Manchester Merchants and the Textile Trade

The Lewis Family

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Cover illustration: *Manchester from Kersal Moor* by William Wyld, 1852 (*Wikimedia*)

To my mother

Left to right: Edith Rawlinson, Irene Wood, Betty Royle, Ella Collaro
Neighbourhood friends who were evacuated together.
Taken in 1939 at Ryecroft Hall, Hambleton.

Introduction

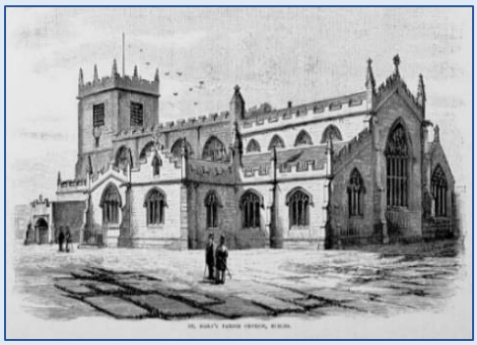
At the outset of the Second World War, my mother, Irene Wood, was evacuated from her 'two-up and two-down' terraced house to the more imposing Ryecroft Hall, the country residence of John William Lewis. She was from industrial Salford, and Ryecroft Hall was situated in Hambleton, a quiet village nestled on the eastern bank of the River Wyre, located some 8.5 km northeast of Blackpool in Lancashire. In 1939, Irene was a spirited eleven-year old girl, but the memories imbued during her sojourn at Hambleton lasted a lifetime, particularly those of the kindness she received in those uncertain times. On the fiftieth anniversary of her evacuation, in 1989, I took her back to the village for a nostalgic visit. By that time, John William Lewis and his domestic staff were long gone, and his home had been converted into a restaurant. Her memories were quietly extinguished in the small hours of a December night in 2016, and Ryecroft Hall was demolished five years later. What remains of her experience are a few photographs, and my curiosity as to the identity of John William Lewis.

In search of an answer, we embark on a journey of exploration that takes us from the beginnings of the Industrial Revolution to the Second World War, focusing on various families and their commercial interactions, which contributed to placing Manchester at the centre of the global cotton trade.

A glossary has been included, which offers an explanation of terms found in the text that relate to fabrics, weaving and textile technology.

This work was researched and written without reference to Artificial Intelligence. So, all mistakes are my own.

The Lewis Family



Our story begins at the ancient church of St. Mary the Virgin in Eccles.[1] On the 4th of October, 1801, George Lewis, a weaver from Monton, married Elizabeth Tetlow, the daughter of a local clockmaker, John Tetlow (see Appendix 1) and his wife, Sarah Hampson, both local parishioners. John and Sarah were married at St. Mary's, on Christmas Day of 1775. Elizabeth was baptized there on the 7th of November 1779. George Lewis was born at home in 1780. He and Elizabeth had the following children:

JOHN LEWIS (1802-1802)

HANNAH LEWIS (1803-1869)

WILLIAM LEWIS (1805-1884)

ELIZABETH LEWIS (1808-1839)

JOHN LEWIS (1810-)

SARAH LEWIS (1813-1872)

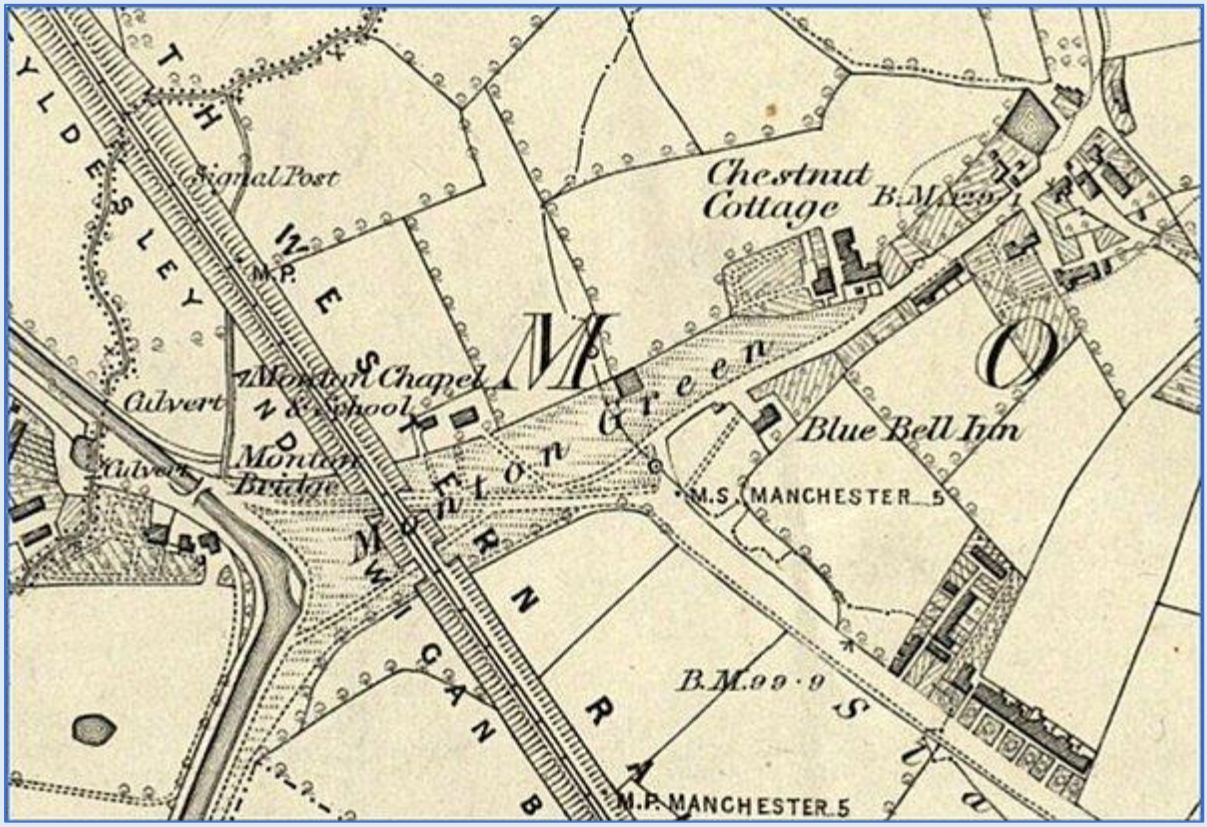
MARY LEWIS (1816-)

JAMES LEWIS (1818-)

Base map: Google

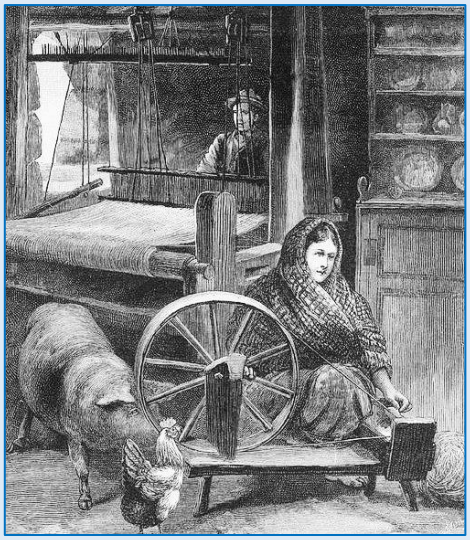
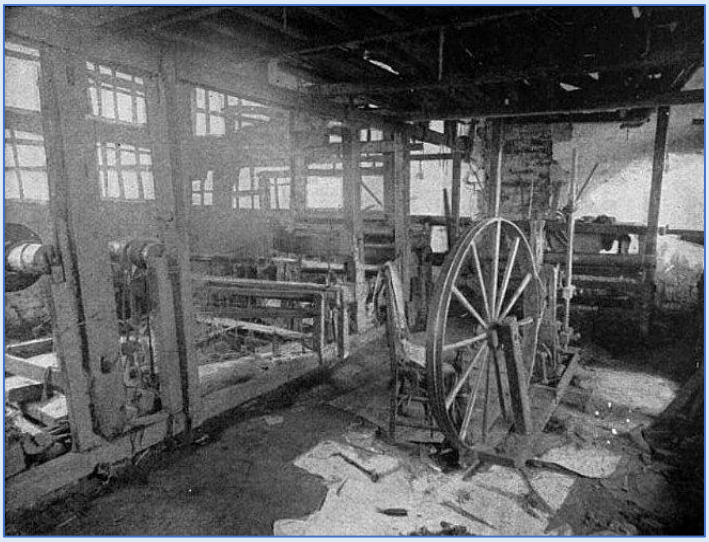
According to genealogical sources, during the decade following his marriage, George is described as a weaver, but, by 1816, he is recast as a manufacturer.[2] What this change in terminology indicates is not precisely clear. However, it suggests a scale larger than a cottage industry, and perhaps implies an increase in available labour as his children became old enough to enter the workforce. Children as young as six years old were employed as handloom weavers.[3] It may also suggest the hiring of non-family workers, which required bigger premises, resulting in an

attached or a separate loom house. Such structures might contain three or more looms, spinning wheels and other associated equipment, and were distinct from the family's living quarters. By 1821, he is seen as a 'shirting, &c. manufacturer', working at Monton Green.[4] There is nothing on the map of this area at this time to suggest a factory in the immediate area.[5] It was essentially rural. The waterway on



the left is the Bridgewater Canal. The London & North Western Railway (Manchester Eccles Tyldesley Wigan Branch) would not have been there in 1821.[6]

It is not surprising that George's extended family was involved in weaving. It was a common profession, especially in the rural areas around Manchester, and was used to supplement income generated from agricultural endeavours. His oldest surviving child, Hannah, married a weaver named James Gilbody, and their twelve-year-old son, James, is described as a 'handloom weaver'. George's daughter, Sarah, married John Hodgkinson of Chorley, who by 1861 was a cotton manufacturer. James Lewis, George's youngest child, is described in *Pigot & Slater's Directory of Manchester & Salford* as a manufacturer of 'cantoon, diaper, &c.'.[7] Cantoon, while not the most popular fabric, was highly durable, and used to produce clothing for working men, making it ideal for the area.[8] It is likely that Elizabeth Lewis died in 1820, and George in the following decade, before the 1841 census was taken.[9]

Traditional cottage industry involving spinning and weaving on the farm (left).[10]
A larger customized handloom house (right).[11]
In Manchester, during the latter half of the 17th century, concentrations of Dutch looms under the direction of a master weaver formed proto-factories.[12]

The following section examines the milieu in which George Lewis and his family lived and worked, with an appreciation that there is a gulf between the rigours of their daily lives and the one we see through the lens of documentary evidence, where ordinary people are reduced to names on the page. Considering what follows, one must respect George Lewis for his careful stewardship through extremely difficult times.

Cottage Industry

Cottage industry is a decentralized, domestic mode of production, which employed family members, who worked in their own dwellings or adjacent farm buildings. By the late eighteenth century, it was generally a form of subcontracted labour where income was based on piece-work. The cottage handloom weavers were utilized by entrepreneurial middlemen (known in the local parlance as the masters[13]), who typically supplied raw materials to the household and marketed its finished products.[14] This arrangement was referred to as putting out, though modern economists prefer the term, domestic system. Some specialists regard cottage industry as proto-industrial.[15] However, their implied progression from cottage industry to factory system is not strictly linear, and the domestic system unhappily co-existed with large factories, and was known as outworking or sweating.[16]

While earning a living by weaving fabrics at home may sound quaint, it became fraught with difficulties.[17] Most of the work was done by hand on rudimentary equipment using traditional methods. This was not a problem in itself, but it placed

handloom weavers at a profound disadvantage when they were forced to compete with new technology and the consequent industrialization of textile manufacturing. At its best, weaving in the rural areas supplemented livelihoods sustained by farming, and provided a modicum of flexibility in the workweek. In fact, the earning potential of a weaver is estimated to have been twice that of an agricultural worker.[18] At its worst, handloom weaving, as a sole source of income, was characterized by increasingly long hours of manual labour in frequently cramped and ill-lit surroundings, punctuated by episodes of meagre remuneration and consequent privation. For many, the effect of subsistence wages meant lack of investment capital to improve their working and living conditions. Those operating near to other handloom weavers found themselves in direct competition for local markets, which often led to a consequent reduction in piece-rates. During the eighteenth century, the poor state of British overland transportation began to be addressed, first by the creation of toll-exacting turnpikes followed by the construction of canals.[19] Nevertheless, weavers were generally handicapped when it came to the distribution of their goods, who traditionally moved their wares on pack horses as seen in the accompanying illustration.[20] This fostered reliance on third parties who specialized in the distribution and marketing of finished products, and who used this leverage to control prices as evidenced in the following lament:

> "Never in the memory of the oldest person living was weaving at a lower ebb than at the present, especially fustians, for it is an absolute fact that goods within this last fortnight have lowered in Manchester market astonishingly, so that the masters have lowered the wages at least 5s [shillings] a piece."[21]

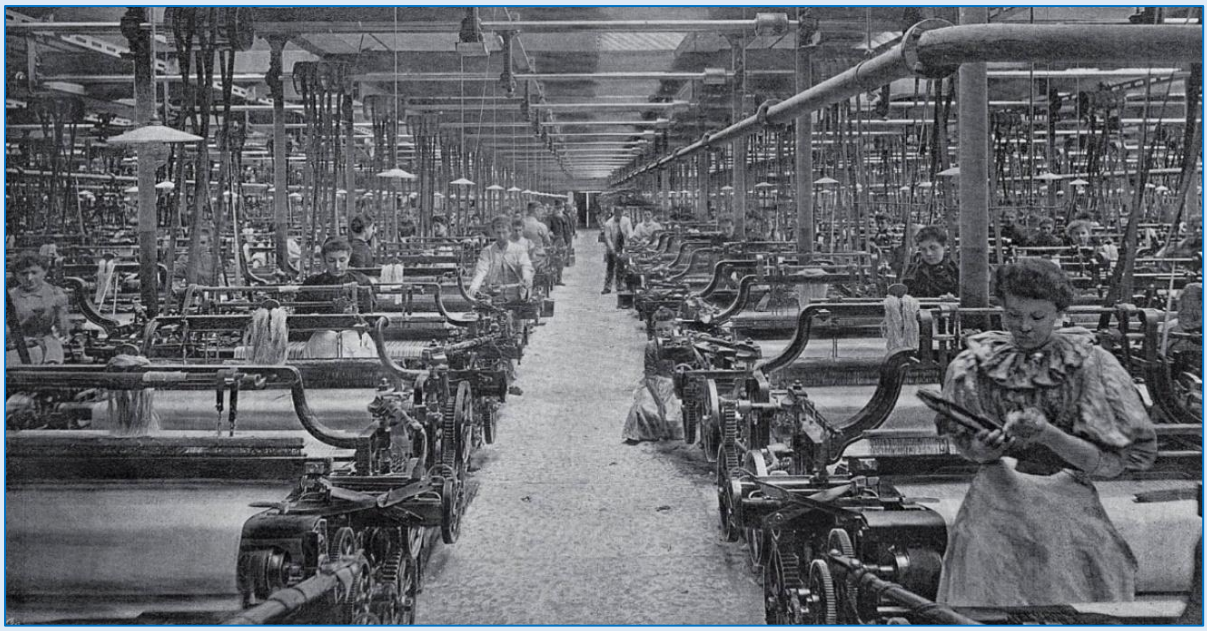
These adverse conditions, inherent to the domestic system, were exacerbated by technology-driven, socio-economic turbulence and contemporary, external, geopolitical upheavals of the late eighteenth and early nineteenth centuries.

The Impact of Technology

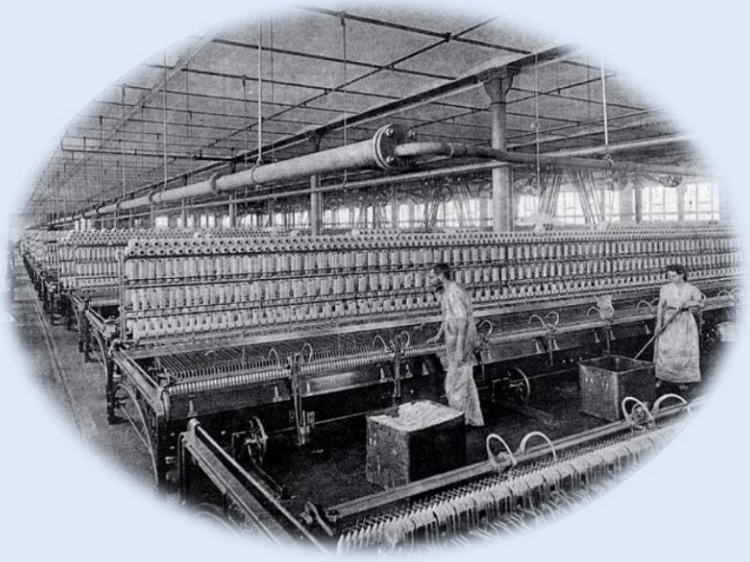
Technology is janiform. One face looks to physical destruction and social disruption, while the other sees the promise of novel life-enhancing advances. The use of the term, promise, has been carefully chosen, because the positive aspects of technological innovation are not

guaranteed, and are contingent on human motivation and intention. Is an aeroplane used to facilitate travel or to drop an atomic bomb? The potential outcomes of using new technology are also dependent on application. Mishandling can lead to unexpected consequences, such as the overprescribing of antibiotics causing an attendant rise in resistant bacteria, or coal-fired power stations contributing to global warming. Often, a new invention leads to the death of an old medium as witnessed by the slow and quiet demise of the telegram in the face of digital communications. Most of the telegram's associated equipment, infrastructure, methods, and expertise fell victim to obsolescence. Technology is dynamic and processual, and a seemingly minor invention can initiate a cascade of other technological advances that prompt widespread social, political, and economic change that is frequently tumultuous, much like the butterfly effect of chaos theory. As such, technology is a seductively compelling and a relentlessly competitive phenomenon: an irresistible force that defies containment.[22]

The handloom weaver was a bellwether of the social disruption that would emanate from the industrialization of British textile manufacturing.[23] When George Lewis was born in 1780, handloom weavers were enjoying a modicum of prosperity, and represented one the largest professions in Britain.[24] However, within a generation, their economic standing began a slow but inexorable decline.[25] A series of inventions would transform the textile industry, allowing weaving, spinning and other aspects of the trade to become mechanized on a scale undreamt of.[26] The handloom was gradually replaced by the Lancashire power loom, a semi-automated device, which stopped only when the shuttle ran out of thread. It enabled one operative to run several looms simultaneously. Eventually, weaving became completely automated.



Factory power looms employing mostly women operatives.[27]



Mule spinning on a massive scale
Richard Howarth & Co. Cotton Mills, Salford[28] (known locally as Dickie Howarth's)

Come all you cotton-weavers, your looms you may pull down;
You must get employ'd in factories, in country or in town,
For our cotton-masters have found out a wonderful new scheme,
These calico goods now wove by hand they're going to weave by steam.[29]

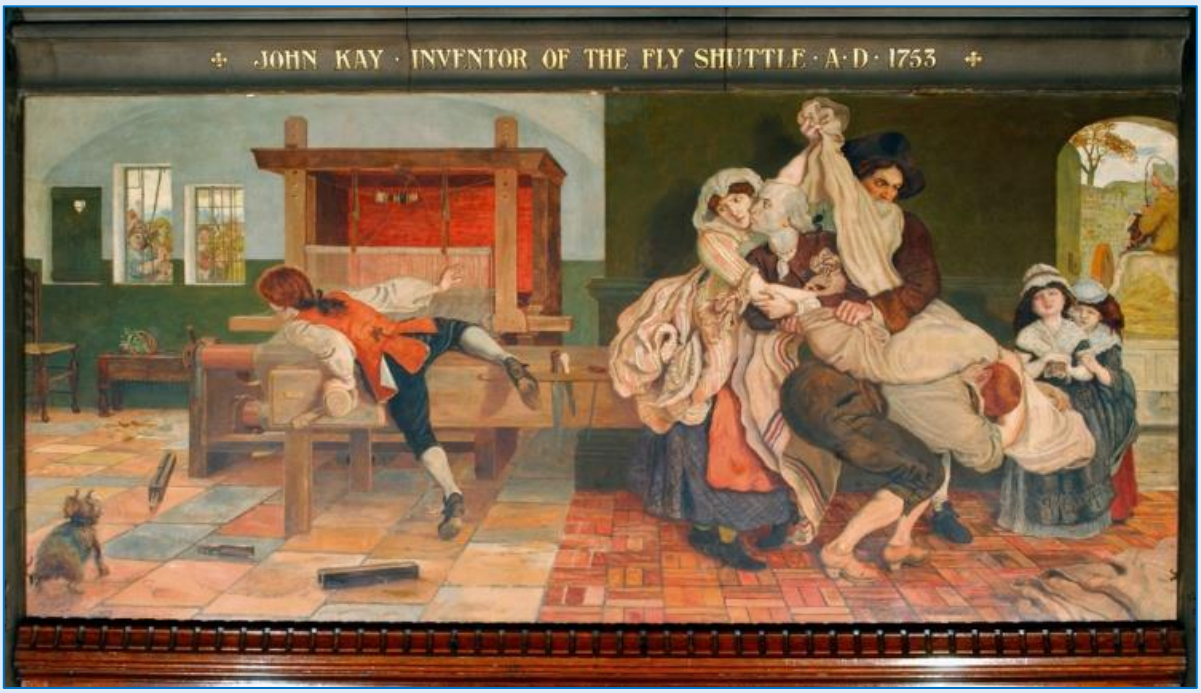
Whereas the traditional spinning wheel had only one spindle, the incremental development of spinning mules increased that number to thousands in about fifty years, a situation reminiscent of Moore's Law.[30] The further amplification of industry was wrought by the substitution of human energy with the motive power of animals, water and steam. All this was driven by the desire to maintain a competitive edge, cut costs and increase profit. By 1880, handloom weavers were as marginal as a horse and cart in a world of diesel-powered trucks.[31] In the middle of the nineteenth century, the Industrial Revolution had reached a reasonably mature technical and organizational state, which had transformed traditional artisanal trades and agriculture at a rate, and to a degree, that was to prove radically life-changing. This achievement was celebrated, like a Roman triumph, at the Great Exhibition of 1851.

However, the weavers and spinners did not go quietly into the night. They resisted and they suffered: not necessarily in that order, but concurrently. On the 26th of May, 1733, John Kay of Bury received a patent for the flying shuttle. His device more than doubled the handloom's output, and enabled 'one man to do the work of two', particularly in the production of broadcloths.[32] This caused an increase in demand for thread, which upset the equilibrium of the industry, and eventually spawned the mechanization of spinning. It is reported that the flying shuttle and Kay's other inventions caused a backlash among the textile-producing community, which resulted in his home being attacked and his equipment destroyed, including

a model for a spinning machine that was described as ‘a very dangerous piece of furniture’. [33] Tradition relates that he had to be smuggled out of his house wrapped in a bolt of cloth, because an angry mob threatened his life. This scene (below) was immortalized by the artist, Ford Madox Brown. The episode was repeated in the case of James Hargreaves, the inventor of the spinning jenny, the man responsible for beginning the reduction of the venerable spinning wheel to a moribund and uncompetitive curio. His house in Blackburn was ransacked, and he was forced to flee to Nottingham.[34]

A flying shuttle

The illustration below shows John Kay’s son leaning over a workbench to monitor the angry crowd assembled beyond the windows. Kay kisses his wife as he is concealed in a bolt of cloth before being smuggled outside to a waiting cart. A flying shuttle lies on the floor to the left of the loom.[35]



The very shrewd entrepreneur, Richard Arkwright, is considered responsible for successfully intensifying pre-existing aspects of industrialization. He employed the traditional waterwheel to power a spinning frame; giving it the name, water frame.

This had the effect of concentrating production and labour at a specific riverine site, which became the template for the industrial mill, an early manifestation of the factory system. The unveiling of an Arkwright-style mill near Chorley sparked a two day period of rioting, as thousands of textile workers unleashed their fury on the new spinning works, which resulted in two deaths.[36] It is described in the following report:

> '... upon the Fourth Day of October last [1779], a most riotous and outrageous Mob assembled in the Neighbourhood, armed in a warlike Manner, and after breaking down the Doors of the Buildings, they entered the Rooms, destroyed most of the Machinery, and afterwards set fire to and consumed the whole Buildings, and every Thing therein contained.'[37]

The local militia was called to arms as the violence spread to Wigan, Blackburn and Bolton.

In 1785, Edmund Cartwright used a waterwheel to drive his newly patented power loom. Over the ensuing decades, his prototype was incrementally improved, along with a number of competing designs, until the power loom became a fully automated device. Eventually, this too met with resistance and popular rage in the form of the frenzied 'Power Loom Riots', which swept across Lancashire in 1826, and saw over 1000 power looms destroyed in three days.[38]

In the strictest sense, these outbursts should not be considered part of the Luddite Movement. Luddism is a regional episode in the history of machine wrecking, which was initiated by stocking makers. It began in Nottinghamshire, spreading to neighbouring Derbyshire and Leicestershire, and lasted from 1811 to 1816. However, 'Luddite' has become semantically broadened to encompass anyone hostile to new technology or its effects. Lord Byron, whose ancestral home was in Nottinghamshire, was deeply interested in the Luddite cause. His impassioned argument against a legislative bill that called for the hanging of those found guilty of Luddism failed to convince the House of Lords. He declared:

> 'But whilst these outrages must be admitted to exist to an alarming extent, it cannot be denied that they have arisen from circumstances of the most unparalleled distress: the perseverance of these miserable men in their proceedings tends to prove that nothing but absolute want could have driven a large, and once honest and industrious, body of the people into the commission of excesses so hazardous to themselves, their families, and the community. ... Will you erect a gibbet in every field and hang up men like scarecrows? ... Are these the remedies for a starving and desperate populace? Will the famished wretch who has braved your bayonets, be

appalled by your gibbets? When death is a relief, and the only relief it appears that you will afford him...'[39]

The violent remonstrations of the machine-breakers were not simply an expression of technophobia, nor were they deluded attempts to halt change. Foremost, the new devices were a potent threat to both livelihoods and the way of life of legions of working people. Therefore, their destructive rampages can be seen as a concerted response to the real risk of unemployment, and the consequent fear of poverty and a life blighted by deprivation and destitution. This was an age deficient in poor relief, and when it came to protecting one's self and family, choices were limited and included resistance, acquiescence, emigration, starvation, suicide, or career transition (if one was nimble enough with the required skill set and jobs were available).[40] For the many who acquiesced, their self-respect and status as autonomous artisan-farmers were exchanged for the dull labour of the wage slave in a 'dark satanic mill'.[41]

Violent response also occurs when the avenues of peaceful redress have been exhausted, leaving the aggrieved with no other recourse but confrontation. This is typical of governments whose policies are determined by the special interests of select groups, and who fail to listen to the entreaties of the populace. In 1807, the handloom weavers of Lancashire respectfully presented 130,000 signatures to Parliament in support of a petition to introduce a minimum wage bill. Its summary rejection ignited strikes and riots across the county.[42] However, it is axiomatic that eruptive protests, like Luddism, are seldom long-lasting. Generally, such revolts are spontaneously reactive, and lack coordinated planning, sufficient resources and robust leadership. In addition, they are usually countered with overwhelming force: military suppression, the coercive apparatus of jurisprudence, such as arrest, imprisonment or transportation, and a raft of other onerous penalties. Under such pressure, the wage earner (which included children) is forced to adopt more muted strategies like strikes, collective bargaining or work to rule, and then only when the law allows.[43] In short, since the disposition of power is asymmetrical, opposition either fails or its meagre gains prove to be slow in coming and costly.

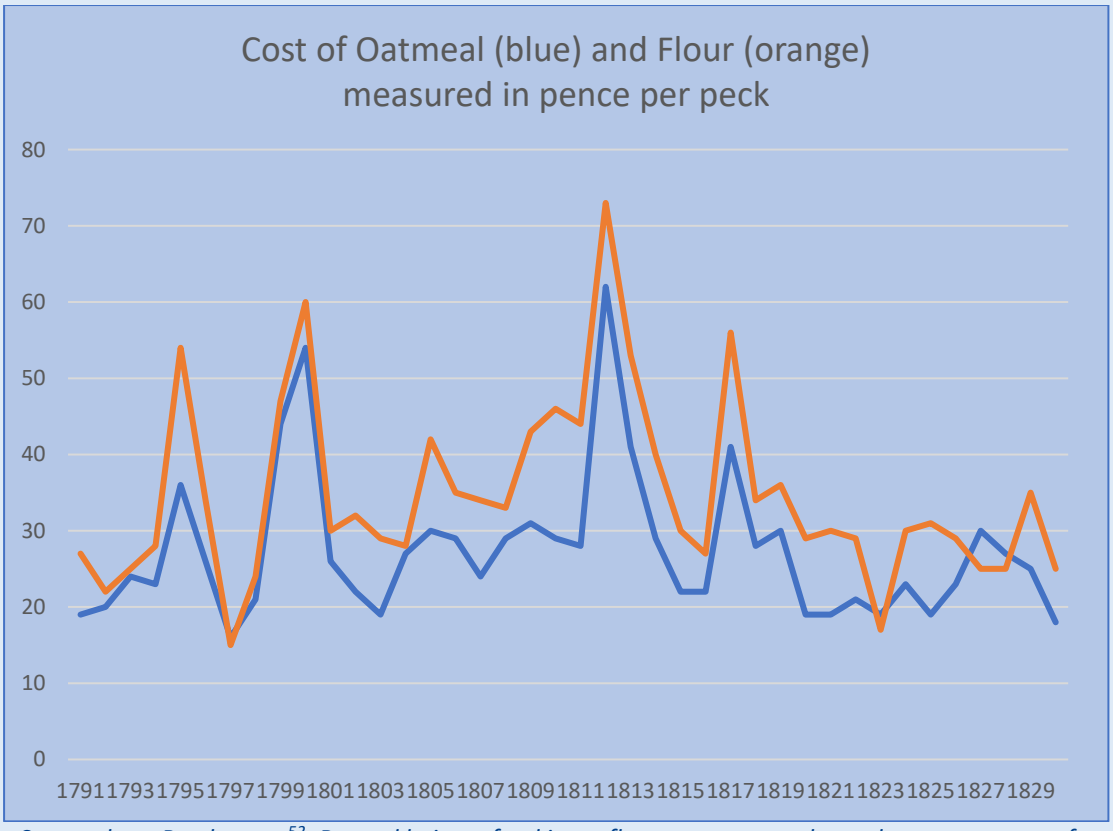
War and Suffering

The socio-economic pressures caused by new technology were synchronously aggravated by war with France and America. The outbreak of the French Revolution (1789) and its deterioration into the Reign of Terror and dictatorship appalled and terrified the British establishment. Fears that their own people would be infected

and inflamed by republican notions of *liberté, égalité, fraternité*[44], such as had happened in the American colonies, were magnified when Thomas Paine published his *Rights of Man* in London during 1791. It promptly sold a million copies. Among its readers were the literate factory-hands of the new industrial North and revolutionaries in Ireland.[45] Copies that fell into the hands of anti-republicans were tossed onto their prophylactic bonfires. As the voices of reform grew louder, the government passed the Gagging Acts (the Treason Act 1817 and the Seditious Meetings Act 1817). When disgruntled protestors assembled in St. Peter's Field in Manchester demanding the reform of Parliamentary representation (or, more correctly, non-representation: the major industrial centres of Manchester, Salford, Bolton, Blackburn, Rochdale, Ashton-under-Lyne, Oldham and Stockport had no MPs of their own[46]), the official response was to despatch the local cavalry, who, with drawn sabres, slashed their way through the unarmed crowd, wounding several hundred townsfolk, and reprehensibly killing a number of unfortunate souls. The Peterloo Massacre of the 16th of August, 1819, was quickly followed by the draconian Six Acts of counter-revolutionary legislation aimed at the suppression of radical publications (known as the 'pauper press'[47]), the prevention of large gatherings, and the reduction of the prospect of armed insurrection.

For handloom weavers and other textile workers, this tense political atmosphere was merely the setting for an unfolding tragedy. France's declaration of war on Britain in 1793, followed by rebellion in Ireland and war with America, caused a disruption in the importation of raw materials and the exportation of finished goods. The exorbitant costs of war brought inflation, fired by a fiat currency, which was accompanied by episodes of unemployment, desperation, and starvation.

- On the 22nd of February, 1797, a French invasion force landed in Wales near Fishguard, causing a run on the banks and a liquidity crisis. This forced the Bank of England to suspend the gold standard, and issue non-convertible paper currency, allowing the government to embark on inflationary financing to pay for the war.[48] It also provoked widespread counterfeiting. Inflation is partially reflected in the chart below. However, poor harvests played their part in food shortages, which further increased prices.[49] It would be desirable to view the chart in relation to the average earnings for handloom weavers, but this calculation is hampered by too many unquantifiable variables to be valid.[50] All that can be said with any certainty is that the trajectory of their income was one of steady and permanent decline.[51]



Source data: Rowbottom[52]. Beyond being a food item, flour was commonly used among weavers for sizing warp threads.[53] See Appendix 2 for a non-food item.

- Since warfare is not limited to the battlefield, an attempt to prevent the importation of British goods to the continent was imposed by Napoleon's Continental System (1806–14). In turn, the Royal Navy blockaded all the seaborne trade of, and to, their enemies. In doing so, neutral American ships were caught in the crossfire, and their trade was significantly constrained. The government of the United States responded, first with embargoes on imports, and then a declaration of war on Britain in 1812.[54] Since America was the single largest overseas market for British cloth, this rupture in relations had a detrimental impact on cotton supplies and the textile trade.[55]

- Daniel O'Connell is credited with coining the phrase, 'England's difficulty is Ireland's opportunity'. Armed with the republican blueprint of a newly independent United States, the United Irishmen, with the support of Revolutionary France, rose in rebellion in 1798. Facing two wars and a rebellion demanded manpower. In 1795, Britain had already introduced the Quota Acts, which compelled parishes to supply men for the navy and militias. Since draftees were mostly from the 'bottom end of the income scale', unemployed weavers would have been exposed to conscription.[56] Despite the absorption of an estimated 11 to 14% of males between the age

of 20 to 45 years into the armed services, real wages stagnated from 1792 to 1810.[57]

- Inflation can be managed, if earnings keep abreast of price increases, but the wages of handloom weavers withered in the face of market loss and competing technological developments. The twofold blow of inflation and declining piece-rates was financially ruinous for many families. The Oldham handloom weaver, William Rowbottom, describes in his diary the misery experienced by his contemporaries. His spelling has been kept.

  - 1 June 1793: 'The poor of this neighbourhood and country in general experienced the most tortureing misery, owing to the dearness of every necessary of life, and the scarceness of work and uncommon low wages.'

  - 1 August 1793: 'The relentless cruelty exercised by the fustian master upon the poor weaver is such that is unexampled in the annals of cruelty, tyraney, and oppression, for it is nearly an impossibility for weavers to earn the common necessaries of life, so that a great deal of familys are in the most wretched and pitiable situation.'

  - 29 November 1797: 'It is with heartfelt concern that we have again to announce that the most distressing and calamitious times are again making their appearance in this unhappy country, for all sorts of weaving is on the lowest ebb.'

  - 1 January 1799: '...such a Christmas as was never experienced before, for by the lowness of the fustian trade[,] roast beef, pyes, and ale, are not to be seen on the poor man's table. On the contrary, it is graced with misery and want, and a universal lowness of spirits and dejected countinance appear in everyone. Humanity is fled from the breast of everyone, so that the wretched and miserable poor, by pineing, unpityed, and unnoticed. Oh, that this new year may be a more comfortable year then the last is my wish. Their hopes, but no assurance, for things grow every day worse and worse. Nothing is to be seen or heard but the wofull tale of the poor.'

  - 19 May 1800: 'The poor in a shocking situation; a great deal are starving for bread, and very few can get anything better than barley bread ... potatoes being so excessively dear that the poor can not buy them.'

  - 3 April 1808: 'The poor at this time are in a wretched situation, such as was seldom known before; all sorts of work both scarce and a very little [pay] for working it, and all sorts of provisions at an enormous price,

makes the state of the poor to be miserable behind [i.e. beyond] discription, and a great deal of families in a state of actual starvation.'

- 9 November 1808: 'The times are the most wretched ever experienced, provisions rising, price of labour falling, and a deal [i.e. many] with no work at all, especially those that worked at factories, and a deal of failures, and taking a deal to Lancaster [i.e. debtor's prison] never were such miserable times.'

- 31 July 1811: 'All sorts of trade is daily worse and worse, and ... a deal of familys are in a state of actual starvation.'

- 25 November 1812: 'The distresses of the country are behind all comprehension, provisions so dear and the price of labour so low. ... Most of the poor are in a state of starvation.'

- [1] January 1813: '... such scenes of distress and misery where exhibited in all poor familys as never where [were] heard of before; not the least simtoms of ancient English hospitality or Christmas cheer was to be seen, poverty, misery, and want was the general order of the day – no ale, pies, roast or boiled beef was to be met with. People in general took no notice of the holiday, ... What with the price of provisions and the lowness of trade, a general gloom hung on the countenances of the poor, and the country in general are in a state of actual starvation. It is impossible to convey to posterity the lamentable situation of the country, and there is no visable hopes of a speedy change for the better.'

For those who might suspect Rowbottom of writing out of self-interested parochialism, Lord Brougham succinctly confirmed the situation:

> ' ... respecting the distresses of the poor in those parts. The food which now sustains them is reduced to the lowest kind and of that there is not nearly a sufficient supply; bread or even potatoes, are now out of the question; the luxuries of animal food [i.e. meat], or even milk, they have long ceased to think of. Their looks, as well as their apparel, proclaim the sad change in their situation. One witness tells you, it is only necessary to look at their haggard faces, to be satisfied what they are suffering; ...'[58]

While some were shouting 'blood or bread, anything is better than starving by inches', not everyone in Britain saw the war as a time of hardship.[59]

> ‘The war enriched the landowner, the farmer, the merchant, the manufacturer; but it impoverished the poor. It is indeed from these fatal years which lie between the Peace of Luneville [9 February 1801] and Waterloo [18 June 1815] that we must date that war of classes, that social severance between employers and employed, which still forms the main difficulty of English politics.’[60]

The legacy of victory over Napoleon meant a period of relative stability for Europe. Beyond the continent, the Royal Navy remained unchallenged throughout the century that followed, and her ships became the sinews of a global empire. It is said that a country at war is at peace with itself, but with peace the mood changed.

> ‘The national joyousness of war may exceed that of peace, but its joys are more fallacious, if not criminal. It is a period of exertion, of high excitement, in which a consciousness of internal maladies is forgotten in the death-struggle for foreign mastery. Moreover, it is a season of spending, waste, and reckless prodigality. It is a delirious state — intoxicated by victories, if successful — bursting into rage, or sinking into despondency, if defeated. Peace, on the contrary, is less obnoxious to extremes. It is a time of quiet, of reckoning up, saving, and forethought. The smallest evils that exist are felt; all that are impending are imagined and magnified. War affords a ready excuse for every disorder, every public privation, every remedial postponement ; but peace is the ordeal of rulers.’[61]

The benefits and dividends of victory that the working poor had hoped for would prove to be largely illusory. In the face of hunger, the landed class introduced the Corn Laws (1815-1846), a system of protective tariffs on imported cereal grains. This kept prices artificially high, causing extended grief for those who had struggled through the war to put food on their tables.[62] From 1826 to 1842, textile trade depressions were occurring on an approximate three-year cycle, causing unemployment among many cotton handloom weavers.[63] Post-war public finances were a debt-ridden shambles, and the £72 million national debt of 1756 had risen to £800 million by 1815.[64] In spite of the need to pay down this encumbrance, income tax, established to fund the war, was repealed in 1816. Peace brought overspeculation, business bankruptcies, bank runs and failures, credit contraction, and money shortages due to a reinstatement of the gold standard (1819–21).[65] Then, to add insult to injury, freak weather conditions caused by volcanic activity, resulted in crop failures.[66] This is reflected in the chart above showing a price spike for 1817. The awkward transition from a wartime to a peacetime economy

culminated in the Panic of 1825, which was the consequence of a deflationary policy pursued by the government and Bank of England.

The Family of William Lewis

William Lewis, the oldest surviving son of George and Elizabeth, was born in Monton, and baptized at St. Mary's on the 29th of September, 1805. He married Ellen Parr on 23 November 1831 in Eccles. Ellen was the daughter of George Parr, a weaver from Worsley, and Margaret Bowker. Ellen was born in 1807, the youngest of ten offspring. William Lewis and Ellen had the following children:

ELIZABETH LEWIS (1832-1895)	JANE LEWIS (1835-)
JAMES PARR LEWIS (1833-1863)	SARAH HALL LEWIS (1836-1907)
ANN LEWIS (1834-)	**JOHN TETLOW LEWIS (1838-1913)**

Ellen passed away in September of 1840 at the age of about 33, and it is likely she died in childbirth. Records show that William was a 'cotton manufacturer' as early as 1832, and remained so, though he worked concurrently, at least from 1840, as the Registrar of Marriages for the district of Barton Upon Irwell. [67] He is listed as a 'twill, &c. manufacturer' located in Patricroft.[68] In 1853, William is registered as a 'cotton spinner and manufacturer', with an office at 4 Blue Boar Court, Manchester, though his residence and manufactory were in Eccles.[69]

The 1841 census shows William living on Philip Street. Forty years later, he is still at the same location, living with his two unmarried daughters, Elizabeth and Sarah. William died in 1884. William's son, James Parr Lewis, was 30 when he died. He is buried in the Barton Wesleyan Methodist Chapel yard.

The Family of John Tetlow Lewis

John Tetlow Lewis was born in Patricroft, where the family lived on Philip Street. No doubt, as a youngster, he worked in his father's business, where he was introduced to the rudiments of the trade. At the age of 14 (1852)[70], he was apprenticed to Marland and Whitcombe, a firm of Manchester dyed goods manufacturers located on New High Street.[71] The term of his apprenticeship was five years, and at the age of 19 (1857), he became a buyer for Curtis and Dallow, warehousemen, merchants and manufacturers.[72] In 1859, at the age of 21, he began working for Michaelis and James.[73] His accomplishments speak to self-

discipline, entrepreneurial astuteness and ambition, which took the family's fortunes to a new level. He was an early investor in the Manchester Ship Canal, and became a Justice of the Peace in 1894.[74]

On 15 March 1866, he married Margaret Crewdson, when he was 28. She was the daughter of Thomas Morris Crewdson (a metalsmith who won the praise of the Scottish engineer, James Nasmyth[75]) and Margaret Stott, both of Manchester. They had the following children:

ELLEN LEWIS (1867-1917)	MARGARET LEWIS (1872-1927)
FLORENCE ANN LEWIS (1869-1931)	**JOHN WILLIAM LEWIS (1874-1950)**
THOMAS MAURICE CREWDSON LEWIS (1870-1925)	CHARLES LEWIS (1876-)

The marriage of their daughter, Margaret, shows that the Lewis family was operating on a very different social level than their Monton forebears.[76]

IRELAND, Arthur Broadbent, Director of Manchester Chamber of Commerce.

"The Knowle," Altrincham, Cheshire. Office: 10/12, Hopwood Avenue, Manchester. 'Phone: 1831 City. Telegrams: "Erin." *Born:* February 18th, 1868, at Broughton, Manchester; second son of Charles William and Elsie Ireland. *Educated:* Bloxham. *Married:* September 5th, 1907, to Margaret, youngest daughter of the late John T. Lewis, J.P., Dunham Massey, Cheshire, and has issue one daughter. *Occupation:* Cotton Merchant, Broker. *Recreations:* Golf, motoring, cycling. *Note:* Special Constable for City of Manchester; Director of the Manchester Cotton Association; Member of the Manchester Association of Importers and Exporters; Director of the Manchester Chamber of Commerce. *Club:* Manchester Constitutional.

In 1867, the year following his marriage, John Tetlow Lewis, dissolved a partnership that he had established with William Bowden. They were co-owners of a 'chemist and druggist' by the name of Bowden & Co., which was located in Patricroft, a suburb of Eccles.[77] In the ensuing years, John Tetlow Lewis focused his business acumen on the textile trade, joining forces with men operating on an international level. The development of the business, which he eventually came to control, is outlined below.

The Evolution of the Business

Stage One

This stage begins with Michael Michaelis, his family, and its business connections, and explores the dendritic progress of various partnerships, which played a role in

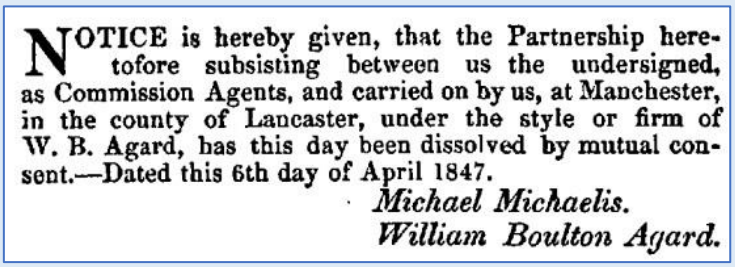
the development of Manchester's commercial life. Michael Michaelis serves as a bridge between stages one and two as outline here. There is a schematic chart at the end of this section, which serves as a visual aid to understanding the developments.

1. Michael Michaelis (1810-1878)

Michael Michaelis came from Lügde, a town in the Lippe district of North Rhine-Westphalia, Germany.[78] He was born into a Jewish family on 23 September 1810, the eldest son of Reuben Michaelis and Sara Michel.[79] He emigrated to England in 1833, and became a naturalized British subject on 28 May 1847.[80] Michael remained in England, and married Mary Ann Tweddle in 1847.[81] He died in Manchester on the 18th of December, 1878, leaving an estate of about £25,000.[82]

Michael's presence in England acted as a bridgehead for other family members. His brother, Moritz Michaelis (1820–1902), followed him to Manchester in 1843, where he found employment with Samson & Leppoc (see below). Moritz eventually moved to Australia in 1853.[83] Michael's nephew, Bendix Hallenstein, spent time with him in Manchester (c.1852–1857), before emigrating to Australia and eventually to New Zealand, where he became a prominent businessman.[84] Michaelis Hallenstein, the brother of Bendix, lived with Moritz Michaelis in Manchester for a time.[85]

At an early stage in his career, Michael went into partnership with William Boulton Agard (1816-1883), a Manchester warehouseman and merchant. They had a warehouse on Tib Street, later moving to 4 Fountain Street.[86] As shown below, this business was dissolved in 1847.[87] Agard moved to California at the onset of the Gold Rush in 1849, not to prospect, but to establish 'the English importing house of Agard, Foulkes & Co.' in San Francisco.[88] He is described as a pioneer merchant with a thorough knowledge of English fabrics.



NOTICE is hereby given, that the Partnership heretofore subsisting between us the undersigned, as Commission Agents, and carried on by us, at Manchester, in the county of Lancaster, under the style or firm of W. B. Agard, has this day been dissolved by mutual consent.—Dated this 6th day of April 1847.

Michael Michaelis.
William Boulton Agard.

London Gazette, no. 20722 (9 April 1847) 1354.

The 1851 census shows Michael Michaelis living in Hulme, and working as a clerk in a 'shipping house'. However, we are not told the company's name. During the ensuing decade, Michael transitioned from shipping to textile manufacture, and is

described as a 'manufacturer of cotton and silk'.[89] Michael retired in 1869, and his eldest son, Reuben Nicholas Michaelis (1849-1910), assumed his interest in the business. This is discussed in Stage Two.

Michael was obviously inventive, and filed a patent with John Clemson of Manchester (see Appendix 3) for improvements in the production of ornamental textile fabrics by printing.[90] Michaelis is described as a warehouseman. Clemson is designated a 'dyer & printer' and a 'dyer & finisher', with a workshop in the Cheetham Hill – Crumpsall area.[91] Another patent was filed with Robert Kershaw of Heywood (see Appendix 4) for improvements in the manufacture of velvets and other piled fabrics.[92] Kershaw was a manufacturer whose mill was situated at Wrigley Brook, Heywood.

Michael and his wife, Mary Ann, were shareholders in Consolidated Bank, the first limited liability bank in Manchester, formed in 1863 by the merger of the Bank of Manchester and Heywood, Kennards & Co. of London.[93]

2. Hermann Samson (1804-1864) and the Michaelis Family Connection

Hermann Samson was a Jewish merchant and wholesaler, born in Braunschweig (Brunswick), Germany.[94] His father and grandfather are described as *Hoffaktoren*.[95] A *Hoffaktor* is an agent employed at a royal court who procured goods, materiel or capital for its ruler. Upon the death of Hermann Samson, it was announced that his business would pass to his son, Henry Samson (1832-1906) (see section 3.1 below), and Albert Heinrich de Liagre (1833-1908) (see Appendix 5), the husband of Hermann's daughter, Anna Maria Samson (1840-1912).[96] However, the company continued to operate under the Hermann Samson name.[97] This arrangement allowed for the maintenance of a Manchester-Leipzig trade axis described below.

Bekanntmachung.

Zufolge Anzeige vom 7. October 1865 in Verbindung mit Zeugniß vom 20. December ej. ai. ist untengesetzten Tages auf Fol. 1356 des Handelsregisters eingetragen worden,

daß die Firma Hermann Samson in Leipzig auf die Kaufleute a) Herrn Henry Samson in Manchester und b) Herrn Albert Heinrich de Liagre hier

übergegangen ist.

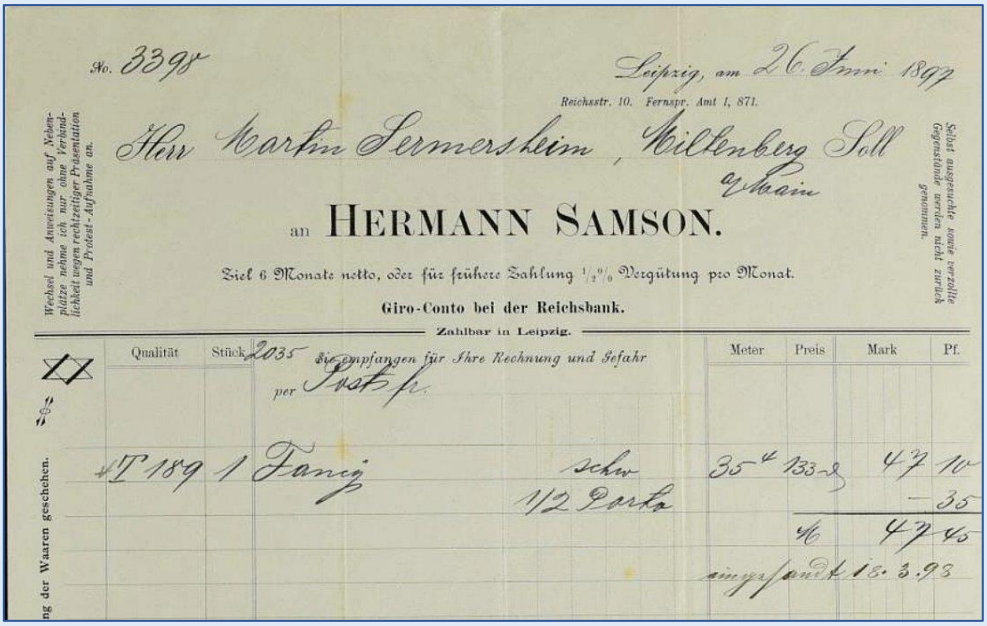
Leipzig, den 2. Januar 1866.

