tatton as Honorary Secretary, was subsequently formed, entered heart and soul into the cause she had espoused. Grasping easily the economic difficulties, as well as those arising from the unbending laws of fashion, she devised a scheme which, if it did not at once accomplish the purpose in view, at any rate checked the downward movement and saved the home of many a bread-winner. The purport of this scheme is perhaps best explained by the following extract taken from the first report of the Ladies' Committee of the Silk Association, which the Princess herself drew up and signed in her capacity as President:—

“We consider that the time has come to invite the attention of the ladies of England to the revival of this ancient industry. In order to do this, the Committee propose to form a ‘Ladies’ Silk Association’ on an extended scale. Its members will not be pledged to the exclusive purchase of English-made silks, but they will be asked to interest themselves and their friends in this British industry, and to make enquiry for, and inspect English silks before deciding to purchase those of foreign manufacture. . . . We trust that before long ocular demonstration of the excellence of English silks may be afforded by an Exhibition. Should success crown the efforts of those who have been working on behalf of the silk operatives of England, Scotland, and Ireland, they will feel rewarded by the knowledge that the time and energy they have devoted to this enterprise have resulted in increased prosperity to their working brothers and sisters in silk factories.”

In less than three months from the date her Royal Highness's proposal was made public, the first Exhibition of British Silks took place at Lord Egerton of Tatton's residence in St. James's Square, when manufacturers and distributors co-operated in a manner they had never done before, while many distinguished ladies seized the opportunity to support Princess Mary in her patriotic attempt to remove the prejudice that prevailed against home-made silks. Much of the work of organisation fell upon the Princess, and it was to her unflinching energy and admirable management that the success of the Exhibition was mainly due. She enlisted the sympathy of her large circle of acquaintances in the cause, and when writing to friends rarely omitted to make some reference to the work in hand. “A Ladies' National Association,” she would say, “has just been formed under my presidency to encourage our silk industries, and I enclose one of our forms, with the request that you will not only join it, but persuade as many of your friends as you can to follow your good example.”

The duty of carrying out the Princess's idea of a Ladies' National Silk Association was for the time entrusted to Lady Egerton of Tatton, and the results achieved showed beyond doubt that substantial progress was being made in the growth of the British silk industry. Slowly but surely Princess Mary's influence began to make itself felt, and year by year the demand for English silks increased, not only in this country, but also in the United States. Meanwhile, her Royal Highness determined to make herself more thoroughly acquainted with the practical aspect of British silk-weaving at the present day, and to carefully study its possibilities. The Princess had placed herself at the head of a national movement, and rightly considered that before advising others she must herself be well-informed on all points, a matter regarded by her as the more necessary since her appeal was based on the assurance that the requirements of ladies could be as readily satisfied by British as by Continental looms. Accordingly, a series of visits to the principal silk centres was arranged, in conjunction with Mr. Wardle, the President of the parent Association.

Spitalfields was the place first selected, and thither on a cold bleak day in March, 1893, the Duchess and her daughter journeyed from White Lodge to visit East London Silk Mills, where a whole afternoon was spent inspecting the old pattern-books, dating from the Edict of Nantes, watching the men at work, and making a minute examination of the beautiful brocades and other silks which were being woven for dress and furniture purposes. Each step from the weaving of the pattern to the completion of the finished length was shown and explained to the Royal ladies; in fact, Princess Mary insisted upon seeing everything, and made many pertinent inquiries concerning the people employed, especially as to the number of hours they worked and the amount of wages they received. Her Royal Highness had instructed her own dressmaker to be present, in order that she might convince herself that silks made in England are equal if not superior in beauty to those imported from France.

The weavers were much gratified at the personal concern shown in their welfare by the distinguished visitors, and were not a little astonished to learn that the Duchess of Teck and Princess May had sat down to tea in "the Master's Office." An incident occurred, when going over the factory, which illustrates Princess Mary's excellent memory for names as well as faces. Pointing to a particular loom, her Royal Highness was heard to remark, "Why, May, there's Mr. Clark who was weaving those lovely brocades at Lady Egerton's"; and, advancing to the loom, the Princess spoke a few kind words to the man, pleasing him greatly by saying that she hoped to see him weaving on some future occasion. Before leaving the mills, the Duchess ordered a dress to be made for her daughter, at the same time expressing a wish that English women might be led to take a deeper interest in silks of home manufacture, and so benefit their fellow-countrymen. A few months later, Mr. Warner's firm received the Royal commands to make Princess May's wedding-gown.