Königl. Handelsgericht im Bezirksgericht.

Werner.

Translation: *Notice. According to the announcement of October 7, 1865 in connection with the certificate of December 20, 1865, which was entered in folio 1356 of the commercial register on the day set below that the company Herman Samson in Leipzig has been transferred to the merchants a) Mr. Henry Samson in Manchester and b) Mr. Albert Heinrich de Liagre here.*

Leipzig, January 2, 1866. Royal Commercial Court in the District Court.



No. 3398 Leipzig, am 26 Juni 1897

Reichsstr. 10. Fernspr. Amt I, 871.

Herr Martin Sermersheim, Hildenberg Soll

an HERMANN SAMSON.

Ziel 6 Monate netto, oder für frühere Zahlung ½% Vergütung pro Monat.

Giro-Conto bei der Reichsbank.

Zahlbar in Leipzig.

Wechsel und Anweisungen auf Vergütung werden nur als Verbindlichkeit gegen rechtzeitiger Präsentation und Protest-Aufnahme an.

Selbst ausgesuchte sonst verzollte Gegenstände werden nicht zurück genommen.

Qualität	Stück	Meter	Preis	Mark	Pf.
	2035				
1189 1 Fancy	schw 1/2 Porto	35	133	47	10
					35
				47	45

Sie empfangen für Ihre Rechnung und Gefahr per Post fr.

eingetroffen 18. 3. 97

ng der Waaren geschehen.

The office of Hermann Samson was located at 10 Reichstrasse, Leipzig.
The invoice (1897) above is for the sale of 35 metres of 'Fancy',
an English expression that speaks to the importation of British textiles into Germany.[98]

2.1 Michaelis Brothers

By 1818, Eichengrün and Michaelis were already an established business operating out of Braunschweig.[99] At the time, they had an established trade axis between Germany and England, and showed British woollen and cotton manufactured goods at local trade fairs. German sources (at least those available to the author) do not mention when this axis was first established, and it is not until 1824 that they refer to the firm's connection with Manchester.[100] In 1827, it was announced that the partnership of Eichengrün and Michaelis was to be dissolved due to the untimely death of Simon Eichengrün (1791-1827) on the 3rd of March, and that the business would continue under the name, Michaelis Brothers, from the 1st of July.[101] The newspaper described them as 'brothers Michaelis, here and in Manchester'. It appears that shortly after the death of Eichengrün, Hermann Samson became a partner in the business, with the financial backing of his family.[102] This resulted in a change in the name of the firm as seen below. We see this new company highlighting its inventory of English wares in the following:

Michaelis Gebr. et Samson aus Braunschweig und Manchester, (vormals Eichengrün et Michaelis) empfehlen sich zur bevorstehenden Braunschweiger Laurentius-Messe mit ihrem ganz neuen Lager englischer Manufactur-Waaren. Ihr Gewölbe ist im Hause des Herrn G. W. Hincke junior, Kohlmarkt Nr. 102.

Translation: *Michaelis Brothers and Samson from Braunschweig and Manchester (formerly Eichengrün et Michaelis) recommend themselves to the upcoming Brunswick Laurentius Fair with their brand new stock of English manufactured goods. Their shop is in the house of Mr. G. W. Hincke junior Kohlmarkt No. 102.*[103]

Michaelis Gebrüder & Samson
aus Braunschweig und Mancheſter, (vormals Eichengrün & Michaelis,)
haben von nächſter Frankfurth a. d. O. Reminiſcere-Meſſe an, ihr bis jetzt im Hauſe des Herrn Baſchwitz, Jüdenſtraße No. 6, gehabtes Lager Engliſcher Manufaktur-Waaren nach dem Hauſe des Herrn M. A. Fränkel, Jüdenſtraße No. 15, eine Treppe hoch verlegt.

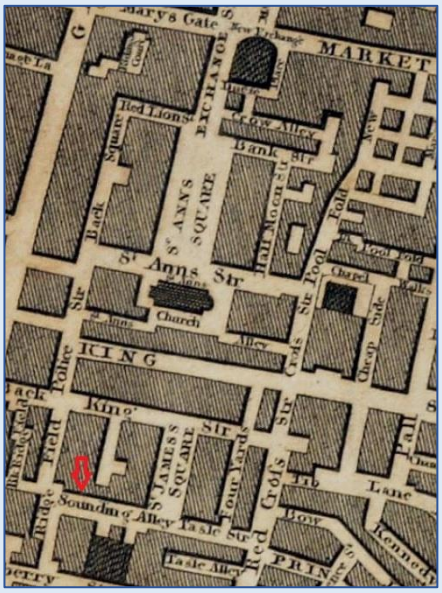
Translation: *Michaelis Brothers & Samson.*
from Braunschweig and Manchester, (formerly Eichengrün & Michaelis,) have from the next Frankfurt am Oder Reminiscere Fair, moved their stock of English manufactured goods, which until now had been in the house of Mr. Baschwitz, Jüdenstrasse No. 6, to the house of Mr. M. A. Fränkel, Jüdenstrasse No. 15, up one flight of stairs.[104]

Michaelis Samſon und Gebrüder, Katharinenſtraße Nr. 417.
engl. Manufakturwaaren.

The directory entry above shows their headquarters in Braunschweig (at Katharinenstrasse, no. 417), and their speciality is listed as English manufactured goods.[105] One can infer that their business was largely wholesale with their wares being sold to retailers, and one source refers to goods available in bulk.[106]

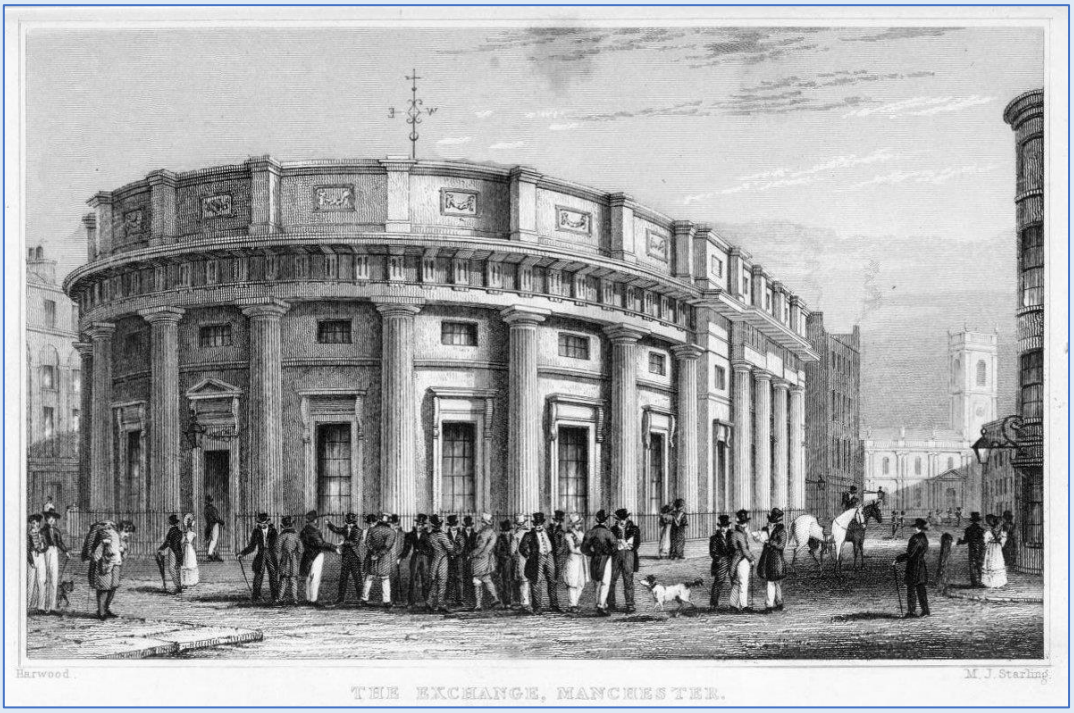
The Michaelis Brothers were Salomon (1781-1828), Reuben (father of Michael Michaelis), Jacob and their half-brother, Bernhard.[107] It is not known when Bernhard migrated to England, but he is no doubt the early agent of Eichengrün and Michaelis operating in Manchester. Bernhard Michaelis (1791-1843) [anglicized to Bernard], like Michael, was born in Lügde, and moved to Manchester before 1827, when he married Anne Gisborne of Derbyshire.[108] It is highly probable that he is the merchant, 'Michaelis, Bernard' of 1 Kent Street, Manchester listed in 1825, which is not far from the Exchange.[109] Bernhard was the family trailblazer in migrating to Manchester, and became naturalized in 1836.[110] Before 1844, naturalization was achieved only by a private act of parliament, which was an expensive proposition. Around 1837, he invested £6,500 in the Manchester South Union Railway.[111] He was obviously very wealthy, and by 1841 comfortably housed at Bella Villa in Whalley Range, Manchester.[112] He died at the age of 52.[113]

Two sources for 1828 indicate that Michaelis Brothers and Samson were operating in Manchester; one from 9 Sounding Alley, and the other from 2 New Market Buildings.[114] Taken together, they suggest an office located near the Exchange, and a separate warehouse on the less salubrious Sounding Alley.[115]



Michaelis B. merchant, house Broughton lane
Michaelis Brothers and Samson, merchants, 2 New market buildings
MichaelisGeo.Barnard,mrchnt. h.Broughton la

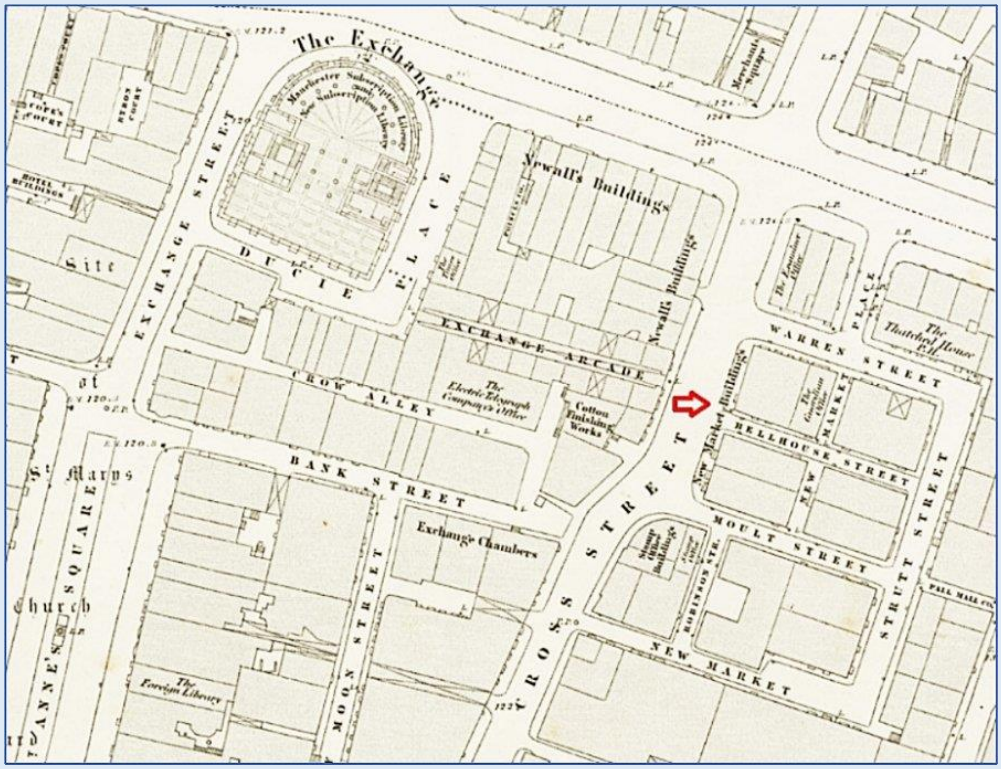
The above directory entry lists 'Michaelis, B. [Bernhard], living on Broughton Lane and 'Michaelis Geo. Barnard', presumably at the same address. The latter appears to represent Georg(e) Barnard Michaelis, who is otherwise undocumented and cannot be identified, but is probably a relative.[116]



The Manchester Exchange in 1835[117]

The Royal Exchange of Manchester was a commodities clearing house used primarily by cotton and textile importers and brokers. It was described by Friedrich Engels as 'the thermometer for all the fluctuations of trade'.[118] The Exchange went through three main iterations as trade expanded.[119] The original was built in 1792, which was followed by a new construction in the Classical style (above) in 1806-8. It was designed by the Yorkshire architect, Thomas Harrison, trained in Rome. This was replaced by a new building between 1869-1874, which was later expanded to

become the largest trading floor in England. Manchester was boomtown, and by 1889, a million people lived within six miles of the Royal Exchange.[120] As a result of this explosive growth, the historian, Asa Briggs, called it 'Shock City'.[121]



New Market Buildings in close proximity to The Exchange, St. Anne Ward, Manchester[122]

* This transmutation of dwelling-houses into warehouses in Manchester, is a subject of considerable local interest and curiosity. The following account of it, with the rise and extension of the different branches of our trade, I have from Mr. David Bellhouse, than whom, from his great local knowledge, no one is more competent to supply this kind of information:—"The first warehouses I remember being built," says he, "were in what were then called the 'New Market-buildings,' off Cross-street, near to Market-street. What was known as 'New Market' had been built by the Lord of the Manor, and had a butchers' shambles and fish market; but in course of time these were done away, and the land became the site of warehouses. They were all cotton warehouses. At this time (1804) the cotton trade, dealing in the raw material, was a principal trade in Manchester; and the cotton warehouses congregated round, and as near as might be, the Exchange, including Back-square, Bank-street, Half Moon-street, Cross-street, New Market-buildings, and some on the other side of Market-street, as Cromford-court, New Cannon-street, &c. By degrees

Source[123]

Bernhard Michaelis established a partnership with Hermann Samson, announcing the formation of Michaelis & Samson in Braunschweig on January 26, 1829.

Bekanntmachung. Nach getroffener gütlicher Uebereinkunft mit den Erben unsers verstorbenen Associés Salomon Michaelis haben wir uns mit denselben auseinander gesetzt. Wir machen daher die ergebene Anzeige, daß wir sämmtliche Activa und Passiva der unter der Firma: Michaelis Gebrüder & Samson bestandenen Manufacturwaaren-Handlung übernommen haben, und die Handlung für unsre alleinige Rechnung fortsetzen; zwar von heute an unter der Firma:

Michaelis & Samson.

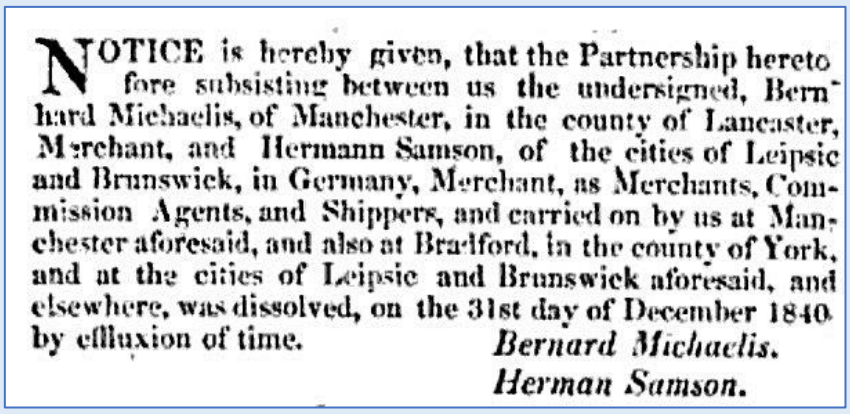
Braunschweig, am 26. Januar 1829.

Bernhard Michaelis,
Hermann Samson.

Translation: *Announcement. After reaching an amicable settlement with the heirs of our deceased associate, Salomon Michaelis, we have come to a mutual agreement. We therefore make the humble announcement that we have taken over all assets and liabilities of the manufactured goods business that existed under the company, Michaelis Brothers & Samson, and are continuing the business for our sole account; from today onwards under the company name, Michaelis and Samson.*[124]

It appears that the death of Salomon initiated a reorganization of the business, in which the interests of Reuben and Jacob were bought out, leaving Bernhard and Hermann Samson as partners.

Michaelis and Samson dissolved their business on the 31 December 1840, which became 'Hermann Samson'.[125] It was during 1840 that Samson left Braunschweig and moved to Leipzig (see Appendix 6), where he was granted citizenship.[126]



NOTICE is hereby given, that the Partnership heretofore subsisting between us the undersigned, Bernhard Michaelis, of Manchester, in the county of Lancaster, Merchant, and Hermann Samson, of the cities of Leipsic and Brunswick, in Germany, Merchant, as Merchants, Commission Agents, and Shippers, and carried on by us at Manchester aforesaid, and also at Bradford, in the county of York, and at the cities of Leipsic and Brunswick aforesaid, and elsewhere, was dissolved, on the 31st day of December 1840 by effluxion of time.

Bernard Michaelis.
Herman Samson.

Dissolution of Michaelis and Samson.[127]

It is clear from this statement of dissolution that Michaelis was the agent overseeing the procurement of goods in Bradford and on the Manchester market, and exporting them to his German counterpart.[128] Bradford was renowned for producing worsted yarn and cloth, and became known as 'Little Germany' due to the large influx of merchants from that country.[129] The phrase 'effluxion of time' is a term denoting a lapse of time, expiry or completion (of a certain period) without reference to a specific event or action. While the date of the notice is 1840, it is argued that the partnership became moribund during 1833, and the above notice

was the concluding acknowledgment of this condition. This does not imply that the separation was acrimonious, but was arguably initiated by the death of Bernhard Michaelis' wife in 1833, which seems to have left him bereft.[130] It is no coincidence that, in the same year, Michael Michaelis emigrated to Manchester, no doubt to support his uncle. Shortly after, in June 1834, Henry Julius Leppoc was dispatched to Manchester as the agent of Hermann Samson to oversee his British commercial interests (see Appendix 6).[131] Leppoc had been working in the business of Michaelis and Samson in Leipzig prior to his secondment to England, where he demonstrated both energy and ability. Hermann Samson's move to Leipzig in 1840 was apparently used to justify and formalize the dissolution, and the delay in doing so was out of Samson's regard for his former partner. The year after the formal dissolution of Michaelis and Samson, Henry Julius Leppoc enters the commercial record, and is found under his own name working at '10 Mount Street, Dickinson St.' in Manchester.[132] Hermann Samson appears as a separate entry, using the same address, which is evidence of their early collaboration. Dickinson Street is near to Mount Street, and is within an area once noted for its custom-built warehouses. They were still at the same locations in 1846.[133]

3. Henry Julius Leppoc (1807–1883)

With the arrival of Henry Julius Leppoc, a new working arrangement came into being, which became the basis of a formal partnership formed in 1851, with headquarters at 6 St. Peter's Square, Manchester.[134] This enterprise was known as Samson and Leppoc, a name that first appears in 1850, with offices still on Mount Street, though the warehouse had moved to Peter Street, perhaps affording more space.[135] Samson & Leppoc has been described as a branch of Michaelis and Samson.[136] However, before 1840, this may have been more *de jure* than operational. As a formal partnership, Samson and Leppoc has nothing to do with

Bernhard Michaelis, who died in 1843. It is argued that from 1834 to 1840, Michaelis and Samson was a legal entity whose performance did not meet the expectations of Herman Samson, and Leppoc was sent to manage Samson's interests. Henry Leppoc was born in Braunschweig on 9 September 1807.[137] During 1841, he married Jane (1813-1883), daughter of James Gibson (1781-1863), who ran a dyeing and fulling mill at Meanwood, near Rochdale.[138] Henry died at his residence at Kersal Crag, Higher Broughton on 30 October 1883.[139] As a director of the Manchester Chamber of Commerce, he was an early advocate of the construction of the Manchester Ship Canal.[140] Henry served as a magistrate in the courts of Salford and Manchester as well as being a long-

serving member of the Board of Guardians.[141] Henry was also a strong advocate for the establishment of a British system of Tribunals of Commerce, which could deal with legal issues specific to business in a prompt and inexpensive manner.[142] In addition, he served as a director of British Re-Insurance Co., Commercial Union Assurance Co., and Langdale's Chemical Manure Co.[143] He was also the deputy chairman of Cammell Laird, the shipbuilder.[144] Under his watch, Samson and Leppoc became 'one of the largest [trading] houses in Manchester'.[145] His portrait hangs in Manchester Town Hall. His glowing obituary is reproduced in Appendix 6.

At the time of their formal partnership in 1851, Samson and Leppoc were firmly established in Bradford as 'stuff merchants', with offices on Well Street, and probably a warehouse on Leeds Road, run by a local manager of Bavarian origin, Anton Engelmann.[146] In 1856, Samson and Leppoc are described as 'commission merchants, stuff and yarns', with offices at 39 Well Street. At this time, a Manchester office on Cooper Street is mentioned.[147] By 1861, the company office had moved to 55 Well Street.[148] In a later iteration of the company, Samson and Leppoc were located at 66 Vicar Lane, Bradford in a warehouse formerly used by William Edwin Briggs Priestley, MP.[149]

Trademark of Samson & Leppoc[150]
The Latin motto, 'Never backward', and the eagle, are associated with the Ducal House of Brunswick, the home of both Samson and Leppoc.[151]

In the context of Samson and Leppoc's export trade to the United States, the address given is Currer Street, Bradford, suggesting a department specializing in American trade.[152] In North America, Samson and Leppoc had agents at 167 Broadway in New York City and in Philadelphia at 5 Strawberry Street.[153] Trade with North America also involved the loss of company 'property' during the American Civil War (1861-5), which is likely to have been consignments of raw cotton grown in the Confederate States.[154] Samson and Leppoc also had an office in Paris at 9, rue Conservatoire, where they imported velours.[155] In addition, the firm exported to 'European ports' and the west coast of Africa.[156] It was also involved in shipments to Trieste, a seaport in northeastern Italy, to South Africa, and had

commercial dealings with Smyrna, Turkey.[157] Shipping services were also available to the 'colonies', India and South America.[158]

Letter posted from Smyrna, Turkey in 1866.[159]

Samson & Leppoc had a local agent in Glasgow by the name of G. Chadwick of 11 South Frederick Street. The company is described as Manchester 'manufacturers of beetled silesias, &c.'[160] Later, 'velveteens, silesias, &c.' are mentioned under a new agent, John F. Andrew of 1 Prince's Square.[161] If we take the descriptor, 'manufacturer', at face value, it is distinct from their traditional role as shippers and commission merchants. In 1881, Samson and Leppoc's agent in London was Thomas Collins of 8 Paternoster Buildings.[162] Later, they were trading from 1 Blue Boar Court, Friday Street, London.[163]

The Dundee Directories from 1901–1909 list Hermann Samson & Leppoc, and describe them as merchants.[164] In 1901, they were situated at 6 St. Peter's Square Manchester. They had been at this location since 1859, when the architectural partnership of Alexander William Mill (1814-1905) and James Murgatroyd (1830-1894) worked on the construction of the company's warehouse there.[165] However, in 1902, they moved to 28 Oxford Street. In Dundee their branch office was at 28 Cowgate.

Samson and Leppoc was dissolved upon the retirement of Henry Julius Leppoc on 31 December 1870.[166] By this stage the late Hermann Samson's interests had passed to his son, Henry, and Joseph Broome had joined the firm.

NOTICE is hereby given, that the Partnership heretofore subsisting between the undersigned, Henry Julius Leppoc, Henry Samson, and Joseph Broome, as Merchants, at the city of Manchester, in the county of Lancaster, and at Bradford, in the county of York, under the firm of Hermann, Samson, and Leppoc, has been this day dissolved by mutual consent, so far as regards the said Henry Julius Leppoc, who retires therefrom.—Dated this 31st day of December, 1870.

H. J. Leppoc.
Henry Samson.
Joseph Broome.

London Gazette, no. 23693 (3 January 1871) 17.

Samson Hermann and Leppoc.—And at Bradford, commission merchants. Mr H J Leppoc retires from business. Mr Albert Jordan and Mr Oscar Leppoc (nephew of the retiring partner) have been admitted as partners. 2nd January 1871.

Samson, Hermann and Leppoc. — And at Bradford, merchants. Henry Julius Leppoc, Henry Samson, Joseph Broome. As regards Henry Julius Leppoc. 3rd January 1871.

Notices of restructuring and dissolution of partnership.[167]

3.1 The Partners of Samson & Leppoc

Albert Jordan (1833-1902) was born in Einbeck, a town that was then in the Kingdom of Hannover, a dependent polity of the British Crown. He is described as a commission merchant and an export merchant.[168] He moved to Manchester in 1853, and his first child was born there in 1866. Albert was naturalized in December 1870, and his application was taken by H. J. Leppoc as Justice of the Peace for Lancaster, and supported by Joseph Hallworth, a later partner in the firm.[169] He retired to the prestigious Bowdon area of Cheshire, and is buried in the local parish churchyard. His wife, Emma, was born in Hamburg, and it appears they married in Germany around 1865 as there is no British marriage record.

Letter from Henry Leppoc to Albert Jordan.
Posted in 1873 from Reinbeck, an eastern suburb of Hamburg.[170]

Oscar Albert Jacob Leppoc (1843-1883) was born in Leipzig, Germany, and is described as a shipping merchant. He was a nephew of Henry Julius Leppoc. Oscar's father, Albert Abraham Levin Leppoc (1806-1875) of Braunschweig, was Henry Julius' brother. Their father, Coppel Jonas Leppoc, was a jeweller in Braunschweig. Albert moved to Leipzig and went into partnership with Samuel Drucker to form a business trading in silk called Leppoc and Drucker.[171] Oscar became naturalized in 1871.[172] He moved from Broughton to Bradford, where he was appointed by Queen Victoria to the post of Vice-Consul at Bradford for the Republic of Chile.[173] He died suddenly, at the age of 40, on a visit to Hamburg, the home of his wife's family.[174] Oscar married Ann Barsdorf in Hamburg in 1877.[175] She was the daughter of Julius Barsdorf, the tobacco import and export merchant, with offices in London.[176]

It seems that Joseph Hallworth and Charles William Foster were admitted as partners in Samson and Leppoc to coincide with Oscar's retirement.[177]

NOTICE is hereby given, that the Partnership heretofore subsisting between the undersigned, Henry Samson, Joseph Broome, Albert Jordan, Oscar Leppoc, Joseph Hallworth, and Charles William Foster, in the business of Merchants, carried on at Manchester, in the county of Lancaster, at Bradford, in the county of York, and elsewhere, under the style or firm of Hermann, Samson, and Leppoc, has been this day dissolved by mutual consent, so far as regards the said Oscar Leppoc, who retires.—As witness our hands the 31st day of December, 1881.

Henry Samson.
Joseph Broome.
Albert Jordan.
Oscar Leppoc,
by H. J. Leppoc, his Attorney.
Joseph Hallworth.
Chas. W. Foster.

Oscar's Retirement[178]

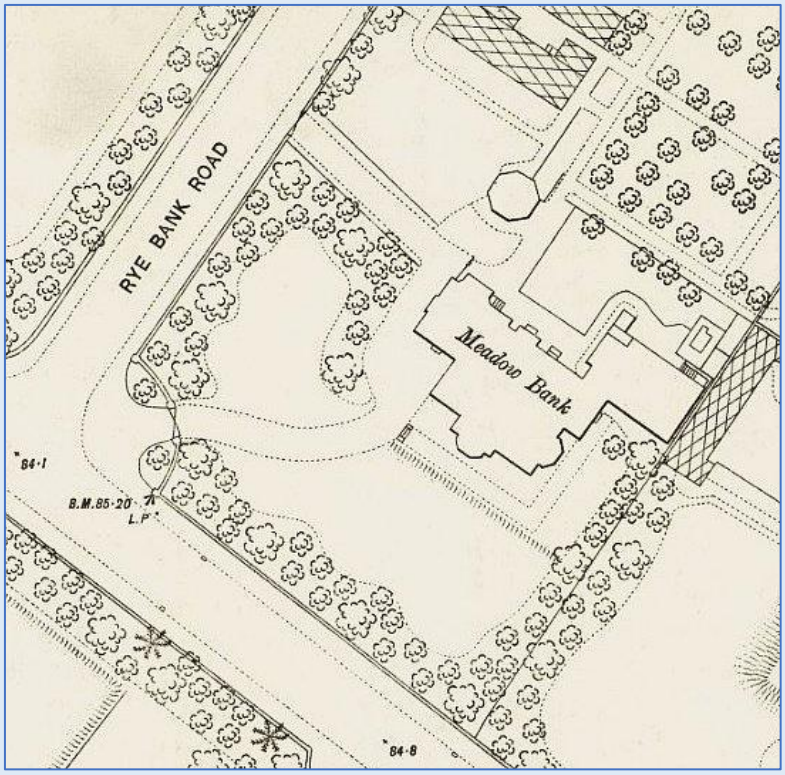
Henry Samson (1832-1906) was the son of Hermann Samson, and was born in Braunschweig, Germany. He emigrated to England in 1849, established residency in Manchester, and was naturalized in 1853.[179] In 1858, he married Emily Priscilla Moses Merton (1837-1909), daughter of Eleazar Moses Merton (1808-1878), initially a Manchester fustian manufacturer who became a London distiller. At nineteen years old, Henry is described as a 'linen merchant clerk', an entry level step in his development to becoming a shipping merchant.[180] In 1876, Henry Samson became Manchester's first Jewish Justice of the Peace. Along with Henry Julius Leppoc, he was a contributor to the Guarantee Fund of the London International Exhibition of Industry and Art (1862).[181] Similarly, he was a guarantor of the Manchester Ship Canal Company and sat on its board of directors.[182] Henry was also a Councillor of St. James Ward, Manchester.[183] He was an active partner of Samson and Leppoc, with a Manchester office at 28 Oxford Street and a Bradford satellite at 7 Hawthorne Street in nearby Thornbury.[184] Like Albert Jordan, Henry Samson lived in Bowdon, Cheshire, with a residence on Green Walk, which was home to the grandest houses in the district.[185] His mansion was named after his birthplace, Brunswick House. Henry's son, Herbert Isaac Samson (1863-1911) married Margaret Letitia Bellhouse (1872-1946). Her mother was Sarah Worrall of the family who founded the Ordsall Dye Works in Salford (see Appendix 3).[186] Margaret's father, Ernest, belonged to a dynasty of Manchester timber merchants and cotton spinners.[187]

Joseph Broome, JP (1825-1907) (see Appendix 7) became a notable partner in the firm of Samson & Leppoc by 1868.[188] Born in Preston Brook, Cheshire, he moved to Manchester in the 1840s to begin working in the textile trade, and found employment with Pemberton and Savage, who dealt in the dyed goods trade.[189] He split from Samson and Leppoc to form his own thriving business (Broome, Hallworth and Foster), which allowed him to amass a fortune and build a mansion (Broome House) at Woodlawn, near Didsbury. Today, his estate would be valued at £12,592,795.[190] He was a director of the Union Bank of Manchester and the Manchester Royal Exchange.[191] Joseph was a keen horticulturalist, specializing in orchids, and one variety (*Cattleya Trianæ Broomeana*) was named after him.[192] As such, he was involved in the Royal Jubilee Exhibition held in Manchester during 1887, where he also exhibited items from his considerable collection of art.[193] Joseph eventually retired to Llandudno, Wales, where he is buried.

Charles William Foster (1843-1925) was the husband of Joseph Broome's eldest daughter, Emma Lucy Miles Broome (1850-1883). The couple settled in Didsbury, residing at Southernhay, a grand house named after a Georgian pile in Exeter, Charles' birthplace.[194] Emma died suddenly while in Paris during 1883.[195] Their two sons, Arthur and Frank were majors in the British Army. Frank received an OBE 'for valuable service rendered in connection with military operations in France' during

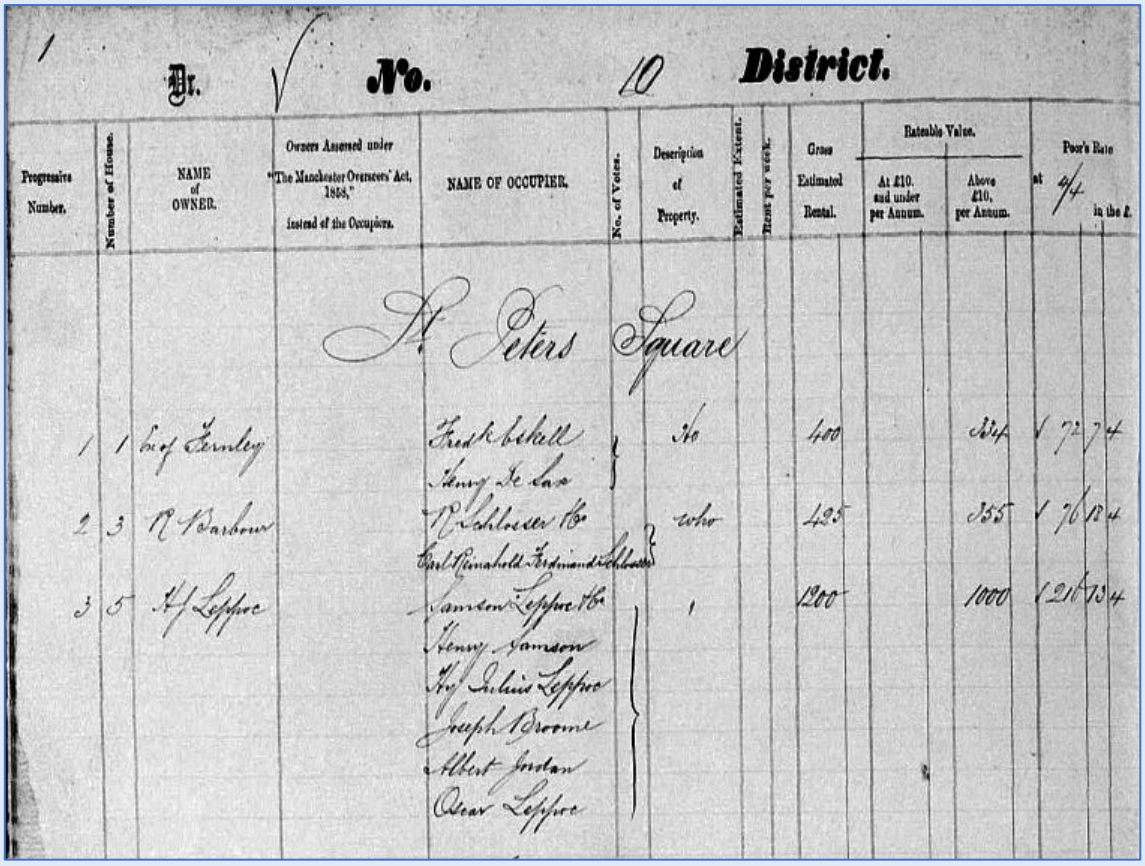
the First World War. Charles remarried a fellow Devonian, and eventually retired to Norfolk.[196] Charles' parents were both business oriented. His father owned a carriage building and maintenance firm, and his mother was a milliner with a staff of twelve. Charles left an estate of £71, 737 (£3,696,183/2025).

Joseph Hallworth (1834-1915) was the son of George Hallworth (1796-1866), a weaver from Ashton in Makerfield who migrated to Hulme (where Joseph was born) to become a cotton spinner. Joseph Hallworth began his career as a textile salesman and warehouseman, eventually becoming a cotton goods merchant and partner. Probate describes him as a velveteen manufacturer.[197] He purchased a huge house called Meadow Bank, where he lived with his wife and seven children. His four sons, William (1860–1929), Walter (1861–1937), Arthur, (1868–1907), and Frank (1869–1961) were all merchants in the cotton trade. Joseph Wallworth died leaving an estate valued at £54,485 (£4,746,872/2025).[198]



OS. Town Plans. Withington – Lancashire CXI.1.18
surveyed: 1892, published: 1893.

Meadow Bank was located at the corner of Rye Bank Road and Edge Lane, near Longford Park, at the boundary between Stretford and Chorlton-cum-Hardy. It was built about 1862, and Hallworth was an early occupant, having moved there from Hulme, where he lived for years at 29, White Street.



Dr. No. 10 District.

Progressive Number.	Number of House.	NAME of OWNER.	Owners Assessed under "The Manchester Overseers' Act, 1858," instead of the Occupiers.	NAME OF OCCUPIER.	No. of Votes.	Description of Property.	Estimated Extent.	Rent per week.	Gross Estimated Rental.	Rateable Value. At £10. and under per Annum.	Rateable Value. Above £10. per Annum.	Poor's Rate at 4/4 in the £.
				St. Peters Square								
1	1	Est of Fernley		Fredk Bethell Henry De Lara		No			400		334	7 2 7 4
2	3	R Barbour		Wahlbecker & Co Carl Reinhold Ferdinand Wahlbecker		who			425		355	7 6 8 4
3	5	H J Leppoc		Samson Leppoc & Co Henry Samson Henry Julius Leppoc Joseph Broome Albert Jordan Oscar Leppoc		1			1200		1000	21 6 8 4

A page from the *Poor Relief Assessments for the Township of Manchester*, volume 8 of 8 volumes, covering districts 10, 11, and 14. Assessed on 24 June 1875. Samson Leppoc & Co. is shown at 5 St. Peters Square, listing its members: Henry Samson, Henry Julius Leppoc, Joseph Broome, Albert Jordan and Oscar Leppoc. The assessment calculated at over £216 (21,122/2025) is an indicator of the success of their business. Henry Julius Leppoc is cited as the owner of the building.

NOTICE is hereby given, that the Partnership heretofore existing between the undersigned, Henry Samson, Joseph Broome, Albert Jordan, Joseph Hallworth, and Charles William Foster, trading under the style of Hermann, Samson, and Leppoc, as Merchants, at Manchester, Bradford, 1, Blue Boar-court, Friday-street, London, Paris, and elsewhere, has been this day dissolved by mutual consent. All debts due to and from the late firm will be received and paid at Manchester by Henry Samson and Albert Jordan, who will continue their business in copartnership at Manchester and Bradford, under the old style of Hermann, Samson, and Leppoc; Joseph Broome, Joseph Hallworth, and Charles William Foster take over and will continue the Velveteen, Lining, Dress Sateen, and Cotton Italian Departments under the firm of Broome, Hallworth, and Foster.—As witness our hands this 31st day of December, 1885.

Henry Samson. *Js. Hallworth.*
Jos. Broome. *Chas. Wm. Foster.*
Albert Jordan.

Samson and Leppoc splits into two companies.[199]

As the above notice reveals, the partners of Samson and Leppoc split into two separate companies in 1885, a German component consisting of Henry Samson and Albert Jordan, and a British contingent featuring Broome, Hallworth and Foster.[200]

Broome, Hallworth and Foster was dissolved on 31 December 1890, with Broome and Foster taking the 'dress, satteen, muslin, lining and cotton Italian branches', and Joseph Hallworth taking the Velveteen branch.[201] Broome & Foster Ltd. operated from 17 Chorlton Street, Manchester and in Bradford. J. Hallworth & Son Ltd. had offices at 10 and 12 Major Street and in London.[202] Hallworth and Son was dissolved on 31 December 1903, when Joseph retired. He left the business to his sons Walter and Frank, and a partner, Charles Cobden Langford (1865-1939).[203] Langford was the son of John Charles Langford (1829-1918), a 'manufacturer of cotton dress goods' in Manchester.[204] Immigration records reveal Charles was a frequent visitor to the United States from 1891-1905, where he is identified as a salesman. Charles retired to Belmont, Surrey, where he lived in one of the Edwardian villas that lined a private road called The Drive. He left an estate of £55,617 (£3,080,950/2025).[205]

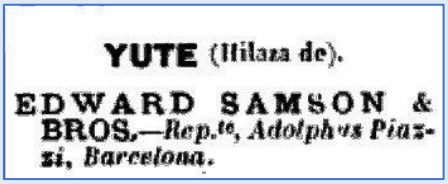
4. Edward Samson & Brothers

Despite the shared surname, Edward Samson (1843-1906) is not discernibly related to Hermann Samson. Hermann's lineage is traceable to the seventeenth century, when his family was living in Wolfenbüttel, located in Lower Saxony. Later the family moved to Braunschweig (Brunswick), 12 km. to the north. Both towns are situated in the German Principality of Braunschweig-Wolfenbüttel. Edward's family, on the other hand, is traceable to Esaias (Isaiah) Samson (d.1836), a merchant who lived in Hannover probably before 1803, when his first child was born there. This was a time when the elector of the Principality of Hannover was also the King of the United Kingdom (George III of the House of Hanover).

Edward Samson was born Eduard Samson in Hannover, the eldest son of Leopold Samson (1813-1889). Leopold was a merchant who, as an enterprising young man, spent time in Rotterdam, an important centre of commerce and one of the chambers of the Dutch East India Company. He married there in 1837, but his wife died shortly after giving birth to a daughter.[206] He and his second wife, Emilie Behrens (1817-1886), were in Manchester when the 1841 census for England was taken on the sixth of June, but it was only a brief sojourn. At the time, they were staying with Emilie's unmarried brother, Jacob, a textile manufacturer and merchant, and the founder of Sir Jacob Behrens & Son Ltd, a business still in operation. The birth records of their ensuing children show that Leopold and Emilie returned to Hannover. However, their fourth child was born in Manchester during

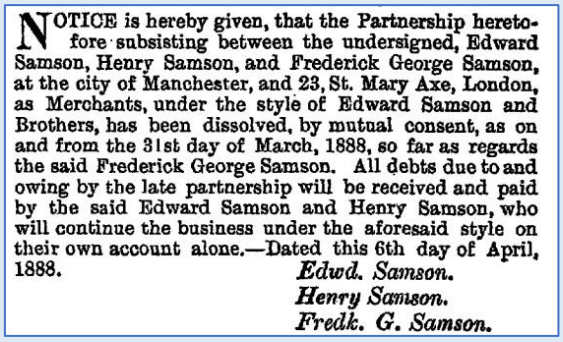
1845. From then on, the family remained in Manchester, and Leopold was naturalized in 1871.[207] Edward was naturalized shortly after.[208]

Leopold Samson began his business in Manchester in 1849.[209] By the following year, he had established an office in the city centre at 7 Marsden Street.[210] In 1853, he is found on Bond Street, and was registered at the Royal Exchange.[211] 1861 proved to be an inauspicious year for Leopold's business, which suffered collateral damage from the failure and bankruptcy of John G. Behrends & Co., who are described as 'East India merchants'.[212] The fiasco left Leopold with an accounting shortfall of £1180 (£119,036/2025). Without knowing exactly how this situation was resolved, it is likely his brother-in-law, Jacob Behrens, acted as a surety. Two years later, Leopold had relocated to 37 Lower King Street.[213] In 1876, Leopold and his son, Edward Samson, are listed separately in *Slater's Directory*, and registered at the same address, 15 Mount Street (near Manchester Central Library).[214] However, the following year, a more formal partnership was established under the designation, 'Leopold Samson & Sons'.[215] This entity was short-lived as Leopold seems to have semi-retired on his sixty-fifth birthday in 1878. On 25 January 1879, the company became 'Edward Samson and Brothers'.[216] Even so, Leopold is still acknowledged as a part of 'E. Sampson & Bros.' as late as 1886.[217] Edward Samson & Brothers was operating from 2 Bale Street, off Lower Mosley Street. The company is normally described as 'merchants', 'warehousemen' or 'shipping merchants' whose business was not limited to textiles, but included general merchandise.[218] This is reflected in the disposition of the sibling partners. Edward was in Manchester; Frederick George (1855-1931) was in Paris, and Henry Jacob (1847-1895) was in London at 23 St Mary Axe EC.[219]. Another brother, Felix Nathan (1844-1904), emigrated to New York in 1876. Though he is not seen as a legal partner in Edward Samson & Brothers, he is described as a 'merchant', and no doubt cooperated with his siblings.[220]


YUTE (Hilaza de).

EDWARD SAMSON & BROS.—*Rep.te, Adolphus Piazzi, Barcelona.*

Dealing in jute yarn using an agent in Barcelona.[221]


NOTICE is hereby given, that the Partnership heretofore subsisting between the undersigned, Edward Samson, Henry Samson, and Frederick George Samson, at the city of Manchester, and 23, St. Mary Axe, London, as Merchants, under the style of Edward Samson and Brothers, has been dissolved, by mutual consent, as on and from the 31st day of March, 1888, so far as regards the said Frederick George Samson. All debts due to and owing by the late partnership will be received and paid by the said Edward Samson and Henry Samson, who will continue the business under the aforesaid style on their own account alone.—Dated this 6th day of April, 1888.

Edwd. Samson.
Henry Samson.
Fredk. G. Samson.

Henry Jacob Samson, not to be confused with Hermann Samson's son, Henry.[222]

Frederick left the partnership to pursue business interests in Transvaal before moving to Australia in 1895, where he became a journalist and film promoter.[223] Another sibling, Charles Leopold Samson (1853-1923), did not enter the family business, but became a senior partner in one of England's largest law firms, Grundy, Kershaw, Samson & Company with offices at 31 Booth Street, Manchester and 6, Austin Friars, London. His firm represented the Manchester Ship Canal Company from its inception.

With the death of Edward in 1906, the business passed to his son, Edward Albert Samson (1882–1945). Shortly after, Edward Albert merged with Francis William Jordan (1871–1957), the son and heir of Albert Jordan, the former partner of Samson and Leppoc, which was now subsumed under the Edward Samson & Brothers name. In the 1908 edition of the *Dundee Directory*, the following entry is encountered:[224]

Samson, Edward, & Bros. (Hermann, Samson, & Leppoc's successors), merchants, 28 Cowgate; 28 Oxford street, Manchester; and at Bradford and Paris

This notice of succession also appear in the 1911 Manchester directory shown below.[225]

SAMSON EDWARD BROS. & H. SAMSON & LEPPOC'S SUCCESSORS, Prince's bldgs. Block A, 28 Oxford st. and *Bradford, Yorkshire*	Continent of Europe, North & South America, Japan, Africa, &c.	Cotton, Woollen, Linen & Silk Goods	Fri. 11 to 1: finishers' accts. 1st Tuesday, 11 to 1; **T N 5,711** City; **T A** "ARMADA, Manchester"

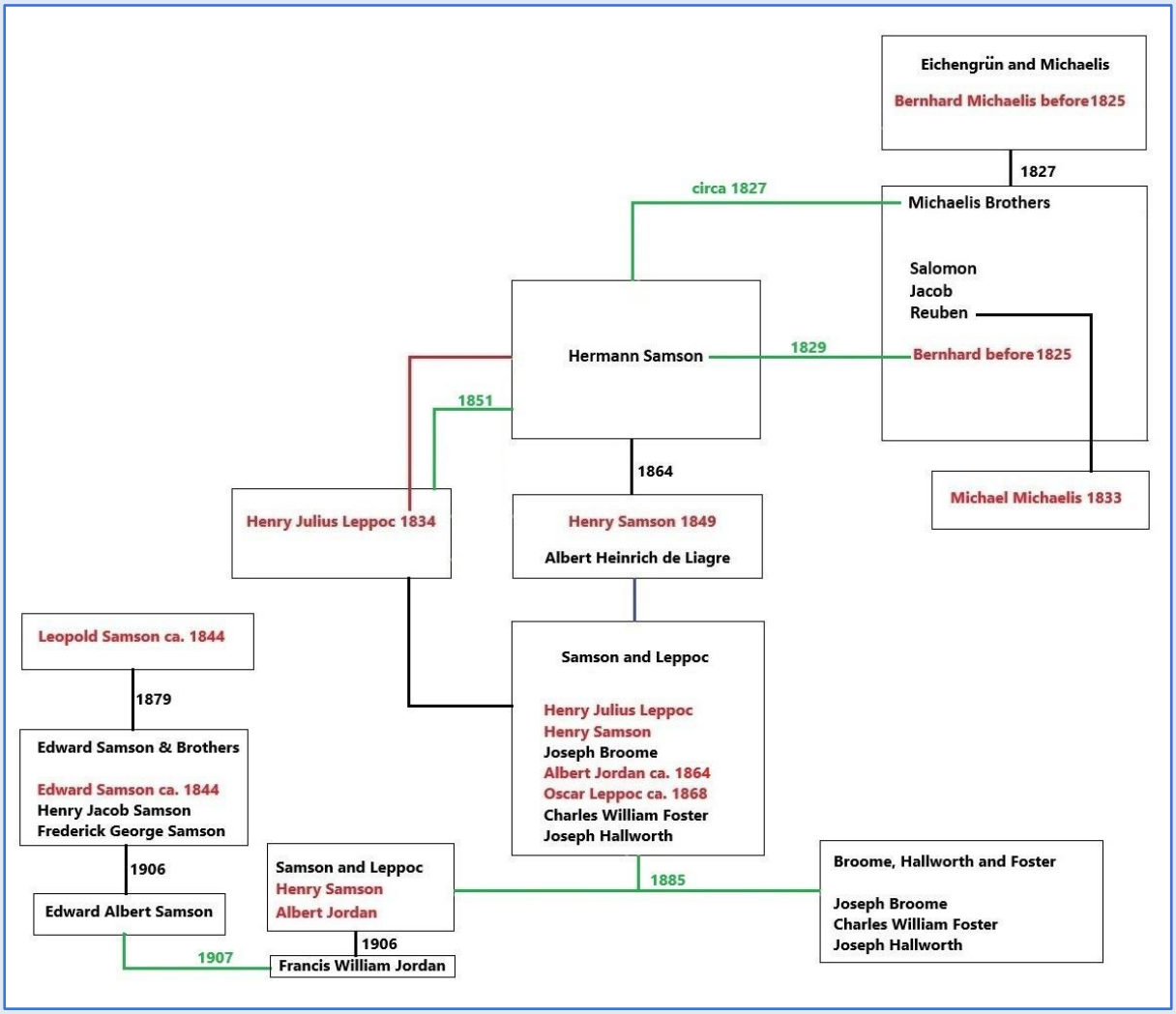
The two firms, Edward Samson & Brothers and Samson & Leppoc, appear together in 1911-1912, both at 28 Cowgate (Dundee), no doubt in the interests of maintaining name recognition. However, by this stage, Edward Albert Samson had left the firm to embark upon a career as a geologist, specializing in oil exploration and production.[226]

NOTICE is hereby given, that the Partnership heretofore subsisting between us the undersigned, Edward Albert Samson and Francis William Jordan, carrying on business as Shipping Merchants, at 28, Oxford-street, in the city of Manchester, under the style or firm of EDWARD SAMSON AND BROTHERS, has this day been determined by effluxion of time. All debts due to and owing by the said late firm will be received and paid by the said Francis William Jordan, who will continue the said business under the present style or firm of Edward Samson and Brothers.—Dated the 31st day of March, 1910.

EDWARD A. SAMSON.
F. W. JORDAN.