The Canterbury Book of Patterns, which had been jealously preserved for over two hundred years, was really a most valuable historic record of silk weaving from its first introduction to South-Eastern England, by the Huguenot refugees, at the end of the 17th Century. The book in its ancient parchment binding was composed of paper which had been carefully examined by experts and found to bear the water-mark of that early period (1685). On its pages were pasted cuttings of all kinds of fancy and brocaded silks and beautifully written descriptions of them, together with the names of the operatives who had woven them.

The book was sent for show to the Exhibition at Brussels in 1910, and there unfortunately destroyed in the disastrous fire, in which so many things of artistic value were consumed, none, however, being of such historic interest as this ancient pattern book.

Henry, King of England and Duke of Normandy and Aquitaine and Earl of Anjou: To the Bishop, Justices, Sheriffs, Barons, Ministers, and to all his liegemen of London, Greeting: Know ye that I have granted to the Weavers of London their Guild, to be had in London, with all the Liberties and customs which they had in the time of Henry, my grandfather: and so that no one but through them intermeddle within the City concerning their mystery, and unless he be in their Guild: neither in Southwark, or in other places appertaining to London, otherwise than was used to be done in the time of King Henry, my grandfather, wherefore I will and firmly command that they may be everywhere lawfully treated and have all the aforesaid, as well, and in peace, and freely, and honourably, and wholly as they better and more freely, and honourably, and wholly had, in the time of King Henry, my grandfather. So that they yield thenceforth every year to me Two Marks of gold at the feast of St. Michael. And I forbid that anyone do unto them thereupon any injury or contumely, upon the forfeiture of Ten Pounds.

Witnesses—I, the Chancellor, and Warin the Son of Gerald the Chamberlain, at Winchester.

The
Canterbury
Book.

Translation
of a Charter
Granted by
Henry II
(about 1160)
to the
Weavers'
Company.
Tested by
Thomas A.
Beckett,
Chancellor.

TABLE I.

THE NUMBER OF PERSONS EMPLOYED IN THE SILK INDUSTRY
IN THE UNITED KINGDOM DECENNIALLY FROM 1851 TO 1901.

Statistical
Tables.

<i>Year.</i>	<i>Males.</i>	<i>Females.</i>	<i>Total.</i>
1851	53,936	76,787	130,723
1861	43,732	72,588	116,320
1871	29,225	53,738	82,963
1881	22,205	42,630	64,835
1891	19,090	32,937	52,027
1901	11,058	26,422	37,480
1907	8,805	21,905	30,710

The figures for 1911 have not yet been published.

TABLE II.

IMPORTS AND EXPORTS OF RAW SILK, 1900—1920.
RAW SILKS TO GREAT BRITAIN.

<i>Year.</i>	<i>Imports.</i>		<i>Exports.</i>		<i>Remained for British Consumption.</i>
	<i>lb.</i>	<i>£</i>	<i>lb.</i>	<i>£</i>	
1900 ..	1,413,320	916,421	192,616	100,917	1,220,704
1901 ..	1,332,480	768,390	244,566	153,086	1,087,914
1902 ..	1,252,848	728,020	152,463	83,751	1,100,385
1903 ..	1,109,930	738,602	178,458	112,786	931,472
1904 ..	1,337,579	884,769	186,174	114,342	1,151,405
1905 ..	1,160,265	762,378	188,246	114,216	972,019
1906 ..	1,036,258	732,681	92,124	59,469	944,134
1907 ..	1,195,366	916,890	80,645	57,747	1,114,721
1908 ..	1,110,481	667,267	42,898	25,698	1,067,583
1909 ..	1,043,846	600,501	44,216	27,553	999,630
1910 ..	996,565	589,872	39,782	23,362	956,783
1911 ..	1,237,775	732,603	379,102	202,503	858,673
1912 ..	1,199,448	689,353	130,821	72,628	1,068,627
1913 ..	969,633	619,427	44,167	26,050	925,466
1914 ..	1,030,502	667,034	22,008	17,215	1,008,494
1915 ..	1,465,285	880,650	120,135	78,900	1,345,150
1916 ..	1,200,459	1,059,185	46,964	36,111	1,153,495
1917 ..	1,280,682	1,306,615	13,169	18,190	1,267,513
1918 ..	2,230,725	2,610,440	326,179	380,877	1,904,546
1919 ..	1,278,748	1,934,910	117,490	178,454	1,161,258
1920 ..	982,795	2,227,712	36,913	81,629	945,882

TABLE III.

IMPORTS AND EXPORTS OF THROWN SILK, DYED OR NOT DYED.

1905—1920.

Prior to 1905, the Returns were not classified separately.