Dissolution of partnership of Edward Albert Samson and Francis William Jordan.[227]

Edward Albert emigrated to America in November of 1920, and died in Dixon, a small town in northern Illinois. Francis William Jordan continued in the business. In 1914, Edward Samson & Bros was still operating from 28 Oxford Street, Manchester.[228] Then, cataclysmically, the British Foreign Secretary, Sir Edward Grey, announced that the 'lamps are going out all over Europe'. The old trading connections between England and Germany were severed, and the German expatriates who had contributed to, and benefited from, the industrial and commercial might of the British Empire became increasingly unwelcome as the horrors of World War One dominated the headlines.[229]

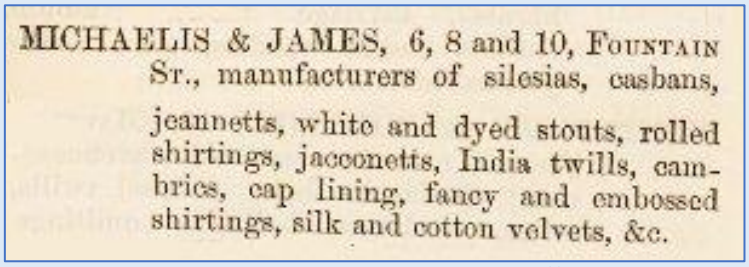


This schematic chart summarizes Stage One developments. Names appearing in red indicate German nationals operating in Manchester, followed by the date they immigrated to England. Green lines indicate partnerships and the date they were formed. Black lines show familial inheritance and continuations of partnerships. The red line between Henry Julius Leppoc and Hermann Samson reflects his secondment to Manchester (i.e. 17 years before a formal partnership).

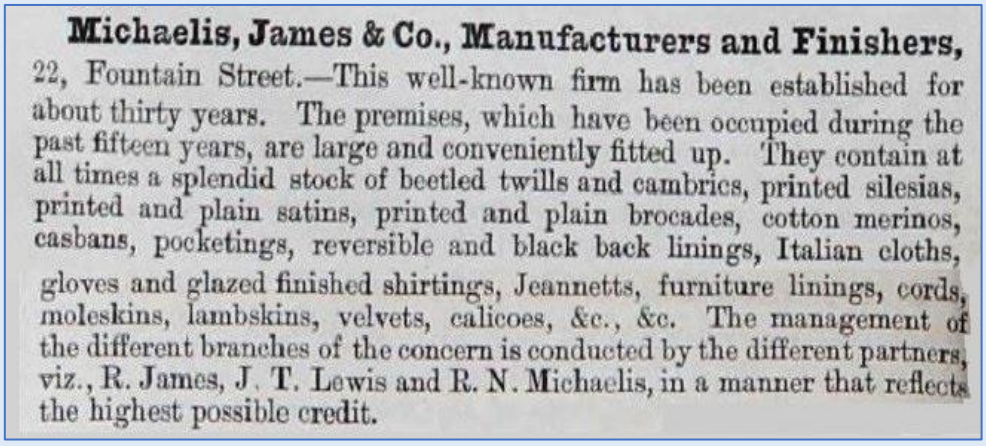
Stage Two

Michaelis, James & Co.

As mentioned above, Michael Michaelis was initially involved in the family business whose principle concern was the procuring and shipping of merchandise. However, a considerable tranche of his later career was dedicated to textile manufacturing. This was accomplished by forming a partnership with Richard James in 1859.[230] By the following year, Michaelis & James had leased a warehouse at 46a Cannon Street, Manchester.[231] The 1861 census describes Michael as a 'manufacturer of cotton and silk'.[232] Their headquarters was established on Fountain Street in Central Manchester (see map in Appendix 8), where they eventually settled at number 22.[233] Later, the company was registered at Cleveland Buildings on Market Street, Manchester.[234]


MICHAELIS & JAMES, 6, 8 and 10, Fountain St., manufacturers of silesias, casbans, jeannetts, white and dyed stouts, rolled shirtings, jacconetts, India twills, cambrics, cap lining, fancy and embossed shirtings, silk and cotton velvets, &c.

Michaelis & James range of goods[235]


Michaelis, James & Co., Manufacturers and Finishers, 22, Fountain Street.—This well-known firm has been established for about thirty years. The premises, which have been occupied during the past fifteen years, are large and conveniently fitted up. They contain at all times a splendid stock of beetled twills and cambrics, printed silesias, printed and plain satins, printed and plain brocades, cotton merinos, casbans, pocketings, reversible and black back linings, Italian cloths, gloves and glazed finished shirtings, Jeannetts, furniture linings, cords, moleskins, lambskins, velvets, calicoes, &c., &c. The management of the different branches of the concern is conducted by the different partners, viz., R. James, J. T. Lewis and R. N. Michaelis, in a manner that reflects the highest possible credit.

The wares and management of Michaelis, James & Co.[236]

Michael Michaelis retired at the age of 59 in 1869, which was considered elderly in its day as the average life expectancy was about 42 years old.[237] However, his considerable property holdings in Hulme (houses, shops, stables, coal yard) represent a sizable post-retirement income. His interest in the company passed to his son, Reuben Nicholas Michaelis (1849-1910). Reuben was supported by his brother, Edward (1852-1935), who is described as 'Manager, Dyer and Finisher, Cotton Goods'.[238]

NOTICE is hereby given, that the Partnership heretofore subsisting between the undersigned, Michael Michaelis and Richard James, as Finishers of Fustian and other Goods, in the city of Manchester, was dissolved, as and from the 30th day of November last, by mutual consent. All debts due and owing to or by the said partnership will be received and paid by the said Richard James, who will carry on the business in future in copartnership with Mr. Reuben Nicholas Michaelis, under the same style or firm.—Dated this 17th day of January, 1870.

Michl. Michaelis.

Richard James.

Michael Michaelis retires[239]

The 1871 census, describes Reuben Michaelis as a 'cotton merchant'. He is seen in the directory shown below as part of Michaelis, James & Co, which is also listed.[240]

Michaelis, Hallenstein & Co. australian mers. 17 & 18 Basinghall st E C
Michaelis, James & Co. manufacturers & finishers, beetled twills, brocades, casbans, jeannetts, fancy silesias, satins, calicoes, italian cloths, Princess velveteens, glove finishes, embossed shirtings, furniture linings &c. 5 & 6 Castle court, Lawrence lane E C; 78 Miller street, Glasgow; & 22 Fountain street, Manchester
Michaelis Arthur, manufacturers' agent, 199 Upper Thames st E C
Michaelis Mathias, photographer, 186 Commercial road east E
Michaelis Reuben, manchester manufactr. see Michaelis, James & Co

The first entry refers to the Moritz Michaelis and Isaac Hallenstein's tannery and leather business.[241] *Moritz was Michael's brother.*

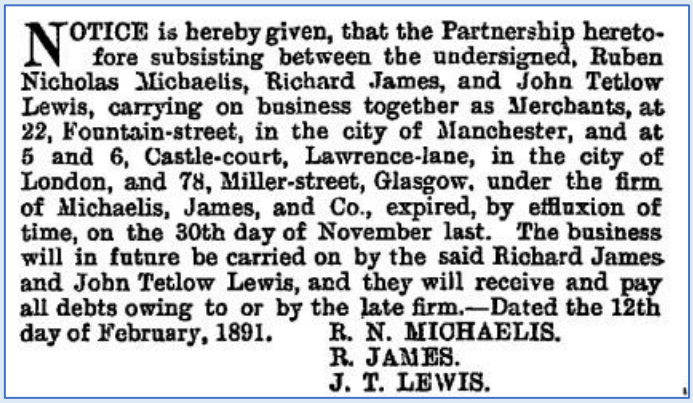
In 1881, the firm's office in London was at 124 Wood St., Cheapside, which was managed by Thomas Newton Mapleston. They are described as:

> 'Michaelis, James & Co. manufacturers & finishers, beetled twills, brocades, casbans, jeanetts, fancy silesias, satins, calicoes, italian cloths, muslins, velveteens, glove finishers, embossed shirtings, furniture linings, &c. 22 Fountain street, Manchester'. [242]

Over the ensuing decade, the range of products changed little.[243] Mapleston (1843-1926) was from Lincoln, but migrated to London about 1870. In the 1871 census, he is described as a 'warehouseman', and, in 1901, an agent of manufactured goods. By 1891, the company had relocated to 5 and 6 Castle Court, Lawrence Lane in the City of London. In Glasgow, their office was at 71 Queen Street, and the agent was James Blackie (1878), who was replaced by William Halliday (1882).[244] Sometime before 1885, Michaelis, James & Co. moved their offices to Miller Street (Glasgow), first to number 54 and later to number 78.[245] Between 1878 and 1894,

the firm filed seventeen patents for designs on printed fabrics.[246] Besides manufacturing, the company was also involved in shipping 'dyed and fancy cotton goods' initially to Canada, the United States, Australia and continental Europe, but later limiting this activity to the 'home' market.[247] Michaelis, James & Co. are also described as 'dyers of yarn & piece goods', but the location of their dye-works is unknown, though the work may have been contracted out, perhaps to Clemson (see Appendix 3).[248]

Reuben Nicholas Michaelis retired on 30 November 1890. In retirement, he served as Director of the English Velvet and Cord Dyers Association.[249] This left Richard James and John Tetlow Lewis to continue the business under the name James, Lewis and Company.



NOTICE is hereby given, that the Partnership heretofore subsisting between the undersigned, Ruben Nicholas Michaelis, Richard James, and John Tetlow Lewis, carrying on business together as Merchants, at 22, Fountain-street, in the city of Manchester, and at 5 and 6, Castle-court, Lawrence-lane, in the city of London, and 78, Miller-street, Glasgow, under the firm of Michaelis, James, and Co., expired, by effluxion of time, on the 30th day of November last. The business will in future be carried on by the said Richard James and John Tetlow Lewis, and they will receive and pay all debts owing to or by the late firm.—Dated the 12th day of February, 1891.

R. N. MICHAELIS.
R. JAMES.
J. T. LEWIS.

Reuben Nicholas Michaelis retires[250]

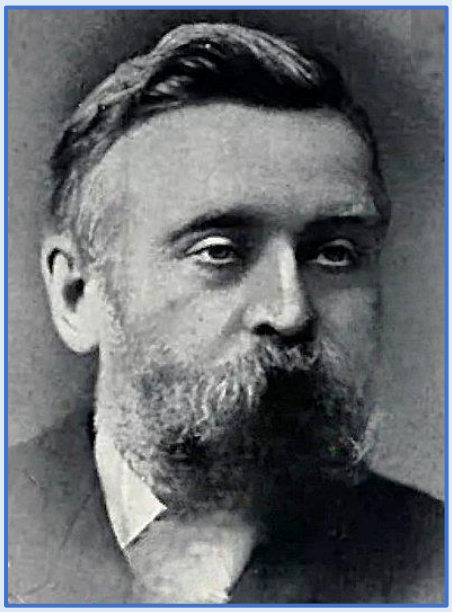
Richard James (1827-1892) was born in Wrexham, North Wales, and migrated to Manchester in the mid-1840s to work in the cotton industry. There he gained experience under the tutelage of John Amos and Augustus Kelham (see Appendix 8). Richard sat on the first board of directors of the Manchester Ship Canal Company in 1885, when it was in the early planning stages, and Michaelis, James & Co. were among those who contributed 'seed money' to the project.[251] Questions in the House of Lords, regarding the funding of the canal, mention the company.

> 'And then he* is asked at Question 13886, " Have any promises been made to you with respect to taking shares in reference to the capital ? — No ; in conversation I have gathered that shares would be taken because the men have said that they were perfectly willing to take shares and to a large extent. (Q.) To what extent generally ? — Roughly speaking £150,000. (Q.) That is merely amongst your own personal friends? — Yes." Then Mr. James, of the firm of Michaelis, James and Co., large merchants in Manchester, says the same thing as Mr. Leech.'[252]
>
> *Bosdin Leech, yarn merchant, member of Manchester Town Council and Chamber of Commerce, author of the *History of the Manchester Ship Canal*.

Richard served as a county magistrate, and his success in business is reflected in his residences, first at Culcheth Hall, near Warrington and then at The Grange in Urmston where he died on 10 November 1892.[253] Since James, Lewis & Co., officially came into being in 1891, the partnership was short lived.[254] However, the business continued to operate under the name, James, Lewis & Co, until 1901.[255]

John Tetlow Lewis became a partner in Michaelis and James on the 1st of December, 1876.[256] It is at this juncture that Michaelis and James officially became Michaelis, James & Co.[257] By this time, John had worked at the firm for some seventeen years, after being hired to 'open up a wholesale department in dyed goods'.[258] The notice shown above (*The wares and management of Michaelis, James & Co.*) states that each of the three principal partners was responsible for managing different branches of the enterprise. Obviously, these were areas best suited to their individual fields of expertise. Unfortunately, we are not apprised of their individual roles. Within a short time of becoming a partner, Lewis is found at the company's headquarters at 22 Fountain Street.[259] Following the death of Richard James, Lewis became the sole proprietor of the firm, extending the franchise to include his two surviving sons, Thomas Maurice Crewdson Lewis (1870–1925) and John William Lewis (1874–1950).[260] The firm's new name, John T. Lewis & Sons Limited, reflects this. It was registered as a private company, with no debts.

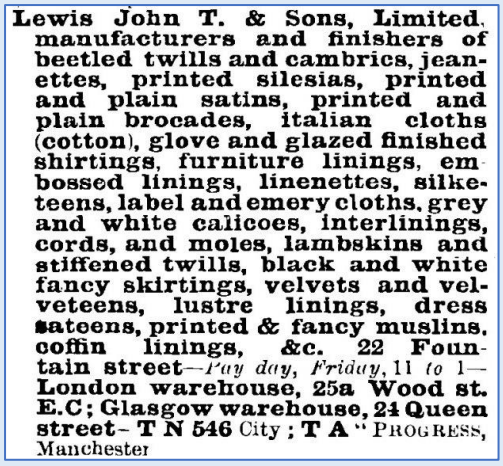
To summarize: The business went through four iterations. Michaelis and James; Michaelis, James & Company (including Lewis); James, Lewis & Co. (after Ruben Michaelis retired), and J. T. Lewis and Sons (following the death of Richard James).



< John Tetlow Lewis

By 1903, John Tetlow Lewis is described as the 'governing director' of John T. Lewis & Sons, Limited, while his sons, John and Thomas, are shown as 'directors'.[261] The branch offices in London and Glasgow (now at 85 Queen Street) were maintained, and offices at 16 Park Place, Leeds and 26 Fountain Street, Belfast were added.[262] In Manchester, the headquarters eventually moved to 53 Fountain Street.

In addition to the range of fabrics shown below, fustians, casbans and satinettes were produced, and the company advertised itself as the manufacturer 'of the registered "princess" and "progress" velveteens'.[263]



Lewis John T. & Sons, Limited, manufacturers and finishers of beetled twills and cambrics, jeanettes, printed silesias, printed and plain satins, printed and plain brocades, italian cloths (cotton), glove and glazed finished shirtings, furniture linings, embossed linings, linenettes, silketeens, label and emery cloths, grey and white calicoes, interlinings, cords, and moles, lambskins and stiffened twills, black and white fancy skirtings, velvets and velveteens, lustre linings, dress sateens, printed & fancy muslins, coffin linings, &c. 22 Fountain street—*Pay day, Friday*, 11 *to* 1—London warehouse, 25a Wood st. E.C; Glasgow warehouse, 24 Queen street– T N 546 City ; T A " PROGRESS, Manchester

from cambrics to coffin linings[264]

'Wear the sweet little princess velveteen with darling lace collar and cuffs. This is best in black …'

(*Good Housekeeping*, August 1938: 60-61).

Among the benefits of John Tetlow Lewis' business success was the purchase of Westfield House in Patricroft around the time he became a partner. Westfield was one of the area's larger residences in its own grounds.[265]

Westfield House, Patricroft, Eccles

The electoral register (citizen's roll) indicates that, in 1899, Lewis still lived at Westfield House, but during the following year he and his family had moved to The Woodlands, a country mansion on Bonville Road, Dunham Massey, Cheshire.[266]

The Woodlands

Lewis died at Woodlands on 30 April 1913, leaving an estate of £123,481 (£12,075,283/2025).[267] Within four months, John William Lewis had lost both parents, and inherited the bulk of their estate.[268] What provisions or understandings made for the siblings of John William Lewis have not been determined, except that his brother, Thomas Maurice Crewdson Lewis, was a beneficiary of his mother's will.

It is one of the great ironies of the Industrial Revolution that while huge swathes of humanity migrated from the countryside to the cities, many of whom lived in the most appalling conditions, the 'new men' of industry were leaving the cities to enjoy a luxurious life in the countryside. There is also a noticeable correlation between wealth and a reduction in family size. It would seem that one of the side-effects of affluenza is reproductive restraint and reluctance to marry. This is a *non-sequitur* in the face of the exponential growth of the population during this period (see Appendix 2). As F. Scott Fitzgerald reminds us: 'The rich get richer and the poor get — children'.[269] This is counter-intuitive, since the poor can least afford more mouths to feed, but the socio-economic and biological dimensions contributing to the complexity of this matter await a more definitive explanation than can be offered here.

On the 19th of March 1928, the Third British Rayon Exhibition opened in London to promote British developments in the quality of the new fibre, known also as artificial silk. John T. Lewis & Sons, then run by John William Lewis, highlighted a product called 'Jon-TeiL', obviously a play on the word, *genteel*, 'having an aristocratic quality', which targeted the upper end of the market.[270]

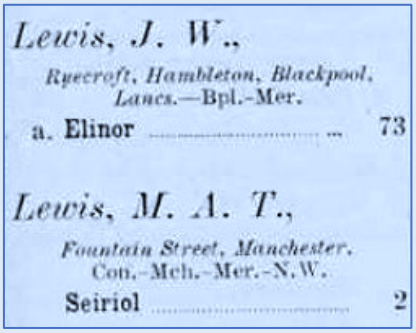
***John T. Lewis and Sons, Ltd.*, Manchester, displayed "JonTeiL," a cotton and rayon cloth suitable for lingerie, dresses, fur and costume linings. In printed designs there were some novel effects from small geometrical motifs to medium and large stripe effects. There were also shown the latest "Midway" borders and a voile of a beaded type in pleasing effects of border patterns. The beads are woven in the ground work of the fabric and are formed by the rayon itself. "JonTeiL" is made with a hollow filament rayon weft and cotton warp.**

John William Lewis died without issue, and his niece, Peggy Lewis Fairbrother (née Tuppen) (1907–2002), and his nephew, Maurice Alexander Tetlow Lewis (1902-1967), were the beneficiaries of his will. Probate records reveal the following:[271]

LEWIS John William of Ryecroft Hambleton **Blackpool** and of 53 Fountain-street **Manchester** died 10 July 1950 at Ryecroft Blackpool Probate **Manchester** 5 October to Robert Tinker solicitor Maurice Alexander Tetlow Lewis manufacturer and Peggy Lewis Fairbrother married woman. **Effects £68209 7s. 9d.**

Their inheritance, in today's terms, would be valued at about £1,979,052. This included Ryecroft Hall that was sold at public auction.[272]

Maurice, the son of Thomas Maurice Crewdson Lewis, was a 'cotton merchant', who travelled to New Zealand, Australia, the USA and Canada, apparently on business.[273] It has not been possible to determine the degree of his involvement in the family business. However, his address is recorded as 'Fountain Street', which is the location of the company's headquarters.[274] He served during World War Two in the Royal Artillery.



Lewis, J. W.,
Ryecroft, Hambleton, Blackpool, Lancs.—Bpl.-Mer.
a. Elinor 73

Lewis, M. A. T.,
Fountain Street, Manchester.
Con.-Mch.-Mer.-N.W.
Seiriol 2

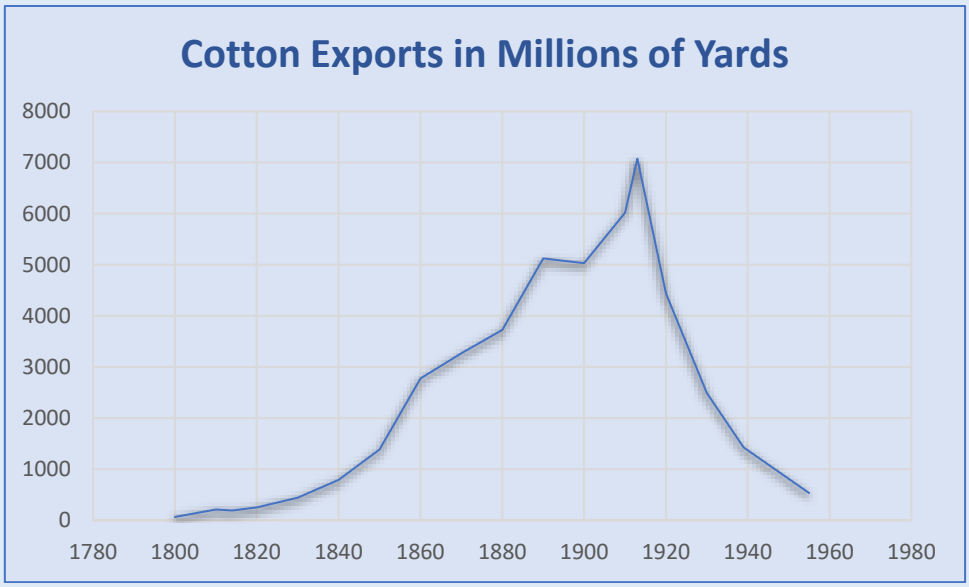
This entry shows the yachts owned by John William Lewis and Maurice Alexander Tetlow Lewis, with their addresses and the vessel names. The photo below is of the *Elinor*, crewed by John's 'skipper', who also served as his chauffeur.

(left) Peggy Lewis Tuppen, daughter of John William Lewis' sister, Ellen (1867–1917). In 1931, she married Ronald Wilson Fairbrother (1901-1969), a doctor from Poulton-le-Fylde. He was the director of the clinical laboratory at Manchester Royal Infirmary. They had two daughters. This photo was taken at Ryecroft Hall during the war.

The first reference to show John William Lewis ensconced at Ryecroft Hall is dated to 1925.[275] When the 1891 census was taken his family was staying at 2, Belvedere, a seafront property in Blackpool (Layton), about eight kilometres from Hambleton, and he may have developed a fondness for the area. Hambleton, on the River Wyre, certainly gave better access to the sea. John was a member of the Liverpool Yacht Club (1919) before graduating to the Royal Mersey Yacht Club (1920). He normally spent four working days in Manchester, commuting home at the weekends by train.

At the time of John Tetlow Lewis' death in 1913, Britain's cotton industry was at its zenith, having produced some 8 billion square yards of cloth for the year. Unfortunately, John William Lewis witnessed the subsequent precipitous decline of the nation's cotton trade as the chart below indicates.[276] At the time of his own death in 1950, output had contracted to 2.8 billion square yards.[277] During his tenure, being responsible for steering the fortunes of the company through two

world wars, the intervening Great Depression, and the death throes of the British Empire, was not an easy task.



The MP for Blackburn West, Ralph Assheton, summed up the situation in an impassioned speech before the House of Commons:

> 'I reminded the House then of some of the history of the industry, which Lancashire people still remember. In 1913, Lancashire wove 8,000 million [i.e. eight billion] yards of cloth, of which 7,000 million yards were exported, 3,000 million yards going to India. Then the war came, India played a great part in it and, as a result, was granted a tariff. In a few years those 3,000 million yards were no longer being exported to India and the trade of Lancashire was reduced to one-eighth of what it had been, at the same time as Japanese competition was beginning.
>
> This was described by Godfrey Armitage as being the greatest retreat in the history of industry, and with that great retreat in industry came great suffering, which was gallantly borne and only properly understood by those who lived in Lancashire at that time. About 800 mills were closed down, over 350,000 looms were put out of action, 21 million spindles were destroyed, employer after employer went bankrupt. That is what happened, and the memory of that cannot be erased from the minds of the people in Lancashire.'[278]

Assheton's mention of Armitage refers to the author of a manuscript that was eventually presented in a masterly lecture to The Manchester Literary and Philosophical Society on 21 February 1951.[279] Although it was too late for John William Lewis, he would have agreed unreservedly with its sentiments. During the

inter-war years, with a diminution of free trade and an increase in foreign competition, 345,000 workers were forced to leave the industry.[280] It is in this context that we should place Lewis' introduction of rayon into cloth production as a means of maintaining a competitive advantage by focusing on a niche market. It was also during the inter-war years that John William Lewis downsized to Ryecroft Hall, abandoning the grandeur of The Woodlands, probably as a response to falling profits. As he struggled to maintain the family's commercial legacy during these troubled times, his last surviving sibling, Florence, died at Ryecroft Hall in 1931. John William Lewis never married, and so we leave him, sitting pensively in his garden in the company of his loyal friend, wondering on the meaning of it all.

Postscript

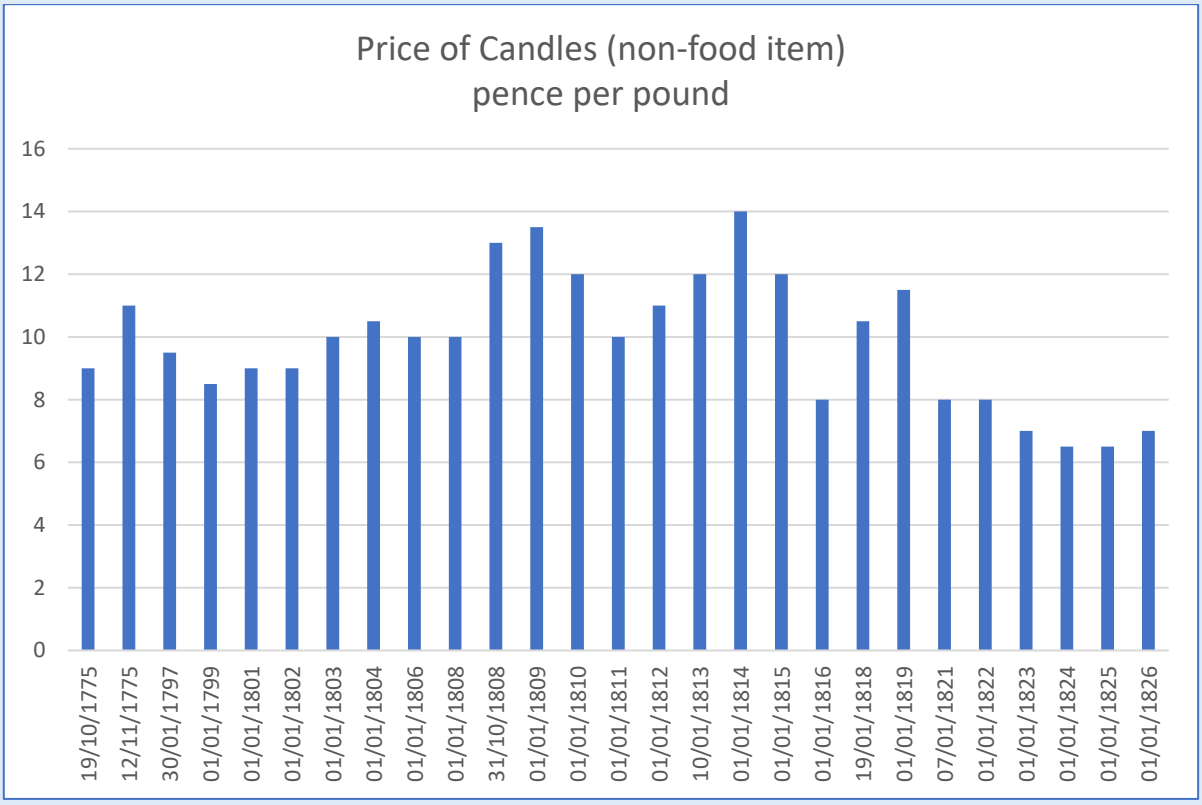
My mother left the safety of Ryecroft Hall, when her parents, seduced by the lull of the Phoney War, decided to bring her home. With Christmas approaching, it was felt that the family should be together. Little did they realize, it would be spent in the back-entry bomb shelter.[281] On the nights of 22/23rd and 23/24th of December, 1940, the Luftwaffe dropped some 467 tons of bombs on Manchester, Salford and Stretford, destroying and damaging thousands of homes, one of which belonged to my mother's maternal uncle, Harry Lomas, of Fleet Street, Salford. He and his family survived by deciding to take shelter in the cellars of the Groves and Whitnall Brewery; itself badly bombed. In 1943, Irene left school at the age of fifteen, and trained as a seamstress and cutter in a Manchester garment factory, where she made clothing for displaced persons until the war ended.[282]

Appendix 1

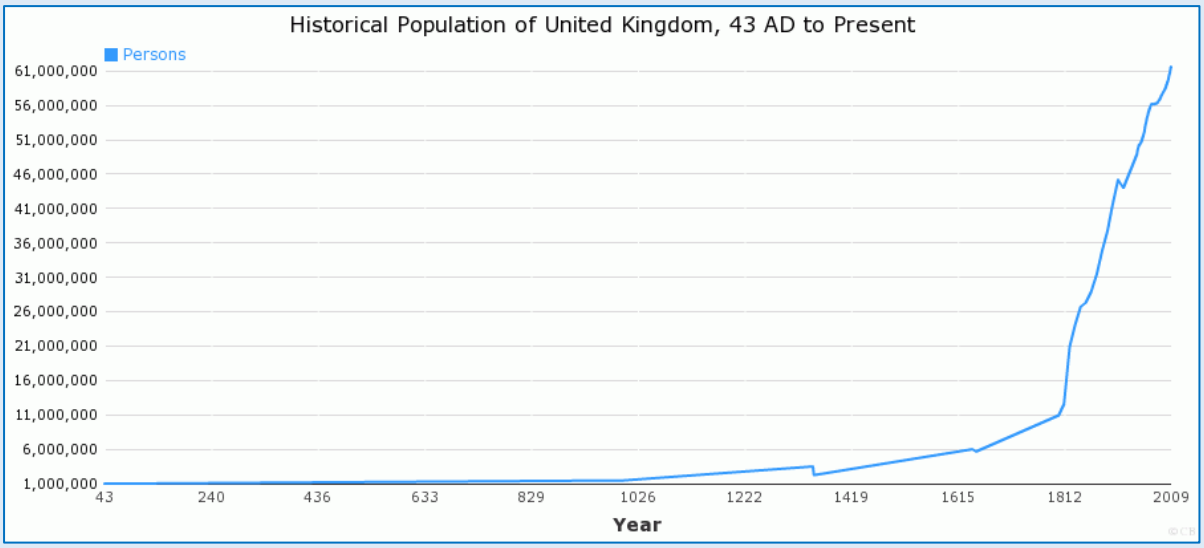
George III, Oak, Axe-Moon, Eight-Day, Longcase Clock with revolving moonphase and calendar, 220cm high made by John Tetlow of Eccles[283]

It appears that John Tetlow was born around 1750, and that he served a six year apprenticeship, beginning 29 September 1764, with a master clockmaker in Manchester called Nathaniel Brown.[284] Brown's clocks appear regularly in auction sales, and one of his longcase pieces is in the Metropolitan Museum of Art, New York.

Appendix 2



Source data: Rowbotton[285], passim. Diary entry for 7 Dec 1799 '...to enable two persons to work 14 hours per day they will be necessitated to use 46 lbs. of candles in the year [at 9d per lb]'. (compare to the chart on page 12).



Source.[286] The effect of exponential population growth was the general suppression of wages, and the 'pauperization' of the labouring class.[287] Some modern scholars dispute this thesis, though it is intuitively difficult to accept their arguments, since these are contrary to the basic rules of supply and demand.

Appendix 3

A.D. 1857 . . . . . N° 1800.

Printing Ornamental Textile Fabrics.

(*This Invention received Provisional Protection, but notice to proceed with the application for Letters Patent was not given within the time prescribed by the Act.*)

PROVISIONAL SPECIFICATION left by Michael Michaelis and John Clemson at the Office of the Commissioners of Patents, with their Petition, on the 26th June 1857.

We, MICHAEL MICHAELIS, of Manchester, in the County of Lancaster, Warehouseman, and JOHN CLEMSON, of the same Place, Dyer and Printer, do hereby declare the nature of the said Invention for "IMPROVEMENTS IN THE PRODUCTION OF ORNAMENTAL TEXTILE FABRICS BY PRINTING," to be as follows:—

Our improvements relate to silk velvets, which for the purposes of our Invention are woven without being dyed, as ordinarily practised, constituting a fabric known as in the "grey" state; upon this we print by the usual methods, but, if desired, the ordinary method of dyeing a portion of the threads may be combined therewith. Under the term "silk velvets," we intend to include those fabrics which are imitations thereof, as the same may be woven with cotton or other backs, or with a mixture of materials.

LONDON:
Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1857.

English Patents of Inventions, Specifications
(published annually 1853-1878)

The abovementioned John Clemson (1819-1895)[288] was the son of William Clemson (1792-1842), the grandson of John Clemson (1770-1819), and the great-grandson of William Clemson of Shropshire, who was likely born in the late 1740s. The family business began before the close of the eighteenth century in Manchester, where we find John Clemson (1770-1819) in partnership with Joseph Horribin. By 1797, Clemson and Horribin were doing business as fustian calenderers and dressers situated in Rose and Crown Yard (see map).[289] The following year, they are found in a 'dressing shop' at 112 Deansgate, with a stable on St. Mary's Street.[290] Horribin was married at Manchester Cathedral in 1783, and the parish records describe him as a 'velvet dresser'.[291] Clemson, too, was married in the cathedral in 1790, and he is seen as a 'callenderman'. During this period, Clemson was living at 17 Copperas Street.[292]

By 1800, only Clemson appears in the sources, with his business relocated to 9 Watling Street (map below), suggesting the partnership with Horribin had been dissolved.[293] Documentation shows Clemson remained on Watling Street until 1806.[294] During this time, he formed a short-lived partnership with William Wilson (1768-1841), a calenderer.[295] They operated under the name of Clemson and Wilson. The firm was dissolved on 31 December 1803, leaving John to manage the business.[296] Around 1800, Clemson moved his residence to Nicholas Croft.[297]

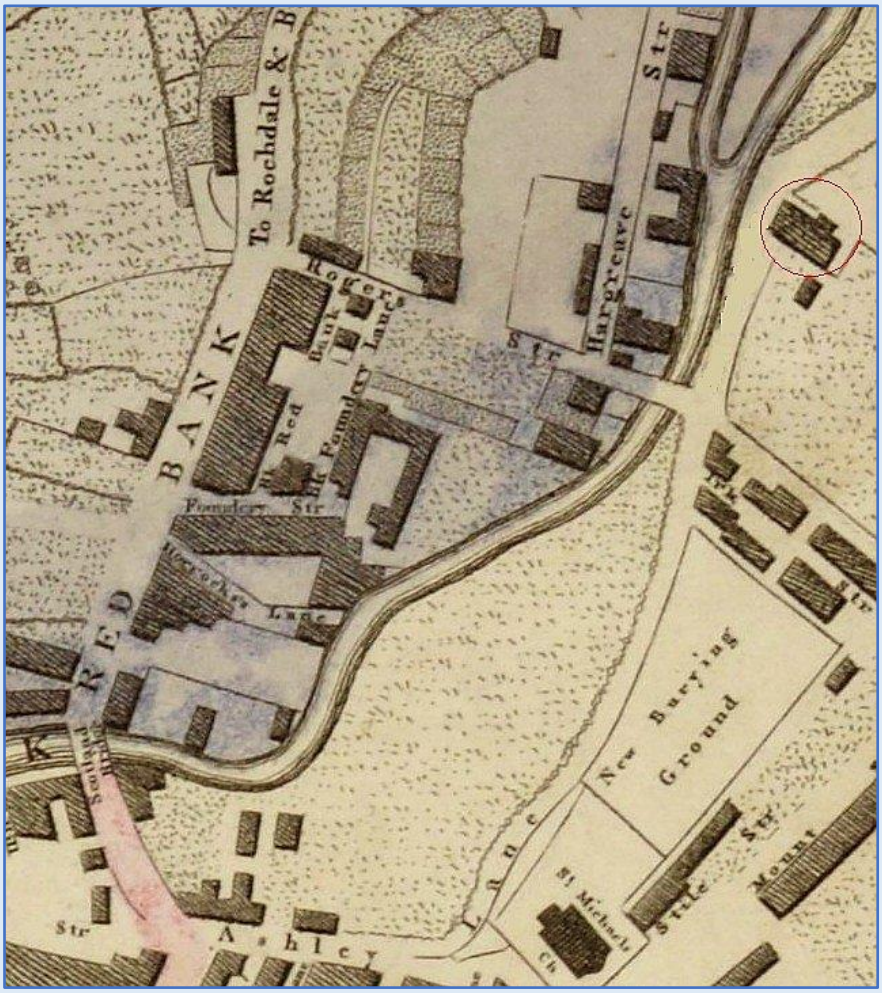
Streets relating to Clemson in the Shude Hill area.[298]

In the meantime, Isaac Jackson (1850-1815) was conducting a dyeing business located on Ashley Lane.[299] He had been there since at least 1794.[300] Between 1795-1802, Jackson is found on Ashley Lane occupying a dyehouse and an adjacent residence.[301] He had a son (1777-1826) of the same name, who was also a dyer. As such, post-1815 references refer to the son. However, we find the son living on Ashley Lane in 1795 occupying a house, and differentiated by Jun^{r}.[302]

Sometime before 1806, the Ashley Lane dye-works became James Hyde & Company.[303] Later, John Clemson joined forces with Hyde to form Hyde and Clemson, who operated as dressers and dyers from 1807-1810.[304] The business was formally dissolved on 6 October 1809.[305] However, the Poor Rate Assessments for Manchester Township still have them registered as

occupiers in 1810, with Hyde living in the house next door to the dyehouse, and Isaac Jackson living three doors down.[306] Jackson still had some legal connection to this enterprise, as ensuing events reveal. The dissolution of the Hyde and Clemson partnership was due to substantial losses incurred when their premises on Ashley Lane, and its contents, were destroyed by fire. It triggered onerous bankruptcy proceedings, litigation (Clemson and Jackson are named together as defendants), negotiations with their insurance company, and, for Clemson and Jackson, incarceration in the Lancaster debtor's prison.[307] In 1811, we find the Ashley Lane dyehouse and grounds 'empty'.[308] This surely represents a closure of the business as a result of its misfortune. Hyde seemingly had sufficient resources to meet his obligations and avoid any penalties.[309]

The most likely location of the Hyde and Clemson dyehouse is shown below within the red circle. The smaller building is likely to be an accompanying house.

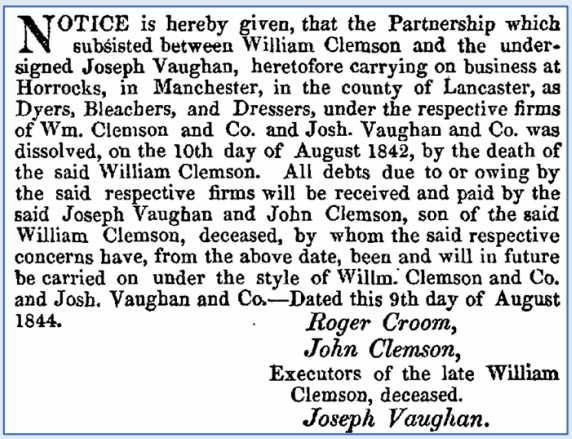


In the Poor Rating Assessments (PRA) for 1810, Ashley Lane is dealt with in three separate parts: 'Upper End of Ashley Lane', New Burial Ground and Ashley Lane. The Upper End of Ashley Lane begins at Scotland Bridge and finishes at St. Michael's Church. The map above is a detail of *A Plan of Manchester and Salford* (Dean and Pigot 1809). In comparing the map to the near contemporary PRA, it is evident that the map is not entirely accurate in that more houses appear in the PRA. However, it is clear from the description in the PRA that the Hyde and Clemson dyehouse, located on Ashley Lane, had accompanying 'grounds' (i.e. the empty field below the proposed site). As such, their dyehouse sits on the opposite bank of the River Irk from the later Clemson and Vaughan dye-works on Hargreaves Street. For a time, Clemson lived at nearby 4 Irk Street, shown on the map.[310]

Undeterred by adversity, Jackson and Clemson clawed their way back to solvency. In 1813, Jackson is back in the refurbished Ashley Lane dyehouse, and the following year, though now living in 'rooms', he had launched Jackson & Co.[311] During 1815, Jackson and Clemson was established, precipitated by the death of Jackson senior, with his son living next door to the Ashley Lane dyehouse.[312] John Clemson died in 1819, and the younger Jackson was registered at the Ashley Lane dyehouse until 1823.[313]

During 1817, John Clemson made a strategic move by crossing the River Irk, and establishing a 'works' on Rogers Row (later Rogers Street, see map above).[314] In 1818, Clemson is found operating as a dyer on Hargreaves Street.[315] Therefore, Estell & Company's estimated foundation date of 1815 for William Clemson & Co. is premature, and should be dated to the period immediately following the death of William's father, John, on 28 February 1819.[316] Like a phoenix rising from the ashes, William (1792-1842) transformed the business into a thriving concern. This was achieved by going into partnership with Joseph Vaughan (1790-1863), formerly a wood-turner.[317]

Jane Clemson (1790–1860), John's oldest child, was widowed after only eight months of marriage. In 1815, she remarried. Her second husband was Joseph Vaughan of Chester, who had moved to Manchester in his early twenties. Joseph's entry into the Clemson family formed the basis of a partnership. Though the business arrangement often appears as two separate companies, each advertised under their separate names (William Clemson & Co. and Joseph Vaughan and Co.)[318], they were *de jure* a formal partnership as witnessed in the following.[319]



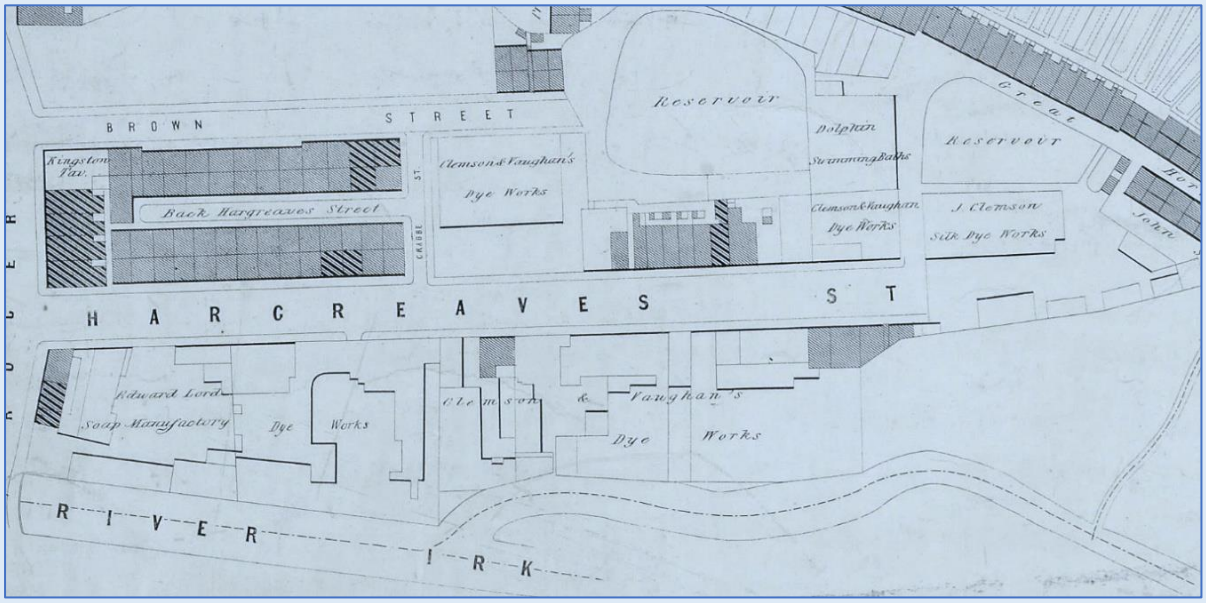
NOTICE is hereby given, that the Partnership which subsisted between William Clemson and the undersigned Joseph Vaughan, heretofore carrying on business at Horrocks, in Manchester, in the county of Lancaster, as Dyers, Bleachers, and Dressers, under the respective firms of Wm. Clemson and Co. and Josh. Vaughan and Co. was dissolved, on the 10th day of August 1842, by the death of the said William Clemson. All debts due to or owing by the said respective firms will be received and paid by the said Joseph Vaughan and John Clemson, son of the said William Clemson, deceased, by whom the said respective concerns have, from the above date, been and will in future be carried on under the style of Willm. Clemson and Co. and Josh. Vaughan and Co.—Dated this 9th day of August 1844.

Roger Croom,
John Clemson,
Executors of the late William Clemson, deceased.
Joseph Vaughan.

William Clemson (1792–1842) dies and his son, John (1819-1895), inherits.

Occasionally, they are referred to as Clemson & Vaughan, particularly in their ownership of Dolphin Baths in Horrocks (see map below).[320] However, in the early 1850s, they are seen as Vaughan & Clemson, acknowledging Joseph as the senior partner.[321] James Clemson (1825-1850), son of William, joined the company, but his career was cut short by an early death.[322] The enterprise was generally classified as dyers[323], but there are references to them being dressers, bleachers, finishers, embossers and printers.[324] One might suppose that each partner had a separate sphere of responsibility, perhaps with Clemson concentrating on dyeing and Vaughan on dressing and bleaching. However, the commercial directories are opaque on the matter, and it would be reading too much into an 1841 directory, which shows Joseph Vaughan & Co. listed under the heading of BLEACHERS, while William Clemson & Co. are

seen as 'fancy dyers'.[325] After the death of William Clemson, we find William Clemson & Co. and Joseph Vaughan & Co. both listed separately under the heading DYERS.[326] While the company names differ, the shared factory was called Horrocks Dye and Print Works, which was used as their official address. Horrocks is a locality, divided by Rogers Street into Great and Little Horrocks, which lies to the east of Cheetham Hill Road. The works were located on Hargreaves Street, Great Horrocks, Red Bank, conveniently located on the bank of the River Irk, into which the company jettisoned its effluent. The housing in Great Horrocks was largely owned by Clemson and Vaughan, and probably rented by most of its 380 workers.[327] Clemson in particular seems to have owned a large portfolio of houses.



Site of Clemson & Vaughan's Dye Works on Hargreaves Street, 1850[328]

Hargreave Street (Crabbe Street to left)
Courtesy of Manchester Libraries

On the 30 September 1842, Joseph Vaughan was taken to court for polluting the entire neighbourhood with 'large quantities of Smoke and Soot'.[329]

Ordnance Survey. Town Plans of England and Wales, 1840s-1890s
Manchester and Salford Sheet 18 (detail), surveyed: 1848, published: 1850.
Courtesy of the National Library of Scotland

Before the death of William Clemson in 1842, Clemson and Vaughan took on a partner, John Jones, to form a company styled John Jones & Co.[330] The event took place between 1837 to 1840.[331] One suspects that because the firm operated under Jones' name, he was responsible for an sizeable injection of capital into the enterprise. Jones decided to leave the firm in 1846, leaving Clemson and Vaughan to carry on.[332]

Joseph Vaughan retired from the business around the age of 66 at the end of 1857.[333]

NOTICE is hereby given, that the Partnership heretofore subsisting between us the undersigned, Joseph Vaughan and John Clemson, carrying on business in copartnership together as Dyers and Printers, at Horrocks, within the city of Manchester, in the county of Lancaster, under the firm of William Clemson and Co., and Joseph Vaughan and Co., was dissolved by mutual consent, as on and from the 31st day of December, 1857. All debts due to and from the said two firms will be received and paid by the said John Clemson, who will continue the business under the firm of Wm. Clemson and Co.—As witness our hands this 8th day of February, 1858.

Josh. Vaughan.
John Clemson.

This is supported by the registrations of Class 10 printed designs under the Ornamental Design Act of 1842. Clemson & Vaughan registered over 100 designs. Their early registrations, between 1850 to 1857, were all filed under Vaughan's name, but subsequent registrations, from 1858-1880, were filed under the Clemson name.[334] Vaughan enjoyed just over five years of retirement before his death on 7 February 1863.[335] In the interests of familial continuity, John Clemson (1819-1895) formed a partnership with his oldest son, Thomas William (1853-1895), which lasted until 1 January 1880, when John retired at the age of 60. John Clemson retired to 151 York Street (now the lower end of Cheetham Hill Road), to live in one of the fashionable terraced houses that backed onto Strangeways Park. Frances Hodgson Burnett, authoress of *The Secret Garden* and *Little Lord Fauntleroy*, was born at 141 York Street in 1849. In retirement, he became a magistrate for Manchester.[336]

A new partnership was formed between John's sons, Thomas Willliam and John Henry Clemson (1856-1889).[337]

NOTICE is hereby given, that the Partnership heretofore subsisting between the undersigned, John Clemson and Thomas William Clemson, carrying on business at Red Bank, in the city of Manchester, as Dyers and Finishers, under the style or firm of William Clemson and Co., was dissolved, by mutual consent, on the 1st day of January last. All debts due to and from the late firm will be received and paid by the said Thomas William Clemson and John Henry Clemson, who will carry on the business in copartnership together under the same style as heretofore.—Dated this 5th day of March, 1880.

John Clemson.
Thomas William Clemson.

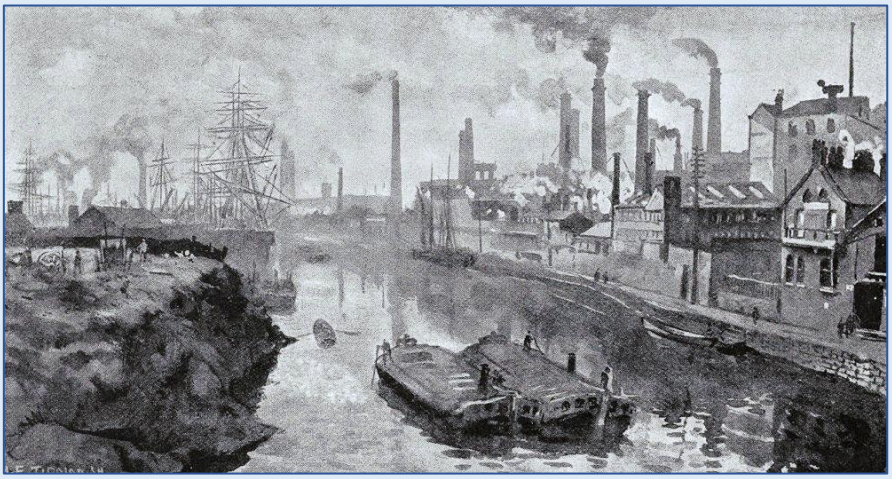
William Clemson & Co., Velvet Dyers, Printers, Embossers, &c., Horrock Dye and Print Works, Red Bank.—This very important firm has been established upwards of eighty years, and occupies a leading position amongst velvet dyers and printers. At the present time there are no fewer than four hundred hands, dyers and printers, in constant employment, and a staff of commercial travellers is required to wait on the numerous customers of the firm. The works and factories are very extensive. The whole of the plant and machinery has recently been entirely remodelled. Amongst many specialities for which Messrs. Clemson & Co. are so well known are certain new colours in dyes and printings of great permanency; and, in addition, their manufactures are distinguished by durability, excellence of design, and skilful execution. The present partners are Mr. John Henry Clemson and Mr. Thomas William Clemson, both well known amongst Manchester merchants.

source[338]

The Clemson brothers were described as 'dyers, printers, stretchers, and finishers of velvets, velveteens, cords, &c.'[339] Thomas was a member of the Exchange.[340]

In September of 1871, Sarah Ann (1847-1892), the oldest child of John Clemson (1819-1895), married John Houlton Worrall (1846-1876).[341] He was the son of John Mayo Worrall (1815-1869) of Salford. This was followed, in 1875, by the marriage of Mary Eliza (1849-1907), another Clemson daughter, to William Houlton Worrall (1849-1911), the youngest son of John

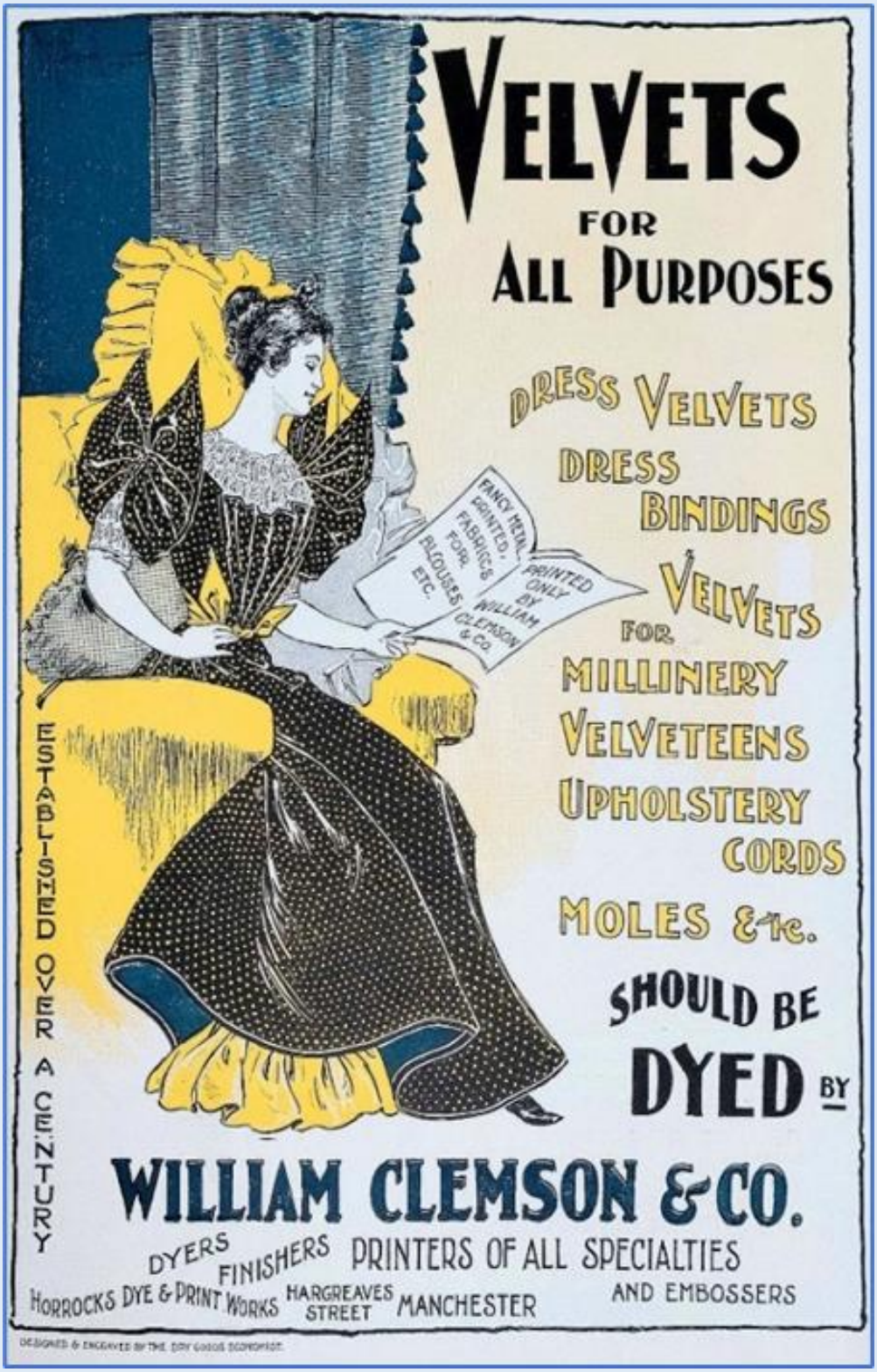
Mayo Worrall. This family connection was further intensified when John Henry Clemson's daughter, Hilda (1885-1970), married her first cousin, Robert Douglas Worrall (1885-1963), the son of William Houlton Worrall in 1910 at Dunham Massey, Cheshire. John Mayo Worrall and his brother, James, took over the reins of the Ordsall Dye Works (1792-1964) from their father, and developed it into the world's largest velvet and corduroy dyers in the world. At the company's peak, the firm employed some 3,000 people.[342] My father, who grew up in Ordsall, related that the River Irwell was locally known as the 'stream of many colours', a name spawned from the discharge of different coloured dyes into the river.



'The Irwell at Ordsall, with Worrall's works'.
Drawn by Henry Edward Tidmarsh (1854–1939)[343]

The last reference seen, which mentions William Clemson & Co., Horrocks Dye and Print Works, is 1895.[344] In June of that year, Thomas William Clemson died eleven days before his father. By that time, his brother, John Henry Clemson, had been dead for four years. In April 1899, William Clemson & Company was absorbed into the English Velvet and Cord Dyers Association. Considering the family connections, this was no doubt encouraged by the Worrall family. Henry Worrall was the association's first chairman.[345]

> 'The English Velvet and Cord Dyers' Association has a somewhat curious history. It was incorporated in April, 1899, for the purpose of amalgamating fourteen firms — nine other businesses being subsequently acquired — engaged in "the dyeing, bleaching, printing, embossing, finishing, etc., of velvets velveteens, cords, moles, etc., and the amalgamated companies and firms comprise a very large proportion of the cotton velvet dyeing trade in this country, and also a considerable portion of the corduroy dyeing industry. The larger of the associated businesses are old established, and are located in Manchester, Salford, and the immediate neighbourhood, or in Yorkshire, and are conveniently situated for dealing with the cloth in an economical manner." To continue quoting from the prospectus issued in April, 1903 : "The association was originally formed as a private company, and it was determined that before any issue was made to the public, the results of amalgamation should be tested by actual working."'[346]


VELVETS
FOR
ALL PURPOSES
DRESS VELVETS
DRESS
BINDINGS
VELVETS
FOR
MILLINERY
VELVETEENS
UPHOLSTERY
CORDS
MOLES &c.
SHOULD BE
DYED BY
FANCY METAL POINTED FABRICS FOR BLOUSES ETC.
PRINTED ONLY BY WILLIAM CLEMSON & CO.
ESTABLISHED OVER A CENTURY
WILLIAM CLEMSON & CO.
DYERS FINISHERS PRINTERS OF ALL SPECIALTIES
AND EMBOSSERS
HORROCKS DYE & PRINT WORKS HARGREAVES STREET MANCHESTER

source[347]

Appendix 4

Robert Kershaw of Heywood

A.D. 1859, *26th Mar.* N° 1307.

Manufacture of Velvets, &c.

(*This Invention received Provisional Protection only.*)

PROVISIONAL SPECIFICATION left by Michael Michaelis and Robert Kershaw at the Office of the Commissioners of Patents, with their Petition, on the 26th May 1859.

We, MICHAEL MICHAELIS, of Manchester, in the County of Lancaster, Clerk, and ROBERT KERSHAW, of Heywood, in the said County, Manufacturer, do hereby declare the nature of the said Invention for "IMPROVEMENTS IN THE MANUFACTURE OF VELVETS AND OTHER PILED FABRICS," to be as follows:—

Our Invention relates to velvets and other piled fabrics which are manufactured with a silk face and cotton or other inferior back. According to the usual method of producing these goods, the "tie" or "binding" thread is of silk, but according to our Invention we employ a thread of cotton or other inferior material; and to enable us to accomplish this, we use a "rising-box" loom and two or more shuttles. We have mentioned the fabrics as having a face of silk, by which we mean that the character thereof is silk, but other materials may be mixed therewith.

LONDON:
Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1859.

The *Victoria History* for Lancashire records the following:

> 'In a lecture by Mr. J. A. Green in 1899, it is stated that James Kershaw of Wrigley Brook Mill purchased cotton in 1777'.[348]

This statement is interpreted to mean raw cotton. Wrigley Brook Mills was the first cotton spinning mill in the district of Heywood.[349] It was built adjacent to the brook (in blue on the map below), which is a tributary of the River Roch. Initially, the brook was used as a source of motive force. Genealogical sources indicate that Wrigley Brook also signified a satellite community within the ambit of Heywood, which once had a reasonably discrete identity.[350]

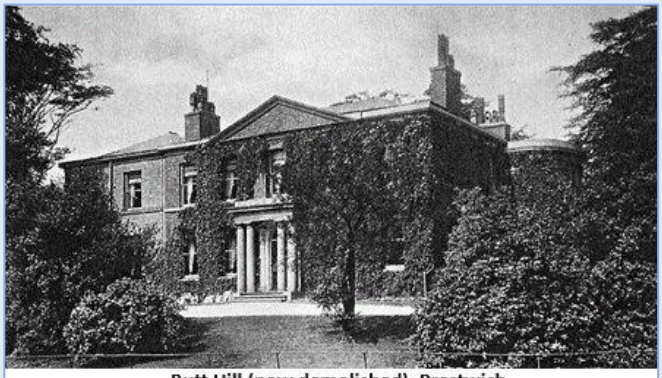
Ordnance Survey, Town Plans of England and Wales, 1840s-1890s.
Heywood sheet 1 (detail), surveyed: 1848, published: 1851.
Courtesy of the National Library of Scotland.

James Kershaw (1751–1830) was born beyond the reach of local parish records. So, there is no information about his place of birth or parentage. Suffice it to say mobility was not high at this period, and that some 62% of England's rural population moved less than 10 miles from their birthplace.[351] We do know that at the time of his death, James was 79 years old, and that, on the 24th of April, 1830, he was buried at the Church of St Luke in Heywood. On the 14th of July, 1777, he married Mary Kershaw (1755–1842, née Kershaw) at the Church of St. Mary the Virgin, the parish church of Bury. Heywood is situated in the township of Heap within this parish. In 1777, the record of James' marriage describes him as a weaver, and he seems, at this juncture, to have been making the transition to cotton spinning. James and Mary had seven known children, three of whom died in infancy.

About 1777, James Kershaw appears to have made the transition from weaver to cotton thread manufacturer. According to various trade directories (listed below), his company is described as 'cotton spinners'. However, before 1820, he had expanded into producing fustian fabric. Over time, muslins, sateens and velvets were introduced to the company's repertoire. By January of 1819, 'James Kershaw & Sons' employed 45 workers, 10 of whom were under 14.[352] It appears that after James died in 1830, controlling interest in the firm passed to his wife, Mary, and was seemingly run by her sons, James (1778–1826), John (1784–1836), and

Robert (1791-1846). By default, the company came under the management of Robert as the sole surviving son. After the death of Mary in November 1842, her grandsons formed a partnership in 1843.[353] This iteration of the company involved all of Robert's sons: John (1827–1882), Robert (1829-1877), James Clegg Kershaw (1831-1918), William (1832–1865) and Samuel (1833–1888).[354] John's occupation is described as 'gentleman' (1861), an 'annuitant' (1871) and a 'retired cotton spinner' (1881), suggesting he was more of a silent than active partner. William suffered debilitating injuries in a train collision in 1861, and his health deteriorated, leading to a dissolution of partnership.[355] Samuel is described as a 'manufacturer' (1871) and a 'commission agent (cotton)' (1881). Robert (1829–1877) moved to London, qualifying as a medical doctor in 1873, and James was ordained as a Church of England cleric by 1861. Robert (1829–1877) and William (1832–1865), are seen as subscribing members of the Royal Exchange in Manchester.

Their father, Robert (1791-1846) appears to have owned two mills in Deeply Vale, near Bury, the Cob House Nab Print Works and a mill at Deeply Hill.[356] These factories specialized in calico printing and other finishing processes (dyeing and bleaching). Robert was also an investor in the proposed Rochdale, Heywood and Manchester Railway, along with the likes of Henry Julius Leppoc and John Fenton.[357] One particular measure of the commercial success of James Kershaw & Sons was the marriage of Robert Kershaw (1791-1846) to Mary Clegg (1803–1859). That is to say, people tended to marry within their own class. Mary was the eldest daughter of James Clegg (1778–1835) of Whitefield, the owner of James Clegg & Co. which operated a weaving mill at Besses o' th' Barn (located between Whitefield and Prestwich), Vale Mill in Heywood and a warehouse on New Brown Street in Manchester. From 1820, the Clegg family lived in Butt Hill. Four members of the Clegg clan married into the equally wealthy Munn family, who lived on the adjacent estate in Hilton House (near Barnfield Park, Prestwich).[358] John Munn (1802–1877) was the founder of John Munn & Company, located at 53 Fountain Street, Manchester, one of the largest warehouses in the city.[359]


Butt Hill (now demolished), Prestwich

The first stage in the dissolution of James Kershaw & Sons was prompted by the death of William in March 1865, which took effect on 25 June 1865. At this juncture and in the interest of name recognition, the company name was kept. However, a reference to Britannia Mills appears in 1867, which refers to their manufactory.[360] It may have been named after the local pub, The Britannia Hotel, located at 100 Bridge Street, on the corner of Britannia Street, both of which can be seen on the detail of the Ordnance Survey map reproduced above.

*Kershaw, James and Sons Heywood	Britannia Mills Part. Diss. App. p 13

The second stage of dissolution came on 1 March 1869, when Robert and Samuel decided to close the business.

Kershaw James and Sons.—And at Heywood, cotton spinners and manufacturers. Robert Kershaw, William Kershaw, Samuel Kershaw. As regards William Kershaw. From 25th June 1865. 25th September 1866.

Kershaw James and Sons.—And at Heywood, cotton spinners and manufacturers. Robert Kershaw, Samuel Kershaw. 13th April 1869.

Dissolutions of Partnership:
1) following death of William; 2) Robert leaves to pursue medicine.[361]

NOTICE is hereby given, that the Partnership heretofore subsisting between the undersigned, Robert Kershaw and Samuel Kershaw, carrying on business at Heywood and Manchester, in the county of Lancaster, as Cotton Spinners and Manufacturers, under the style or firm of James Kershaw and Sons, was dissolved on the 1st day of March last by mutual consent.—Dated this 9th day of April, 1869.

Robert Kershaw.
Samuel Kershaw.

The London Gazette, no. 23487 (13 April 1869) 2251.

After the dissolution of the partnership of Robert and Samuel Kershaw in 1869, the circumstances surrounding the commercial life of Britannia Mills are not entirely clear. Accordingly, what follows is provisional. At some stage, probably around 1871, control of Britannia Mills passed to Richard Kay and Brother.[362] Richard Kay, JP (1837-1888) already owned the cotton-spinning Peel Street Mill in Heywood, and the unnamed brother refers to William Henry Kay (1846-1923).[363] Then, during 1876, a consortium of businessmen formed a corporation, and purchased Britannia Mills.[364] Some historical connection among the shareholders and the former owners is suggested in that the mill manager, John Manock, mentioned in the notice to the left, filed patents with Richard Kay in 1859 and 1864.[365] Similarly, James Taylor, filed a patent with Samuel Kershaw in 1854, when Taylor was the manager of Kershaw's operations.[366] The consortium,

BRITANNIA COTTON SPINNING AND MANUFACTURING.—It is proposed with this company, which was registered on the 22nd inst., with a capital of 35,000*l.*, in 5*l.* shares, to acquire the Britannia Mills at Heywood, Lancaster, and to carry on the business of cotton-spinning and manufacturing. The subscribers are:—

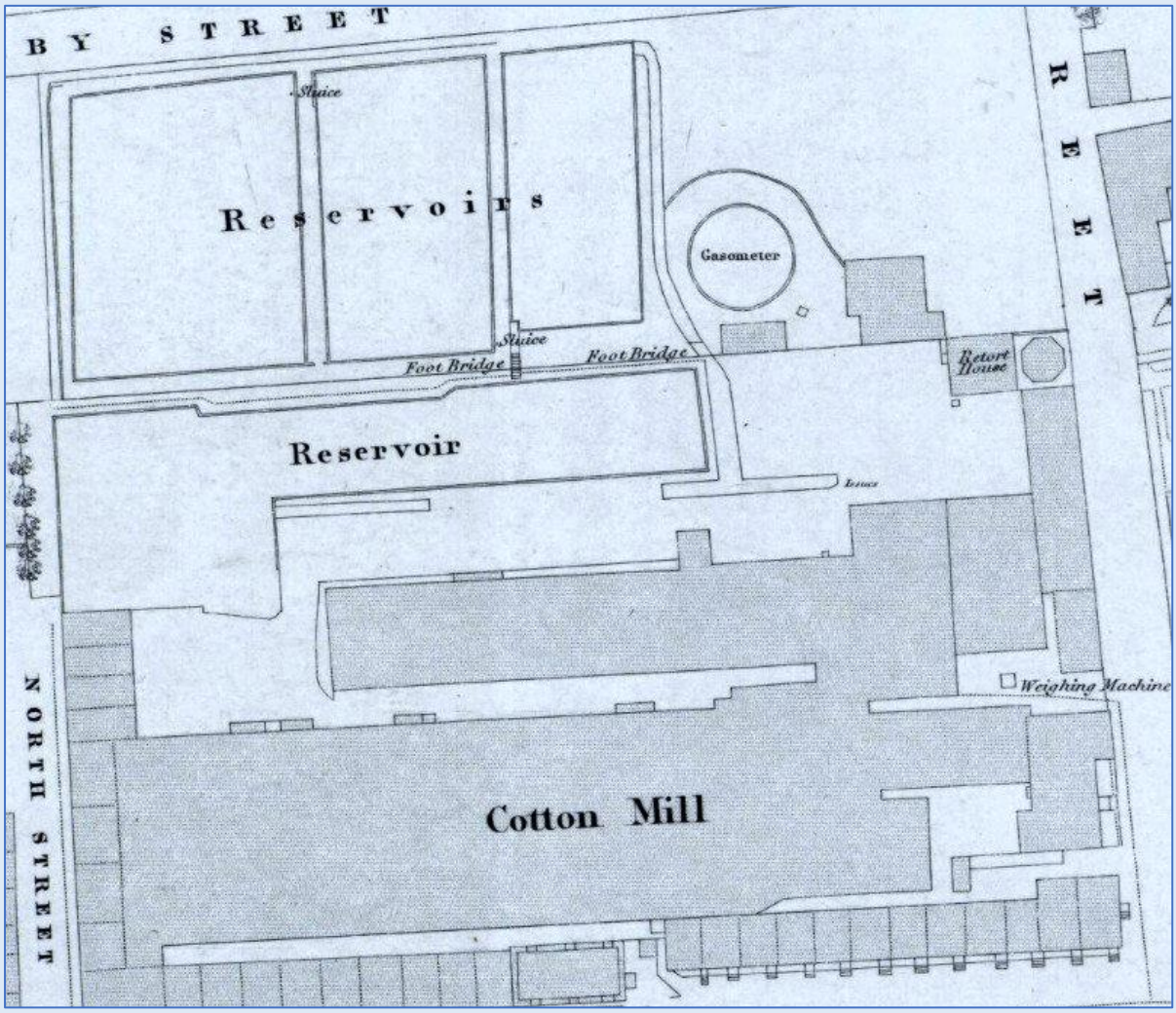
	Shares.
* John Manock, Heywood, mill manager	200
* Samuel Heywood, Heywood, coal merchant	200
* James Taylor, Heywood, cotton-waste dealer	200
John Partington, Heywood, cotton-waste dealer	200
* Robert Grundy, Heywood, coal merchant	200
* Henry Whitehurst, Heywood, mechanic	200
* Abel Ashworth, Bury, cotton-spinner	200

The number of directors is not to be less than four, nor more than seven. Qualification, twenty shares. The subscribers against whose names an asterisk is placed are to be the first, together with George Taylor. Remuneration will be determined at ordinary general meeting.

styled 'Britannia Cotton Spinning and Manufacturing Company Limited' closed in 1879, overwhelmed by its liabilities.[367] Ownership passed to the firm of Heywood and Wrigley in 1880.[368] Their partnership was dissolved in 1883.[369] Samuel Heywood took on two new partners, William Todd and James Fenton, operating as Cobden Mills Company. Todd left after a short time.[370]

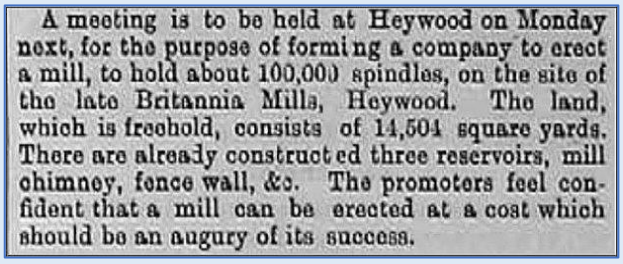
NOTICE is hereby given, that the Partnership heretofore subsisting between us the undersigned, Samuel Heywood and Seth Wrigley, carrying on business at Croft Mill, Ashton-under Lyne, in the county of Lancaster, and at Britannia Mill, Heywood, in the said county, as Cotton Spinners and Manufacturers, under the style or firm of Heywood and Wrigley, is this day dissolved by mutual consent. All debts due to or owing by the said firm in connection with their Ashton-under-Lyne business will be received and paid by the said Seth Wrigley, who will in future carry on such last-named business on his own account. All debts due to and owing by the said firm in connection with the said Britannia Mill, Heywood, will be received and paid by the said Samuel Heywood.—Dated this 16th day of May, 1883. *Saml. Heywood.* *Seth Wrigley.*

NOTICE is hereby given, that the Partnership heretofore subsisting between the undersigned, Samuel Heywood, William Todd the younger, and James Fenton, carrying on business as Cotton Spinners, at Cobden Mills, Heywood, in the county of Lancaster, under the style or firm of the Cobden Mills Company, is this day dissolved, by mutual consent, so far as relates to the said William Todd the younger. All debts owing to and by the concern will be received and paid by the undersigned, Samuel Heywood and James Fenton.—Dated this 22nd day of June, 1883. *Saml. Heywood.* *Wm. Todd, jun.* *James Fenton.*



Britannia Mills, Heywood (Peel Street on right)[371]
The factory chimney is to the right of the retort house

In 1882, Britannia Mills was gutted by fire, which destroyed 9,000 mules, and idled over 100 employees.[372] The damage was estimated at £10-12,000. An equally devastating fire occurred two years later. In 1884, it was reported that Britannia Mills owned by Cobden Mill & Co., suffered the loss of 13,000 spindles, resulting in £10,000 worth of damage and one fatality.[373]



A meeting is to be held at Heywood on Monday next, for the purpose of forming a company to erect a mill, to hold about 100,000 spindles, on the site of the late Britannia Mills, Heywood. The land, which is freehold, consists of 14,504 square yards. There are already constructed three reservoirs, mill chimney, fence wall, &c. The promoters feel confident that a mill can be erected at a cost which should be an augury of its success.

The business never recovered. Its passing was lamented by the local community, and, in 1889, plans were being discussed about building a new 100,000-spindle mill on its site.[374] The sale of the site, called 'Kershaw's (where Yew Mill now stands)', was handled by the local auctioneer, John Whittaker.[375] Yew Mill was built in 1890 by Stott and Sons, a well-known firm of Oldham architects[376], and most of the structure was fire-proofed. It opened in 1891, and its 'engines' were christened in 1892, which had the power to turn 114,000 spindles.[377] It was described as 'the largest spinning mill to be built under one roof in the world.'[378]

1. *Site of Wrigley Brook Mills.* **2**. *Site of Britannia Mills (later Yew Mill)*

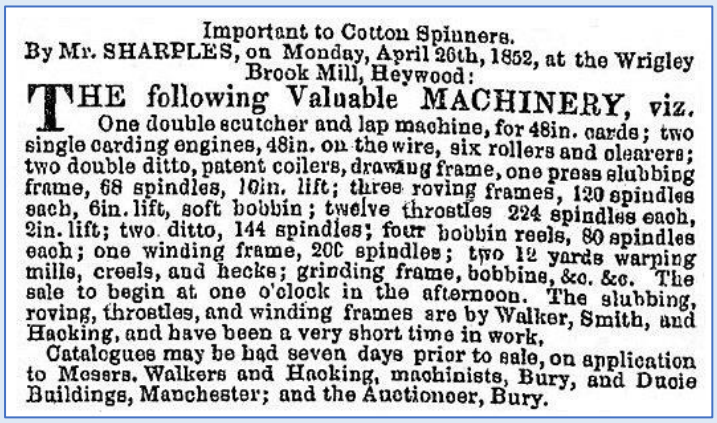
Kershaw's association with Britannia Mills indicates a move to new premises. It is not a rebranding of Wrigley Brook Mills as some suggest. Unfortunately, it has not been possible to date this event, but it is likely to have taken place under the stewardship of Robert Kershaw

(1791-1846), the driving force of the company.[379] The above maps help to shed light on the end of Britannia Mills.[380] The top and centre maps show the Peel Street area of Heywood in 1890. The site of Wrigley Brook Mills (1) shows a building that is disused. By contrast, the site of Britannia Mills (2) has been cleared of the ruins pending construction of Yew Mill, and its former reservoirs are in a state of disuse. The bottom left map shows Britannia Mills (1844-47), before it was destroyed by fire. It also shows Wrigley Brook Mills in situ. The bottom right map shows the newly constructed Yew Mill, with the reservoirs and chimney (chy.) of Britannia Mills being reused.[381] This is confirmed by the following statement: 'The chimney and reservoirs which belonged to the Britannia Mills formerly occupying the site are being utilised [by Yew Mill] ...'[382]

The reconstruction of the chronology of Britannia Mills is somewhat confusing in that different company names are used concurrently in various sources and directories.

1. **James Kershaw and Sons** is being cited as late as 1879, even though the partnership of Samuel and Robert ended in 1869. In the census and a directory for 1871, Samuel Kershaw is still described as a manufacturer, located at Britannia Mills. It is after this date that Britannia Mills seems to pass to the Kay Brothers. Afterwards, Samuel acted as an independent broker with an office in Manchester, and a membership in the Exchange (see directories below). He continued to operate under the company name, James Kershaw and Sons, which, by the late 1870s, had a 100-year old cachet, but it was no longer directly involved in manufacturing.
2. Reference to **Richard Kay and Brother** at Britannia Mills, is found as late as 1880 in the directories[383], even though a consortium had seemingly purchased Britannia Mills from them in 1876. This is difficult to reconcile. In the 1881 census, Richard Kay is described as a cotton-spinner employing about 296 people. However, this probably relates to the company's ownership of Peel Street Mill, Heywood.
3. The **consortium:** 'Britannia Cotton Spinning and Manufacturing Company Limited'
4. **Heywood and Wrigley**
5. **Cobden Mill & Co**., named at the time of the fire in 1884.

Wrigley Brook Mills Postscript



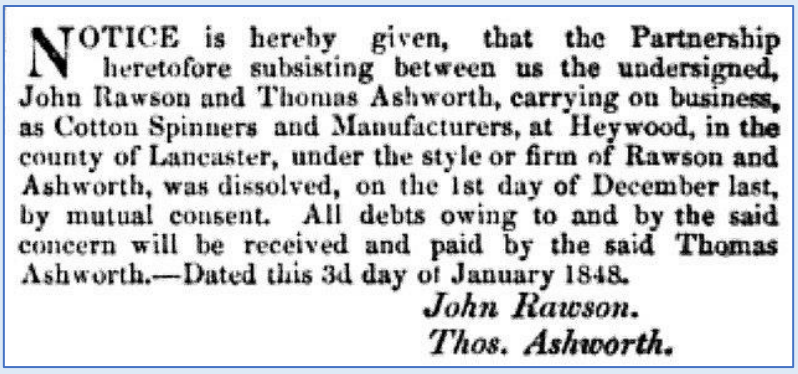
Important to Cotton Spinners.
By Mr. SHARPLES, on Monday, April 26th, 1852, at the Wrigley Brook Mill, Heywood:

THE following Valuable MACHINERY, viz.
One double scutcher and lap machine, for 48in. cards; two single carding engines, 48in. on the wire, six rollers and clearers; two double ditto, patent coilers, drawing frame, one press slubbing frame, 68 spindles, 10in. lift; three roving frames, 120 spindles each, 6in. lift, soft bobbin; twelve throstles 224 spindles each, 2in. lift; two ditto, 144 spindles; four bobbin reels, 80 spindles each; one winding frame, 200 spindles; two 12 yards warping mills, creels, and hecks; grinding frame, bobbins, &c. &c. The sale to begin at one o'clock in the afternoon. The slubbing, roving, throstles, and winding frames are by Walker, Smith, and Hacking, and have been a very short time in work.

Catalogues may be had seven days prior to sale, on application to Messrs. Walkers and Hacking, machinists, Bury, and Ducie Buildings, Manchester; and the Auctioneer, Bury.

< *Manchester Weekly Times and Examiner*. April 24, 1852: 8.

Thomas Ashworth was a cotton spinner at Wrigley Brook Mills in 1850.[384] Two years later his equipment was being liquidated. While Ashworth is not named in the notice shown above, he appears in a similar advertisement in 1854, which mentions the 'trustees of Thomas Ashworth'.[385] Thomas Ashworth has not been identified with certainty, but it is likely that he is the individual mentioned below.[386]



NOTICE is hereby given, that the Partnership heretofore subsisting between us the undersigned, John Rawson and Thomas Ashworth, carrying on business, as Cotton Spinners and Manufacturers, at Heywood, in the county of Lancaster, under the style or firm of Rawson and Ashworth, was dissolved, on the 1st day of December last, by mutual consent. All debts owing to and by the said concern will be received and paid by the said Thomas Ashworth.—Dated this 3d day of January 1848.

John Rawson.
Thos. Ashworth.

It is highly probable that, by time of these events, the Kershaws had vacated Wrigley Brook Mills in favour of Britannia Mills. Accordingly, Ashworth was leasing the premises from the Fenton family.[387]

James Kershaw & Sons: Trade Directories

The following list is organized as follows:

- publication date;
- the source;
- page [some directories have different sectional pagination within the same volume];
- the entry;
- section of the directory in which the entry appears;
- added explanatory notes in [] brackets.

1794 Scholes's Manchester and Salford Directory (Manchester, 1794)

163 Kershaw James, Heywood, cotton-manufacturer, Angel Yard, Blue-boar-c[ourt], New Boar's-head, Hyde's-cross

1797 *Scholes's Manchester and Salford Directory* (Manchester, 1797)

163 Kershaw James, Heywood, cotton-manufacturer, Angel Yard, Blue-boar-c[ourt], New Boar's-head, Hyde's-cross [located in the proximity of Market Place, Manchester].
An Alphabetical List of the Country Manufacturers, Whitsters [i.e. bleachers] and others attending Manchester Market. With the Place of their Abode, and the Inns they put up at.

1818 *The Commercial Directory for 1818-19-20* (Manchester: Pigot, 1818)

336 Kershaw, J. & Sons, Layland's-ct, Heywood.
Manchester / Country Manufacturers / Fustian Manufacturers.

339 Kershaw, J. & Sons, Layland's-ct, Heywood.
Manchester / Country Manufacturers / Country Spinners

1821 *Pigot and Dean Directory of Manchester and Salford 1821-1822*

298 Kershaw James and Sons, cotton-spinners and manufs. Heywood.

1824 *Pigot and Dean Directory of Manchester and Salford 1824/1825*

338 Kershaw James & Sons, spinners & manufrs. Wrigley-brook, Heywood.

1825 Edward Baines, *History, Directory, and Gazetteer, of the County Palatine of Lancaster,* vol. 2. (Liverpool: Wales, 1825)

384 28*Kershaw, James & Sons, T. and S. 84
A list of country manufacturers and others attending Manchester markets / Cotton Spinners and Manufacturers
[28 = Griffin Inn, Long Millgate; * = cotton spinners only; T. and S. = Tuesdays and Saturdays; 84 = Heywood]

672 11 Kershaw, Jas. & Sons [11 = Wrigley Brook]
Heywood / Cotton Spinners and Manufacturers

1828 *Pigot & Co.'s National Commercial Directory for 1828-1829* (London: Pigot, [1828])

258 *Kershaw, James & Sons, Wrigley Brook, Heap.
Cotton Spinners (marked thus* are also manufacturers)

338 Kershaw James & Sons, spinners & manufrs. Wrigley-brook, Heywood, Bury &c.

1829 *Pigot & Deans' New Directory of Manchester, Salford, &c. for 1821-2* (Manchester, [1821])

298 Kershaw James & Sons, cotton spinners and manufs. Heywood
Bury and neighbourhood

1829 *Pigot and Son's General Directory of Manchester, Salford, &c. for 1829* [Manchester: Pigot, [1829])

24 Layland's Court [St. Mary's Gate, Manchester]. Kershaw & Sons, spinners
Street Index (Appendix).

322 Kershaw, James & Sons, cotton spinners and manufacturers, Heywood – Layland's court, Tues. and Sat. Ducie Arms, Strangeways
Country Manufacturers, Bleachers, Spinners &c. attending the Manchester market.

1837 *Pigot and Co.'s National Commercial Directory of the Whole of Scotland, and of the Isle of Man* (London: Pigot, 1837)

97 Kershaw Jas. & Sons, 3 Lower Cannon St.
Manchester / Cotton Spinners

107 Kershaw Jas. & Sons, 3 Lower Cannon St.
Manchester / Manufacturers of Muslins

1841 *Pigot & Co.'s Royal National and Commercial Directory and Topography of York, ... Manchester and Salford* (London: Pigot, 1841)

124 Kershaw Jas. & Sons, cotton spinners & manufacturers, Heywood--3 Lower Cannon st, Tues. Thurs. & Sat.
Country Manufacturers, Spinners, Bleachers, &c attending Manchester Markets

60 Kershaw James & Sons, cotton spinners and fustian manufacturers, Peel street

60 Kershaw Robert, manufacturer, house Peel st,
Heap, Heywood and Neighbours

1846 *I. Slater's National Commercial Directory of Ireland* (Manchester: Slater, 1846)

17 Kershaw James & Sons, 12 New Brown st.
Manchester / Cotton Spinners

31 Kershaw James & Sons, 12 New Brown st
Manchester / Manufacturers, and Dealers of Cotton Goods

1850 *The Bury Directory* (Bury: John Heap, 1850)

61 *Kershaw James & Sons, Peel St., and 19A York Street, Manchester
Heap / Cotton Spinners [*also manufacturers]

1851 *Slater's Royal National Commercial Directory and Topography of Scotland* (Manchester, 1851)

42 Kershaw, James & Sons, 19A York St.
Manufacturers and Dealers in Cotton Goods, General Warehousemen &c.

44 Kershaw, James & Sons, 19A York St
Fustians

1853 *W. Whellan & Co., A New Alphabetical and Classified Directory of Manchester and Salford* (Manchester, 1853)

185 Kershaw James & Sons, cotton spinners and manufacturers, 19A York st; works and residence Heywood

402 Kershaw J. & Sons, 19A York st
Cotton Spinners

416 Kershaw J. & Sons, 19A York st
Fustian manufacturers

436 Kershaw J. & Sons, 19A York st
Manufacturers of and Dealers in Cotton Goods, General Warehousemen, &c.

509 Kershaw, John, Heywood
Kershaw Robert 19A. York st
Merchants and Others Attending the Exchange

1018 Kershaw James, cotton spinner (Jas. Kershaw & Sons); ho. Peel st
Kershaw John, cotton spinner (Jas. Kershaw & Sons); ho. Peel st
Kershaw Robert, cotton spinner (Jas. Kershaw & Sons); ho. Peel st
Kershaw Samuel, cotton spinner (Jas. Kershaw & Sons); ho. Peel st
Kershaw William, cotton spinner (Jas. Kershaw & Sons); ho. Peel st
Heywood

1863 *Slater's General and Classified Directory and Street Register of Manchester and Salford and their Vicinities* (Manchester, 1863)

279 Kershaw James & Sons, cotton spinners and manufacturers of satteens and velvets, 10 Peel st., 1 Duke st; mills Heywood

280 Robert, manufacturer (J. Kershaw & Sons), Gooden House. Heywood

280 William, manufacturer (J. Kershaw & Sons), Heywood
Manchester / Alphabetical

38 Kershaw James & Sons, 10 Peel st, Duke st, Cannon st, works Heywood
Manchester and Salford with their Vicinities / Classification of Trades / Cotton Spinners

169 Kershaw Robert, I0 Peel st

169 Kershaw William, I0 Peel st
A List of the Subscribers to the Manchester Royal Exchange (22 April 1863) / Town

177 Kershaw William. Heywood
Subscribers to the Manchester Royal Exchange / Country

109 Peel Street. Duke Street Cannon Street. 10 [house no.] Kershaw James & Sons, manufacturers.
Manchester / Street Register

1866 Otto Blumenthal (ed.), *The British, Foreign, and Colonial Tradesmarks' Directory* (London, 1866)

118 Kershaw James & Sons, 45 Cross st
Manchester / Manufacturers / Cotton Spinners

1871 *Worrall's 1871 Directory of Bury, Bolton and district*

171 Kershaw Mr. Samuel, Peel street
Heywood / Private Residents

176 *Kershaw James & Sons (velvets and satteens), Britannia Mills.
Heywood / Classification of Trade, Professions, &c. / Cotton Spinners [*also manufacturers]

1876 *Slater's Directory of Manchester & Salford, 1876*. [Part 2: Trades, Institutions, Streets, etc.] (Manchester, Slater, 1876)

52 Kershaw James & Son, 1 Exchange buildings, Cromford court; mills, Heywood
Cotton Spinners

79 Kershaw James & Sons, 1 Exchange buildings, Cromford court, Market st
Manchester / Fustian manufacturers and warehousemen

249 Kershaw Samuel, Peel st, Heywood

1877 *Slater's Directory of Manchester & Salford, 1877-8*. [Part 2: Trades, Institutions, Streets, etc.]

60 Kershaw James & Son, Corporation chambers, 19 Corporation st; mills, Heywood
Manchester / Cotton Spinners

93 Kershaw James & Son, Corporation chambers, 19 Corporation st
Manchester / Fustian manufacturers and warehousemen

262 Kershaw Samuel Peel Street, Heywood
A List of the Subscribers to the Manchester Royal Exchange, 1876-7

1879 *Slater's Directory of Manchester & Salford, 1879*. [Part 2: Trades, Institutions, Streets, etc.]

66 Kershaw James & Son, Corporation chambers, 19 Corporation st ; mills, Heywood
Classification of Trades / Cotton Spinners and Manufacturers

300 Kershaw Samuel, 18 Seymour rd. Cheetham Hill [confirmed by 1881 census]
Members of the Royal Exchange

206 Kershaw Samuel, 18 Seymour Road, 'Wilton Villas' Higher Crumpsall.

Appendix 5

The de Liagre Family

1. The Company of Charles de Liagre

The de Liagre family has been described as a 'European transnational merchant family', which originated in Brussels, then a city of the Austrian Netherlands, with its members dispersing to other cities on the continent.[388] Charles Benoit François de Liagre (1789-1855), born in Antwerp, moved to Leipzig, where he established a business specializing in linens and French batistes. In 1832, he married Ottilie Küstner (1811–1892), the daughter of Heinrich Küstner (1778-1832), the Consul-General of Saxony-Weimar. Following the death of Charles, the business passed to his widow, Ottilie, and their eldest son, Albert Heinrich de Liagre (1833-1908).

1857

16	Deliagre, Charles.	Leipzig.	Batist- und Tafelzeuglager.	Frau Ottilie verw. Deliagre. Hr. Albert Heinrich Deliagre (zeichnet allein die Firma).	Hr. Charles Deliagre.

This entry shows the name of the company, location, type of business, new owners and former owner. The note attached to Albert signifies that he alone is responsible for the firm, implying that his mother is a 'silent partner'.[389]

1864

Ottilie divested her interests in the company in 1864.[390]

Bekanntmachung.

Zufolge Anzeige vom 29. Januar a. c. ist die Mitinhaberin der Firma Charles De Liagre in Leipzig, Frau Ottilie verw. De Liagre geb. Küstner, aus der gedachten Firma ausgeschieden und ist Solches, sowie, daß dadurch die eingetragene Vertretungsbeschränkung der Frau De Liagre in Wegfall gelangt, heute auf dem betreffenden Fol. 58 des hiesigen Handelsregisters verlautbart worden.

Leipzig, am 30. Januar 1864.

Königl. Handelsgericht im Bezirksgericht daselbst.

Notice

According to an announcement dated January 29th of this year, Mrs. Ottilie De Liagre, née Küstner, widowed, co-owner of the Charles de Liagre Company in Leipzig, has left the company in question, as such the registered limited proxy of Mrs. De Liagre has thereby ceased to exist, which has been announced today in the relevant folio 58 of the local commercial register.

This left Albert Heinrich as the sole owner of the firm (1864)

.[391]

12	**De Liagre,** Charles.	Leipzig.	Leipzig.	Albert Heinrich de Liagre.	Ottilie verw. De Liagre geb. Küstner. Albert Heinrich De Liagre.	29

The entry shows the name of the company, location, where registered, new owner and former owners.

Albert declared his father's company defunct in 1866, when he joined forces with Henry Samson, his brother-in-law.[392]

2. The Firm of Herman Samson (Henry Samson & Albert Heinrich de Liagre)

Albert Heinrich de Liagre (1833-1908), married Anna Maria Samson (1840-1912), the daughter of Hermann Samson (1804-1865) and Selly Schwabe (1809-1891) in 1858. Upon the death of Hermann (1865), his business interests were divided between his son, Henry Samson (1832-1906), based in Manchester, and his daughter, Anna Maria, whose husband managed the German end of the business.

Nr. 8. Henry Samson & Albert de Liagre zeigen den Tod des Vaters beziehungsweise Schwiegervaters Herrmann Samson an und theilen mit, dass sie das Geschäft unter der früheren Firma mit Einverständniss der Erben fortführen werden und dass die Procura des Herrn August Wetzel auch ferner in Kraft bleibt.

Leipzig, 2. October 1865.

Hiedurch erfüllen wir die traurige Pflicht, Sie von dem am 16. September dieses Jahres erfolgten Hinscheiden unseres Vaters und Schwiegervaters Herrn Herrmann Samson in Kenntniss zu setzen.

Die Handlung „Herrmann Samson"
wird im Einverständnisse der sämmtlichen Erben von den Unterzeichneten unter derselben Firma, mit ungeschwächten Mitteln und den Grundsätzen des Verstorbenen getreu, fortgeführt werden, ebenso bleibt die seinem langjährigen Freunde und Mitarbeiter Herrn August Wetzel ertheilte Procura in Kraft.

Indem wir Sie ersuchen, von unsern untenstehenden Unterschriften Notiz zu nehmen, bitten wir Sie, das dem Verstorbenen in so reichem Maasse geschenkte Vertrauen auf uns zu übertragen, und empfehlen uns Ihnen

hochachtungsvoll

Henry Samson.
Albert de Liagre.

Herr Henry Samson wird zeichnen: Herrmann Samson.
Herr Albert de Liagre wird zeichnen: Herrmann Samson.

Translation: *Henry Samson & Albert de Liagre announce the death of their father and father-in-law Herrmann Samson, respectively, and inform you that they will continue the business under the previous company name with the consent of the heirs and that the power of attorney granted to Mr. August Wetzel will continue to be in force.*
Leipzig, October 2, 1865

We hereby fulfill the sad duty of informing you of the passing of our father and father-in-law, Mr. Herrmann Samson, on September 16 of this year. The "Herrmann Samson" business will be continued by the undersigned under the same company name, with the same means and in keeping with the principles of the deceased, with the consent of all the heirs, and the power of attorney granted to his long-time friend and colleague, Mr. August Wetzel, will also remain in force. As we request you to take note of our signatures below, we ask you to transfer to us the trust that was so generously placed in the deceased, and we recommend ourselves to you.
Yours sincerely,
Henry Samson
Albert de Liagre

Henry Samson will sign Herrmann Samson / Albert de Liagre will sign Herrmann Samson[393]

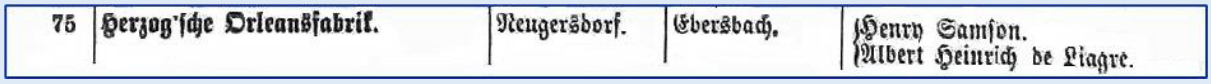
1866

86	Samson, Hermann.	Leipzig.	Leipzig.	Henry Samson. Albert Heinrich de Liagre.	Hermann Samson.	6

This entry records the name of the company, location, where registered, new owners and former owner.[394]

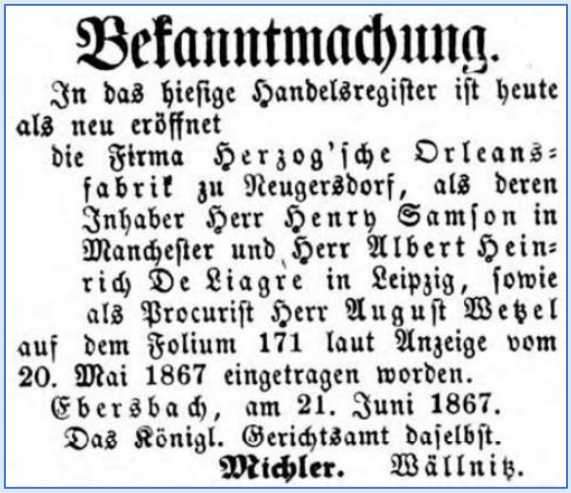
1867

Hermann Samson, now run by Henry and Albert, proceeded to purchase a factory in the town of Ebersbach-Neugersdorf in Saxony, which specialized in the production of half-wool weaving, dyeing and finishing. The enterprise was established in 1844 by Friedrich Hermann Herzog (1823-1866), and is referred to as 'Herzog'sche Orleansfabrik'. Samson and de Liagre bought the plant in 1867, as Herzog's estate was dispersed.



75	Herzog'sche Orleansfabrik.	Neugersdorf.	Ebersbach.	Henry Samson. Albert Heinrich de Liagre.

This entry shows the name of the company, the location, where registered, and the new owners.[395]



Bekanntmachung.

In das hiesige Handelsregister ist heute als neu eröffnet
die Firma Herzog'sche Orleans-fabrik zu Neugersdorf, als deren Inhaber Herr Henry Samson in Manchester und Herr Albert Hein-rich De Liagre in Leipzig, sowie als Procurist Herr August Wetzel auf dem Folium 171 laut Anzeige vom 20. Mai 1867 eingetragen worden.
Ebersbach, am 21. Juni 1867.
Das Königl. Gerichtsamt daselbst.
Michler. Wällnitz.

Translation: *Notice. The company Herzog'sche Orleansfabrik in Neugersdorf has been entered in the local commercial register today as newly opened, with Mr. Henry Samson in Manchester and Mr. Albert Heinrich de Liagre in Leipzig as its owner, and Mr. August Wetzel as its authorized representative on folio 171 according to the notice dated May 20, 1867. Ebersbach, on June 21, 1867.*[396]

Also in 1867, Albert's younger brother, Charles Gustav (1842-1904), joined the firm in Leipzig as its representative.[397] In the following year, he became a full partner.[398]

Bekanntmachung.

Herr Gustav Charles Oscar De Liagre ist heute vermöge Anzeige vom 31. Mai / 5. Juni a. c. auf dem die Firma Hermann Samson in Leipzig betreffenden Fol. 1356 des Handelsregisters als Procurist eingetragen worden.

Leipzig, am 7. Juni 1867.

Königliches Handelsgericht im Bezirksgericht.

Translation: *Announcement. Mr. Gustav Charles Oscar de Liagre has been registered today as authorized representative on folio 1356 of the commercial register relating to the Hermann Samson company in Leipzig, by notice dated May 31st / June 5th, of this year. Leipzig, June 7th, 1867.*[399]

Albert Heinrich de Liagre has been described as a distinguished industrialist and skilful financier, who was at the head of a powerful trading house with interests in several factories and various banks. He was president and member of the board of directors of two banks, three coal companies, three insurance companies, an ironworks company and a railway line.[400] Among his many decorations and war medals, he was awarded the Knights Cross of the Order of Franz Joseph in recognition of his services as Consul of His Majesty the King of the Netherlands in Leipzig.[401] Upon his death, his son, Charles (1862-1923) assumed responsibility for the family's business interests.

Photo credit: Stadtgeschichtliches Museum Leipzig[402]

Translation: *Charles de Liagre, born 12 May 1862, Royal Dutch Consul. Owner of the firm, Hermann Samson, Leipzig. Knight of the Order of Oranien-Nassau* [a Dutch order of merit bestowed by the monarch on individuals deemed to have made outstanding contributions to society]. *Married on 22 October 1894 to Anna Auguste Frida [née] Schwabe, born 7 March 1876. Children: Albert Bernhard de Liagre, born 20 October 1897; Annemarie de Liagre, born 11 September 1899.*

Henry Samson was working concurrently for Samson & Leppoc and Samson & Liagre out of the same offices at 4 and 6 St. Peter's Square in Manchester.[403] The commercial interests of Samson and de Liagre stretched as far as Angola, and involved non-textile raw materials.[404]

Appendix 6

The Jewish Community in Leipzig

The Jews living in Leipzig were a close-knit community.

The parents of Henry Julius Leppoc were Coppel Jonas Leppoc (1767–1815), a local jeweller, and his wife, Johanna Helene Hendel-Cramer.[405] With their death, Henry Julius Leppoc and his siblings were placed under the guardianship of Meyer Herz Samson (1782-1862).[406] He was the uncle of Hermann Samson. Therefore, when Henry Leppoc was sent to England as Hermann Samson's agent, he was a known quantity.

In January 1849, the brother of Henry Julius Leppoc, Albert (1806-1875), formed a business with Siegmund Drucker, who had previously been an associate of Hermann Samson.[407]

Seit dem 1. Januar d. J. ist Herr **Siegmund Drucker**, bisher im Geschäfte des Herrn **Hermann Samson** betheiligt, als **Associé** in mein auf hiesigem Platze unter meinem alleinigen Namen bestandenes Geschäft eingetreten, und werde ich in Gemeinschaft mit demselben solches unter der Firma:

Albert Leppoc & Drucker

fortführen. Leipzig, den 1. Februar 1849.

Albert Leppoc.

Mit Bezug auf vorstehende Anzeige beehren wir uns, unser Lager

Englischer Tülls, Spitzen und Manufactur-Waaren en gros

bestens zu empfehlen und wird es unser Bestreben sein, allen Anfoderungen auf reelle Waaren, sorgfältige Bedienung und billige Preise zu entsprechen.

Albert Leppoc & Drucker.

Partial translation: *Since January 1st of this year, Mr. Siegmund Drucker, who has previously been involved in Mr. Hermann Samson's business, has joined my business, which exists in this locality under my own name, as an associate, and I will continue to do so in partnership with him under the name, Albert Leppoc & Drucker*.[408]

We see that at this date the Leppoc family was involved in the importation of English wares for the Leipzig market: "*Englische Tülls, Spitzen und Manufactur-Waaren en gros*" = English fabric, lace and manufactured goods in bulk. The offices of Leppoc and Drucker were situated on the most prestigious, Baroque, street in Leipzig at 14 Katharinenstraße.[409] Hermann Samson was at number 19.[410] The two companies are seen cooperating in the formation of an "Association of Solidarity against Bankruptcies".[411]

Verein
zur Solidarität
gegen
Falliten.

Eine aus hiesigen und auswärtigen Firmen sich bildende Vereinigung, welche das gemeinsame Vergehen gegen Insolvenzsachen zur Aufgabe nimmt, dürfte von der betheiligten Geschäftswelt als nützlich begrüßt werden.