	IMPORTS.		EXPORTS.		<i>Remained for British Consumption.</i>
	<i>Quantities.</i> lb.	<i>Value.</i> £	<i>Quantities.</i> lb.	<i>Value.</i> £	
1905 ..	538,787	517,294	47,117	42,262	491,670
1906 ..	598,373	583,211	41,490	37,621	556,883
1907 ..	605,651	602,114	61,129	64,956	544,522
1908 ..	511,832	505,007	72,148	69,141	439,684
1909 ..	483,157	465,813	80,814	72,115	402,343
1910 ..	445,522	421,976	81,959	72,681	363,563
1911 ..	462,176	438,924	118,905	101,994	343,271
1912 ..	501,136	478,181	133,519	113,542	367,617
1913 ..	478,823	464,996	113,308	97,673	365,515
1914 ..	289,175	277,942	80,708	69,354	208,467
1915 ..	45,063	37,859	8,141	7,173	36,922
1916 ..	29,518	32,751	1,562	1,721	27,956
1917 ..	48,037	62,376	965	1,537	47,072
1918 ..	70,670	126,568	54	70	70,616
1919 ..	157,573	355,706	1,097	2,752	156,476
1920 ..	141,268	352,120	3,146	6,301	134,967

TABLE IV.

IMPORTS AND EXPORTS OF SILK MANUFACTURES.

1900—1920.

	IMPORTS.		EXPORTS.	
	£		<i>British Manufacture.</i> £	<i>Foreign and Colonial Manufacture.</i> £
1900 ..	14,281,102		1,637,915	1,381,546
1901 ..	13,030,321		1,429,381	1,397,948
1902 ..	13,416,400		1,393,314	1,735,032
1903 ..	13,663,771		1,436,734	1,709,844
1904 ..	12,793,402		1,604,554	1,872,625
1905 ..	12,466,211		1,693,314	1,783,606
1906 ..	12,782,466		1,858,634	1,221,364
1907 ..	12,585,405		2,009,613	1,936,039
1908 ..	11,621,609		1,344,537	2,004,934
1909 ..	11,930,043		1,478,687	1,753,886
1910 ..	12,651,479		1,767,034	1,924,284
1911 ..	12,481,112		1,744,640	1,816,676
1912 ..	13,261,158		1,767,058	1,735,761
1913 ..	14,003,659		1,671,430	1,536,481
1914 ..	12,628,836		1,416,217	1,915,377
1915 ..	14,375,070		1,231,986	2,004,045
1916 ..	12,857,839		1,686,295	2,632,181
1917 ..	11,040,669		1,646,750	1,553,552
1918 ..	16,645,271		1,820,405	1,530,510
1919 ..	22,149,449		3,235,064	2,528,980
1920 ..	35,505,770		4,222,076	5,967,853

TABLE V.

THE WORLD'S PRODUCTION AND CONSUMPTION OF SILK FOR
THE YEAR 1911 IS ESTIMATED AS FOLLOWS:—

PRODUCTION.		CONSUMPTION.	
<i>Kilos.</i>			<i>Kilos.</i>
—	United Kingdom .. .. .	..	502,000
—	United States .. .. .	..	9,215,000
402,000	France .. .. .	..	4,077,000
3,490,000	Italy .. .. .	..	1,100,000
—	Switzerland .. .. .	..	1,628,000
—	Germany.. .. .	..	3,445,000
350,000	Austria-Hungary .. .. .	..	894,000
88,000	Spain .. .. .	..	150,000
292,000	Greece, Salonica and Crete .. .. .	..	25,000
120,000	Bulgaria .. .. .	..	12,000
50,000	Serbia and Roumania .. .. .	..	13,000
783,000	Russia and Caucasus, including Turkestan .. .. .	..	1,720,000
145,000	Turkey in Europe (Adrianople) .. .. .	..	250,000
1,265,000	Turkey in Asia (Brouasa and Syria) .. .. .	..
*300,000	Persia .. .. .	..	—
224,000	India .. .. .	..	605,000
*5,940,000	China .. .. .	..	—
*1,730,000	Canton .. .. .	..	—
*9,370,000	Japan .. .. .	..	—
*16,000	Tonkin .. .. .	..	—
5,000	Egypt and Cyprus .. .. .	..	2,000
—	North Africa and Various Countries .. .. .	..	416,000
24,570,000			24,054,000

* *Export figures only ; the internal consumption of these countries is unknown.*

TABLE VI.

IMPORTS, EXPORTS AND RE-EXPORTS OF SILK MANUFACTURES
DECENNIALLY FROM 1851 TO 1911.—VALUES.