Wir haben in dessen Erwägung die Gründung eines Vereines für den gedachten Zweck unternommen und laden hiermit zum Beitritt ein.

Exemplare des Statutes, welches die näheren Bestimmungen und die Aufnahmemodalität ergiebt, können bei dem Vereinsanwalt, Herrn **Dr. Hermann Mayer** hierselbst, abgefordert werden.

Leipzig, 20. Juli 1859.

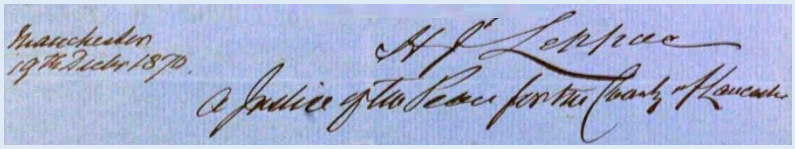
Gebrüder Felix. **Albert Leppoc & Drucker.**
Carl Gruner. **Hermann Samson.**
Heymann, Welter & Co. **Ph. Schunck & Co.**

One indicator of class cohesiveness and social respectability is the membership list of the Association of Friends of Geography, founded in Leipzig in 1861.[412] Among the names are [Mr. & Mrs.] Ottilie and Charles de Liagre, and Emma and Albert Leppoc. Albert Leppoc being the brother of Henry Julius Leppoc, and Charles de Liagre the father of Albert Heinrich de Liagre (Appendix 5), the husband of Hermann Samson's daughter, Anna Maria. The name of Hermann Samson's widow, Sally (Selly) also appears.

Obituary of Henry Julius Leppoc

'WE regret to announce the death of Mr. H. J. Leppoc, which took place early on Tuesday at his residence, Kersal Crag, Higher Broughton, Manchester. In a lengthened sketch of the career of the deceased, the Manchester Guardian says: – Mr. Leppoc was a native of Brunswick, and was born on the 9th of September 1807. He was educated at a school in Wolfenbüttel, many of the pupils of which achieved distinction in commerce and art. He found his introduction to business in the house of Messrs. Michaelis and Samson in Leipsic. The style of the firm in Manchester was that by which it has been so long and well known – viz., Samson and Leppoc. He came to manage the local establishment in the month of June, 1834, and actively directed its affairs till his retirement at the end of 1870. Ability, industry, and energy having secured him a handsome competency, he was enabled to devote entirely to public duties the remainder of his life. But it is probable that throughout the most closely occupied period of his business career he gave at least one third of his time and care to other interests than his own. From the date of his settlement here till now he had been active in every good work. For some years he was a director of the Chamber of Commerce. Hardly a single charitable institution exists which has not enjoyed the advantage of his counsel and engaged his solicitude. The Eye Hospital, the Barnes Charity, and the Deaf and Dumb Institution were often placed under weighty obligations to him. He was for a number of years a vice president of the Athenæum and of the Mechanics Institution, and one of their most constant and zealous friends. For a considerable period he paid the class fees of various youths in his employ, and offered prizes for proficiency in book-keeping and arithmetic. But of the various educational agencies which attracted his sympathies perhaps the Model Secular (now called the Free) School, secured the largest share. His attention to its affairs was unremitting. From its foundation (in which he took a prominent share), in 1854, this school has conferred on the poorest classes of the city incalculable advantages. Many thousands of boys have been prepared by it for respectable and useful lives. The idea it was projected to exemplify was the feasibility of giving, apart entirely from the "religious difficulty," sound instruction in the elements of knowledge, with a good moral train and the inculcation of those fundamental

religious principles which are held in common by all sects and Churches. No school wage or fee of any kind was taken, and the plea the managers most promptly recognised was that of extreme poverty. Of late years Mr. Leppoc had taken on himself the larger share of personal superintendence, and it is difficult to overrate the value of his services to this excellent institution, which has doubtless saved many boys from a criminal career and fitted them for useful and sometimes lucrative occupations. Equally indefatigable in the responsible sphere of magisterial duties, Mr. Leppoc took a liberal share of labour in the Court of Petty Sessions in Salford and in the City Police Court of Manchester. He was also in the commission of the peace for the county of Lancaster; and, after the decease of the late Mr Clare, he was chairman of the Visiting Committee of the Justices. But it was in his capacity of a member of the Board of Guardians that his services to the public were most conspicuous and prolonged. He was appointed in the year 1848, and his connection with the board was maintained without a break through the long period which has since elapsed. During the cotton famine of 1862-4 the duties of the guardians were exceedingly onerous. They frequently sat till ten or eleven o' clock at night, and several of the officials succumbed to the severity of their labours. On the retirement of Mr Rickards from the chairmanship of the board, Mr. Leppoc was unanimously elected (April 22nd 1869) to the office, which he held without intermission during the remainder of his active and most useful life. The necessities of the Victoria railway station requiring the site of the workhouse hospital, a new building in connection with the Crumpsall Workhouse was resolved upon, and on the 22nd of November 1876, the foundation stone was laid by Mr. Leppoc, a brass plate upon it bearing the following inscription: – "The foundation stone of this workhouse infirmary was laid on the 22nd November 1876 by Henry Julius Leppoc Esq., J.P., the Chairman of the Board of Guardians of the Poor for the township. Soon after this event his fellow guardians and a large number of unofficial friends resolved to present to him some suitable mark of their appreciation of his public labours. The tribute took the form of a portrait painted by M. Vernet Lecomte, of Paris, and the presentation was made at a meeting held at the Poor Law Offices on May 11th 1877. Mr. Charles Sever, then the senior vice chairman of the Board, presided on the occasion and in graceful terms tendered the portrait, as a recognition of Mr, Leppoc's invaluable services as a guardian, of the high personal regard in which he was held, and of his general activity as one of the most useful citizens of Manchester. In the following year the portrait was gratefully accepted by the City Council, and placed in one of the rooms of the Town Hall. In the autumn of 1877, at a meeting of the Board of Guardians, Mr. Charlswood, vice chairman, reminded his colleagues that their chairman would in a few days reach his seventieth year, and proposed a congratulatory resolution, which was passed with cordial unanimity. It may be added that Mr. Leppoc was one of the Commissioners for the Income and Property Tax. Mr. Leppoc was one of the oldest members of the congregation worshipping in Cross-street Chapel, Manchester. He was chairman of the committee appointed to commemorate, in October, 1878, the fiftieth year of the pastorate of



his friend the Rev. William Gaskell. He was also one of the vice presidents of the Unitarian Home Missionary Board, and a trustee of the Memorial Hall. An earnest supporter of the Domestic Mission he presided at a recent annual meeting of its subscribers.'[413]

Appendix 7

Joseph Broome

JOSEPH BROOME was born on May 1, 1825, at Reston Brook, near Fredsham. When sixteen years he entered the service of Messrs. Pemberton and Savage, Manchester, who were then engaged in the dyed goods trade. A little later he took a situation with Messrs. Samson and Lennox, merchants and shippers, and eventually was admitted a partner of that firm.

In 1881 Mr. Broome was asked by the Manchester Chamber of Commerce, and agreed to represent at the French Treaty Inquiry the department of dyed and printed satins, twills, cambrics, and other descriptions of linings; and, in co-operation with the late Sir Henry Mitchell, the velvet trade, cords, and silk velvets. In the same year he was appointed a magistrate for Manchester, and in 1891, after he had lived a few years at Llandudno, he was nominated High Sheriff of Carnarvonshire. He served on the Manchester Board of Overseers, was a vice-president of the Manchester Athenæum, and for ten years was the president of the Graphic Art Club. He was also for some time one of the directors of the Union Bank of Manchester. In 1885 he founded the firm of Broome, Hallwork, and Foster, which still exists as Broome and Foster.

For nearly the whole of his long life Mr. Broome was an exceptionally active business man, but he always found time enough to devote to a great deal of public work. Much of it was of a kind that is not always recognised most prominently—quiet but useful movements in various directions for the betterment of all sorts of conditions of living. He was, too, associated with several important commercial organisations at Manchester. He was a director of the Royal Exchange, and nobody took a keener interest than he in the development of the Royal Botanical Gardens at Old Trafford, especially in the days when they were estimated at their highest value for the purpose of flower culture.

Mr. Broome was a real lover of flowers, and he tended his own garden in the way that can only be done by a gardener who has what amounts to an almost instinctive knowledge of flower-life. When he lived at Didsbury, and afterwards on his settlement at Llandudno, his garden was the chief source of his pleasure.

He died on January 25, 1907.

He was elected a Fellow of this Society on December 18, 1896.

Quarterly Journal of the Royal Meteorological Society (London), vol. 34 (1908) 131.

DEATH OF MR. JOSEPH BROOME.

CITY MAGISTRATE AND MERCHANT.

Mr. Joseph Broome, who died yesterday morning at his residence, Sunny Hill, Llandudno, almost at the completion of his eighty-second year—he was born on the 1st of May, 1825—was a merchant of Manchester, and was placed on the Commission of the Peace for the City in 1881. He was a native of Preston Brook, Cheshire, and came to Manchester with his parents as a boy. He gave up elementary teaching for the Manchester trade, and in 1868 was a partner in the shipping firm of Messrs. Hermann Samson and Leppoc. Afterwards he was head of the firm of Messrs. Broome, Hallworth, and Foster, and later of that of Messrs. Broome and Foster. Mr. Broome was at one time chairman of the Board of Overseers of Manchester. He also filled the offices of a vice-president at the Athenæum, treasurer of the old Manchester Free School 'n Gaythorn, chairman of the British Schools at Fallowfield, and treasurer and president of the Executive Committee of the Warehousemen and Clerks' Orphan Schools. He materially assisted in the establishment of the last-named institution in 1854, and during more than half a century maintained the liveliest interest in it. Recently he informed a friend that he was the last survivor of the original committee of the schools. As chairman and treasurer of the Manchester Royal Botanical and Horticultural Society, he displayed a constant desire and put forth every effort to popularise the gardens at Old Trafford and to further that love of horticulture for which he was personally deservedly noted. The movement for the establishment of the Saturday half-holiday in Manchester was one that Mr. Broome took up very cordially many years ago, and something of its success was attributable to his efforts. His Welsh residence and an estate on the Little Orme gave him a qualification which led to his serving the office of High Sheriff of Carnarvonshire in 1892-3. On the 1st of May, 1905, the eightieth anniversary of Mr. Broome's birth was celebrated by the presentation to him at his Llandudno abode of an address signed by the then Lord Mayor and Deputy Mayor of Manchester, Sir Thomas Shann and Mr. John Royle, and about one hundred and forty other friends. In it reference was made to the benefits which Mr. Broome had conferred on the city, and to his love of natural beauty. Mr. Broome was a Liberal politically, though on the Irish question he was an undoubted Unionist.

It is worthy of note that Mr. Henry Samson, who was with Mr. Broome as a partner in the firm of Messrs. Hermann Samson and Leppoc, died only at Christmas.

Manchester Courier and Lancashire General Advertiser (26 January 1907) 6

MR. JOSEPH BROOME, J.P.

By the death, on January 25, of Mr. Joseph Broome, at his house at Llandudno, Manchester has lost one of the oldest and most highly respected of her citizens. For nearly the whole of his long life Mr. Broome was an extremely hard-working business man, but he always found time to devote himself to a great deal of public work. Much of it was of a kind that is not always recognised most prominently —quiet, but useful, movements in various directions for the betterment of the conditions of life. Such was the tribute paid to this good man's memory by the *Manchester Guardian* at the beginning of its obituary notice. We are glad to be able to add some further particulars from that notice. Mr. Broome was born on May 1, 1825, at Reston Brook, near Frodsham. His family removed in 1834 to Manchester, and he, when sixteen years old, entered the service of Messrs. Pemberton & Savage, who were then engaged in the dyed goods trade. A little later he took a situation with Messrs. Samson & Leppoc, merchants and shippers, and eventually was admitted a partner of that firm. From this time onward his career illustrated the truth of the old saying that nobody will so well discharge new duties as an already busy man. He added continually engagements of a public character

to the absorbing occupations of a Manchester merchant who had business transactions with every quarter of the world. One of the earliest, as well as afterwards the most constant, of his solicitudes was for the progress and welfare of the Model Free School established by Richard Cobden and others in Jackson's-row. He was the treasurer of this up to the time of its closing in 1887. Practical work in education, indeed, always delighted him. He joined energetically in the establishment of the Manchester Warehousemen and Clerks' Provident Association in 1854, and he spared neither time nor means in helping the Orphan Schools at Cheadle Hulme. In 1862 he joined the Committee, was elected its chairman in 1864, and held that office for nearly forty years. In the organisation of this fine institution his business aptitude helped him greatly, but it must also be said that his heart was in the work. He regarded the great family at Cheadle Hulme with a quite paternal care. His services were recognised publicly at the annual prize distribution of the schools held in September, 1883, when an address was presented to him, and his portrait, and it was determined to raise a fund of £3,000, to provide scholarships, to be called by his name, to be held at the Victoria University by pupils of the Warehousemen and Clerks' Schools. Another fund, called "The Broome Fund," was raised, and invested in trustees. Its income is applied to aid poor and deserving children who, when they leave, have been not less than three years at the schools, and for whom help may be useful in assisting them in their future career.

For many years Mr. Broome was closely associated with the Manchester Botanical and Horticultural Society. He had a great love of flowers, and both when he lived at Didsbury and afterwards at Llandudno his garden was the chief of his pleasures, which he delighted to share with others.

In 1881 Mr. Broome was one of the representatives of the Manchester Chamber of Commerce at the French Treaty Inquiry, and in the same year was made a magistrate. In 1891, when he had lived for a few years at Llandudno, he was nominated High Sheriff of Carnarvonshire. He held other public offices, and the high esteem in which he was held was marked on his eightieth birthday, when a deputation from Manchester waited upon him at Llandudno to present an address of congratulation and grateful recognition, signed by the Lord Mayor and a large number of other friends.

Mr. Broome went to live at Llandudno about seventeen years ago, for reasons of health, and did not take any part in the public life of the town. He was, however, widely known for his generous beneficence, and the funeral on Tuesday, January 29, took place amid signs of general mourning. The service was held in St. George's Church, and the interment was in the St. Tudno Churchyard, on the Great Orme's Head. At the same time a memorial service was held in Cross-street Chapel, Manchester, conducted by the Rev. J. C. Street, of Shrewsbury. There was a large and representative gathering of friends.

Mr. Street spoke of Mr. Broome as a very old friend. He did not wonder, he said, that so many people should have gathered together to express their appreciation of their fellow-citizen. The story of Joseph Broome was very simple, but, he thought, very wonderful. He entered the commercial life of the city as a servant, and he won his way step by step to a position in the partnership of the firm in whose service he was. He afterwards founded the great firm whose head he was at the time of his death. During his long career he went in and about the city, going on the Exchange and mingling with his fellow-merchants, and he won the distinction of being called "Honest Joseph Broome." On the Exchange his word was his bond. In all the transactions with which he was connected his spoken "yes" or "no" was quite sufficient security. All through his career honesty was stamped upon him. It was no wonder that the merchants and manufacturers appreciated him as they did. He had been one of those merchants who gave tone and constancy to the life of the city and held it up for great reputation among the cities of the world. He illustrated the well-known fact that it was the busy man who would undertake extra work for the well-being of the community. To him God was a present reality, religion a real thing. In the Free Churches Joseph Broome showed his appreciation of what was highest and best, and he gave not only of his substance, but of his services to make the Church purer and stronger.

The Inquirer: a Journal of Liberal Thought and Life (London) new series, no. 476, issue 3372 (9 February 1907) 85-86.

Appendix 8

Richard James, John Amos and Augustus Kelham

DEATH OF A WREXHAMITE. — The *Manchester Guardian* contains the following paragraph, which will be, no doubt, of interest to many readers :— "We regret to announce the somewhat unexpected death, in his sixty-sixth year, of Mr Richard James, J.P., senior partner in the firm of Messrs James, Lewis, and Co., home-trade merchants and manufacturers, of Fountain-street, in this city, and of London and Glasgow. Mr James was born in the neighbourhood of Wrexham in 1827, but when a mere youth he found his way to Manchester, and was early in life in the employ of Mr John Amos, and of his succsssor, Mr Augustus Kelham. About thirty-three years ago, however, he became partner with the late Mr Michaelis, and contributed in no small degree to the development of the firm of Messrs Michaelis and James, now Messrs James, Lewis, and Co. He was an excellent man of business, and his pleasant, cheery face and presence made him one of the most popular home-trade merchants in Manchester. He was an ardent Gladstonian Liberal, and was chairman of the Urmston Liberal Club. Nevertheless he was very popular with the Conservative side, and it may be remarked that among the last batch of county magistrates nominated during Lord Salisbury's Government Mr James's name was included. In its early stages Mr James was deeply interested in the Manchester Ship Canal. He was, apart from his business, particularly attached to rural life, and very fond of rural sports."

Wrexham & Denbighshire Advertiser and Cheshire, Shropshire & North Wales Register (19 November 1892) 5.

John Amos

The birth of John Amos (1803 – 1849) is not recorded, and his birth year is known from a death notice.[414] He was probably from Liverpool, but lived in Lower Broughton, a suburb of Salford. He married Catharine Cotter, the daughter of William Cotter, one of a family of Liverpudlian shipwrights. Amos clearly had business concerns in the City of Liverpool, as the following notice testifies.

> NOTICE is hereby given, that the Partnership heretofore carried on between us the undersigned, Alexander Geddes and John Amos, as Linen and Woollen-Drapers, at Liverpool, in the County of Lancaster', was this day dissolved by mutual consent: As witness our hands this 8th day of December 1832. Alexander Geddes. John Amos.[415]

The enterprise appears to have short-lived, since there is no evidence of its existence before 1829.

> 'Geddes and Amos, linen and woollen drapers, 6, Pool Iane'[416]

Alexander Geddes subsequently joined the family business, trading in tea and coffee.[417] At some point after the dissolution of partnership, Amos moved to Manchester to establish a textile manufacturing business. As early as 1840, he is described as a 'manufacturer'.[418] An 1841 directory suggests he was specializing in muslins.[419] However, the following entry, for the same year, shows a fuller range of products.

> "Amos John, sarsenet, plain and embossed dyed cambric, silesia, and coloured and white rolled jaconnet manufacturer, 7 Rook st. h[ouse] Bankfield, Lwr. Broughton."[420]

At this stage, there is no mention of Augustus Kelham, and their partnership appears to have been established in 1843. The National Archives at Kew holds over forty Amos and Kelham registered designs for printed fabrics dated from 1843-1847. Moreover, Kelham does not appear in the Manchester Burgess Rolls for 1842, but he does appear in 1843 occupying a warehouse on Rook Street.

The Amos & Kelham partnership is described as 'manufacturers of muslins' and 'fancy', and were located in Manchester at 7 Rook Street, York Street (York Street is cited as a locator: see map).[421] Another source indicates that the firm occupied both 7 and 9 Rook Street, at least for a time.[422]

< Location of Fountain Street, York Street and Rook Street, Manchester.[423]

The partnership was short-lived.

THE Partnership heretofore subsisting between us the undersigned, John Amos and Augustus Kelham, at Manchester, in the county of Lancaster, under the firm of Amos and Kelham, was dissolved on the 28th day of August last. All debts due to or owing by the late concern will be received and paid by the said Augustus Kelham. Dated this 7th day of September 1847.

John Amos.
Augustus Kelham.

London Gazette, no. 20773 (14 September 1847) 3308.[424]

Two years after the dissolution, John Amos died at the age of 46.[425]

Augustus Kelham

Augustus Kelham (1819-1897) was the son of Robert Kelham Kelham, who was born Robert Kelham Langdale (1787–1862). Robert was baptized in Holborn (London), and resided at Bleasby Hall, the family seat in Nottinghamshire. He assumed the Kelham surname to meet the terms of inheritance stipulated in his maternal uncle's will.[426] As a Langdale, Robert was related to Baron Langdale of Holme. Robert Kelham Kelham was the exemplar for Augustus' entrepreneurial pursuits in that, on 20 September 1812, he became a partner in the firm of Newton, Langdale and Simpson, joining with James Newton and his son of the same name, and William Simpson. They continued the operation of a long-established calico printing business at Merton Abbey in southwest London.[427]

> *'In the year 1724, a manufactory for printing calicoes was established upon the site of Merton Abbey, which still exists upon the same spot, being at present in the occupation of Messrs. Newton, Hodgson, and Leach, who carry on a very extensive trade, and have brought the art to a great degree of perfection.'*[428]

NOtice is hereby given, that the Partnership, lately subsisting between James Newton the Elder, James Newton the Younger, Robert Kelham Kelham, (heretofore Robert Kelham Langdale,) and William Simpson, in the trade or business of Calico-Printers, and carried on by them at Merton-Abbey, in the County of Surrey, under the names or firm of Newton, Sons, Langdale, and Simpson, was dissolved, so far as respects the said James Newton the Elder,) on the day of the date hereof.—All sums of money due to the said Copartnership are to be paid to the said James Newton the Younger, Robert Kelham Kelham, and William Simpson, by whom all demands upon the late Copartnership will be discharged: As witness their Hands this 30th day of September 1812,

Jas. Newton.
James Newton, jun.
Robert Kelham Kelham.
William Simpson.

Retirement of James Newton the Elder.[429]

NOtice is hereby given, that the Partnership lately subsisting between William Simpson, James Newton the younger, and Robert Kelham Kelham, of Merton-Abbey, in the County of Surrey, Calico-Printers, is dissolved by mutual consent from the 24th day of June now last; and that the business will in future be carried on by the said William Simpson and James Newton the younger, who are authorised to receive all outstanding debts due to the late Partnership, and by whom all debts due from the late Partnership will be paid.

Wm. Simpson.
James Newton, jun.
Robt. Km. Kelham.

Departure of Robert Kelham Kelham.[430]

After the dissolution of Amos and Kelham, Augustus continued to run the business from 7 Rook Street in Manchester. In 1850, he is described as a manufacturer of florentines and fancy drills.[431] Two years later, he is advertising the manufacture of dyed shirting and cambric.[432]

Augustus Kelham used his wealth to invest in the development of canals and railways.[433] His life can be divided into several distinct periods. He grew up at Bleasby Hall, the seat of the Kelham Family, located near Nottingham. Upon reaching adulthood, he moved to Manchester, where he appears in the 1841 census, residing on Sidney Street. Amos and Kelham is an artefact of this phase, lasting from 1843-1847. In 1850, Augustus married Susan Mary Aldersey (1826-1889) of Aldersey Hall, Cheshire. She was the daughter of Samuel Aldersey (1776-1855), High Sheriff of Cheshire. After the wedding, they took up residence in Oaks Villa, a mansion, supported by a staff of five, located in Fallowfield, a then fashionable suburb of Manchester.[434] It is clear from the Burgess Rolls for Manchester that Augustus maintained a presence at 7 Rook Street until 1855. This seems to have been a transitional year, undoubtedly precipitated by the death of his father-in-law, which caused Augustus and his family to move to Aldersey Hall in the Parish of Coddington. By 1859, he had relocated to Tushingham Hall, near Whitchurch, some 12 km from Aldersey. There he remained until 1868, when his mother-in-law, Sarah Baylis Aldersey (1799-1868) died. He then retired to Cardington, on the outskirts of Bedford, and lived there until his wife died. His final years were spent at 3 Eversley Park, Liverpool Road, Chester.[435] During his sojourn in Bedfordshire, Augustus cultivated an interest in photography, well before George Eastman made the 'snapshot' available to the general public. Examples of his work grace the collections of several museums, a testimony to skill.[436]

GLOSSARY

Terms found in the text

*** indicates that the word appears as an entry in the glossary with further information.**

The reader is asked to make allowances when dealing with the definition of fabrics. It is sometimes difficult to be precise when the terminology and choice of composite fibres change with time and place.

BATISTE is a semi-sheer, plain-weave (see CALICO) fabric that manufacturers use to make lightweight garments, bridal dresses, lingerie, chemisettes and even artificial flowers. It initially referred to the finest grade of linen, whose loom-state was a light fawn colour (écru), which was then bleached or dyed. Today, linen has been supplanted by cotton. Other descriptors, such as cotton batiste, *batiste de soie*, *toile de baptiste*, and cambric, are virtually synonymous. It is sometimes confused with lawn[437], which refers to a fine linen cloth with a starched finish. Batiste made from wool was called tamise or chiffon batiste.[438]

The etymon of Cambric is the toponym, Cambrai, situated in Hauts-de-France, and formerly called Cambray. In 16th century English, the cloth was called camerick, after Kameryk or Kamerijk, the Flemish name for Cambrai. Batiste (derived from *baptiste*) is the French word for cambric. Cambric, in the strict English sense, is made from hard-twisted yarn, and it is finished by calendering* to produce a dense and glossy cloth.

Batiste featured prominently in the Edwardian craze for 'white lingerie dresses'. The woman to the left is wearing an example.[439] These were made of cotton, and easily washable, and some came as a two-piece with separate bodice and skirt.

- 'White batiste is a dainty fabric and suggests fascinating toilettes when associated with the embroidered batiste or white all-over lace. These dresses are made unlined and are intended to be worn over colored silk foundations'.[440]

BEETLE: A linen beetle finish is produced by winding the cloth on iron or wooden cylindrical beams or rollers, and subjecting it to hammering. In Lancashire dialect, a beetle is a large, heavy, wooden mallet.[441] Its verb form signifies to beat, pound or hammer. Beetling 'closes' the weave to produce a smooth sheen on the finished cloth. Fabrics were subjected to beetling anywhere from a few hours (bleached linen) to two weeks (book-binding buckram).[442]

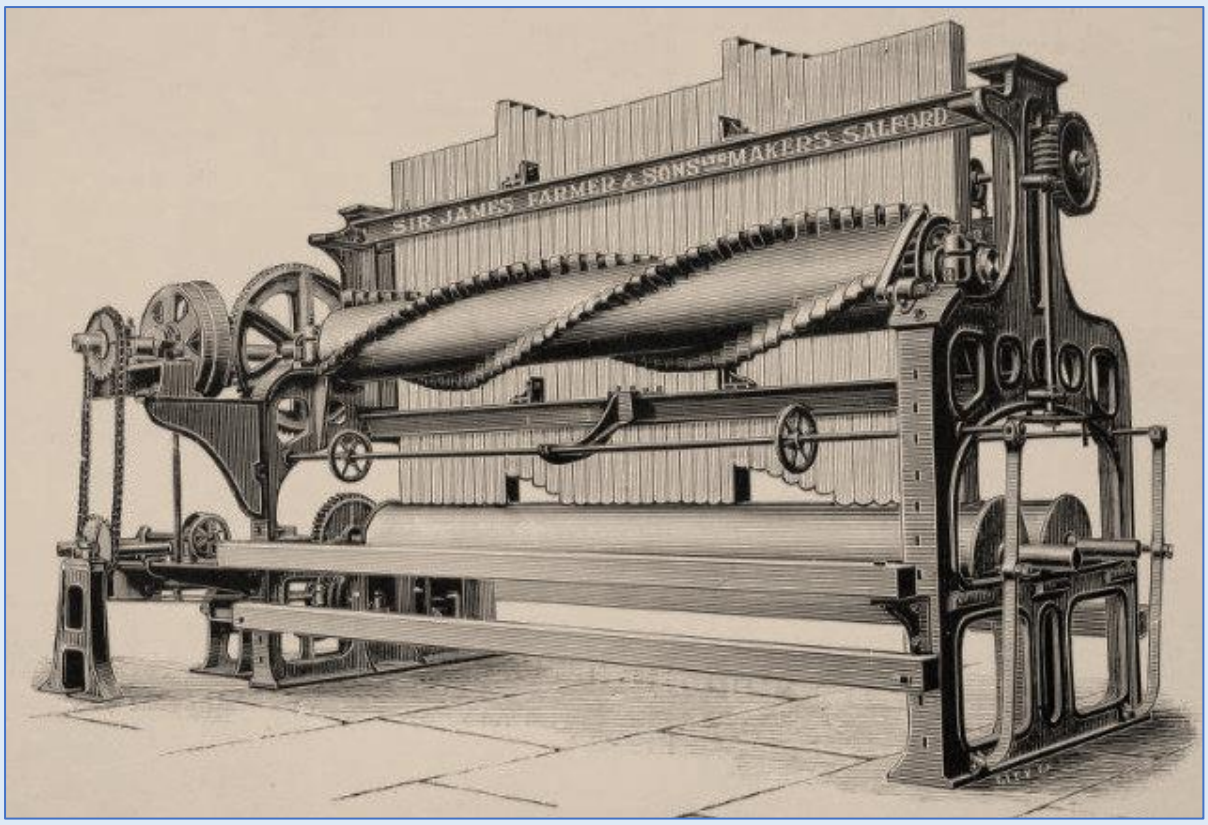
BEETLE FINISHING.

The use of the beetle finish is very much more common in England than in the United States, and almost every works can turn out a beetle-finished cloth, if desired. It is being increasingly used as a pure finish—that is, without any admixture of size—and more particularly with printed goods. It is perhaps the most expensive finish of all, but as the demand in England is largely for goods of high quality the cost of finish is less in proportion than it would be on goods of a lower quality.

The effect of the beetle is, of course, to fill up the cloth in much the same way as size fills it, only instead of accomplishing this by adding starch and china clay, it is done by flattening the fibers of the cloth to give it a full appearance and at the same time impart a high polish by the constant friction of the pounding of the beetles.

Beetle finishing is largely carried on in the north of Ireland, where labor is comparatively cheap and a good deal of water power is available. The Irish finishing works may have half a dozen small sheds for beetling placed at intervals along the course of a stream and rely entirely on the stream to give them the necessary power. It is a curious fact that turbines of American make are almost invariably used in these places for driving. Ireland is the home of the beetle finish, because it is the standard finish for linen, and the manufacture of linen is almost entirely confined to the north of Ireland.

Source[443]



Lancashire Beetle

- ‘No machine has yet been devised which will give the finish produced by the Lancashire type of Beetle. The machine consists of heavy frames supporting, usually, 41 hard beech-wood faller stamps, which are actuated by cams fastened to a horizontal shaft called the "wiper beam.'' The cams lift the fallers and allow them to fall on to the roll of cloth on the strong iron beam underneath. There are two cloth beams, each about 14-ft. long, which receive two, three or four pieces of cloth, according to the width of the material. One beam, on which is the roll of cloth, is subjected to the hammering action of the fallers in the centre of the machine, and the beam is slowly revolved and at the same time moved to and fro in a longitudinal direction so as to distribute the hammering evenly over the whole surface of the material.’[444]

BROCADES are made by using monochrome, polychrome, silver and gold

supplementary wefts (see WARP AND WEFT), which are interlaced into the foundation weave to produce a raised design. The design may appear to be embroidered, but it is not, and sometimes it is mistaken for tapestry. Traditionally, the foundation was made of silk, creating a lustrous, richly decorated fabric. Brocades were considered high-status luxury objects. The method originated in China around the second century AD.[445] Etymologically, it is related to *brocado* (Spanish and Portuguese) and *broccato* (Italian) meaning embossed stuff*.[446]

CALENDERING of textiles is a finishing* process used to smooth, coat, emboss, or thin a material, using hard pressure or heated rollers. In the trade, these rollers were referred to as a bowls. Machinery with as many as ten bowls were made.

The image below shows a beetle* finishing calender made by Sir James Farmer & Sons, Adelphi Iron Works of Salford. It is driven by a powerful double cylinder diagonal engine which allows it to be run at various speeds.[447]

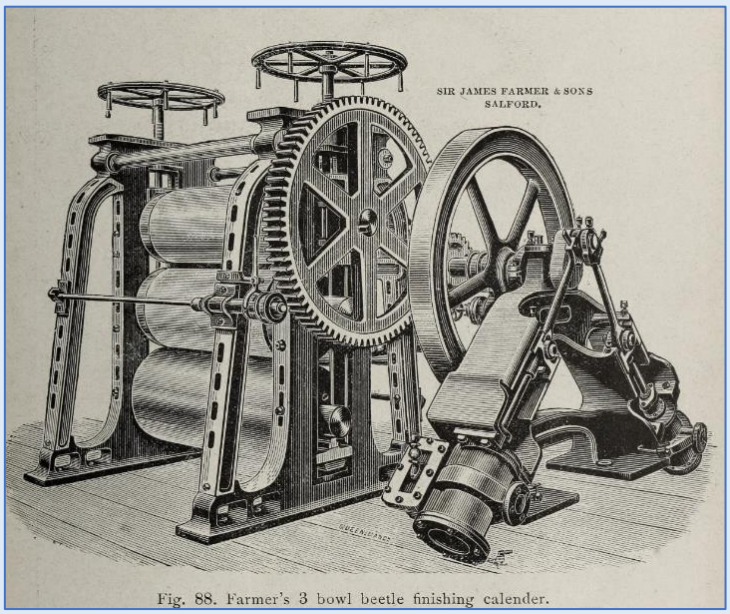
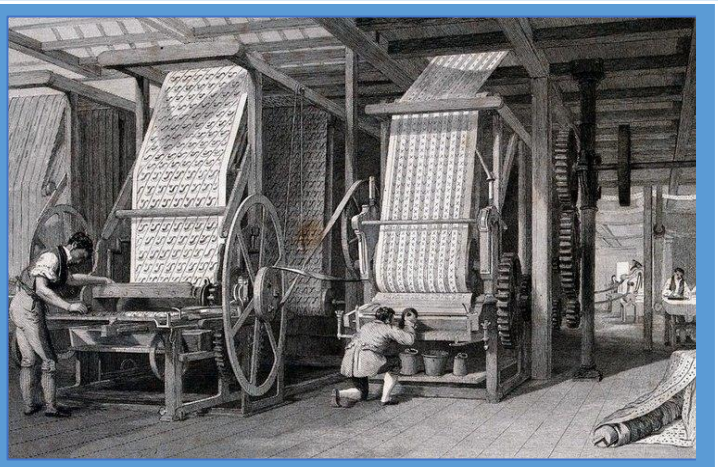


Fig. 88. Farmer's 3 bowl beetle finishing calender.

CALICO was one of the principal cloths within the portfolio of textiles. It is an all-cotton plain-weave fabric.

(left) loom-state calico; (centre) calico prints; (right) plain weave: one over, one under, making it strong, durable and reversible.[448]

In its loom-state, unbleached and otherwise unfinished, it is called grey calico (as such, it is included within the genres grey goods or grey cloth), though it is also found in beige or cream.

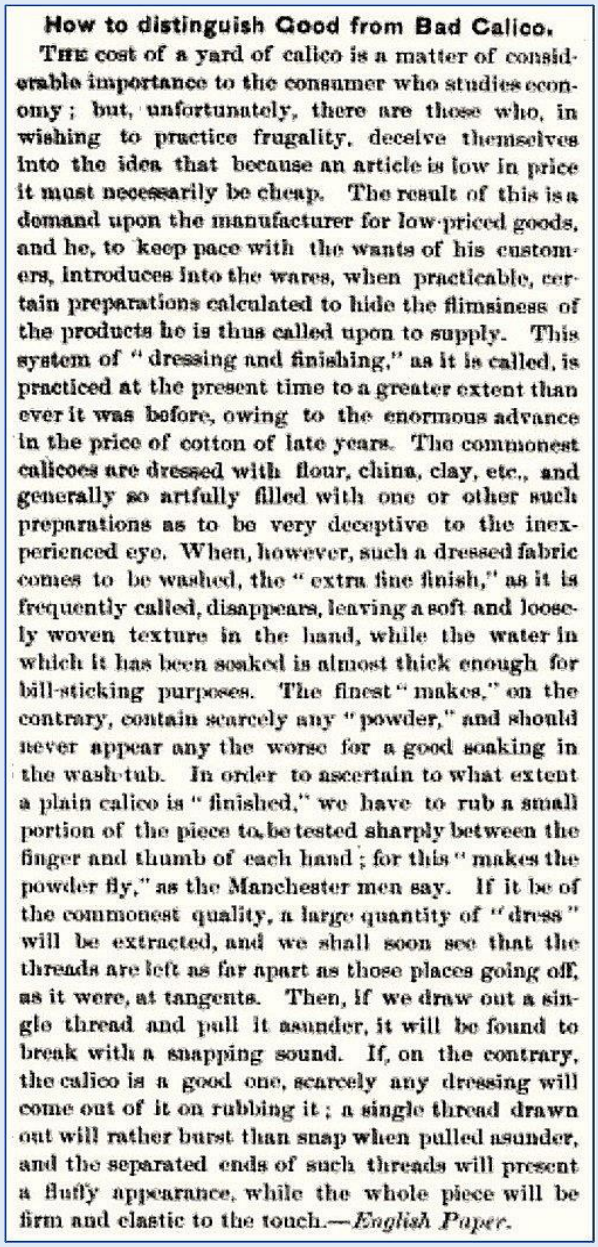


'Calico Printing', in Edward Baines, *History of the Cotton Manufacture* (London: Fisher, Fisher & Jackson, 1835) facing 267. [Steel] engraving by James Carter (1798-1855), drawn by Thomas Allom (1804-1872).

Courtesy of the Wellcome Collection.

In this condition, it was relatively inexpensive. In the Manchester area, the term calico was used only to designate the loom-state cloth free from any ornamentation.[449] By contrast, in America, it referred to the printed cloth. The dyeing, finishing* and the printing of calico became a specialized industry with its own equipment, techniques and scientific underpinnings. It is a subject with a considerable bibliography. We are told that there were two classes of calico printers: 'those who make the cloth, print it, and sell direct to jobbers, and those who merely print the cloth for jobbers or commission merchants at piece-price'.[450]

Early Portuguese explorers transcribed the local Malayalam toponym, Kōḷikōḍu, as Calicut(e) or Calecut(e), which today is Kohzikode, a large city on the Malabar coast of Kerala, located in south-western India. Calicut is considered to be the etymon of calico. According to the Oxford English Dictionary, in 16th and 17th century English lexis, calico fabric was spelt Callicut or Calicut, though it also appears as kalyko. In the 1890's, it was widely reported in the press that the etymon of calico was 'calicoda', meaning 'the cock crowing'. This is considered 'folk etymology' and incorrect.



How to distinguish Good from Bad Calico.

THE cost of a yard of calico is a matter of considerable importance to the consumer who studies economy; but, unfortunately, there are those who, in wishing to practice frugality, deceive themselves into the idea that because an article is low in price it must necessarily be cheap. The result of this is a demand upon the manufacturer for low-priced goods, and he, to keep pace with the wants of his customers, introduces into the wares, when practicable, certain preparations calculated to hide the flimsiness of the products he is thus called upon to supply. This system of "dressing and finishing," as it is called, is practiced at the present time to a greater extent than ever it was before, owing to the enormous advance in the price of cotton of late years. The commonest calicoes are dressed with flour, china, clay, etc., and generally so artfully filled with one or other such preparations as to be very deceptive to the inexperienced eye. When, however, such a dressed fabric comes to be washed, the "extra fine finish," as it is frequently called, disappears, leaving a soft and loosely woven texture in the hand, while the water in which it has been soaked is almost thick enough for bill-sticking purposes. The finest "makes," on the contrary, contain scarcely any "powder," and should never appear any the worse for a good soaking in the wash-tub. In order to ascertain to what extent a plain calico is "finished," we have to rub a small portion of the piece to be tested sharply between the finger and thumb of each hand; for this "makes the powder fly," as the Manchester men say. If it be of the commonest quality, a large quantity of "dress" will be extracted, and we shall soon see that the threads are left as far apart as those places going off, as it were, at tangents. Then, if we draw out a single thread and pull it asunder, it will be found to break with a snapping sound. If, on the contrary, the calico is a good one, scarcely any dressing will come out of it on rubbing it; a single thread drawn out will rather burst than snap when pulled asunder, and the separated ends of such threads will present a fluffy appearance, while the whole piece will be firm and elastic to the touch.—*English Paper.*

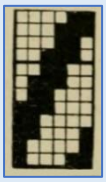
source[451]

After the 1660s, the importation of calico by the East India Company was heartily embraced by fashion conscious British women, which generated a surge in demand. Domestic wool and silk weavers, however, were not pleased with the competition presented by the cotton products, and they responded with protests and riots. Parliament reacted by instituting the Calico Acts (1701, 1721), banning the sale of both Indian and English printed calicoes.[452] These were repealed in 1774, triggering investment and the development of the country's cotton industry.

CAMBRIC (see BATISTE.)

- 'Cambric is a cheap, thin, cotton material, both dull and glaze finished. The latter, called paper cambric, is often sold from rolls. Cambric is dyed in plain colors. It was formerly used for lining skirts. It may be used as a lining for any heavier material where the lining does not show.'[453]

CANTOON is regarded as a variety of fustian*, and is sometimes referred to as 'diagonal fabric'.[454] This all-cotton textile has a distinct cord* effect on its face and a lightly napped satin* effect on the back. It was popular among the hunting set, and employed in the manufacture of men's riding and polo breeches, and sporting jackets. Cantoon was also used to make bolsters, quilts, pillows and curtains.[455] The fabric is also reported to have been used to make ship's sails.[456]



Cantoon was a very strong and compact fabric. A quality sample contained 54 warp* ends* of 2/20's[457], and 400 picks* of 20's weft (see WARP AND WEFT), per inch.[458] The cords* or wales (see CORD) run obliquely at an angle of 18°, and are repeated on six ends and twelve picks, and woven to produce a diagonal twill* (see pattern on the left).[459]

- 'The cotton goods called cantoon is a fustian with a fine cord visible upon the one side, and a satiny surface of yarns, running at right angles to the cords, upon the other side.'[460]

- 'If one does not possess a good valet or a man who thoroughly understands the art of cleaning hunting breeches, then white moleskin or cantoon is next best.'[461]

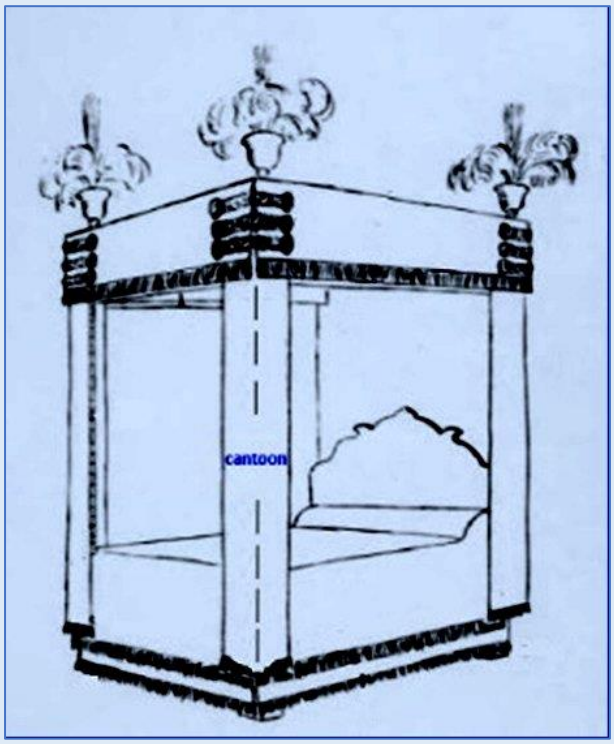
- 'Corduroy is not so popular as it used to be, but cantoon has, to a considerable extent, taken its place, and a most useful substance it is, for it has all the advantages of corduroy as regards softness of texture and extreme whiteness, while it does not soak up so much water on a rainy day.'[462]

- 'The trowsers of the finest cantoon, are made very full all the way down the legs, and covering nearly the whole of the boot with straps of the same; they have two raised seams up the sides, which appear to advantage when a gentleman is on horseback.'[463] [464]

- '… [in] the 1880s in a remote dale near Wastwater the dressmaker specialised in making corsets. She would walk to the isolated farms and cottages to measure and fit her customers, and thought nothing of a ten-mile journey over the fell tops from one dale to the next. The corsets, at that time known as stays, were made of a drab-coloured material called cantoon…'[465]

- '4th April 1842. CHARLES HAMILTON LEE was indicted for stealing, on the 22nd of March, at St. Botolph Without, Aldgate, 239 yards of cantoon, value £11 ...'[466]

The etymology of cantoon is uncertain[467], but it is one of seventeen words ending in -oon that belong to a defined semantic field within the English language, which relates to cloth or garments.[468] 70.5% of these words are derived from Romance languages, 23.5% are of uncertain etymology and only 6% are non-Romance. On balance, it is likely that cantoon is derived from a Romance cognate and perhaps ultimately from a Greek etymon.[469] According to the *Oxford English Dictionary* (*OED*), cantoon has two separate entries. The first is a noun meaning 'a strong kind of fustian, showing a fine cording on one side and a smooth bright surface on the other'. The second is a verb, and is a variant of canton denoting 'to divide (land) into portions', to subdivide, cut out, separate, secede, withdraw; to quarter soldiers (which can be spelt and pronounced as *cantoon /kænˈtuːn/*); and also relates to a heraldic device.

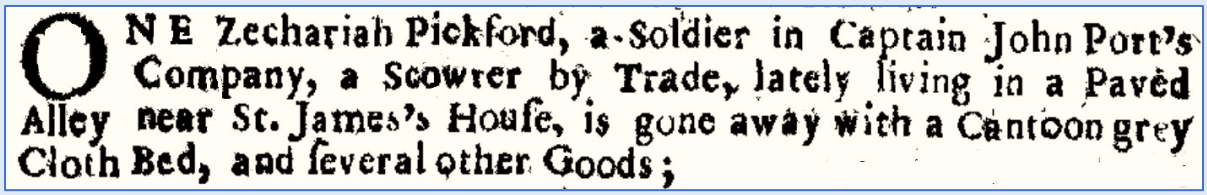


However, the *OED* does not mention cantoon as a signifier of a narrow hanging curtain that is a feature of luxury canopy beds (as shown in the illustration).[470] These are hung at the corners of the foot of the bed. Their purpose is to close the gap between the main curtains situated at the sides and the foot of the bed.[471] These 'corner' curtains are found in French court beds of the early 17th century, and are called *cantonnière*.[472] The root of this word is *canton*, signifying corner or angle.[473] Canton shares the same potential cognates as English cant, which also carries the same general meaning 'edge, corner, angle'.[474] The oldest reference to cantoon as a corner curtain is contained in the *Calendar of Treasury Books*. It states: 'Same to the Customs Commissioners to have brought up to London the cantoon of an embroidered bed seized at Dover'. The entry is dated 5 May 1685.[475]

Fustian* was popularly used as a ground fabric for crewel embroidery in the making of bed hangings during the second half of the seventeenth century and the first half of the eighteenth century.[476] It was also used to add body to the drapery and to insulate the sleeper from the ambient cold. In the literature, it is not always possible to identify a specific fabric within the fustian family of textiles, because 'fustian' tends to be used in a generic sense. Fortunately, there is an explicit early reference to cantoon cloth being used to manufacture bed curtains as shown below.[477] It shows that cantoon is used an attributive adjective of both

For ye Cantoon-Bedd	02–08–01
11 yds ¾ of ye Best Broad Printed Stuff at 23d	01–02–06
14 yds ¼ of worsted Fring, 5d	00–06–00
Girth-webb, thread, & Making ye Cantoon Courtaines	00–03–00

bed and curtains, and one might speculate that, through semantic extension, the original sense of cantoon as a type of fabric was extended to designate a corner-curtain.[478] The root of cantoon is 'cant', and the -oon suffix is added to a verb to form a noun.[479] As a transitive verb, 'cant' can denote: 'To bring or put (a thing) into an oblique position, so that it is no longer vertical or horizontal; to slope, slant, tilt up', and as an intransitive verb: 'To have a slanting position, lie aslant, slope'.[480] As a noun, 'cant' can mean: 'A slope, a slanting or tilted position; a deflection from the perpendicular or horizontal line'.[481] This is significant considering that one of the hallmarks of cantoon fabric are its cords* or wales, which run obliquely at an angle of 18° as mentioned above.


ONE Zechariah Pickford, a Soldier in Captain John Port's Company, a Scowrer by Trade, lately living in a Pavèd Alley near St. James's Houſe, is gone away with a Cantoon grey Cloth Bed, and ſeveral other Goods;

This shows a reference to cantoon, which is also used as an adjective.[482]

cantoon used as a backing[483]

CAP LINING is a generic term used in the millinery trade. Thin unweighted silk, soft taffeta and satin, and mercerized* cotton are popular linings, and some are quilted.[484] Maline, a fine mesh, was sometimes used. There was a market in pre-made hat and cap linings that were simply sewn into the product.

< *Jaxon flat cap with silk lining.*

CASBAN is a heavy, twilled*, cotton lining fabric with a gloss finish*.

- 'CONTRACTS FOR MATERIALS FOR SEAMEN'S CLOTHING. Department of the Comptroller for Victualling, Somerset-House, October 3, 1860. The Commissioners for executing the office of Lord High Admiral of the United Kingdom of Great Britain and Ireland do hereby give notice, that on Monday the 22nd instant, at half past one o'clock, they will be ready to treat with such persons as may be willing to contract for supplying and delivering into Her Majesty's Victualling Stores at Deptford, the

undermentioned articles; viz.: … Black Casban, 13,000 yards ;' one-half to be delivered in two months, and the remainder in one month afterwards, or earlier if preferred by the party tendering.'[485]

An etymology for casban has not been previously proposed. However, it is worth noting that in 1609, a British merchant adventurer, working on behalf of the East India Company, visited Persia, modern Iran, in search of commercial opportunities. His name was Joseph Salbank (in some sources, Salbancke). His account records:

'The colours of Cloth must be Scarlets Violets in graine, fine Reds, Blacks, browne Blues, London Russets, Tawnies, Lyon colours, faire lively Greenes; all which will be vented [i.e. sold] at Hispahan, Casban, Casbin, and Tauris, and other Cities in Persia.[486]

Hispahan is identified as modern Isfahan, Casban as Kashan, Casbin as Qazvin, and Tauris as Tabriz. Kashan was declared by the World Craft Council as a 'World City of Traditional Textiles'. It has an ancient tradition of producing silk, brocades* and velvet*, and also rugs and carpets.[487] It was engaged in spinning (also with gold and silver thread), dyeing, weaving, and silk-worm rearing.

'Aftre this, we founde a well enhabited citie called Cassan, wheare for the more parte they make sylkes and fustians in so great quantitie that he who wolde bestowe x^{ml} [i.e. 10,000] ducates in a daie may finde enough of that merchaundise to bestowe it on.'[488]

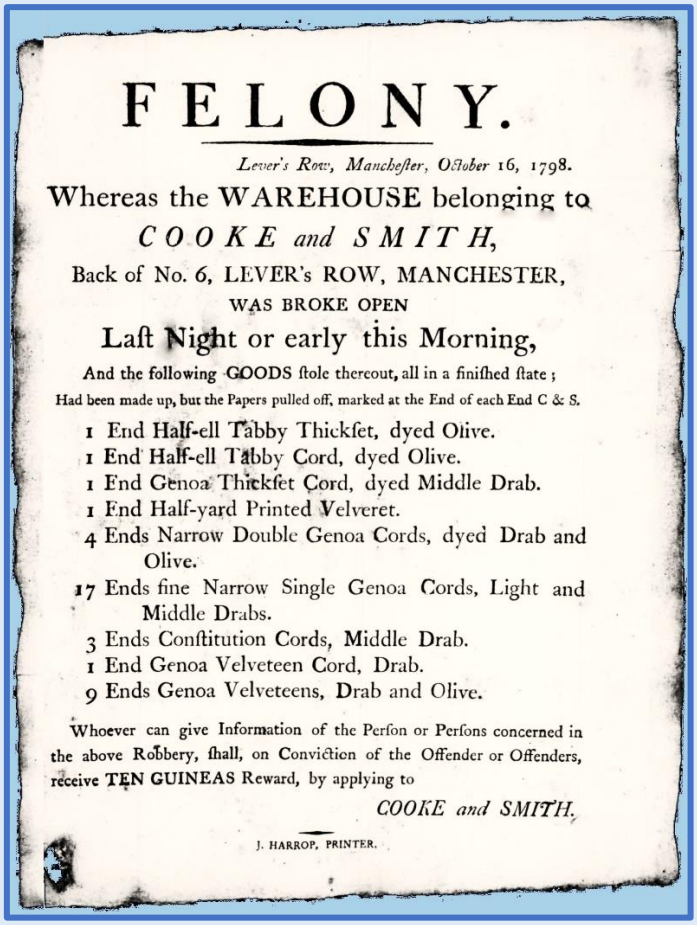
It is likely that Casban fabric is named after this city.

CORD is defined as 'a raised cord-like rib on the surface of cloth; a ribbed fabric.'[489] Each rib is called a wale (cf. TWILL). Wale is derived from the Old English word, *walu*, which means a raised welt or weal as the result of a lashing, and later signified a narrow ridge.

Cord fabrics have varying wale counts, thickness, weight and weave structure. As such the term is a portmanteau, which covers a great variety of cloths from corduroy to Bedford cord, itself having at least seventeen variations.[490] Cords are pile fabrics, and the pile is always formed by the filling* yarn. A 'V' or 'W' pile (or combination of both) can be used (see VELVET). A corduroy wale count is from 1 to 22 per square inch. The higher the count (e.g 21 wale) the more ridges there are, and they are narrower than lower numbered wales. All-cotton lower numbered wales (a.k.a. jumbo corduroy) tend to be more structured, with no stretch.

- **Thick-set**. 'Simplest and smallest design of corduroy fabric, commonly termed thickset cord repeats on 6 ends* × 9 picks* and has a foundation texture based on the 3-end twill* weave, with 2 pile picks to 1 ground pick. The floats of weft are very short being over only 3 warp threads – thereby producing a short stubby pile ...'[491]

cord (left) 7 wales per inch; (right) 16 wales per inch (Wikimedia)



FELONY.

Lever's Row, Manchester, October 16, 1798.

Whereas the WAREHOUSE belonging to

COOKE and SMITH,

Back of No. 6, LEVER's ROW, MANCHESTER,

WAS BROKE OPEN

Laſt Night or early this Morning,

And the following GOODS ſtole thereout, all in a finiſhed ſtate;

Had been made up, but the Papers pulled off, marked at the End of each End C & S.

1 End Half-ell Tabby Thickſet, dyed Olive.
1 End Half-ell Tabby Cord, dyed Olive.
1 End Genoa Thickſet Cord, dyed Middle Drab.
1 End Half-yard Printed Velveret.
4 Ends Narrow Double Genoa Cords, dyed Drab and Olive.
17 Ends fine Narrow Single Genoa Cords, Light and Middle Drabs.
3 Ends Conſtitution Cords, Middle Drab.
1 End Genoa Velveteen Cord, Drab.
9 Ends Genoa Velveteens, Drab and Olive.

Whoever can give Information of the Perſon or Perſons concerned in the above Robbery, ſhall, on Conviction of the Offender or Offenders, receive TEN GUINEAS Reward, by applying to

COOKE and SMITH.

J. HARROP, PRINTER.

One-page pamphlet[492]

COTTON MERINO is a yarn made from a blend of merino wool and cotton. The quality is dependent on the blend, ply* and type of cotton used. A superior yarn would be 50% cotton to wool ratio, or 52% merino wool to 48% Egyptian cotton.

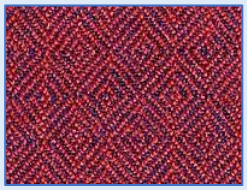
The natural fibres of cotton have different lengths, known as staple lengths [i.e. short (less than 12.7 mm); medium; long (29-33 mm); and extra-long (33+ mm)].[493] The species, *Gossypium barbadense*, produces extra-long staple fibres (ELS), and is used to make Sea Island cotton (see GLOVE). Other ELS cottons are Egyptian, Giza, Suvin and Pima. Together, they are low-yield crops, and represent less than ten percent of global output. Fibre* length is an important consideration in spinning, since shorter fibres make the task more difficult, and can be weaker and predisposed to breakage. Yarns made from short staple fibres tend to be cheaper and hairier, and, consequently prone to pilling. Fine, thin yarns, which are soft and silky, require longer fibres. Most cotton products are from *Gossypium hirsutum* (upland cotton) or one of its many cross-bred domesticated cultivars.[494] The fibre lengths of uplands vary from short to long staple.

Merino refers to a breed of sheep, which was domesticated in Medieval Spain, from which various hybrids have been spawned. Their woollen fibres are known for being the finest (thinner than a human hair) and the softest of all wool. Pure Merino sheep are not suited to the British climate, and their wool is imported.[495]

It is argued that the etymology of merino owes its origins to a Zenata Berber tribal name, *Aït Mrin*, 'the people of Mrin', a declaration of their kinship to a common ancestor, Marin ibn Wartajan az-Zanati.[496] The tribe formed a sultanate, which dominated most of the Maghreb in northern Morocco from the middle of 13th to the late 15th centuries. Their economy was one of transhumant pastoralism based on sheep and goats. It is documented that they were active in *al-Andalus* (Moslem Spain), and are credited with introducing a progenitor of merino sheep to the Iberian Peninsula.[497] An epenthetic vowel has been added to the Berber *Mrin* to produce Merin (French, *Mérinides*), and in English both <a> (Marinid) and <e> (Merinid) are used as an adjective to describe the dynasty.[498]

DELAINE (*Mousseline de Laine*, French for muslin* of wool) is a high-quality cloth made of cotton warp and a worsted* woollen weft. With an average blend of three-fifths wool and two of cotton.[499] It was used mainly to produce dresses with undyed yarn, piece dyed (the wool taking the dye better than the cotton making solid colours difficult to achieve), or printed. Sometimes, the warp was of silk, or the cloth was entirely of fine combed wool. Delaine is also used to describe a breed of merino (SEE COTTON MERINO) sheep.

DIAPER: Originally, diaper fabric was made of silk, but later linen, cotton, or a blend of both was used. The term, diaper, is used to describe either a pattern or the weave that produces



it.[500] The pattern refers to small, uniform elements repeated at short intervals in geometrical order, which generate an 'all-over pattern'. The design is usually laid out on the basis of a triangular (diamond-shaped is a subset of this) or quadrangular (also referred to as diced) net.[501] The larger diamonds are occasionally termed bird's eye or pheasant's-eye. In the context of textiles, many of these designs are reversible. Diaper patterns, in the strict sense, are not necessarily confined to fabrics.[502] Diaper is a derivative of a twill* weave using the technique of 'mirroring'.[503] The choice of a loose-twist yarn increases the fabric's absorbency, hence its association with infants.

< *spot diaper weave of unbleached linen*

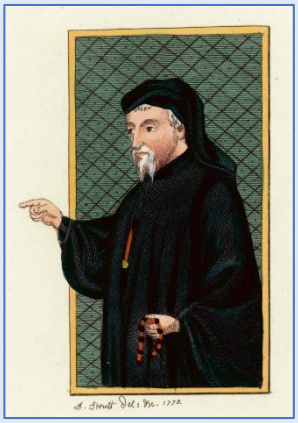
Folk-etymology once suggested that 'diaper' is a contraction of 'cloth d'Ypres', but this has been discounted in favour of *δίασπρος* (diaspros), an etymon that expresses 'whiteness'. On present evidence, the term is deemed to be Medieval, appearing in Byzantine Greek, with no definite classical cognates.[504] This eastern provenance is reinforced by a reference to *drap blanc d'Antioche diapré* 'a white diaper fabric from Antioch'.[505] During the twelfth to the fourteenth centuries diaper fabric spread to Medieval Europe, as various local languages testify.[506] However, physical evidence indicates that both the diaper pattern and fabric were being produced much earlier. This is substantiated by a cache of textiles discovered in the Hellenistic Egyptian city of Arsinoë, which was likely to have been imported from Sassanid Persia.[507] These fabrics were recovered from graves, and this funerary context recommends a lexical connection, like the link between the Armenian word, *diapatik* 'embalmer', literally

'body-wrapper', and its allusion to textiles in the form of burial shrouds.[508] Consequently, one might reflect on the possibility of cognation between diaper and a classical Greek reconstruction, *δία- σπεῖρον (diaspeiron).[509] By the fifth century, there is a recognized interplay between textile diaper design, mosaic decoration and architecture particularly in the eastern Mediterranean.[510]

Diaper pattern on fragments of Egyptian fabrics[511]

Vp on a steede bay / trapped in steel
Couered in clooth of gold / dyapred weel
Cam ridynge / lyk the god of Armes Mars.[512]

It shal be covered with velvet reede,
And clothes of fyne golde al about your hed,
With damaske, white and asure blewe,
Wel dyapred with lyllyes newe;[513]



Chaucer against a diaper-patterned backdrop[514] >

DRESSING (verb). In the literature devoted to textile manufacturing the terms dressing and finishing often appear interchangeable. However, one of the more important sources, cited below, shows dressing to be a subset of finishing:

> 'Taken as a whole, the process of dressing or finishing any goods implies effecting an improved appearance, especially in the case of fabrics, … in order to fit them for their destined purpose or for sale, by imparting certain properties which they do not possess as a rule, or not to the extent required.
>
> Hence the finishing process may be regarded as one of beautifying, completing, improving the appearance and concealing defects; and in such case its object is the removal of adherent foreign bodies, such as particles of wood and straw, etc., washing, smoothing, and glazing, whether by mechanical treatment alone, or in combination with such materials as are suitable for developing smoothness and gloss. The various operations to which the rough and unsightly fabrics coming from the loom are subjected, are : —

> **1**. Cleansing the fabrics by washing, carbonising[515]; nopping[516] and gassing[517]; **2**. Milling[518]; **3**. Raising[519]; **4**. Ratteening [520]; **5**. Shearing ; **6**. Grinding ; **7**. Brushing, and **8**. Beetling*…; **9**. Dressing (stiffening and glazing); **10**. Levelling and smoothing; **11**. Drying; **12**. Glaze calendaring*; **13**. Beaming[521]; and **14**. Folding, lapping, measuring, and rolling up.'[522]

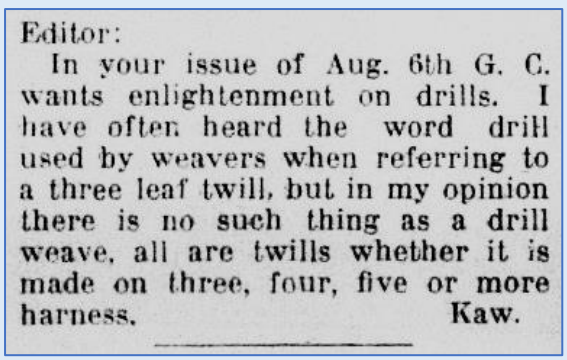
Finishing, then, relates to the many processes which the fabric is subjected after being woven. Some of these processes are deemed 'preliminary', and address corrective work like mending or burling (removing knots), followed by cleansing the cloth (e.g. scouring) and tentering (stretching), before processes are undertaken which are designed to change the appearance, feel and performance of a fabric.[523]

The main areas of dressing are stiffening and glazing, creating softness and suppleness, loading or weighting, and waterproofing. The materials employed in dressing consist of a wide-ranging spectrum of organic and inorganic substances.

DRILL is a 'name given to a 3-harness warp-face (see WARP and WEFT) twill* weave; the two up and one down twill effect.'[524] Also known as drilling (noun), 'a coarse twilled cotton or linen fabric', from the German, *drillich*, 'canvas, ticking, drill'; whose etymon is Latin *trilix* ("triple-threaded" [a reference to 3-harness].[525] This fabric is the 'khaki' used by the British Army.[526]

For a pronounced twill: 'both warp and filing are right hand twist (see PLY). The twist has a big influence on the twill*; the more twist the better the twill will stand up.'[527]

< *cotton drill army camouflage.*



Editor:

In your issue of Aug. 6th G. C. wants enlightenment on drills. I have often heard the word drill used by weavers when referring to a three leaf twill, but in my opinion there is no such thing as a drill weave, all are twills whether it is made on three, four, five or more harness. Kaw.

'Woven fabrics have four basic constructions: the plain weave (see CALICO), the drill weave, the satin* weave and the twill* weave. The plain and drill weave are the strongest constructions because they have the tightest interlacing of fibers.'[528]

< *source*[529]

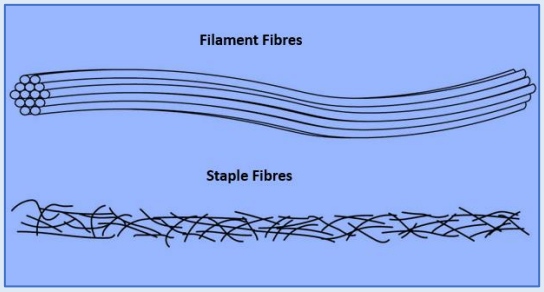
EMERY CLOTH is an abrasive medium, like sandpaper, but more durable and flexible. Emery occurs naturally, and is composed of a mixture of aluminium oxide (corundum) and oxide of iron or silicon carbide, which when pulverized is glued onto one side of a fabric base.[530] The cloth was either cotton drill*, jean (see JEANETTE) or calico*.[531] The emery particles are graded from fine to coarse. Its usage was primarily in engineering to polish and finish metals.

< *source*[532]

END: A single thread of warp in weaving is called a warp end or end (see also PICK; WARP AND WEFT).

FANCY: Fancy is used as a generic term relating to fabrics that are not mainstream, implying that they may remain popular for only a short time (i.e. fad-driven). Fancy goods**: '**A general classification for fabrics differing in pattern or construction from plain or staple materials.'[533] Such differences include ornament, design, and texture.

FIBRES Filament fibre refers to long stringy fibres mainly encountered in man-made fabrics. Staple fibres are usually organic and shorter (see COTTON MERINO).



FILL (see WARP AND WEFT)

FINISHING (see DRESSING)

FLORENTINES Textiles produced in England based on exemplars imported from Florence. We encounter cloths called 'Florences', produced in England, during the reign of Richard III, and parliamentary legislation (1483-4) aimed at protecting them from Italian competition.[534] Florentines are woven cloths, with some made of silk and others of wool.[535] They are reported to be warp-faced twills* (see WARP AND WEFT).[536] There is a mention of Florentines with a cotton warp, which were cross-dyed.[537] One suspects that the nature of the cloth changed over time

- '... with black or coloured cotton warps and wool or worsted fillings* and afterwards dyed in the piece. This process is resorted to because the warp and filling of a fabric woven with a cotton warp and a wool filling, and then piece-dyed, would not become identical in colour, as cotton and wool have not the same attraction for dye.'[538]

Florentine.—A material made for gentlemen's waistcoats, but when in plain colours, it is sometimes fashionable for ladies' dresses. It is to be had for the former purpose both figured and striped, as well as plain. It is a twilled silk, thicker than Florence, which latter is, however, sometimes called by the same name.

source[539]

- 'It is woven with sixteen leaves of heddles, and two or three reeds placed parallel to, and at a small distance from, each other. It is the most comprehensive kind of what is called broken or alternate tweeling [twilling]. Its only variety from other tweels consists in the superior richness of appearance, which this extensive apparatus gives it.'[540]

FUSTIAN: In the modern sense, fustian is best understood as representing a broad family of fabrics, while appreciating that its meaning has changed over time, which is the result of varying weave structures, fibres* and finishings*. This family includes textiles such as velveteen*, beaverteen, corduroy (see CORD), cantoon* and moleskin*.

The etymology of fustian is uncertain, and several possibilities have been proposed.

1. The term, fustian, suggests that it was named after Fustat (*al-Fusṭāṭ*), a city located on the eastern bank of the Nile, in the southern quarter of Old Cairo. It was the first Islamic capital of Egypt. It is argued that Genoese traders first encountered the fabric at Fustat, and began to produce their own version, which became known as *Gene fustian* (see JEANETTE).[541] Many of the early textile fragments recovered at Fustat are undocumented and are chronologically insecure.[542] These fragments indicate that the city was a 'major entrepôt for the trade between east and west, the point of interchange between the Asian and Mediterranean economies'.[543] In no way should this statement preclude the local manufacture of textiles. This etymology was offered in the seventeenth century, and, however tentative the proposal, it is now happily accepted as gospel.[544] Admittedly, naming fabrics after places of production was a common practice.[545] The presence of fustian-like fabric at Fustat during the early 11th century is attested to in documents relating to a lawsuit. They mention a textile called *muthallath*, which is described as a triple-thread, heavy twill used in garments and mattress covers.[546] It is known to have been an item of export. *Muthallath* was 'produced when the first weft is passed over one warp, then beneath three warps, again over one, "while with every throwing of the shuttle the one covered warp is moved in echelon to the left or right," which gives the finished material the look of diagonal parallel ribs' (see TWILL, DRILL).[547] A similar weave, with a third century AD date, is seen on a fragment of silk, which was discovered in a Romano-British context, and is thought to have been imported from Palmyra.[548]

2. Fustian is derived from Classical Latin *fustis* 'a knobbed stick, a cudgel, staff, club' (i.e. of wood), which was the root of Medieval Latin *fustanum* 'types of cloth made from cotton', with the connotation of cotton as 'woody wool' or 'wool of a tree'.[549] A seemingly related ligneous term is fustic, the name of a tree (smoke tree, Wig Tree, Young Fustic or Venetian sumac [*Cotinus coggygria*]) from which yellow dye is extracted.[550]

3. Fustian is derived from a Semitic root, pšt, a Phoenician word signifying flax, connoting a fabric made with a cotton weft and a linen warp. The Biblical Hebrew cognate is pištā 'flax, linen'.[551] The word-initial <p> was subjected to a phonological change (fricative shift) resulting in an /f/ sound, particularly in South Semitic languages (e.g. Arabic).[552] Cognates are Arabic *fušṭān* and Turkic / Armenian *fišṭān*, and it is thought that the term was introduced to Europe via Islamic Iberia (*al-Andalus*), surviving in Spain as fustán.[553] This scenario cannot be underestimated when one considers that 'cotton' has an Arabic etymon, *qoṭon*.[554] With a definite article, it is *al-qoṭon*, surviving is Spanish as algodón. This brings us full circle to the first etymology described above. *Fustat* is Arabic (الفسطاط) for tent, with *al-Fusṭāṭ* popularly translated as 'the city of tents'. The Tunisian historian, Ibn Khaldûn (1332-1406), relates the following:

> 'Large tents and tent walls. It should be known that one of the emblems of royal authority and luxury is small and large tents and canopies of linen, wool, and cotton, with linen and cotton ropes. They are used for display on journeys. They are of different kinds, large or small, according to the wealth and affluence of the dynasty. At the beginning of the dynasty, the same type of housing used by the people of the dynasty before they have achieved royal authority, continues to be used. At the time of the first Umayyad caliphs, the Arabs continued to use the dwellings they had, tents of leather and wool.'[555]

About AD 641, *al-Fusṭāṭ* was established as the capital during the Moslem conquest of Egypt. The date also marks the foundation of the Umayyad Dynasty, whose early caliphs maintained the traditional black tent technology of the Bedouin. Between then and the time of Ibn Khaldûn, the upper echelons of society advertised their status by abandoning the traditional loose-woven goat / camel hair and wool canopies, adopting blends of linen, wool and cotton.[556] This change to a new fabric (cf. *muthallath*) probably represents the development of a fustian-like fabric, which preceded the introduction of 'fustian' exemplars into Europe. Certainly, personal garments, worn around the ninth to the tenth centuries featured wool, linen, cotton and silk, and were produced for the Egyptian mass market.[557]

In England, the word fustian (fustane or fustani) is first used at the very beginning of the 13th century (c. 1200).[558] However, it is not until the 15th century that it demonstrates any kind of currency. Geoffrey Chaucer (c. 1343-1400) makes reference to fustyan.[559] The Middle English romance, *The Squyr of Lowe Degre*, written around 1450-75, mentions 'blankets of fine fustyan'.[560] About the same time, Sir John Fastolf (1380-1459), a soldier of the Hundred Years War, was in possession of pillows of fustyan.[561] Henry Bowet, Archbishop of York, who died in 1423, possessed an item covered with black fustian.[562] At the close of the century, a will records a black gown lined with fustian of Naples.[563] Another will of 1470 records a tunic of fustyan.[564] Toward the end of the century, there is even a entry for fustyan / fusteyne 'clothe' in a children's guide called the *Promptorium Parvulorum*.[565]

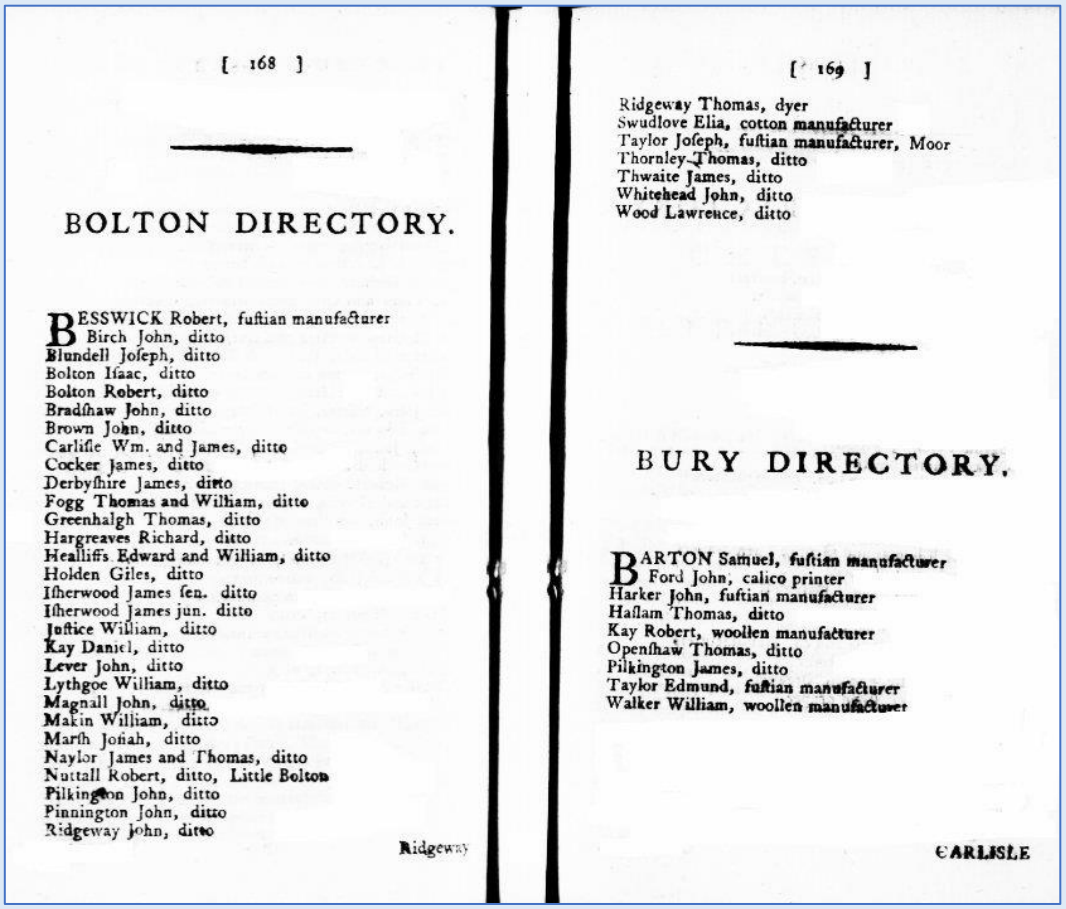
- 'The towne of Manchester in Lancashire, must be also herein remembred, and wo[r]thily, and for their industry commended, who buy the Yarne of the Irish, in great quantity, and weaving it returne the same againe in Linen, into Ireland to sell; neither doth the industry r[e]st here, for they buy Cotten wooll, in London, that comes first from Cyprus, and Smyrna, and at home worke the same, and perfit it into Fustians,

Vermilions, Dymi[t]ies, and other such Stuffes; and then returne it to London, where the same is vented and sold, and not seldome sent into forrain parts, who have meanes at far easier termes, to provide themselves of the said first materials.'[566]

> Is supper ready, the house trimm'd, rushes strew'd, cobwebs swept, the servingmen in their new fustian …
>
> Act 4, Scene 1
> *Taming of the Shrew*
> William Shakespeare

In Shakespeare's time (1564-1616), the wearing of fustian marked a person of the lower orders, and it served as workwear for centuries afterwards, used by both industrial and agricultural labourers. However, it was employed as 'underclothing, youth's clothing or sportswear amongst those of higher status'.[567]

Humphrey Chetham (1580-1653), founder of Chetham's Hospital and Library in Manchester, was a contemporary of Shakespeare. At this time, Bolton was the principal centre in Lancashire for fustian production, and Chetham and his brothers purchased the bulk of this popular fabric, which they sold on the London market to great profit.[568]



[168]

BOLTON DIRECTORY.

BESSWICK Robert, fuſtian manufacturer
Birch John, ditto
Blundell Joſeph, ditto
Bolton Iſaac, ditto
Bolton Robert, ditto
Bradſhaw John, ditto
Brown John, ditto
Carliſle Wm. and James, ditto
Cocker James, ditto
Derbyſhire James, ditto
Fogg Thomas and William, ditto
Greenhalgh Thomas, ditto
Hargreaves Richard, ditto
Healliffs Edward and William, ditto
Holden Giles, ditto
Iſherwood James ſen. ditto
Iſherwood James jun. ditto
Juſtice William, ditto
Kay Daniel, ditto
Lever John, ditto
Lythgoe William, ditto
Magnall John, ditto
Makin William, ditto
Marſh Joſiah, ditto
Naylor James and Thomas, ditto
Nuttall Robert, ditto, Little Bolton
Pilkington John, ditto
Pinnington John, ditto
Ridgeway John, ditto

Ridgeway

[169]

Ridgeway Thomas, dyer
Swudlove Elia, cotton manufacturer
Taylor Joſeph, fuſtian manufacturer, Moor
Thornley Thomas, ditto
Thwaite James, ditto
Whitehead John, ditto
Wood Lawrence, ditto

BURY DIRECTORY.

BARTON Samuel, fuſtian manufacturer
Ford John, calico printer
Harker John, fuſtian manufacturer
Haſlam Thomas, ditto
Kay Robert, woollen manufacturer
Openſhaw Thomas, ditto
Pilkington James, ditto
Taylor Edmund, fuſtian manufacturer
Walker William, woollen manufacturer

CARLISLE

Bailey's Northern Directory (Warrington, 1781)

Some Remarks on Fustian

We have seen above that fustian was traditionally made with a cotton weft and a linen warp (see WARP AND WEFT).[569] Linen is made from the fibres of the flax plant; hence, the etymological

connection. At times, fustian is defined as a 'cloth woven from cotton' or a 'class of stout double-weft cotton fabrics'. In an English context, such descriptors would apply only after the introduction of cotton into England about the middle of the sixteenth century, and to Manchester around 1600. It is argued that cotton working was brought to East Anglia by migrants from the Low Countries, who were fleeing religious persecution.[570] Fustian referred to before this event probably refers to imported fabric. As an aside, Naples was an early Italian centre of production for fustian. Consequently, in English during the sixteenth and seventeenth centuries, the place-name was used as a qualifier for imports, resulting in 'fustian of Naples', but garbled variously as fustian-anapes, fustian a Napes, fustian an apes, and fustian and apes.

- The fabric was 'generally woven in the twill* weave characteristic of fustian since its first appearance in medieval Italy'.[571]

- 'A twilled* cloth raised on one or both sides is called fustian, or in its various forms Swansdown, beaverteen, moleskin*, beaver, kilted or pique fustian cord*, twill*, cantoon*, velveteen*, thickset etc.'[572]

- 'Fustian. — A coarse, stout, twilled* cotton fabric, including many varieties — corduroy, jean, barragon, cantoon*, velveret, velveteen*, thickset, and thickset cord*. Plain fustian is called "pillow"; the strong twilled, cropped before dyeing, is called "moleskin"*; and when cropped after dyeing, "beaverteen". From their strength and cheapness they are much employed for the dress of labouring men. They had their origin at Barcelona, the name being derived from fuste, the Spanish word for strong[573]; but they were imported here from Flanders, used for jackets and doublets in the fifteenth century, and were first manufactured in this country at Norwich, in the time of Edward VI [1537-1553]. It was then a mixed material, composed of linen and cotton; but since Arkwright furnished watertwist [Cotton yarn spun on a water frame] for the warp*, it has been made entirely of cotton. The common plain, or pillow fustian, is very narrow, seldom exceeding 17 inches or 18 inches in width. Cut from the loom in half -pieces, or "ends," of about 35 yards long, it is then dyed, dressed*, and folded ready for the market. Cantoon* has a fine cord* on one side, and a satiny surface of yarns, running at right angles to the cords, on the other. The satiny side is sometimes smoothed by singeing. It is a strong and handsome stuff. Corduroy is ribbed, the projecting part having a pile; it is strong in wear, and the best kinds are twilled*. Velveteen*, velvet*, and thickset, are imitations of silk velvet in cotton, and are cheap, and to be had in various colours, ...'[574]

- 'They [fustians] were first brought to this country from Flanders, where they were also made, probably in consequence of the connection between that country and Spain [Spanish Netherlands]. They were much in request formerly, though it does not appear that they were made here to any extent until the manufacture was brought over by the religious refugees, several of whom settled in Bolton and Manchester, and gave rise to the cotton manufacture of these places. But the fustians of that time were not made wholly of cotton. Cotton could not then, as we have already stated, be spun in Europe, fit for the warp*, which was obliged to be of linen, and the weft only was of cotton. Till the inventions of Arkwright furnished water-twist for the warp, fustian was

a mixed manufacture of linen and cotton. At present it is made entirely of cotton. Fustians are either plain or twilled*. Common plain fustian, called pillow is sold as low as 1d. [one penny] a yard ; when of a strong twilled texture, and cropped or shorn before dyeing, it is called barragon and moleskin*; when shorn after being dyed, it is called beaverteen. These form strong, durable, and cheap materials for clothes for labouring people.'[575]

Fustian Cutting

'The term "fustian" is really a general term covering a variety of hard-wearing cloth types, usually used for clothing, containing a large amount of weft, forming a pile which may be cut.'[576] While fustian cutting became a subdivision of the cotton industry, it was not the most salubrious job. Initially, the work was done by hand, and each row of pile loops (a tunnel or a race) had to be carefully cut with a special knife.

- 'The cutter's knife consists of a piece of delicate flexible steel, slotted into the guide which holds the point in its proper groove. This is taken by the cutter down the whole length of the frame running along the material.'[577]

- 'This necessitates the operator walking some twelve or thirteen miles a day.'[578]

- The cloth is fixed horizontally at a height of about 3 ft. above the floor, stretched on supports set 10 to 15 yards apart. Each cutter walks between two such lengths of cloth, using a long slender-bladed knife with a guard in front for entering the loop, and a broad handle which rests on the surface of the cloth. At the end of each "race" or journey the worker turns and cuts the other length on the return journey. As the cutters are paid by piece-work, the farther they walk in a day the more they earn. I found the average daily journey to be a distance of 15 to 24 miles, and thus the women earn a weekly wage of nine to fourteen shillings, depending on their capability and the class of work.'[579]

- 'By many old townspeople the Fustian cutting has always been shunned. They have not liked the complete submission so generally evinced to the decline of the staple trade, and less have they entertained the introduction of such a substitute for the clean, artistic, and healthy Silk industry. One would imagine, too, that the ceaseless bodily exertions exercised in the operation of Fustian cutting must be somewhat prejudicial to health, particularly with females.'[580]

- 'It takes a practised man about a week to cut an average piece; and I don't at all think he gets over-paid. If I gave my opinion, I should say it is one of the most horribly laborious and under-paid industries in the kingdom.'[581]

- 'In the hand cutting process, the comparatively loose pile filling floats are severed by a special knife formed from square section tool steel of good quality. The knives vary in size from 1-8 inch to 1-4 inch square section, and are from 12 inches to 30 inches long; an illustration of one form of knife is given in Fig. 57. One end of the square bar or rod is forged into an extremely thin keen

tempered blade; an elevation of one form of which is shown at B, Fig. 57. The other end tapers to a point and is firmly driven into a wooden haft or handle H. The blade proper is inserted in a specially shaped and pointed guide or sheath S, made from thin sheet iron or steel.'[582]

FIG. 57.

In any case, whatever weave happens to be employed, it is essential that the tufts of pile be so securely bound

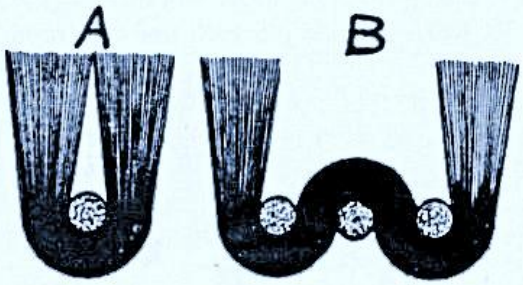


FIGURE 1.

or fixed in the body of the fabric that their withdrawal, either by accident or design, is rendered difficult. This desideratum may be fulfilled in at least three ways.

1. By inserting a large number of picks per inch. In this case the tufts, although formed as at A, Fig. 1, are held securely in position by compression; this is caused by the dense crowding of the filling picks.
2. By causing each pile pick to interweave with a number of successive warp threads. This structure, a diagrammatic representation of one type of which is illustrated at B, Fig. 1, is technically known as a "fast" or "lashed" pile. The fastness or security increases when the pile filling is made to interlace. The tuft at B, Fig. 1, obviously interweaves with three warp threads.
3. By combining the two methods just described. This third way results in a high degree of security, and is naturally only employed for the finest fabrics where the highest quality is essential. As a matter of fact, the extra interweaving of the pile filling with the warp threads necessitates, as a rule, a well-covered surface which, as indicated, is invariably obtained by a large number of picks per inch.

Securing the pile of a fustian weave.[583]

Left. (above) fustian cut to produce a short nap; (below) uncut pile.
Right: fustian cutting works showing the cutting frames

Patents for Week Ending May 14, 1895.

539,147, knife for cutting pile fabrics. D. Scott, Manchester, and John J. Mann and James W. Smith, Salford, assignors to the Fustian Cutting Machine Co., L't'd, Salford, England. The knife and its guide are detachably secured to a handle and are automatically released therefrom whenever the point of the knife pierces the back of the cloth.

Source[584]

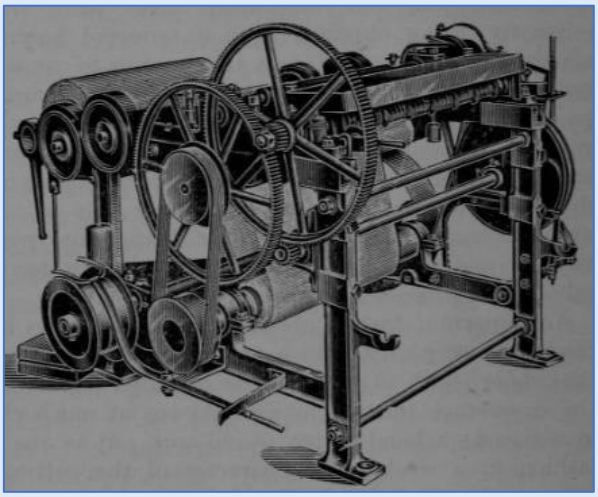
In 1885, an amusing story detailed the seemingly impossible task of inventing a mechanized fustian cutting machine.[585] About the time of its publication, such a machine was actually developed in Manchester. The official catalogue of the Royal Jubilee Exhibition, held in Manchester during 1887, featured the following entries:

> *56* Albert Dux & Co., 36 and 38, Queen-street, and Sunnyside Furnishing Works, Salford.
> Cutting Machine for Velvets. Grinding Stone to sharpen the knives. Various Dyed and Printed Cotton Goods.
>
> *376* David Madeley, 3, China-lane, Piccadilly, Manchester.
> Fustian Loom, weaving patent corduroys. Cord Cutting Machine by steam power. Samples of Finished Goods.

The machine used by David Madely is described in a trade journal.

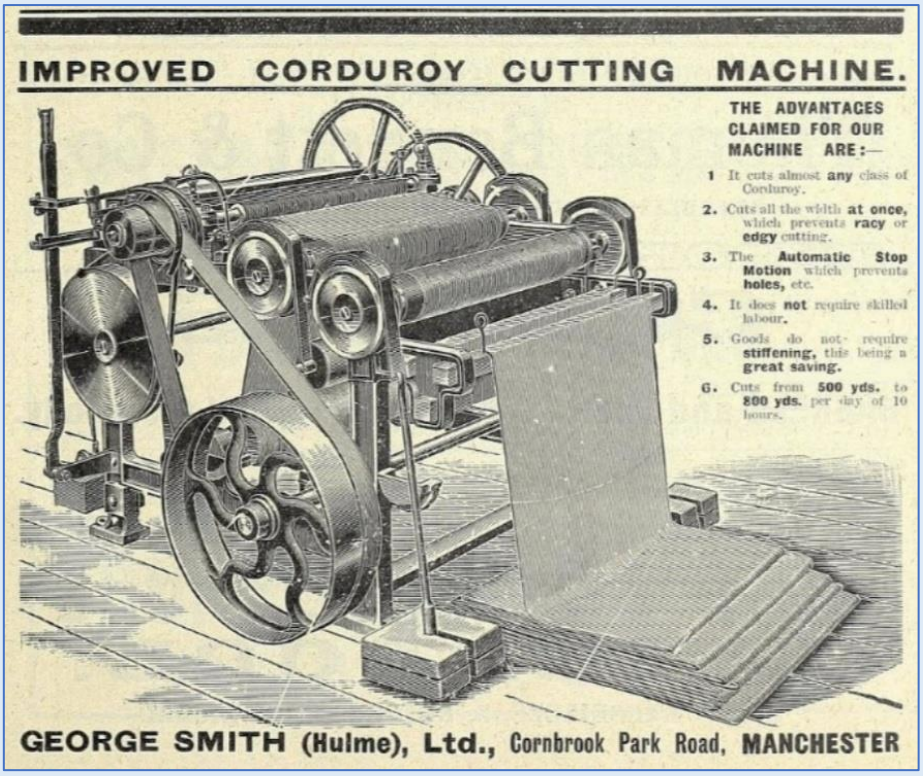
> 'At the Stand, No. 376, occupied by Mr. David Madeley, may be seen a new patent fustian cutting machine, invented by Mr. George Smith, of Hulme Works, Hulme Hall Road, Manchester. Hitherto fustians, and such like materials, have been cut by hand; this is a slow and tedious operation, each race of the fabric being cut separately by the aid of an instrument having at the end a fine-pointed blade. The new machine is

arranged to act upon any number of races simultaneously, or, more clearly speaking, it cuts the full width of the cloth at one operation, and so quickly that ten pieces can be manipulated by its employment in the time required to cut one by hand, and it is claimed, further, that the cutting is more evenly, and generally better, done by the machine than by hand. There have been various difficulties to contend against in the production of a machine for this purpose, the chief of which has been the danger of cutting through the cloth. This has, however, been overcome by Mr. Smith...'[586]



George Smith's 'Improved Fustian Cutting Machine' (described below).[587]

Smith Cord-Cutting Machine. Although many attempts have been made by inventors to substitute machinery for hand labour, the George Smith corduroy cutting machine was the first really successful machine in the field for the cutting of cotton pile fabrics. It differs from other pile-cutting machines in that it consists of an individual circular knife for each rib right across the piece. The entire piece is in almost all cases cut at once, right through from end to end, every rib being cut at the same time. In practice there are occasional exceptions to this—when the machine is set to cut very fine ribs, and then sometimes the piece has to be cut at twice. The knives are circular, about 2½ ins. in diameter, and are carried on a shaft so that it is necessary to set these knives in position for various widths of rib. For purposes of comparison one might consider them as so many tiny little circular saws set side by side; the change in the setting to enable the machine to cut a different style of rib, whilst appearing to be something of a difficulty, does not in practice occupy more than half an hour, and once the machine is set, its running is continuous, in an ordinary middle-class rib it will cut a piece of 110 yards in an hour and a quarter, and in an average working day would probably cut half a dozen such pieces—say, something round about 700 yards in a working day.



Kelly's Directory of Merchants, Manufacturers and Shippers of the World 1914.

When George Smith's machine is described as 'improved', it may be that he had refined an earlier cutting device. One such apparatus was developed in Salford in 1834.[588]

Cutting or cropping fustians by hand, is a very laborious and delicate operation. The invention of an improved apparatus for effecting the same end with automatic precision and despatch, was therefore an object of no little interest to this peculiar manufacture of Manchester. An ingenious machine, apparently well-calculated for this purpose, was made the subject of a patent by Messrs. William Wells and George Scholefield, of Salford, in November, 1834.

In the ordinary mode of working by hand, a single cord only is cut open at one operation, by the skilful workman guiding the knife along the piece, and keeping its point carefully in; but in this machine a series of knives are enabled to act simultaneously, and to cut many cords in width at the same time, from end to end of the piece, without interruption; the corded fustian being extended upon rollers, and drawn progressively forward over the properly inclined stationary knives. There is, also, a provision in the event of any one of the knives slipping out of the cord in which it is intended to operate, or of passing through the fabric, or of being (by any knots in the cords) obstructed in its work, that the operations of the machine may be instantly stopped, in order that the error may be corrected before any further mischief ensues.

- ‘There are two types of machine in general use named after the style of cutter employed. The first the “straight-knife” machine, usually adapted to cut from one to four races at one operation. ... The principle of the second type of machine is illustrated by the diagrammatic sketch in Fig. 62, which illustrates in a more or less graphic manner the cutting parts of a circular knife machine. Several thin, sharp, circular cutters are loosely mounted on a shaft or mandril M, which is driven at a fairly high speed indicated by the arrow X. The cutters are driven by a flat on the shaft and a projection in the bore of the cutter as shown at D. One cutter is provided for each race in the width of the fabric, so that the cutting operation is completed in one run. A crosspiece or spear S, is adjusted close to the edge of the cutter C, at the point P, and over the apex of the spear S, the fabric or texture T, is caused to move in the direction indicated by the arrows Y, and Z. On a level with the upper edge of the spear S, steel guide wires G are fitted, pointing forwards, and at their points, slightly downwards into each of the races. These guide wires G are formed in the shape of an elongated flat loop, as is more clearly shown in the lower or plan view in Fig. 62. The cutter is located inside the loop, and may be moved laterally by the pressure of the threads forming the race, so that the cutter is kept in its correct central position irrespective of any irregularities in the uncut fabric. The guide wires G also perform the function of tightening the pile floats before they are presented to the rapidly revolving cutter. The back ends of the guide wires are soldered together as shown at Q. As the uncut texture T is-drawn forward to the cutters C, the guide wires G are carried along with it until the soldered ends Q are brought up against a series of cams mounted on a shaft suitably arranged behind them. These cams or pushers act upon groups of three or more guide wires G, and push them forward into the race again; the cams are arranged spirally around and along the shaft, so that they may come into action at different times. Each cutter C is formed with a flat upon it is shown at F. The mandril M may be turned until all the flats are opposite the cutting points P; a little greater space is thus formed between the cutters and the edge of the spear S, which facilitates the insertion of the guide wires G into their respective races either at the beginning of the cutting operation, or when guide wires are being repaired or replaced.’[589]

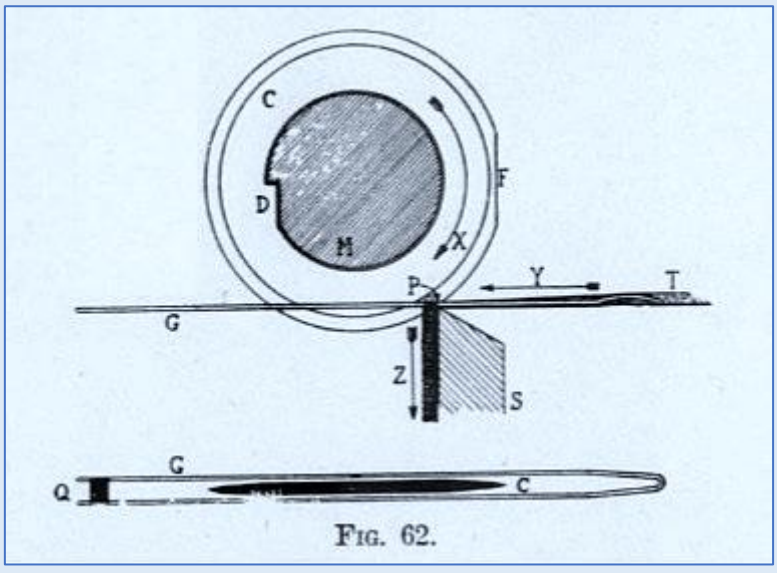
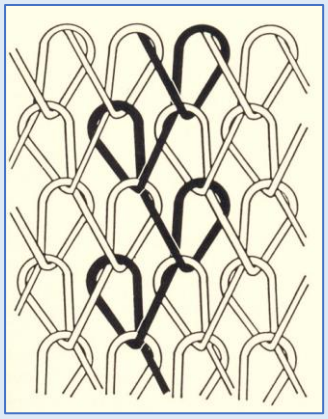


FIG. 62.

GLOVE: This refers to knitted (not woven) textile, and not leather. Traditionally**,** the most suitable fabrics for glove making were of warp-knitted cotton. These were normally produced by machine.



< Basic pattern of a warp knit, characterized by continuous lengthwise parallel columns of closely spaced loops. The interlacing between the loops of adjacent columns forms a zigzag pattern. It is described as 'enchaining a single thread'.

Warp knits are typically resistant to unravelling, while providing some sideways elasticity. At the apex of glove fabrics was the close-textured 'Atlas cloth', produced on a flat knitting machine using the finest Sea Island yarn. This yarn was spun principally in Manchester, and exported to markets in Germany and America.[590] Sea Island cotton (*Gossypium barbadense*) has silky, long fibres, and an extraordinarily fine texture, which allowed for an unprecedented thread count. It was named by botanists who encountered it on Barbados, but throughout the nineteenth century it was marketed under the name, Sea Island, referring to the islands off the coast of South Carolina, Georgia, and Florida where it was grown.[591] The Atlas cloth was then emerized (also called sueding or sanding) by passing the fabric over a series of emery*-covered rollers that produced a very low pile resulting in a suede-like finish.[592] This durable cloth was also referred to as chamoisette, because it mimicked the feel of chamois leather.

HARNESS (see SATIN, TWILL).

ITALIAN CLOTH is a fabric principally used for lining, and was sometimes quilted. As such, it was used in suit jackets, coats, women's dresses, church vestments, academic gowns, cloaks and capes, and military uniforms. It was also used as a pocketing material and in corsetry. Italian cloth has a twilled* and very lustrous surface, and was usually made in solid colours, though mainly in black. It is sometimes referred to as farmer's satin or lastings.[593] It is a term used in a specific sense, and not just to any cloth originating in Italy.

Children's carriage with a parasol made of Italian cloth.[594] Italian cloth was also used in the manufacture of children's dolls. At the beginning of World War II, it was a fabric recommended to the public for making blackout curtains.[595]

- 'Under the heading "Italian Cloth" it will be seen that such a fabric is essentially a weft-faced satin*-weave material having practically the whole of the weft or filling threads on the surface (see WARP AND WEFT). When it is woven from a wool weft and a cotton warp the material shows the face of the cloth as a wool face, the main bulk of the cotton warp showing on the back of the fabric. When woven with cotton warp and wool weft, Italian Cloth still retains the characteristic smooth surface of all weft-faced satin-weave fabrics. Very simple tests by burning will show the nature of both warp and weft, and this class of fabric illustrates clearly, by contrast between the two sets of threads, the nature of weft-faced satin or kindred weave fabrics. Such Italians are

generally cross-dyed, i.e., woven with dyed warp and grey weft, and then piece-dyed.'[596]

- 'It must be borne in mind, however, that Italian cloth is a tailor's and not a dressmaker's lining, and is only correctly used for tailormade garments with the seams between.'[597]

- 'Italian Cloth is a light, glossy fabric made from cotton and worsted*, cotton and wool, cotton and mohair, and all cotton. It is used for linings for the heavier styles of ladies' dresses, also for underskirts, fancy pillow backs, etc. The cloth is woven in the gray undyed yarns. In the finer grades the warp is sized so as to facilitate the weaving process.'[598]

JACONET (Jaconnet, Jaconot, Jaconettes, jackonet) Jaconet belongs to the muslin* family of cloths, and is sometimes referred to as jaconet muslin. There are two types of jaconet, one with a harder finish* involving more sizing (starch) and calendering* than the softer finish. It is an all-cotton fabric, and was frequently embroidered. Jaconet was popularly used in making dresses, undergarments and christening robes.

Jaconet was used in the bookbinding trade, because of its close weave, light weight, and strength. It was also used in healthcare environments, serving as a protective covering, and used by undertakers.

- 'Jaconet consists of a bleached cotton fabric of plain weave, evenly proofed on one side so that the material is impervious to water. The surface is non-adhesive and the material is soft and pliable.'[599]

Tabloid First-Aid Kit for Aviators, Motorists and Sportsmen[600]

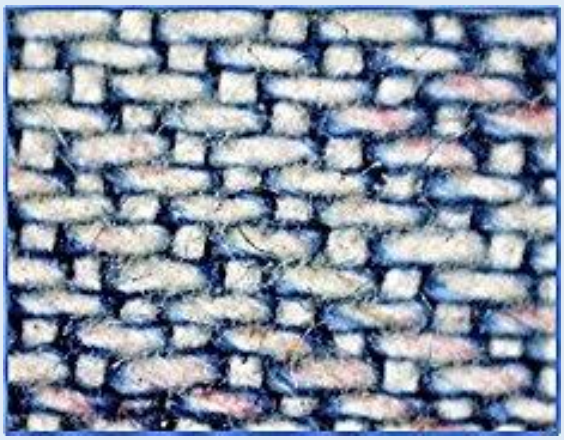
- The muslins of Manchester are wrought in reeds made to the same scale, thirty-six inches, but counted by the number of threads in an inch. Thus an 130 Manchester Jaconet means 130 threads in the inch, ...' [A reed is a comb-like device, and part of a loom, it is used to separate warp threads].[601]

JEANETTE is a member of the Fustian* family of cloths, and belongs to the cheaper end of the spectrum.[602] It's name originated from Old French *drap de Gênes*, 'cloth of Genoa', with an added feminine -ette as a diminutive.[603] Jean is seen in Middle English as Ǧēne.[604] However, the actual fabric produced in Genoa (a fustian blend of cotton, wool and/or silk) was different

than that produced in Lancashire, but the name stuck and may actually have been used to improve its cachet.[605] Originally, jean was dyed brown.