<i>Year.</i>	IMPORTS.	EXPORTS.	EXPORTS.
		<i>British Manufacture.</i>	<i>Foreign & Colonial Manufacture.</i>
	£	£	£
*1851 ..	Not obtainable.	Not obtainable.	Not obtainable.
1861 ..	5,906,029	1,395,582	2,421,329
1871 ..	8,397,938	2,053,086	683,307
1881 ..	11,727,397	2,564,730	263,826
1891 ..	11,179,588	1,744,645	900,740
1901 ..	13,030,321	1,429,381	1,397,948
1911 ..	12,481,112	1,744,640	1,816,676
1920 ..	35,505,770	4,222,076	5,967,853

* *The regular issue of the Annual Statement of Trade of the United Kingdom on modern lines only commenced with the year 1854,*

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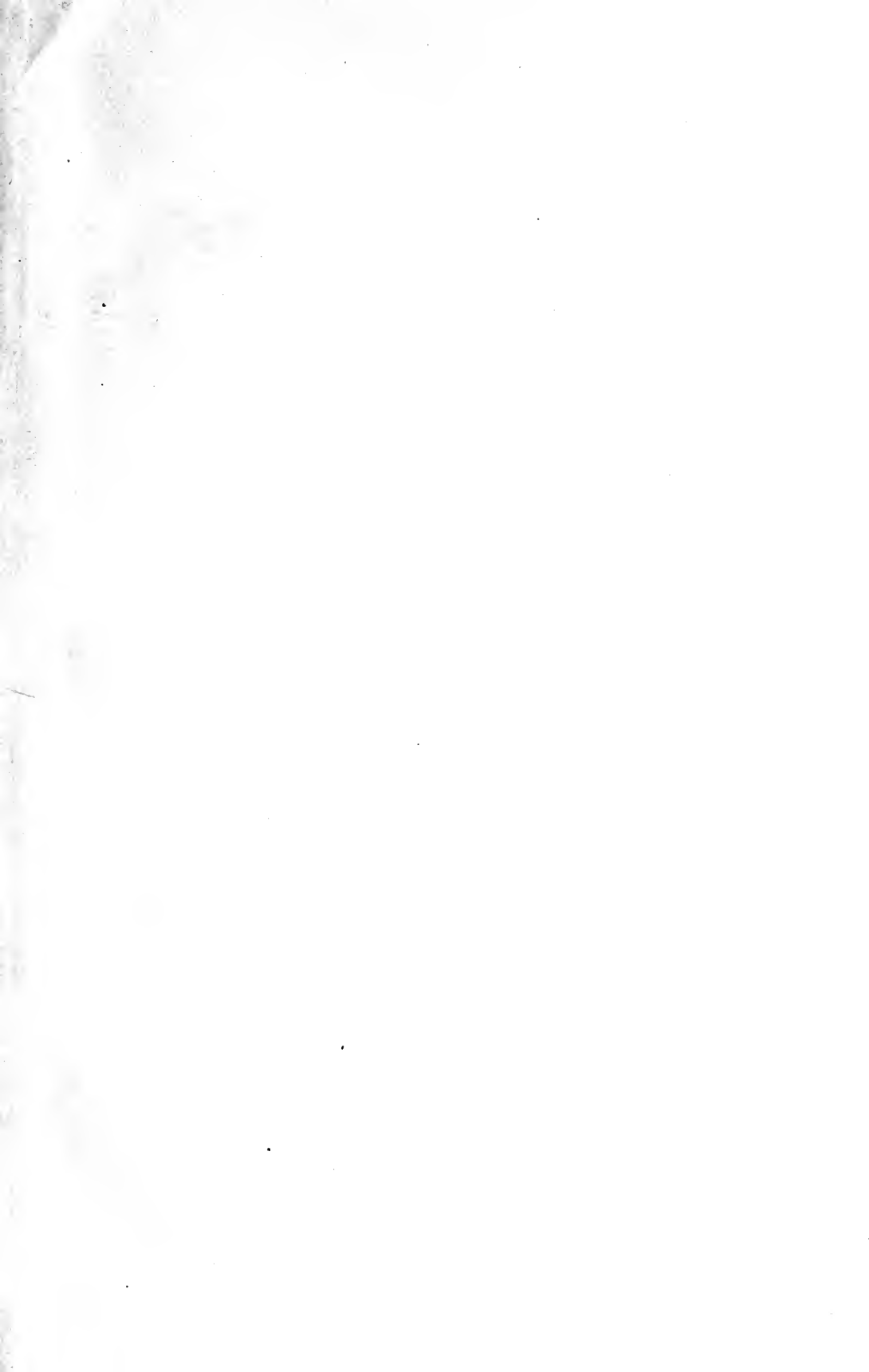
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