Jean is a three-harness (see SATIN), twill*, cotton fabric, which displays distinct ridges of weft that run diagonally across the cloth (i.e. the weft passes under two warp threads).[606] As such, its weave is similar to, but finer than, drill*. Jeanette, as its name implies, is lighter than jean. It is used for linings, and as a base for velveteen* and cords* (hence, the name jeanette backed).[607] Bradford produced a similar three-harness fabric called a Llama twill. There is also a similar cloth called a prunella twill.

The fabric, jean, obviously gave its name to jeans, which are made of denim.[608] Jean, denim and dungaree are all based on the three-harness method.



'At the most basic level, denim can be defined as a warp-faced, twill* textile woven from cotton threads with the warp threads dyed blue from indigo and the weft threads left undyed or white. The "warp-faced" structure ensures that the blue-dyed warp threads appear most prominently on the top or "face" of denim fabric, while the white weft threads (sometimes called filling) appear on its reverse side.'[609]

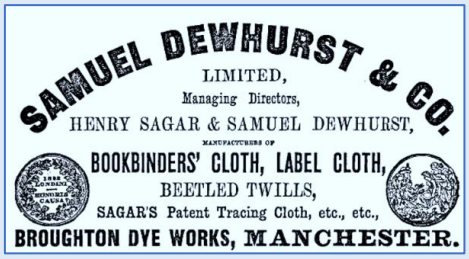
< *Microscopic image of faded blue jeans cloth (underside).*[610]

JUTE is derived from a long, coarse fibre found in a variety of plants, and is composed of cellulose (vegetable fibre) and lignin (wood fibre). Its principal source is the genus *Corchorus*, along with hemp and ramie (of the nettle family). The earliest evidence for the usage of jute was found at Harappa, a type site of the Indus Valley Civilization, dated to c. 2000 BC.[611] South Asia is still the centre of jute production, where it is called the golden fibre, because of its colour and reputation as a cash crop. The fibre is stripped from the stems (bast) of the plant, after they have been soaked in water (retting). Due to its strength, jute yarn is used in rope making, bags, sacking and carpets. It is also credited with being light-fast.

< *The coal heaver.*[612]

Dundee was the undisputed centre of British jute manufacturing, conducting over 90% of the UK's spinning of the material and over 60% of its weaving. The great boom in the industry came in the nineteenth century, and was built above all on the production of jute bags.[613] For those born before the age of central heating, the coalman delivered the source of heating in a jute sack carried on his back.

LABEL CLOTH is a heavily sized plain-weave (see CALICO) fabric, used for tags, labels and bookbinding. It was mostly made of cotton, but occasionally linen was used. Some label cloths were friction calendered*.



LAMBSKIN (textile not leather): 'faux lambskin' is knitted on a circular frame. It is made of wool, which was napped to form a fleecy surface. The yarn must be soft and fine, and the pile must be tolerably dense with good felting properties.[614]

The imitation lambskin, Fig. 2, is made from a woolen plush fabric knitted on a circular frame, so that each stitch or loop of the fabric is of double thread, that of the groundwork being of cotton or wool and forming a plain fabric, and that of the plush pile being of wool, the long sinker loops of which hang at the back of the fabric. These long loops are cut by shears or knives, and the fabric is treated with a hot solution of soap until the pile becomes felted into tufts or bundles. The fabric is then cooled, dried, dyed or treated with sulphur, dried, stretched, and shorn in the usual manner.

< source[615]

LINENETTE: A cotton fabric made in imitation of linen, which served mainly as lining for skirts and had a smooth, highly-glazed finish. It was normally self-coloured. Some cotton-based linenettes are produced using linen slub (a lump or thick place in yarn or thread, usually warp) as seen in the accompanying illustration.

➢'… what the textile industry did pursue aggressively was innovation in ersatz, using the limited materials that were available. In practice, this meant producing a cheap cotton version of more expensive commodities. Velvet, in its richest form a silk product, is nice, but cotton modified to look like cotton is *almost* as nice. Substitutes were first introduced in 1769, initially as velveret [cotton backed with a silk pile], then later as velveteen*, a name that has stuck. Not too long after, a cotton-based substitute for satin silk, satinette, was created. Still a bit later, a cotton imitation of linen was run up the flagpole. Very few, however, saluted *linenette*.'[616]

During, and immediately after World War II, during rationing, children's books were made of heavy paper, which was made to look like linen, and sold under the trademark 'Linenette'.

LUSTRE LININGS are a weft-face (see WARP AND WEFT) twill* weave made with a single-twist (see PLY) cotton warp and various wefts, such as alpaca, mohair, and lustre wool. Lustre wool

is a 'long wool' (i.e. long curly, crimped fleece[617]) that was produced only by sheep native to Yorkshire, Lincolnshire, Leicestershire and Nottinghamshire, which exhibit a 'silvery brightness'.[618] Lustre linings were generally of a lower quality than 'lustre fabrics', which were used to make dresses. Lustre wool was important to the worsted trade of Bradford, and there is a family of 'Bradford lustre fabrics' with exotic names like: glacés, Alpaca, Brilliantine, Sicilians, Florentine, Granada, Lorraine, Melange, Puritan, Pekin and Orleans.[619]

- 'The weft is much thicker than the warp, and in order that the brightness of the former will be developed in the highest degree, in the finishing process the cloth is drawn out in length and shrunk in width.'[620]

MERCERIZE: Mercerization is a finishing* treatment using sodium hydroxide (lye or caustic soda), which is applied to vegetable fibres only, mainly cotton and flax. Mercerization imparts increased tensile strength, increases absorptive properties for dyeing, and increases lustre to resemble silk. While being mercerized, the fabric is kept under tension to prevent shrinkage. After being subjected to the caustic treatment for about two minutes, the fabric is flushed thoroughly with water to prevent damage. The process was introduced in 1895.[621]

MOLESKIN is a cotton textile, which is woven, and then sheared to create a close-cut nap. It

has a matte finish with the look of suede. While it is a soft fabric, it is heavy and durable. The pile is on one side of the cloth, and generally has a warp twill* or satin* weave. It is classed as part of the fustian* family of fabrics. 'Some moleskin fabrics are made from extremely strong warp yarns, with a higher weft density (over 400 picks per 2.5 cm).'[622]

- '… most British workers wanted more warmth from their cotton trousers. For this reason, moleskin became the most popular choice by the end of the nineteenth century. Moleskin was, again, just a single weave of pure cotton fabric which had a raised and brushed nap. This meant that the outer side of the fabric had a soft and felted feel; you could only see the weave on the inside of the cloth. It was significantly more insulating than jean (see JEANETTE), being windproof because of the raised nap, and was just as long-lasting.'[623]

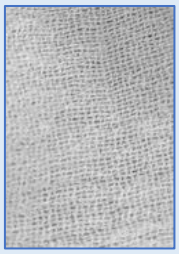
MUSLIN is a loose plain-weave fabric (see CALICO) traditionally made from cotton, though at times silk was used. At its best, muslin is gossamer light, sheer, soft, and breathable. In ancient Rome, Petronius was no doubt referring to muslin when he described a filmy bridal gown as 'woven wind'.[624] The wearing of diaphanous muslin garments in Europe became fashionable, first in France, and then in Britain, toward the close of eighteenth century, opening the matter

to the satirical taunts of printmakers as seen in the illustration below.[625] The print was 'dedicated to the fashionable editors of *La Belle Assemblée*' or *Bell's Court and Fashionable Magazine* (1806-1832), London's most influential publication dealing with women's fashions. Bombazine refers to a twilled or corded fabric that originally had a silk warp and a worsted weft, and is deemed to be part of the taffeta family.

The gold standard of muslin cloth was made in Dhaka, Bangladesh (East Bengal). The secrets of its quality and its cotton cultivar, *Gossypium arboreum var. neglecta*, were lost due to British intervention. Recently, however, a search for surviving specimens of *neglecta*, known locally as *Phuti Karpas*, proved to be successful, and they were subjected to comparative genomic sequencing against preserved herbarium specimens[626] to reveal that it had been rediscovered.[627] With the backing of the Bangladesh government, attempts are being made to revive the magnificence of this ancient fabric. Dhaka muslin was the finest ever produced, with a matchless thread count in the range of 800-1200.

Modern muslins might be described as a family of fabrics, which come in a variety of forms and weights. The finer muslins are woven from evenly-spun yarns, while the coarser, cheaper types are woven with uneven yarns. The latter Is used to make toiles (a preliminary garment made of cheap material so that the design can be tested and perfected). Muslins can be bleached or unbleached.

Some fabrics from the muslin family:

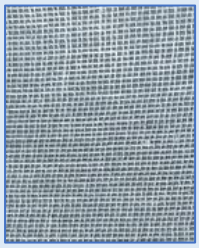



Gauze (left) is an ultra-lightweight, sheer form of muslin used to dress wounds. Double gauze (right) is made from two very fine layers that are invisibly stitched together. This gives the fabric a fluffy feel and a wrinkled or textured look.

Mull is a lightweight, soft, sheer, plain muslin traditionally made from cotton, and used for linings, to give a garment structure, and for producing toiles.

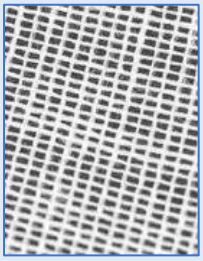
Swiss muslin is fine cloth, typically of a white or pastel colour, often having regularly-spaced raised dots of yarn embroidered into the fabric as a pattern (a.k.a. Suisse muslin).

Butter muslin is used to wrap butter, and is of a finer weave than cheesecloth.



Cheesecloth used for straining cheese.

Muslin sheeting is the thickest and coarsest form of muslin and is used in clothing and homewares.

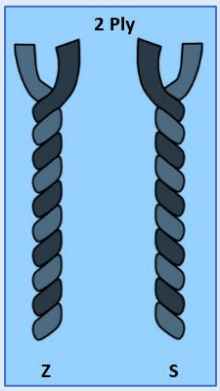


Vanishing muslin (marketed as Thermogauze) is treated with chemicals, so that when it is heated (ironed or baked), it disintegrates. It is used as a backing in embroidery.

Etymology: named after the city of Mosul, located in northern Iraq (Western Kurdistan), on the Tigris River. The English word, muslin, was borrowed from the Romance languages: Italian *mussolo* and French, *mousseline*.[628] It was a fabric most likely encountered by Venetian traders during their commercial transactions in the Middle East probably around 1500.[629] See also: JACONET.

PICK: A pick refers to a single weft thread that is inserted through the warp yarns during the weaving process, with each pick being inserted in the opposite direction to the previous one, creating a woven fabric (see also END; WARP AND WEFT).

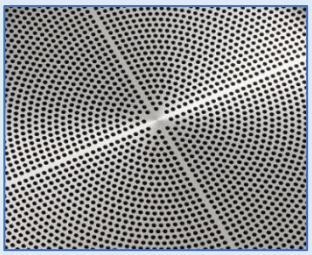
PLY: A 'single' is created by converting raw fibre (e.g. cotton) into one strand by spinning, which is a twisting technique. A two-ply yarn is made by twisting two singles together, just as a five-ply yarn is made by spinning five separate singles together. Plying is done to increase the strength of the yarn.



The illustration on the left shows two singles spun into a two-ply yarn. By spinning in a counter-clockwise direction, an 'S' twist is created. Inversely, a 'Z' twist if formed by clockwise spinning. Plying removes twist from the singles by spinning in the opposite direction to which the singles are spun.

POCKETINGS Material used to make pockets. It is virtually synonymous with silesia*. Traditionally, cotton was used, but now polyester or a polyester-cotton mix is employed to improve durability. Heavier, tightly-woven muslins and poplin are also used. The latter is made with a ribbed weave of thinner weft threads and thicker warp threads. The cloth is soft, lightweight and lustrous, and is called broadcloth in America.

RAYON is a semi-synthetic fibre composed of cellulose (an important structural component of the primary cell wall of green plants), which has been extracted mainly from wood pulp, cotton linters (fine fibres adhering to cotton seeds) and, more recently, bamboo (classified as a grass). The cellulose is dissolved by various chemicals (principally sodium hydroxide [caustic soda] and carbon disulfide), to produce as viscid or viscous fluid (viscid means a glutinous, sticky, solution, like honey). The dissolved cellulose within this solution is then converted (regenerated) to indissoluble cellulose filament fibres* by forcing the liquid through a spinneret (left) into an acid bath.[630] Earlier, rayon was referred to as artificial silk. It is also known as viscose. It is easily dyed, and is often blended with other materials. Rayon is usually dry-cleaned.



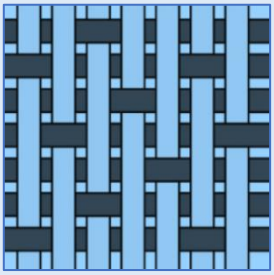
SARSENET (sarsnet, sarcenet) Originally, the term referred to a fine, tightly woven, soft silk material produced in a twill* weave. The word appears in Middle English (1066-1485) as sarsinet / sarzinet[631], and entered into our vocabulary via Norman French (*sarszinet*) from Old French (*sarrasinat*), whose cognates are Late Latin *Saracēnus* and Greek *Σᾰρᾰκηνός* (Sărăkēnós). Collectively, their etymon appears to be *Saraka*, an ancient tribe of northwestern Arabia)[632], which came to be known as the Saracens of the Crusader Period. Due to its smooth iridescent sheen, the fabric grew in popularity in England from the late fifteenth century, and was a staple in Elizabethan theatre[633] and a favourite of Jane Austen.[634] The illustration to the left shows a pink sarsenet pellise worn in 1824.[635] Eventually, it was debased to a strong, piece-dyed, cotton, plain-weave fabric, which was finished to a high lustre and subjected to calendering to produce a twill effect.[636] This was used mainly for linings. It is reported that in the early Italian workshops the warp and weft* were woven with contrasting colours 'so that the colour appears to shift in the folds, changing as the wearer moves'.[637] Sarsenet was much used in ribbon making.

Figured sarsenet features a small, patterned, design woven into the fabric. The illustration below (left) shows a swatch of light blue, floral, figured sarsenet.[638] The source, *The Repository of Arts, Literature, Commerce, Manufactures, Fashions, and Politics* was published by a German emigrant, Rudolph Ackerman, who relocated to London. His publication was very influential among the fashion conscious between 1809 to 1829. The magazine practiced placing actual fabric samples in the journal.

(left) 'a celestial blue figured sarsnet [swatch]*, adapted equally for the dress robe, boddice, and spencer, as for the spring mantle or pelisse.' (right) figured sarsenet robe.*

SATEEN: Satin* is formed with a satin weave using a filament yarn (traditionally silk). Sateen is also produced with a satin weave, but it uses spun yarns, like cotton. Some sateens are mercerized* to give them more resilience. It has the added convenience of being machine washable.

SATIN: Along with plain (see CALICO) and twill*, satin is one of the three fundamental types of textile weaves. A satin weave has better draping qualities than the plain weave. Satin was traditionally made only of silk.



The illustration to the left shows a five-harness satin weave, where the warp yarn is floated over four weft yarns, and then under a (fifth) weft yarn. A three-warp float is called a crowfoot satin weave. Four-warp floats or more (i.e. 4-harness, 5-harness, 8-harness, etc.) are called long-shaft satin or harness weave.[639] In producing a warp satin weave, only the warp face is visible, producing a smooth lustrous cloth without any visible pattern. The weft is effectively hidden by the warp threads (see WARP AND WEFT). There are also weft-face satins using the same technique, but floating the weft yarns. The subtleties defining the differences between satin as a fabric with certain qualities and a type of weave is discussed by Emery.[640]

SATINETTE is a finely woven fabric with a finish* resembling satin* (a.k.a. faux satin). This imitation of silk satin is woven from mercerised* cotton or other yarns. It is lighter in weight than Sateen*. The term has been used to signify a fabric with cotton warp and a woollen weft.

SHIRTING is a generic term applied to any material usually employed for the making of shirts, (e.g. Oxford: an all-cotton fabric woven with a plain-weave ground and an added twill weave to produce a basket effect). The term, shirting, generally referred to grey shirting, a plain-woven cloth of low-quality, and heavily sized yarns, which has not been bleached, and where the warp and weft* were approximately equal in number of threads and counts. Such fabrics were loom-state, and, later, often dyed. In the Manchester patois, calico* was synonymous with grey or white shirting.

SILESIAS Initially a thin linen fabric made in Silesia, once a province of Prussia. Since Ireland was a significant linen producer, it became, by 1835, a notable competitor.[641] Later, the term was used to describe a fine-twilled cotton fabric, which has been highly dressed* and calendered*. It was used mainly for linings and jacket pocketing*. It has a glossy finish, which was produced by an ironing machine, consisting of hot cylinders (see CALENDERING) or by beetling*.[642] The twill* is 45° right-handed.

Perhaps the earliest English reference to Silesia fabric was published in 1670.[643] It reads:

> ‘ Sleasie Holland, common people take it to be all Holland, which is slight or ill wrought; when as that only is properly Sleasie or Silesia Linen cloth, which is made in Comes from the Country Silesia in Germany.’

‘Holland’ refers to Holland cloth, ‘a hard-wearing, plain-woven linen fabric originally made in the Netherlands’.[644] ‘Sleasie’ is used as an adjective modifying Holland, which, in the common parlance of the day, implied that the cloth was of inferior quality. This adjectival form is etymologically related to the word, sleazy[645], which is also seen as sleeze or sleaze, and signifies ‘loosely or badly woven cloth, thin, flimsy, frayed’[646], and, by extension, to the modern sense of sordid, cheap, or disreputable.[647] The noun, Sleasie, is a toponym referring to Silesia, and is also encountered as Sleazy, Sleasey and Slesia.[648] Due to the similarity of the

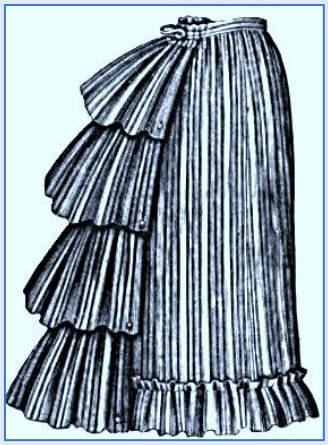
adjectival and noun forms, their cognation has been conflated. However, evidence suggests that there is no etymological connection between the two. The toponym looks to an Early Medieval formation centred on a sacred mountain called Ślęża, which is located in Lower Silesia, and gives its name to a local river (Ślęza).[649] The local tribe, *Ślężanie* (Silesians) was also named after the mountain.[650] Certainly, Prussian silesias were generally durable and of fine quality, though occasionally their reputation was dented by poor flax harvests.[651]

SILKETEENS were lower-budget 'silks', characterized by a smooth texture and slight sheen. Silketeen typically consists of a blend of silk and other fibres*, which included cotton. Such blends enhanced the fabric's strength while maintaining a soft, silky feel. It has good draping qualities, making it suitable for dresses, blouses, nightwear and especially linings. In America, the fabric was spelt silkateen[652], and appears to be synonymous with mercerized* cotton.[653] As such, silkateen served as the brand name of popular thread, which was actually mercerized cotton with no evidence of silk, and the manufacturer was prosecuted for misleading the public.[654] This product made its way to England.

SKIRTINGS is a generic term, and the fabrics it referred to varied in response to current fashion. It has been defined as 'strong thick woollen, worsted, cotton, or mixed fabrics, woven of certain dimensions, so as to be suitable in length and width for women's underskirts'.[655]

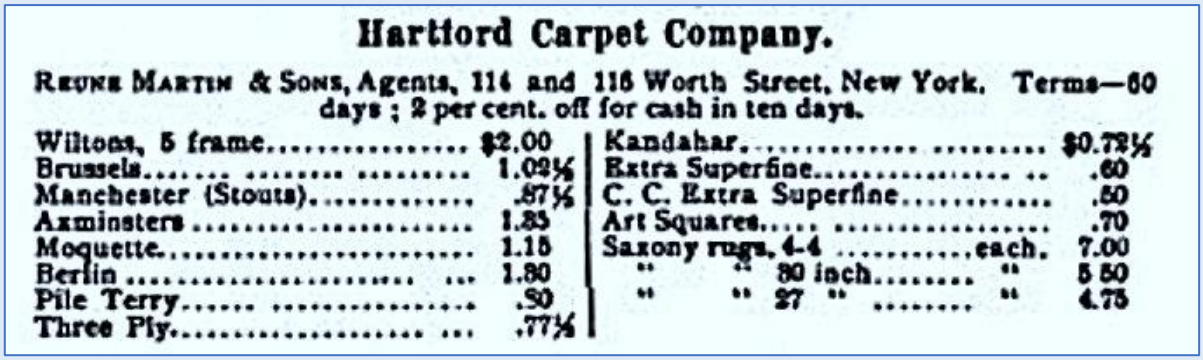
Skirting—
Ladies' underwear material. In the finer makes of cotton skirtings the plain weave is used along with coloured stripe and check designs. The heavier makes include the sateen skirting mentioned above and also a class of "cross over" or weft stripes woven in circular box looms.

Source[656]



'Striped cotton skirting was chosen for the petticoat in the present instance'[657]

STOUT refers to a type of carpet. Quality products, such as Brussels or Wilton, were machine-made pile carpets woven with a worsted (high-quality, finely-spun, smooth woollen) yarn. The better carpets have 256 loops per square inch (which form the carpet's pile). In the carpet industry, these loops are referred to as points. Carpets produced with less than 256 loops are called stouts, which implies an inferior quality.[658] The Kidderminster firm of Lea and Simcox is credited with introducing the first Brussels stout carpet.[659] Another factor in determining a stout was the replacement of worsted yarn with a jute yarn.[660] At the warehouse of Rylands & Sons in Manchester, stouts were sold on the second floor in the Dyed Goods Department.[661]



Hartford Carpet Company.

REUNE MARTIN & SONS, Agents, 114 and 116 Worth Street, New York. Terms—60 days; 2 per cent. off for cash in ten days.

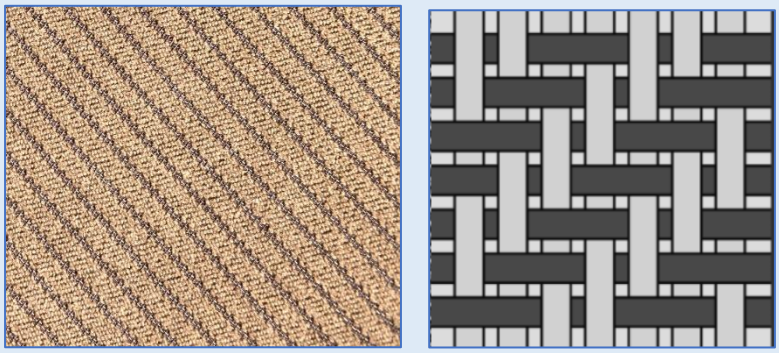
Wiltons, 5 frame	$2.00	Kandahar	$0.72½
Brussels	1.02½	Extra Superfine	.60
Manchester (Stouts)	.87½	C. C. Extra Superfine	.50
Axminsters	1.35	Art Squares	.70
Moquette	1.15	Saxony rugs, 4-4 each	7.00
Berlin	1.80	" " 30 inch "	5 50
Pile Terry	.80	" " 27 " "	4.75
Three Ply	.77½		

Stouts sold in America under the name, Manchester.[662]

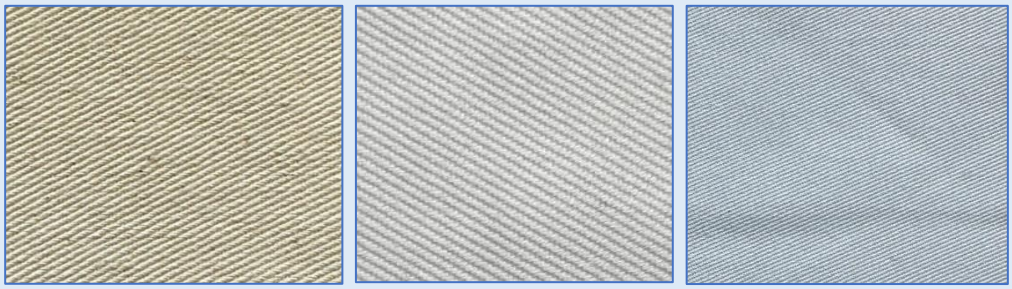
Towards the close of the nineteenth century, particularly in the American clothing industry, stout referred to garments made for larger individuals.[663]

STUFF: In the context of textiles, stuff was used in Middle English to refer to the quilted material worn under chain mail, itself serving as a piece of armour. Later its meaning was extended to include material for making garments; woven material of any kind, textile or woollen fabrics.[664]

TWILL is a type of textile weave in which the warp yarns are floated over two or more weft (see WARP AND WEFT) yarns to produce an effect of parallel diagonal lines or ribs, which are called wales (see CORD). It is also referred to as tweel.



On the right, the float is a length of warp yarn that passes over two or more weft picks. Conversely, the weft yarn passes over two or more warp ends.



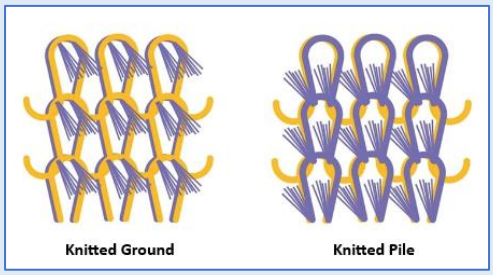
all-cotton, Indian twills

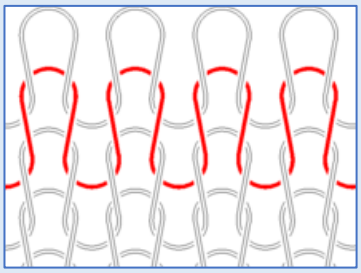
Twills require heddles equal in number to the threads that are included in the intervals between the intersections. This disposition of the warps in the heddles is termed *mounting the loom*; and the heddles are termed *leaves*. A twill takes its name from the number of *leaves* employed, as a *three-leaf twill*, a *five-leaf twill*, etc.

'leaves' are synonymous with harnesses (see SATIN). A heddle (or heald) is the part of a loom that separates the warp threads. There is one heddle for each thread of the warp, so the number of heddles can be large if working with a fine weave.

< source[665]

VELOUR is French for velvet*, but in Britain it signifies a cloth of lower calibre. Velour is typically made from cotton. While velvet is woven, velour is knitted, which gives the fabric elasticity, which lends to form-fitting in clothing, and is more absorbent. Two sets of yarn are used in production. The first set forms the ground, and the second the pile loops, which are secured by interlacing to the ground during the knitting process.[666] In knitting, a single yarn forms a continuously looped course (shown below, on the right, in red), which is interlaced with other courses.[667] The pile is created by shearing and brushing.



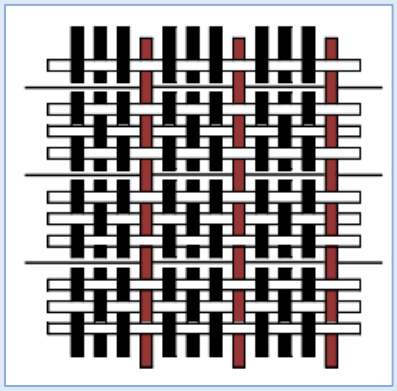


By comparison with velvet, velour has a shorter pile, though it is longer than velveteen*. Velour was first introduced in France as a low-cost alternative to velvet. Enterprising Manchester milliners introduced an even cheaper imitation velour made from stiffened cotton flannelette.[668]

VELVET was traditionally made from silk, but today's technology allows for cotton, synthetics and blends. Surviving fragments of Late Antique fabric suggest a linen, weft-looped, pile precursor.[669] However, in the strict, technical sense, velvet is warp-looped. Traditional velvets were labour intensive, and required considerable expertise, more specialized looms, and more warp yarn than flat textiles. Consequently, they were much prized, and were traded over long-distances as prestige goods and diplomatic gifts. The earliest physical evidence for velvet, in a European context, belongs to a bound, parchment codex dated to the time of Charlemagne, which was written by Theodulf of Orléans (c.750-821).[670] It is reported that in the early 9th century, the volume was bound in plain, purple, silk-cut velvet on a twill ground.[671] Moreover, pieces of different fabrics were interleaved within the codex in order to protect its gold and silver lettering, one of which was velvet.[672] The earliest written references to velvet in the West are found in an inventory of the papal treasury compiled under Pope Clement V (1305–1314) between February 27 and June 4, 1311.[673] The first reference mentions '*Item duos pannos integros lucanos, qui vocantur velluti, rubei coloris*' (two entire [bolts of] Lucchese

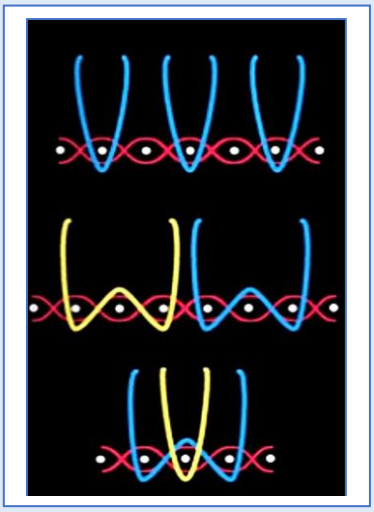
[Lucca] cloth, which are called velvet, of a red colour).[674] The second describes a beautiful Tartar cloth whose wide hem is made of red silken velvet (*velluto*) and silk.[675] This is interesting, since the origin of velvet is unknown, and the reference to Tartary suggests a likely Central Asian source, from which the technique of production travelled westward along the silk routes to the Middle East, Byzantine Empire, Sicily and eventually to Italy.[676] From Central Asia, the technique is also likely to have travelled eastward to China.[677]

The pile of velvet is created by making loops from the warp threads by drawing them over thin metal rods. These are then cut to create a soft pile. At its simplest, this requires two warp yarns, one serving as the ground warp and the other the pile warp, but two or more ground and pile warps can be used. Once the loops have been cut, the rods are removed. Velvet pile is usually less than 3.18 mm deep. Piles which exceed this are referred to a plush fabrics. Fine velvet contain 40 to 50 loops per inch of fabric.



Unpatterned velvet[678]

Horizontal white = weft
Vertical black = ground warp
Vertical red = pile warp
Horizontal black line = rods
The pile warp is cut where it passes over the rod. In this illustration, it will produce a w-shaped pile.



Top: V-shaped pile;
Middle: W-shaped pile (more secure);
Bottom: combination of V and W.[679] >

VELVETEEN (sometimes identified as velveret [which was cotton backed with a silk pile] or velvelet) is usually made from cotton or a cotton blend. Consequently, it is also referred to as cotton velvet. In Germany, the fabric was known as Manchester.[680] In comparison to velvet* and velour*, it has the shortest pile and is sturdier. Since, it is produced by cutting weft loops to create a short nap, the fabric has a dense, even, texture with less sheen than velvet and little stretch, resulting in poor draping properties. Since the weft loops form the pile, velveteen is classed as a 'filling pile' fabric. It is divided into two groups: plain-back (or straight-back) and twill-back. Plain-back velveteen has fewer picks of filling per inch, and is usually lighter, resulting in a cheaper retail price. Velveteens are woven from unbleached yarns, and require skilful finishing* before going to market. The structure of velveteen lends itself to upholstery, but it is also used in structured clothing. It was first produced in Lancashire in the first half of

the eighteenth century, and one particular brand was called Mancunium.[681] Throughout the nineteenth century, Britain had a virtual monopoly on its production. Under President McKinley (term: 1897-1901), the United States imposed a punitive tariff on imported pile fabrics.

> 'Plushes, velvets, velveteens, corduroys, and all pile fabrics composed of cotton or other vegetable fiber, not bleached, dyed, colored, stained, painted, or printed, ten cents per square yard and twenty per centum ad valorem [percent of declared value]; on all such goods if bleached, twelve cents per square yard and twenty per centum ad valorem; if dyed, colored, stained, painted, or printed, fourteen cents per square yard and twenty per centum ad valorem; but none of the foregoing articles in this paragraph shall pay a less rate of duty than forty per centum ad valorem.'[682]

Silk-based velvets earned a 50% tariff. This was done in order to stimulate American domestic production.[683] In 1930, the tariff on velveteen was increased to 62.5% ad valorem, but, by this time, virtually all of this fabric was imported from Japan, with an Italian contribution.[684]

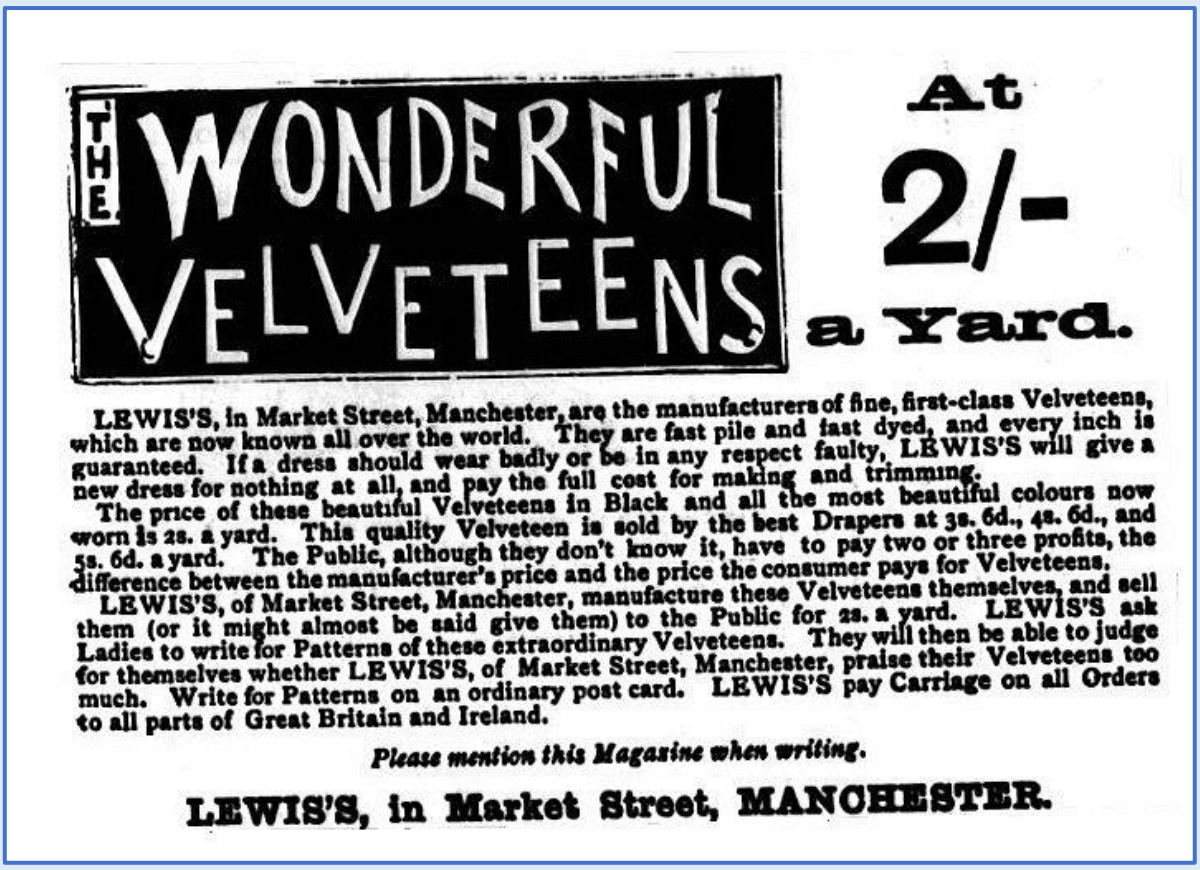
- Cotton velvets. 'Invented at Bolton in the 1740s as an all-cotton development of earlier fustians with a raised napped surface, such as thickset (see CORD), they sold as a cheaper, harder wearing substitute for silk velvet, which they resembled in their dense pile.'[685]

- Fustian*. Bolton was the principal seat of its manufacture, and the chief market was Manchester. But this fustian was no longer even in part a woollen fabric. It was built up of a linen warp* and a cotton weft, and this continued to be the case until the mechanical inventions of the eighteenth century enabled the Lancashire manufacturer to spin a cotton yarn strong enough for warp. Out of this fustian has developed — first, velveret, and then the modern cotton-velvet or velveteen, the first manufacture of which appears to have been about 1780.[686]

Acanthus block-printed cotton velveteen designed by William Morris (Wikimedia)

- John Holker (1719-1786) of Stretford was a multi-talented textile worker and calenderer*, and a supporter of the Catholic Jacobite cause, who joined the army of Bonnie Prince Charlie when it entered Manchester in 1745. He was captured in Carlisle and incarcerated in London, but managed to escape, fleeing to France. Later, he returned to Manchester as a spy with the intent of carrying out industrial espionage on behalf of his French paymasters. During a successful three-month clandestine operation in 1751, he managed to recruit skilled English textile operatives willing to work in France; secure cloth and yarn samples, machine models, and parts and tools for cotton velvet looms.[687] He was responsible for revolutionizing textile production in

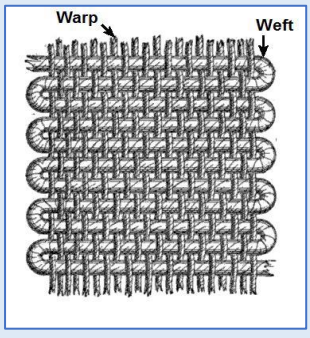
Rouen, later called 'the Manchester of France', particularly in the production of velveteens.[688]



Source [689]

VOILE is a fine, soft, semi-transparent fabric, principally made of cotton, but sometimes linen, silk or wool are used. A plain weave (see CALICO) is used to produce a square mesh, which number about 55 per 25.4 mm. It is made of hard-twisted yarn, which is not dyed. Voile was piece dyed.[690] It is popularly used in the production of sheer curtains, because of its good draping quality and is conducive to airflow. Its etymon is the French word, *voile*, meaning veil.

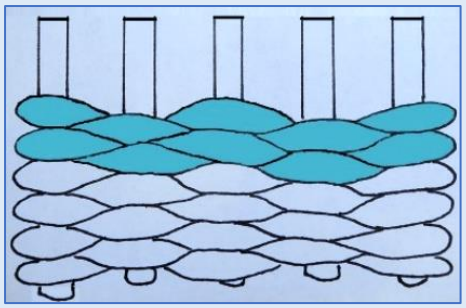
WARP AND WEFT are the two foundational components used in weaving to turn thread or yarn into fabric through the process of interlacing at right angles (see also END; PICK). The illustration[691] shows a plain weave: with the weft thread woven over and under alternating warps. Weft is often referred to as fill or fill threads.



➢ 'But, by various changes in the mode of combining the weft with the warp, together with various thicknesses and strength of yarn, a vast variety of fabrics are woven from cotton, such as cambric, muslin, damask, diaper, cotton-velvet, velveteen, corduroy, fustian, cantoon, moleskin, &c. All these furnish us with notable examples of what can be done

when the fibres of cotton have once been made, through the labour of the spinner, to assume the form of thread or yarn. The difference between the fabrics just named is so great that we can scarcely believe them to be made from the same material, until we reflect on the almost illimitable power which the loom has of altering the mode in which the threads are made to interlace.'[692] See also: SATIN.

Sett is the spacing between the warp threads; also referred to as *epi* or ends per inch. In a weft-faced fabric, the warp threads are spread further apart, allowing the weft to cover the warp. In a warp-faced fabric, the warp threads are moved closer together (a tighter sett) allowing little room for the weft to be seen. A balanced weave is where the warp and weft threads have same number of threads per inch.



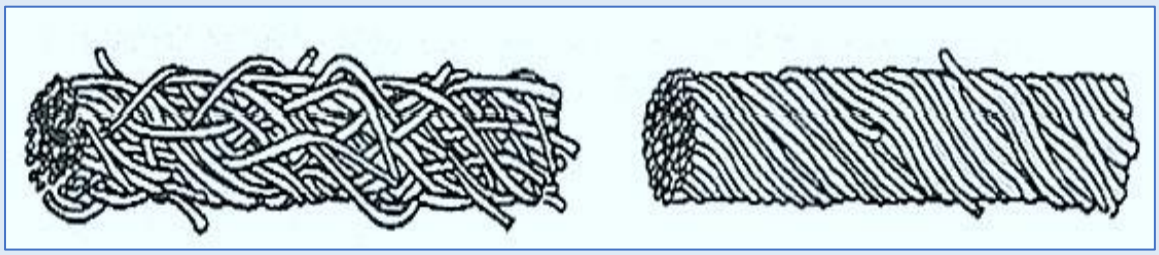
< weft-faced fabric[693]

WORSTED refers to 1) a type of woollen yarn; 2) any all-wool fabric that is made from a combed worsted yarn; 3. weight.

The received opinion is that 'worsted' is named after the village of Worstead in Norfolk, whose Old English elements, worð + stede mean the 'site of an enclosure' (farm, homestead)[694], which may speak to a sheep pen.[695] Two other etymologies have been offered, but with little credence.[696] Flemish weavers were encouraged to migrate to England during the reign of Edward III (1327-1377).[697] Many settled in East Anglia, and it seems probable that a colony established itself at Worstead.

- **'**Wool is spun into two types of yarn — (a) worsted, and (b) woollen**.** In preparing and spinning a worsted yarn, the idea is to arrange the fibres parallel to each other. The woollen yarn, however, is spun so that the fibres are in all possible directions, with the result that the latter possesses more loose fibre than the former, and is of rougher appearance, ... '[698]

- '... any definition of worsted and woollen yarns cannot depend on the machinery by which they are made, nor on the use to which they may be put after they are spun. Neither can it refer to the length or quality of the wool. The definitions must depend entirely upon the characteristics of the yarn, as seen in the arrangement of the fibres. A worsted yarn, therefore, may be defined as a thread spun from wool in which the fibres are arranged so as to lie smoothly in the direction of the thread and parallel to each other.'[699]

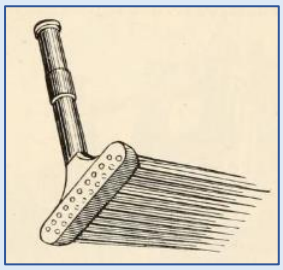


(left) wool yarn – (right) worsted yarn

(left) wool yarn – (right) worsted yarn

Carding is the process by which shorn fleece is untangled and impurities removed prior to spinning. This was accomplished by gently brushing the wool with hand cards, to produce a sliver (a long bundle of fibre) before spinning it into yarn. This process was eventually mechanized.[700]

< hand cards c. 1800.[701]



In creating worsted yarn, the wool was combed using a hand comb. 'The material when thus combed differed from the same material carded, in that the combed wool contained only the long fibers, which lay parallel, the short fibers or noil having been altogether rejected or combed out.'[702] Carding does not eliminate the noil. The long fibres create a yarn that is firm (not fluffy), and possesses a much greater tensile strength. This traditional definition was deemed unscientific, and a more nuanced approach was propounded by McClaren, who emphasizes the arrangement of the fibres in the thread.[703] Carding became mechanized, and combing was enhanced by a gill box, which featured rows of vertical pins.[704] Gilling is essentially a straightening process, but was able to blend and produce a mixture of long and the short fibres.

Worsted weight or count: A hank is shown on the left (the centre is a twisted version of the outer ring). The English worsted count system (a.k.a. Bradford System or spinning count) is defined as 'the number of hanks of 560 yard lengths (512 m) that can be spun from one pound (0.5 kg) of a clean wool. As such, it defines the fineness of the wool. The higher the count number the finer the yarn. 'In theory, one pound of clean 62s spinning count wool could produce 62 hanks or 104,160 feet of yarn.'[705] The assessment of the Bradford count was subjective, and depended on the trained eye and considerable experience.[706]

Acknowledgements

Many commercial directories are available from the Historical Directories of England & Wales online database maintained by the Archives and Special Collections Department of the Library of the University of Leicester at https://specialcollections.le.ac.uk/digital/collection/p16445coll4. Thank you for your efforts and foresight in making this valuable collection accessible and searchable. I would also like to express my sincere gratitude to the National Library of Scotland and the John Rylands Library, University of Manchester, for providing unfettered access to their digital map platforms.

In the era of the paywall, it is a pleasure to acknowledge a debt *to The London Gazette* for allowing free access to its searchable archive. Also, the Internet Archive has proven to be an invaluable resource, and it is very sad that its 'library function' has been diminished through litigation by the publishers, Hachette, HarperCollins, Penguin Random House, and Wiley.[707]

I would also like to express my gratitude to Peter Feuser of Stuttgart (Homepage: www.feuser-auktionen.de) for graciously providing the digital photograph of the letter from Leppoc to Jordan. The photograph of 'spot diaper weave of unbleached linen' on page 100 was taken by Justin Squizzero (https://www.theburroughsgarret.com/weaver), and is reproduced with his kind permission. Thank you, Justin.

And a very special thanks to Patricia, my wife of four happy decades, for making it all worthwhile.

Abbreviations

IE Indo-European
OED *Oxford English Dictionary* (online) 🔒.
PRA Poor Rating Assessments. Manchester Township. Mostly without pagination, and accessed via FamilySearch.
supra above
s.v. *sub verbum* (under the word).

Notes

- A number of trade directories and *The Manchester Commercial Lists* are divided into separate sections, each with their own pagination. Some sections have no pagination.
- Within this section, text highlighted in blue is hyper-linked to online resources.
- The Bank of England calculator: has been used to convert the value of past amounts of money (£) into modern equivalents.
- References to 'census' and 'census for England' refer to the Census for England and Wales, accessed via FamilySearch, which is free of any charges, but requires the user to register.

Sources

[1] Illustration: Edward Baines, *The History of the County Palatine and Duchy of Lancaster*, new, rev., enl. edn. James Croston (ed.), 4 vols. (Manchester: Heywood, 1888-1891) III, 246. Traditionally, Eccles was part of the County of Lancashire, England. Today it is incorporated into the unitary authority of Greater Manchester and is a part of the City of Salford.

[2] I have established a Lewis family tree in FamilySearch, which begins with George Lewis.

[3] Joseph Bentley, the author of *Gems of Biography* (1856), describes his childhood as a weaver:

> "My life was passed in frequently taking granny's position at the wheel in winding bobbins for father and mother. When I was nearly six and a half years old, however, all this was changed. A pair of looms was bought, and I was actually set to weave strong fustian at that early age – earlier than ever I knew any one put into the loom in any part of the country. My work at first was to weave a yard and a quarter of strong velveteen fustian daily. My little arms were so short that a long handle was screwed to the lathe for me to move it by, and big lumps of wood were nailed on the six traddles [treadles] to compensate for the shortness of my legs. I was thus set to make cloth for other people's garments, that I might earn my own bread. Though many persons expressed serious doubts whether I should be able to bear my work, it did not seem to injure me, as I continued growing pretty well and I was a tall boy for my age. Of course, few people took much notice of the neglected state of my mind, or thought of the wrong done to the moral and intellectual nature. These things were lightly esteemed among the rude, simple people who surrounded me during my youthful days. My first piece of cloth was 56 yards long, and it weighed 25lbs., and my finishing of it was quite an event. I was allowed to go with father five miles to the house of the employer, John Lees, whose son folded it up and marked it, while the father proceeded to pay for the work the sum being, if I recollect right, about £2. This would include spinning the weft and weaving the piece...On two occasions, for a small wager, I wove, in continuous day of 16 hours, three times the amount of cloth forming my regular day's work, throwing my shuttle about 25,000 times."

Cited in Samuel Andrews (ed.) '*The Annals of Oldham: the diaries of William Rowbottom, 1787–1830*', serialised in weekly parts in the *Oldham Standard* from the 4th of January 1887 to 23rd of March 1889: 46.
[4] *Pigot and Deane's New Directory of Manchester and Salford for 1821-2*: 302.
[5] Ordnance Survey (Six-inch England and Wales, 1842-1952) Lancashire Sheet CIII (detail), surveyed: 1845, published: 1848. Courtesy of the National Library of Scotland.
[6] M. D. Greville, 'Chronological list of the railways of Lancashire, 1828-1939', *Transactions of the Historic Society of Lancashire and Cheshire* 105 (1953) 195.
[7]1841: Eccles, 52.
[8] S. F. A. Caulfield and Blanche C. Saward, *The Dictionary of Needlework*, 2nd edn., 6 vols. (London: Cowan, 1890) I, 60. W. D. F. Vincent, *Vincent's Systems of Cutting all Kinds of Tailor-Made Garments* (London: Williamson, 1903) 39.
[9] Probably, Elizabeth was buried in the New Jerusalem Temple Cemetery in Salford on 19 April 1820. George remarried in 1823 to the widow, Mary Pennington of Chorlton cum Hardy. He may have died in June 1838 (registered in Salford vol. 20, page 590).
[10] Illustration: Richard Lovett, *Ireland Illustrated with Pen and Pencil* (New York: Hurst, 1892) frontis.
[11] John Mortimer, *Cotton Spinning: the story of the spindle* (Manchester: Palmer, Howe & Co., 1895) facing 22.
[12] Alfred P. Wadsworth and Julia De Lacy Mann, *The Cotton Trade and Industrial Manchester, 1600-1780* (Manchester: Manchester University Press, 1931) 285. S. D. Chapman, *The Cotton Industry in the Industrial Revolution* (London: Palgrave Macmillan, 1972) 12.
[13] Francis R. Johnston, *Eccles: growth of a Lancashire town* (Eccles: Eccles and District History Society, 1967) 84-5.
[14] Variations on the mode of doing business are outlined in John Burnett, *Idle Hands: the experience of unemployment, 1790–1990* (London: Routledge, 1994) 44-5.
[15] Peter Kriedte, Hans Medick and Jürgen Schlumbohm, *Industrialization Before Industrialization: rural industry in the genesis of capitalism* (Cambridge: Cambridge University Press, 1981) 38.
[16] James Andrew Schmiechen, 'Sweated industries and sweated labor: a study of industrial disorganization and worker attitudes in the London clothing trades, 1867–1909', *The Journal of Economic History* 36 (1976) 283-6.
[17] Marjorie Filbee, *Cottage Industries* (Newton Abbot: David & Charles, 1982) chap. 2.
[18] Geoffrey Timmins, *The Last Shift: the decline of handloom weaving in nineteenth-century Lancashire* (Manchester: Manchester University Press, 1993) 25.
[19] In particular, Lancashire was relatively slow in exploiting the turnpike trust movement: John Whitely, 'The turnpike era' in A. G. Crosby (ed.) *Leading the Way : a history of Lancashire's roads* (Preston: Lancashire County Books, 1998) 120–1. The quality of turnpike roads: Eric Pawson, *Transport and Economy: the turnpike roads of eighteenth century Britain* (London: Academic Press, 1977) chap. 10. Canals: Charles Hadfield, *The Canal Age*, 2nd edn. (Newton Abbot: David & Charles, 1981) chap. 2.
[20] Illustration: George Walker, *The Costume of Yorkshire* (London: Longman, Hurst, Rees, Orme, and Brown, 1814) Plate 2: 'Cloth makers'.
[21] Diary entry for 28 February 1799: supra endnote 3, 46.
[22] Containment: Mustafa Suleyman, *The Coming Wave* (New York: Crown, 2023) passim.
[23] 'the leading example of technological unemployment during English industrialization': Duncan Bythell, *The Handloom Weavers: a study in the English cotton industry during the Industrial Revolution* (Cambridge: Cambridge University Press, 1969) xi.
[24] Second only to agriculture: William Radcliffe, *Origin of the New System of Manufacture Commonly Called Power-Loom Weaving* (Clifton: Kelley, 1974 [1828]) 63.
[25] The demise of the handloom weavers from 1790 to 1850 is outlined by John Burnett, *Idle Hands* (London: Routledge, 1994) chapter 2.
[26] Outlined by J. L. and Barbara Hammond, *The Skilled Labourer*, new edn. (London: Longman, 1979) chapter 4.
[27] *Engineering* [London] 58, (27 July 1894) fig. 12 facing 98.
[28] Ibid., 105.
[29] *Handloom v. Power Loom*, a traditional ballad: John Harland, *Ballads & Songs of Lancashire*, 2nd edn. (London: Routledge, 1875) 188-9.
[30] On the development of the mule: Harold Catling, *The Spinning Mule* (Newton Abbot: David & Charles, 1970). Moore's Law: David C. Brock (ed.) *Understanding Moore's Law: four decades of innovation* (Philadelphia: Chemical Heritage Press, 2006).

[31] Geoffrey Timmins, *Four Centuries of Lancashire Cotton* (Preston: Lancashire County Books, 1996) 53-6.
[32] John Lord, *Memoir of John Kay* (Rochdale: Aldine, 1903) 5, 97-8, 102.
[33] Francis Espinasse, *Lancashire Worthies* (London: Simpkin, Marshall & Co., 1874) 311–5.
[34] Ibid., 324.
[35] Mural (no. 10) in the Great Hall of Manchester Town Hall painted by Ford Madox Brown. The murals were produced between 1879-1893.
[36] 'Manchester, Oct. 9', *The Annual Register, or a View of the History, Politics and Literature for the Year 1779* (London, 1780) 228-9.
[37] 'A Petition of Thomas Walshman, of Preston', *The Journal of the House of Commons* 37 (27 June 1870) 926.
[38] J. L. and Barbara Hammond, *The Skilled Labourer*, new edn. (London: Longman, 1979) 126.
[39] Hansard. House of Lords, 27 February 1812: column 966-72.
[40] Poor relief: Derek Fraser, *Evolution of the British Welfare State*, 2nd edn. (Basingstoke: Macmillan, 1984) chapter 2. There are numerous examples of suicide in Rowbottom's annals [supra endnote 3] (e.g. 4 May 1815: 'John Jackson, a Chelsea pensioner and a weaver hung himself.)
[41] Kirkpatrick Sale, *Rebels Against the Future* (Cambridge: Perseus, 1996) 8.
[42] Brian J. Bailey, *The Luddite Rebellion* (New York: New York University Press, 1998) 13-14.
[43] The repressive Combination Acts 1799 and 1800 banned trade unions, collective bargaining, and other restraints to *laissez faire* capitalism in Britain. Imbalance of power: David F. Noble, *Progress Without People* (Toronto: Between the Lines, 1995) 4.
[44] Illustration: courtesy of the *Bibliothèque nationale de France*, poster (Paris, 1793) identifier ark:/12148/btv1b69503876.
[45] George Rudé, *Revolutionary Europe, 1783-1815* (New York: Harper & Row, 1964) 183. Ann Thomson, 'Thomas Paine and the United Irishmen', *Études irlandaises* 16, no.1 (1991) 109-19.
[46] Robert Reid, *The Peterloo Massacre* (London: Heinemann, 1989) 28.
[47] Ian Haywood, *The Revolution in Popular Literature : print, politics, and the people, 1790-1860* (Cambridge: Cambridge University Press, 2004) 81.
[48] Hiroki Shin, 'Paper money, the nation, and the suspension of cash payments in 1797', *The Historical Journal* 58 (2015), 415-42.
[49] There was a poor harvest in 1792, a failed harvest in 1794, and a meagre harvest due to bad weather in 1795. 'Wheat, which had averaged 43 s[hillings] a quarter in 1792, 49s. 3d. [pence] in 1793, and 52s. 3d. in 1794, rose to 108s. 4d. in August 1795, an increase of 50 s. in eight months: W. E. Minchinton, 'Agricultural returns and the government during the Napoleonic Wars', *The Agricultural History Review* 1 (1953) 29.
[50] Duncan Bythell, *The Handloom Weavers: a study in the English cotton industry during the Industrial Revolution* (Cambridge: Cambridge University Press, 1969) chapters 5 and 6.
[51] J. Steven Watson, *The Reign of George III, 1760-1815* (Oxford: Clarendon, 1960) 510.
[52] The chart is based on William Rowbottom's diary (supra endnote 3), who makes frequent references to the price of many consumables. Unfortunately, six years are missing (1796, 1798, 1805, 1807, 1817, 1828), and 1794 is silent on prices. Consequently, the chart is not a precise tool, but it does afford a practicable trendline. Data for missing years has been substituted with the closest chronological price available (e.g. 1805 reflects the prices of November 1804, while the prices for 1804 are from January of that year). Rowbottom defines his use of peck as 12 pounds (weight), and the prices he cites are local to Oldham, Lancashire.
[53] Harry Nisbet, *Theory of Sizing* (Manchester: Emmott, 1912) 10.
[54] Jeffrey A. Frankel, 'The 1807-1809 embargo against Great Britain', *The Journal of Economic History* 42, no. 2 (June, 1982) 291-308 .
[55] Peter Maw, 'Yorkshire and Lancashire ascendant: England's textile exports to New York and Philadelphia, 1750-1805', *The Economic History Review* 63, no. 3 (August, 2010) 734. Michael M. Edwards, *The Growth of the British Cotton Trade 1780-1815* (Manchester: Manchester University Press, 1967) passim.
[56] Patrick Karl O'Brien, 'The impact of the Revolutionary and Napoleonic Wars, 1793-1815, on the long-run growth of the British economy', *Review* (Fernand Braudel Center) 12, no. 3 (1989) 337. See Rowbotton, (supra endnote 3) 28 Jan 1799; 3 Dec 1807.
[57] Ibid., 354-5.
[58] Henry Lord Brougham, *Letters and Speeches on Various Subjects*, 2 vols. (Philadelphia: Carey & Hart, 1840) II, 173.
[59] Kevin Binfield (ed.), *Writings of the Luddites* (Baltimore: Johns Hopkins University Press, 2004) 182.

[60] John Richard Green, *A Short History of the English People*, new rev. edn. (New York: Harper Brothers, 1894) 829.
[61] John Wade, *British History Chronologically Arranged* (London: Wilson, 1839) 727.
[62] The effects of this disastrous policy were still being felt in 1847: 'Distress in the manufacturing districts', *Howitt's Journal* 2, no. 45 (6 November 1847) 303.
[63] Depressions of 1826, 1829, 1832, 1837, 1939, 1841–2: Duncan Bythell, *The Handloom Weavers: a study in the English cotton industry during the Industrial Revolution* (Cambridge: Cambridge University Press, 1969) 233.
[64] 'British finance in 1816', *The North American Review* 104, no. 215 (April 1867) 354-85.
[65] John A. James, 'Panics, payments disruptions and the Bank of England before 1826', *Financial History Review* 19 (2012) 294–6.
[66] John D. Post, 'The economic crisis of 1816–1817 and its social and political consequences', *The Journal of Economic History* 30 (1970) 248–50.
[67] Registrar: *Lists of chapels belonging to the Church of England* (London: Clowes, 1840) 43. 1861, 1871 & 1881 census for England. The birth of his children, from 1832-1836, he is shown as a 'manufacturer'. The 1851 census shows he is still a 'manufacturer'.
[68] *Pigot and Slater's General and Classified Directory of Manchester and Salford* (Manchester, 1841) Eccles, 52. The same page shows James Lewis, manufacturer of cantoon, diaper &c., also of Patricroft. This appears to be his brother.
[69] W. Whelan & Co., *New Alphabetical and Classified Directory of Manchester and Salford* (Manchester, 1853) 198; simultaneously, he is seen as a registrar under the heading, 'Eccles': 723.
[70] The 1851 census for England shows he was a scholar in 1851.
[71] Robert Head, *Cheshire at the Opening of the Twentieth Century* (Brighton: Pike, 1904) 185. Marland and Whitcombe came into being in 1847, when Chadwick, Marland, and Company was dissolved. James Chadwick left the firm, leaving Samuel Marland and Philip Norcup Whitcombe to form a new company, Marland and Whitcombe: *London Gazette*, no. 20766 (20 August 1847) 3048. It was dissolved, in turn, in 1865: *London Gazette*, no. 22954 (4 April 1865) 1898. It is described variously as 'general Manchester warehousemen and agents', cotton manufacturers and dyed goods manufacturers. Marland, Whitcombe and Garner were concurrently engaged in oil refining and distilling in Liverpool and at Clayton-le-Moors, near Preston. This company was restructured in 1865: *London Gazette*, no. 22988 (7 July 1865) 3446.
[72] Curtis, Dallow, and Co. was dissolved in 1857, when a partner, Jonathan Constantine, retired, leaving John Curtis and William Dallow to run the company: *London Gazette*, no. 22022 (17 July 1857) 2496. John Tetlow Lewis began working for the company around this time, but his tenure there was short. Their address was 24a York Street, Manchester. There are three entries for the company in Estell & Co., *Manchester Commercial List, 1873-1874* (London, 1873) 18 and two unpaged (William Dallow is described as a grey cloth agent).
[73] Robert Head, *Cheshire at the Opening of the Twentieth Century* (Brighton: Pike, 1904) 185. The 1861 census for England states that John is a Manchester warehouseman.
[74] Bosdin Leech, *History of the Manchester Ship Canal*, 2 vols. (Manchester: Sherratt & Hughes, 1907) II, 269.
[75] Samuel Smiles (ed.), *James Nasmyth, Engineer: an autobiography* (London: Murray, 1883) 221-2. Crewdson worked as foreman of the smith's and forge-work department and boiler-making department at the Bridgewater Foundry in Patricroft.
[76] W. Ralph Hall Caine, *Lancashire: biographies, rolls of honour* (London: James, 1917) 224.
[77] *London Gazette*, no. 23283 (30 July 1867) 4246.
[78] Michael Michaelis family tree.
[79] Lüdge | Kultur-Büro AHB (archive.org). Due to the Royal Westphalian decree of March 31, 1808, the Jews in Lügde adopted fixed family names, of which Michaelis was one. In 1810, Reuben worked as a merchant: Veröffentlichungen der Historischen Kommission für Westfalen, *Historisches Handbuch der jüdischen Gemeinschaften in Westfalen und Lippe. Ortsartikel Lügde* (Münster, 2021) 520.
[80] The application for naturalization states that Michael had resided in Britain for 14 years before his application for citizenship (HO 1/25/609).
[81] Mary Ann was considerably younger than Michael, being born in 1826. Her parents, Nicholas Tweddle and Jane Raulton were from Cumberland, and are buried in Weaste Cemetery in Salford. Nicholas owned a number of houses in Hulme, and lived at 155 York St., the area the newlyweds first settled: PRA 1843, 1847. Nicholas Tweddle was a Surveyor of Roads for Hulme: *Slater's Directory of Manchester & Salford, 1850* [Trades, etc] 93. Earlier he had been a partner in a firm of joiners and builders: *London Gazette*, no. 19713 (5 March 1839) 503.

[82] https://probatesearch.service.gov.uk/ proved 8 January 1879: £2,632,824/2025.
[83] Australian Dictionary of Biography.
[84] Dictionary of New Zealand Biography. The mother of Bendix was Helene Hilda Michaelis, sister of Michael: Rachel Mairs, *From Khartoum to Jerusalem* (London: Bloomsbury, 2016) 145-6.
[85] In the 1851 census for England, Moritz Michaelis uses his Hebrew name, Moses. The name, Moritz, was a product of the Germanization of the Jewish names, Moses or Mordechai, an official policy of assimilation that began in the 19th century. Moses (Moritz) is shown as a witness at the marriage of his brother, Michael, to Mary Ann Tweddle in Manchester on 17 December 1847. The 1851 census shows that Moritz (born 1820) was lodging with his nephew, Michaelis Hallenstein (born 1832) (brother of Bendix Hallenstein). Moritz and Michaelis Hallenstein resided on Moss Lane, in Hulme, Manchester (not far from Michael) and are both described as a 'warehouseman'. An obituary states: *Michaelis Hallenstein (1832-1904) – The death of Mr. Michaelis Hallenstein, of Messrs. Michaelis Hallenstein and Company Proprietary Limited, which took place in England on the 18th inst., removes one of the earliest and most highly esteemed merchants of Melbourne. Born in 1834 he came to Melbourne in the early fifties, and shortly afterwards joined the firm [which bears his name]. For the past 30 years he has resided in England, with the exception of two brief visits to Melbourne in 1886 and 1894. Although he never occupied a public position in the community, he yet served it by his large-heartedness and generosity, and his death will be deeply regretted, especially by the older colonists. He leaves a widow and large family. Two of his sons reside in New Zealand, and a nephew Mr. Reuben Hallenstein is a member of the firm and a resident of Melbourne*: *Argus* (Melbourne) (26 October 1904) 7. He died in Brighton in 1904, and was buried at Willesden.
[86] Tib Street (1845-6): *The Burgess Roll of the Borough of Manchester. Township of Manchester, Collegiate Ward*. Fountain Street (1847-48): *The Register of Persons Entitled to Vote* (Manchester, Burgess) 177.
[87] *London Gazette* no. 20722 (9 April 1847) 1354.
[88] *Daily Alta California* 35, no. 12063, (4 May 1883) 1. As California's railway network expanded, Agard was also involved in importing rails from Wales: *Sacramento Daily Union* 30, No. 4613 (4 January 1866) 2.
[89] 1861 census for England.
[90] No. 1800, filed 26 June 1857: Bennett Woodcroft, *Chronological and Descriptive Index of Patents Applied for and Patents Granted* (London: Eyre & Spottiswoode, 1858) 111. *London Gazette*, no. 22024 (24 July 1857) 2560.
[91] John Clemson family tree. Census for England 1851, 1861, 1871.
[92] 26 May 1859: *English Patents of Inventions, Specifications: 1859, 1270 - 1333* (London: Eyre & Spottiswoode, 1859) no. 1307. *London Gazette*, no. 22275 (17 June 1859) 2369.
[93] *London Gazette*, no. 24685 (26 February 1879) 1486.
[94] His given name and surname are often mis-spelled as Herrmann and Sampson. Moreover, the firm is sometimes misconstrued as Hermann, Sampson and Leppoc, as if three people are involved. Similarly, Samson, Hermann and Leppoc is encountered, because of alphabetization.
[95] Josef Reinhold, 'Die verspätete Emanzipation der Juden in Sachsen als legislativer Rahmen', *Journal Juden in Sachsen* (Leipzig) (April 2010) 10. His father, Isaak Herz Samson (1778-1849) was a banker in Braunschweig, and his grandfather, Herz Samson (a.k.a. Naphtali Hirz Samson) (1738-1794), court banker in Wolfenbüttel: Herbert Obenaus (ed.): *Historisches Handbuch der jüdischen Gemeinden in Niedersachsen und Bremen*, 2 vols. (Göttingen: Wallstein, 2005) I, 273; II, 1574.
[96] Source of the announcement illustrated in the text: *Leipziger Zeitung: Amtsblatt des Königlichen Landgerichts und des Königlichen Amtsgerichts Leipzig sowie der Königlichen Amtshauptmannschaft Leipzig* 1/3 (1866) 106.
[97] Thomas Adam, *Buying Respectability* (Bloomington: Indiana University Press, 2009) 65.
[98] Sachsen.Digital.
[99] *Leipziger Zeitung*, nr. 62 (31 March 1818) 671.
[100] *Königlich privilegirte berlinische Zeitung* (18 October 1824) unpaged.
[101] *Beilage zu no. 82 des Staats und gelehrte Zeitung des hamburgischen unparthenischen Correspondenten* (Mittwoch, 23 May 1827) unpaged. Simon Eichengrün was buried in the *Alter Jüdischer Friedhof* in Braunschweig: Find-a-Grave ID 239249428.
[102] It is reported that Hermann invested 10,000 Thaler in the company, which he probably received from his father: Hans-Heinrich Ebeling, *Die Juden in Braunschweig* (Braunschweig: Stadtarchiv, 1987) 332. His father was Isaac Herz Samson, a banker located at Kohlmarkt 162, Braunschweig.
[103] *Paderbornsches Intelligenzblatt für den Oberlandes-Gerichts-Bezirk*, nr. 58 (Sonnabend den 21 July 1827) 960.

[104] *Posener Intelligenz-Blatt*, nr. 38 (13 Februar 1828) 295.
[105] Franz B. Fray, *Allgemeiner Handlungs-Gremial-Almanach für den oesterreichischen Kaiserstaat* (Wien, 1835) 631.
[106] Deutsche Vaterlandskunde. *Ein Hand- und Hausbuch von und für Deutschland und die angrenzenden Länder* (Stuttgart & Leipzig: Rieger, 1836) under Braunschweig, page 820: 'Michaelis & Samson engl. und deutsche Manufakturwaarend en gros'.
[107] Their shared father's name is not known to the author. Reuben and Jacob are mentioned in the will of Bernhard: National Archives, Kew (PROB 11/1997/106).
[108] Bernhard Michaelis family tree. Steven Glover, *The History and Gazetteer of the County of Derby*, part I, vol. 2, Thomas Noble (ed.) (Derby: Mozley & Sons, 1833) 392.
[109] Edward Baines, *History, Directory, and Gazetteer, of the County Palatine of Lancaster*, 2 vols. (Liverpool: Wales, 1825) II, 331.
[110] Parliamentary Archives (London) HL/PO/PB/1/1836/6& 7W4n25; Title: Private Act (Not Printed), 6 & 7 William IV, c. 40. Description: An Act for naturalizing Bernhard Michaelis. Date: 1836 (11 February: 54). *The Statutes of the United Kingdom of Great Britain and Ireland* 14 (London: Eyre & Spottiswoode, 1838) xii. *Journals of the House of Commons* 91 (Session 1836) 195. Jewish migration to Manchester is mentioned in Thomas Swindells, *Manchester Streets and Manchester Men* (Manchester: Cornish, 1908) 124-8.
[111] House of Commons. *Accounts and Papers 1837* 48 (Session 31 January – 17 July 1837) Railway Subscription Contracts. 12: Manchester South Union Railway, iv, vii. Francis Whishaw, *The Railways of Great Britain and Ireland* (London: Simpkin, Marshall & Co, 1840) 301-06.
[112] Painting: Bella Villa by Philip Thomson Gilchrist (1865–1956), detail. Provenance: Lancaster City Museums.
[113] Burial: 21 July 1843, Rusholme Road Cemetery, Chorlton-on-Medlock.
[114] *Pigot & Co.'s National Commercial Directory for 1828-1829* (London & Manchester, 1828) 388. Map: James Pigot, *A New Plan of Manchester and Salford, 1819*: detail. *Pigot and Son's General Directory of Manchester, Salford, &c. for 1829* (Manchester: Pigot, 1829) 206, appendix 29. PRA 1828 (vol.2) 'Michaelis & C'; 1832 (vol. 2) 'Michaelis' at 7 & 10 New Market (respectively), but for 1833 (vol. 3) Michaelis & Samson appear.
[115] In 1831, Sounding Alley is described as filthy and pestilential: Alan Kidd and Terry Wyke (eds.) *The Challenge of Cholera: proceedings of the Manchester Special Board of Health, 1831-1833* (The Record Society of Lancashire and Cheshire 145, 2010) 5.
[116] Moritz Michaelis named one of his sons George, perhaps acknowledging this relative.
[117] Edward Baines, *History of the Cotton Manufacture in Great Britain* (London: Fisher, Fisher & Jackson) following 360.
[118] Friedrich Engels, *The Condition of the Working Class in England in 1844* (New York: Lovell, 1887) 29.
[119] John J. Parkinson-Bailey, *Manchester: an architectural history* (Manchester: Manchester University Press, 2000) 6, 13, 93. Jane and Timothy Lingard, *Bradshaw, Gass and Hope* (London: Gallery Lingard, 2007) 106. It became the 'Royal' Exchange of Manchester after Queen Victoria's visit in 1851: George Bigwood, *Cotton* (London: Constable, 1918) 108.
[120] Reuben Spencer, *The Home Trade of Manchester*, 5th edn. (London: Simpkin, Marshall & Co., 1890) 24.
[121] Asa Briggs, *Victorian Cities* (London: Penguin, 1963) 87.
[122] Ordnance Survey (Town Plans of England and Wales 1840s-1890s) Manchester and Salford Sheet 28 (detail), surveyed: 1849, published: 1851.
[123] *The Builder* 18, no. 915 (18 August 1860) 522. The 'Lord of the Manor' refers to the family of Captain John Radcliff. The manor house (Pool Fold Hall) was moated with a drawbridge. This was demolished about 1811/12 and cotton warehouses were built on the site: John Palmer, *The History of the Siege of Manchester* (Manchester, 1822) 25.
[124] Leipziger Zeitung, nr. 27 (31 Jan 1829) 278; *Staats und gelehrte Zeitung des hamburgischen unpartheyischen Correspondenten*, nr. 18 (31 Januar 1829) unpaged.
[125] *Beilage zur Allgemeine Zeitung* nr. 12 (12 Jan 1841) 96. At the time of dissolution, the company was operating from 8 Mount Street: PRA 1840 (vol. 3).
[126] *Journal Juden in Sachsen* (Leipzig) (April 2010) 10.
[127] *London Gazette*, no. 19957 (2 March 1841) 574. Reported in *The Sheffield and Rotherham Independent* (6 March 1841).
[128] 'Apparently there existed a clear division of labour, according to which English merchants primarily dealt with the home and colonial markets and "foreign merchants" controlled exports to the rest of the world with

special attention given to their native countries.': Hartmut Berghoff, 'Regional variations in provincial business biography: the case of Birmingham, Bristol and Manchester, 1870–1914', *Business History* 37 (Jan. 1995, no. 1) 68-9.
[129] Susan Duxbury-Neumann, *Little Germany: a history of Bradford's Germans* (Stroud: Amberley, 2015).
[130] *Beilage zur Allgemeinen Zeitung* nr. 12 (12 Januar 1841) 96 describes it as a *freundschaftlige Auflösung* (amicable dissolution).
[131] 'Mr. H. J. Leppoc [obituary]', *The Christian Life: a Unitarian journal* (London) 9, no. 390 (3 Nov 1883) 530.
[132] *Pigot and Slater's Directory of Manchester and Salford* (Manchester, 1841) 85.
[133] *I. Slater's National Commercial Directory of Ireland* (Manchester: Slater, 1846) [Manchester section] 37.
[134] The date of establishment for the this partnership is stated in *The Manchester and District Commercial List, 1878–1879* (London: Seyd & Co., [1878]) unpaged.
[135] *Slater's Directory of Manchester and Salford* (Manchester: Slater, 1850) 167. They are described as 'shipping and commission merchants.' *Slater's Royal National Commercial Directory and Topography of Scotland*, 1852: 48.
[136] F. S. Stancliffe, *Manchester Royal Eye Hospital* (Manchester: Manchester University Press, 1964) 44; repeating a report in William E. A. Axon (ed.), *Annals of Manchester* (Manchester: Heywood, 1886) 397-8.
[137] Ibid.
[138] Peter Arrowsmith, *Healey Dell: an archaeological desk-based assessment* 1 (Manchester: Manchester University Archaeological Unit, 2004) section 4.17.
[139] Axon, William E. A. (ed.), *The Annals of Manchester* (Manchester: Heywood, 1886) 397-8. Stancliffe, F. S. *The Manchester Royal Eye Hospital* (Manchester: Manchester University Press, 1964) 44. Anthea and Neil Darlington, *St. Paul's Church, Kersal Moor* (2011) 5-6. Louis M. Hayes, *Reminiscences of Manchester* (Manchester, Sherrat & Hughes, 1905) 87.
[140] Bosdin Leech, *History of the Manchester Ship Canal*, 2 vols. (Manchester: Sherratt & Hughes, 1907) I, 75.
[141] 'Mr. H. J. Leppoc [obituary]', *The Christian Life: a Unitarian journal* (London) 9, no. 390 (3 Nov 1883) 530.
[142] H. J. Leppoc, 'Tribunals of Commerce, or Courts of Arbitration', *Journal of Social Science* (November, 1865 to October, 1866: *Sessional Papers of the National Association of for the Promotion of Social Science*) (London: Chapman & Hall, 1866) 49-66.
[143] Thomas Skinner, *The Directory of Directors* (London, 1881) 207.
[144] Kenneth Warren, *Steel, Ships and Men: Cammell Laird, 1824–1993* (Liverpool: Liverpool University Press, 1998) 41.
[145] British Parliament. *Report on the Present State of the Trade Between Great Britain and Russia* (London, 1866) 15.
[146] *Collinson, Burton & Co.'s West Riding Worsted Directory* (Bradford, 1851) 251, 283-284. Engelmann appears in the 1851 census for England as a 'Bavarian (British subject)', whose occupation is a 'stuff merchant'.
[147] *Lund's Bradford Directory* (Bradford: Lund, 1856) 168, 206; 101, 15 (Engelmann); 288, 304, 168 (Cooper St.). PRA 1856 (vol. 4) shows Samson and Leppoc renting a building at 4 Cooper Street, which is described as a warehouse. Engelmann's residence in Hanover Square: *Ibbetson's General and Classified Directory, Street List and History of Bradford* (Bradford: Ibbetson, 1850) 41, 105.
[148] *Directory and Topography of the Borough of Bradford* (Sheffield: White, 1861) 497 (Engelmann); 549, 615 (stuff merchants); 661 (55 Well St.). *White's Directory of the City of Leeds*, 15th edn. (Sheffield, 1894) pages 1847, 1896. Shortly after, the firm's office moved to 57 Well Street, but by 1894 they were back in number 55: *Jones's Mercantile Directory of Bradford* (London, 1863) 64 (57 Well St.). William White, *Directory of Bradford, Halifax, Wakefield ...* (Sheffield, 1866) 542 (57 Well St.); 508 (Engelmann). *The Commercial Directory and Shipper's Guide*, 4th edn. (Liverpool: Fulton, 1872) 127 (57 Well St.). *White's Directory of the City of Leeds*, 15th edn. (Sheffield: White, 1894) pages 1847, 1896 (55 Well St.).
[149] *The Post-Office Bradford Directory* (Bradford: Byles, 1883) 322. 'Priestley's Warehouse' was designed by architect, Eli Milnes (1830-1899): Edgar Jones, *Industrial Architecture in Britain, 1750-1939* (London: Batsford, 1985) 93–4.
[150] Ministère du Commerce. *Bulletin Officiel de la Propriété Industrielle & Commerciale*, deuxième année, tome 1 (1er Janvier –30 Juin 1885) (Paris: Société Anonyme de Publications Périodiques, 1885) 78. *Übersicht der gewerblichen Marken, welche bei den Handels- und Gewerbekammern*, Heft IV (Wien, 1881) 7.

[151] A similar eagle appears on the silver Taler of the Principality of Braunschweig-Wolfenbüttel.
 date: 1702.
[152] George Sauer, *Handbook of European Commerce* (London: Sampson Low, Marston, Searle and Rivington, 1876) 31.
[153] *The New-York City Directory for 1854-1855* (New York: Rode, 1854) 618. *Wilson's Business Directory of New York City* (New York: Trow, 1856) 267. *Wilson's Business Directory of New York City* (New York: Trow, 1858) 144 [shippers of 'dry goods'], 295. There was a New York City agent of the company listed as late as 1900: *Trow's Directory* 48 (1900) 380. *McElroy's Philadelphia City Directory for 1860* (Philadelphia: Biddle, 1860) 1177.
[154] *Official Records of the Union and Confederate Navies in the War of the Rebellion* ser. 2, v. 3 (Harrisburg: National Historical Society, 1987) 903. A loss incurred by Samson & Leppoc in dealing with an insolvent American company is referred to in the *New York Times* 33, issue 10263 (July 27 1824) 3.
[155] *Kelly's Directory of Merchants, Manufacturers and Shippers of the United Kingdom*, 11th edn. (London: Kelly, 1897) 674. *Adressbuch aller Länder der Erde der Kaufleute, Fabrikanten, Gewerbtreibenden, Gutsbesitzer ...,* Bd. 25: *Frankreich (Paris)*, 4te Ausgabe für 1886–1889 (Nürnberg: Leuchs) 319 (velours).
[156] *Kelly's Directory of Merchants, Manufacturers and Shippers of the United Kingdom*, 11th edn. (London: Kelly, 1897) 2736, 2762. *The Merchant Shippers of London, Liverpool, Manchester, Birmingham, Bristol and Hull* (London: Straker, 1868) 154, 247.
[157] Trieste: *Times* (London) 24 May 1859: 5. South Africa: *The Argus Annual and South African Directory* 29 (Johannesburg, 1896) 521.
[158] *The Export Merchant Shippers and Manufacturers Directory* (London: Dean, 1879) 37, 510. *Street's Indian and Colonial Mercantile Directory* (London, 1869) 398.
[159] Photo credit: Lugdunum Philatélie (Sainte-Foy-Les-Lyon, 14 October 2019) Auction catalogue 111.
[160] *The Post-Office Annual Glasgow Directory for 1865-1866* (Glasgow: Mackenzie, 1865) 261. *The Post-Office Glasgow Directory 1864-1865* (Glasgow: Mackenzie, 1864) 272.
[161] *Post Office Glasgow Directory for 1883-1884* (Glasgow: Mackanzie, 1883) 496. Samson and Leppoc are described as 'silk and velvet manufacturers' at Angel Court, Friday Street, London: George Taylor Wright (ed.) *The 'Handbook' to the Manufacturers and Exporters of Great Britain* (London, 1870) 407.
[162] *The Post Office London Directory for 1881* (London, Kelly) 1223.
[163] *The Business Directory of London*, 22nd annual edn. (London: Morris, 1884) [Classified Section] 834.
[164] *Dundee Directory* (Dundee, Mathew) 1901–1902 (1901) 402; 1902–1903 (1902) 404; 1903–1904 (1903) 407; 1904–1905 (1904) 410; 1905–1906 (1905) 412; 1906–1907 (1906) 416; 1907–1908 (1907) 417; 1908–1909 (1908) 420; 1909–1910 (1909) 432.
[165] Philip A. Sykas, *Pathways in the Nineteenth-Century British Textile Industry*, 3 vols. (London: Routledge, 2023) II, 176. They were responsible for designing the Royal Exchange of 1869-74 (supra pages 22-3).
[166] *London Gazette*, no. 23693 (3 January 1871) 17.
[167] *The Manchester and District Commercial List, 1878–1879* (London: Seyd & Co., [1878]) 11, 57.
[168] Census for England 1881; 1891; 1901. Unconfirmed genealogical research shows Albert's father was Ja'acob Otto Jordan (1795-1888) owner of a tobacco factory in Einbeck, Lower Saxony, 62 km south of Hannover.
[169] National Archives, Kew. HO 1/174/B58 Naturalisation Certificate: Albert Jordan, from Hanover. Certificate B58 issued 24 December 1870.
[170] Photo courtesy of Peter Feuser of Stuttgart (Homepage: www.feuser-auktionen.de). Modern spelling: Reinbek. Regarding the orthography of the cursive letter preceding 'Leppoc', it is deemed to be a stylized German *Kurrent* <H>.
[171] Located on the fashionable Katharinenstraße at no. 14. Samuel (Germanized to Siegmund) Drucker was originally from Braunschweig: Hubert Lang, Anwaltsgeschichte.
[172] National Archives, Kew. HO 334/1/285 Naturalisation Certificate: Oscar Leppoc, from Saxony. Certificate A285 issued 25 March 1871.
[173] *London Gazette*, no. 24356 (22 August 1876) 4673.
[174] *Manchester Courier* (6 October 1883) 16. He died in the same month and year as H. J. Leppoc, his uncle, 29 days apart.
[175] *London Evening Standard* (5 May 1877) 1; *Manchester Courier* (3 May 1877) 8.

[176] His partner was Siegfried Salomon: *London Gazette*, no. 23980 (27 May 1873) 2614 (dissolution of partnership). Barsdorf specialized in imported Cuban cigars and other tobacco products: Havanna Handels-Gesellschaft von Barsdorf, Fischer & Co, Hamburg. He also represented and had a monopoly franchise over an Egyptian tobacco firm, Kyriazi Frères, in Germany: *Gewerblicher Rechtsschutz und Urheberrecht* (Berlin), 9 Jg., nr. 3 (März 1904) 69. J. Henry Patry (ed.) *La semaine judiciaire: journal des tribunaux*, 27 année (Genève, 1905) 398. He appears to have dissolved the partnership with Fischer, and his company appears solely under his name: *Hamburger Adress-Buch für 1895* (Hamburg: Erben, 1895) 21. He was also a tobacco leaf importer: *Kelly's Directory of Merchants, Manufacturers and Shippers of the World* (London, 1914) 798.
[177] There is no evidence before 1881 to suggest that they had joined the firm. They appear in PRA 1881, but are absent in PRA 1878. Jordan, Samson, Hallworth, Foster and Broome are seen sharing a building (warehouse?) at 117 Chapel Street, Salford: Electoral Register (Burgess Roll) 1882-3: 397.
[178] *London Gazette*, no. 25055 (3 January 1882) 18.
[179] The National Archives, Kew HO 1/51/1648.
[180] Census for England 1851 (clerk), 1871, 1891, 1901 (shipping merchant); general merchant (1881).
[181] *Journal of the Society of Arts* 9, no. 435 (22 March 1861) 293.
[182] Henry Rodolph de Salis, *Bradshaw's Canals and Navigable Rivers of England and Wales: a handbook of inland navigation* (London: Blacklock, 1904) 223. Bosdin Leech, *History of the Manchester Ship Canal*, 2 vols. (Manchester: Sherratt & Hughes, 1907) I, 90.
[183] *Manchester City News* (29 December 1906) 6.
[184] *The Post-Office Bradford Directory* (Bradford: Byles, 1883) 322.
[185] Judith Miller and Sue Nichols, *Guide to the Bowdon Parish Church and the Surrounding Area* ([Bowdon]: Altincham & Bowdon Civil Society, 2016) 28–29.
[186] She was the sister of James and John Mayo Worrall. Ordsall Dye Works: *Grace's Guide to British Industrial History*.
[187]David Bellhouse.
[188] *Manchester Courier and Lancashire General Advertiser* (26 January 1907) 6.
[189] The partnership of Pemberton and Savage was formed in 1835, and was dissolved on 12 January 1869*: The Manchester Commercial List, 1873-1874* (Manchester: Estell & Co., 1873) 33. They are variously described in the business directories as 'cotton merchants', 'manufacturers of cotton goods' and 'manufacturers of muslin'. The principals were Thomas Savage (1805-1884) of Doveridge, Derbyshire, who moved to Salford, and Peter Sauley Pemberton (1802-1890) of Liverpool, who relocated to Cheetham Hill. The firm was located at 5 Bread Street, Manchester.
[190] "Mr. Joseph Broome, late of Sunny Hill, Llandudno..... [£]123,517", a report of his will in *The Economist* 65, no. 3320 (13 April 1907) 637.
[191] Thomas Skinner, *The Directory of Directors* (London, 1881) 49. *Kelly's Handbook to the Titled, Landed and Official Classes for 1909* (London) 268.
[192] *The Orchid Review* 15, no. 171 (March 1907) 65-66.
[193] *Royal Jubilee Exhibition, Manchester 1887 : official catalogue* (Manchester, Heywood) 16, 299, 301. *Connoisseur* 21, no. 84 (August 1908) 277.
[194] A. T. Michell, *Rugby School Register: from May 1874–1904* (Rugby: Lawrence, 1904) 174.
[195] *Manchester Courier* (21 April 1883) 7.
[196] His second wife, Sophia Mary Hirtzel (1860-1944), was of Swiss extraction.
[197] *London Gazette*, no. 29258 (10 August 1915) 7946. Joseph was sued over a trade mark dispute in 'copying' a type of velveteen polishing cloth: John Cutler (ed.), *Reports of Patent, Design and Trade Mark Cases* 14, no. 8 (10 March 1897) (London: HMSO, 1897) 225-38.
[198] *Illustrated London News* (29 May 1915) 706.
[199] *London Gazette*, no. 25546 (5 Jan 1886) 82. *The Manchester, Cotton District and General Lancashire Commercial List* (London: Seyd, 1884-1885) [Manchester: Dissolution of Partnerships] 107.
[200] Broome, Hallworth and Foster received a patent on 10 April 1885 for 'knives employed in cutting fustians, velvets, and other similar piled fabrics' (*see Glossary* s.v. fustian): *The Textile Recorder* 3, no. 25 (15 May 1885) 22. Their guide sheath contained two blades with the blades facing each other so that the pile was cut simultaneously from above and below: *Dinglers Polytechnisches Journal* (Stuttgart) Jahrg. 75, Bd. 294, Heft 6 (9 November 1894) 121.
[201] *London Gazette*, no. 26144 (17 March 1891) 1505. *The Draper's Record* 8 (3 January 1891) 17.

[202] *The Manchester, Cotton District, and General Lancashire Commercial List for 1923-1924* (London: Seyd & Co.) Broome & Foster no. 1380; Hallworth no. 3792. PRA 1898 (vol. 1) [215] places them at 16 Major Street. Hallworth's son was Walter Hallworth (1861–1937).
[203] *London Gazette* no. 27635 (12 January 1904) 286.
[204] 1891 Census for England. 1911 census: 'merchant velvet dress goods etc.'
[205] https://probatesearch.service.gov.uk/
[206] Leopold's first wife was Henriette Jacobson (1817-1840) of Rotterdam, daughter of Lion Levien Jacobson, a broker (*makelaar*). Their child was Elisabeth (1837-1911).
[207] HO 334/70/80. Naturalisation Certificate: Leopold Samson, from Hanover. Certificate B80 issued 15 February 1871. National Archives, Kew.
[208] HO 334/70/86. Naturalisation Certificate: Edward Samson, from Hanover. Certificate B86 issued 30 March 1871. National Archives, Kew.
[209] *The Manchester and District Commercial List for 1881-1882* (London: Seyd & Co.) unpaged.
[210] *Slater's General and Classified Directory and Street Register of Manchester and Salford* (Manchester, 1850) 48.
[211] *The New Alphabetical and Classified Directory of Manchester and Salford* (Manchester: W. Whelan & Co., 1853) 279, 513. Bond St. is a continuation of modern Princess Street below the junction with Mosley Street.
[212] 'The Estate of Messrs. J. G. Behrends & Co.' and 'The Estate of Mr. Leopold Samson', *The Bankers' Magazine* 21 (1861) 360–1. Morier Evans (ed.) *The Banking Almanac, Directory, Year Book and Diary for 1862* (London: Groombridge) 74-5. *The Economist* (13 April 1861) 408. 'Mercantile embarrassments', *The Money Market Review* 30 (March 1861) 251.
[213] *Slater's General and Classified Directory of Manchester and Salford* (Manchester, 1863) 75, [Trades, etc.] 172, 421.
[214] *Slater's Royal National Commercial Directory of Manchester and Salford* (Manchester, 1876) [Trades, etc.] 240, 114.
[215] *The Manchester and District Commercial List for 1881-1882* (London: Seyd & Co.) unpaged.
[216] Ibid. 'Leopold Samson & Sons' is listed in *Slater's Royal National Commercial Directory of Manchester and Salford* for 1877-8: 464. The company name is still being used in *Slater's Royal National Commercial Directory of Manchester and Salford* for 1879: [Trades, etc.] 148.
[217] *Slater's Royal National Commercial Directory of Manchester and Salford* for 1886: 351
[218] *The Export Merchant Shippers of London, Manchester, Liverpool ...* (London: Dean & Son, 1885) 149. *Slater's Directory of Manchester & Salford*, 1883. [Trades, etc.] 154. *Slater's Royal National Commercial Directory of Manchester and Salford* (Manchester, 1883) 333. *Kelly's Post Office London Directory for 1891*, 92nd edn. (London: Kelly, 1890) [Commercial Directory] 1317.
[219] *The Business Directory of London*, 22nd annual edn. (London: Morris, 1884) 566. [219] *Adressbuch aller Länder der Erde der Kaufleute, Fabrikanten, Gewerbtreibenden, Gutzbesitzer, etc.*, Bd. 27 England, Teil 1 London, 6te Ausgabe für 1888-1891 (Nürnberg: Leuchs, [1888]) 438 (Exporters to Africa and South America, Manchester and Bradford goods) 981 (Warehouse Keepers).
[220] United States Census, 1880 (Manhattan)
[221] *Anuario del comercio, de la industria, de la magistratura y de la administracion de España*, año 30 (Madrid: De Bailley-Bailliere e Hijos, 1908) 954.
[222] *London Gazette*, no. 25808 (17 April 1888) 2215.
[223] *The Argus* (Melbourne) (1 Jan 1932) 4.
[224] [General Directory] 420. *Slater's Manchester, Salford & Suburban Directory*, 1909, [Topography & Street Directory] 449.
[225] *Slater's Manchester, Salford & Suburban Directory, 1911*, [Trades, etc.] 2009.
[226] Declared profession on American immigration papers accessed via FamilySearch.
[227] *London Gazette*, no. 28354 (5 April 1910) 2363.
[228] *Kelly's Directory of Merchants, Manufacturers and Shippers of the World* (London, 1914) 3208.
[229] Su Coates, 'Manchester's German gentlemen: immigrant institutions in a provincial city 1840-1920' *Manchester Region History Review* 5, no. 2, (1991-92) 21. Joseph Hallworth's son-in-law, a German national called Bruno Herman Janus, was sent to the Douglas Alien Detention Camp on the Isle of Man.
[230] *The Manchester Cotton District and General Lancashire Commercial List 1923-24* (London: Seyd & Co.) unpaged.

[231] Electoral Register (Citizens Roll, Manchester, 1860-61, Exchange Ward). This is the first appearance of the business, being absent in 1859-60. The company's lease of 46a Cannon Street, is shown in PRA 1861 (vol. 5).
[232] Also: *Slater's General and Classified Directory and Street Register of Manchester and Salford* (Manchester, 1863): 102 (Michaelis & James, 8 and 10 Fountain Street, silk manufacturers and silk warehouse).
[233] *Slater's Royal National Commercial Directory for Manchester and Salford*, (Manchester, 1876) [Alphabetical] 358. The Electoral Register (Citizen's Roll, Manchester, St. Anne's Ward) shows in 1864-65 Michaelis & James are at nos. 7 and 10 Fountain St; in 1863-64 and 1866-67 nos. 8 and 10; in 1868-69 at no. 6. At no. 8: *The International Guide to British and Foreign Merchants and Manufacturers* (London: Ingoldby & Lamb, 1872) unpaged.
[234] PRA 1872 (vol. 4)
[235] J. Steinhardt (ed.), *The Illustrated Guide to the Manufacturers, Engineers, and Merchants of England, Scotland, Ireland and Wales* (London: Deacon, 1869) 339.
[236] *Manchester of Today* (London: Historical Publishing Co., 1888) 170.
[237] Life expectancy chart.
[238] 1911 census for England.
[239] *London Gazette*, no. 23580 (25 January 1870) 497.
[240] *Kelly's Post Office London Directory* (London, 1891) [Commercial Directory] 1188. Reuben Nicholas Michaelis had a son, Arthur, but he would have been too young to be the same person cited in the entry.
[241] [Anthony Irving], *The Michaelis, Hallenstein Story, 1864-1964* (Image Australia Pty., [1964]).
[242] *The Post Office London Directory for 1881* (London: Kelly) 679, 1086, 1103. The Wood Street address was used in February 1879: National Archives, Kew, BT 44/30/332407.
[243] *The Post Office London Trades Directory for 1891* (London: Kelly) 1693 [cotton manufacturers] muslins had been dropped and 'princess' velveteens added. The company had separate listings for shirting manufacturers (2037), velvet and velveteen manufactures (2124) and warehousemen (2130).
[244] *Slater's Royal National Commercial Directory and Topography of Scotland*, 2 vols. (1878) II, Glasgow 1012. *Slater's Royal National Commercial Directory of Scotland* (Manchester, 1882) Glasgow 11.
[245] *Post-Office Glasgow Directory for 1885-1886* (Glasgow: Mackenzie, 1885) 445. *Slater's Royal National Commercial Directory of Scotland* (Manchester, 1886) Glasgow 127. *Post-Office Glasgow Directory for 1891-1892* (Glasgow: Mackenzie, 1891) 1091.
[246] National Archives, Kew, Board of Trade. (BT 43 class 10; BT 44 class 12; BT 51 class 13 printed fabrics).
[247] *Slater's Royal National Commercial Directory of Manchester and Salford* (Manchester, 1879) [Trades, etc.] 190 (overseas shipping). *Slater's Royal National Commercial Directory of Manchester and Salford* (Manchester, 1886) [Trades, etc.] 209 (shippers); 72 (cotton spinners); 113 (fustian manufacturers and warehousemen); 116 (glovers); 150 (Manchester warehousemen and home trade houses); 160 (merchants); 220 (beetled twills); 270 (Velvet, velveteen, plush, sealette); cf. [Alphabetical] 277. *Slater's Royal National Commercial Directory of Manchester and Salford* (Manchester, 1883) [Trades, etc.] 196 (shipping merchants); 145 (home trade houses); cf. [Alphabetical] 263 (range of textiles). *Slater's Manchester, Salford & Suburban Directory, 1909*. [Trades, etc.] 1777 (Australia).
[248] *Slater's Royal National Commercial Directory of Manchester and Salford* (Manchester, 1879) [Trades, etc.], 74; [Alphabetical] 264.
[249] *Slater's Manchester, Salford and Suburban Directory* (Manchester, 1909) [Alphabetical] 1190.
[250] *London Gazette*, no. 26135 (17 February 1891) 910.
[251] Bosdin Leech, *History of the Manchester Ship Canal,* 2 vols. (Manchester: Sherratt & Hughes, 1907) II, 277; I, 319; I, 89.
[252] *Manchester Ship Canal Bill, Session 1884: reply of Mr. Pember, Q. C., on behalf of the promoters of the bill, before the select committee of the House of Lords, 20th, 21st, and 22nd May, 1884* (London: The Promoters) 79.
[253] *Wrexham and Denbighshire Advertiser and Cheshire Shropshire and North Wales Register* (14th May 1892) 4. January 12, marriage announcement of Maria, daughter of Richard James of Culcheth Hall: *Liverpool Journal* (21 January 1882).
[254] *The Manchester Cotton District and General Lancashire Commercial List 1923-24* (London: Seyd & Co.) unpaged.
[255] *Post Office Glasgow Directory for 1901-1902* (Glasgow: Mackenzie, 1901) 312. *Slater's Manchester and Salford Directory for 1895*, [Trades, etc.] 77.

[256] *The Manchester, Cotton District and General Lancashire Commercial List for 1885-1886.* (London: Seyd & Co.) appendix 1, page 5.
[257] *The Manchester Cotton District and General Lancashire Commercial List 1923-24* (London: Seyd & Co.) unpaged.
[258] Robert Head, *Cheshire at the Opening of the Twentieth Century* (Brighton: Pike, 1904) 185. Lewis is listed as a 'Member of the Exchange' in 1876 [i.e. before becoming a partner], with an address at 22 Fountain Street: *Slater's Royal National Commercial Directory of Manchester and Salford With Their Vicinities*, 1876. [Trades, etc.] 236.
[259] Electoral Register (Citizens Roll: Manchester, St. Anne's Ward) (1877-78). *Slater's Royal National Commercial Directory of Manchester and Salford* (Manchester, 1877-8) [Alphabetical] 322 (Lewis, John Tetlow, manufacturer (Michaelis, James & Co.), The Avenue, Patricroft'); [Members of the Exchange] 263 (Lewis, John T., 22 Fountain St.).
[260] *The Manchester Cotton District and General Lancashire Commercial List 1923-24* (London: Seyd & Co.) unpaged.
[261] *Slater's Manchester, Salford & Suburban Directory for 1903* [Alphabetical] 1007. His title, governing director, can also be found in *The Post Magazine and Insurance Monitor* 70 (1909) 107.
[262] *Kelly's Directory of Merchants, Manufacturers and Shippers*, 21st edn. (London: Kelly, 1907) 2783, 3008.
[263] Ibid. 2363, 2498, 2501, 2783, 3008. *Post Office London Commercial and Professional Directory for 1891* (London: Kelly) 1188.
[264] *Slater's Manchester, Salford & Suburban Directory, 1911*. [Trades, etc.] 1834 (cotton spinners and manufacturers).
[265] Map: Ordnance Survey (Town Plans of England and Wales, 1840s-1890s) Eccles, Lancashire CIII.7.24 (detail), surveyed: 1888, published: 1890. During the late 1870s, voter registration records give the address as 'The Avenue', a tree-lined road to the west of the property. *Slater's Royal National Commercial Directory of Manchester and Salford 1877-78* [Alphabetical] 322. The 1861 census for England shows he was living with his parents on Philip Street, Patricroft, aged 23.
[266] Illustration: *British Architect* 1 (2 January 1874) 8 and plate II.
[267] *Manchester Courier* (1 May 1913) 10; *London Standard* (30 June 1913) 11; *Illustrated London News* (26 July 1913) 154; *Economist* (July 26, 1913) 175.
[268] https://probatesearch.service.gov.uk/.
[269] *The Great Gatsby*, pbk. fiction edn. (New York: Scribner, 1995) 101.
[270] *Textile World* 73, no. 14 (7 April 1928) 58.
[271] https://probatesearch.service.gov.uk/.
[272] The sale of Ryecroft Hall was advertised throughout the month of September 1950 in the *Blackpool Gazette & Herald*.
[273] Passenger manifest for the *S.S. Makura* in transit from New Zealand arriving Vermont on 2 July 1929.
[274] *Lloyd's Register of Yachts … for the year 1939* (London: Lloyd's, 1939) 861.
[275] *Lloyd's Register of Yachts … for the year 1925* (London: Lloyd's, 1925) 824.
[276] Based on the figures of Table 1 in Lars G. Sandberg, *Lancashire in Decline* (Columbus: Ohio State University Press, 1974) 4. Seven billion (i.e. 7,000 million) yards were exported, while 1 billion yards were for the domestic market.
[277] *Comparative Fabric Production Costs in the United States and Four Other Countries* (Washington DC: Department of Commerce, 1961) 15.
[278] Hansard. House of Commons. *Parliamentary Debates,* vol. 523, col. 1291 (debated 10 Jan 1951).
[279] Godfrey Armitage 'The Lancashire Cotton Trade from the Great Inventions to the Great Disasters', *Memoirs and Proceedings of The Manchester Literary And Philosophical Society* 92 (1950-51) 24-39.
[280] Tom Holden, *Boom and Bust in Cotton Manufacturing* (Burley in Wharfedale: R. J. Holden, 2020) vii.
[281] A narrow passage (back entry) ran the length of a row of terraced houses, and was shared by the rear of the houses that formed another, parallel, terrace. By the beginning of 1940, the brick walls of the passage were covered with concrete slabs to form a bomb shelter. This afforded protection from shrapnel, flying glass and debris, but not against a direct hit.
[282] Irene worked for George Glass in Manchester. Originally, in 1932, he opened a small drapery shop on Regent Road, Salford. He called himself "the cheapest man on earth" and sold shirts for a penny. The business

he started with £200 mushroomed into a chain of 22 stores. The business slogan was "Look into the Glass Window". They also had a factory at Brynmawr, Wales.
[283] Photo credit: Hutchinson Scott Limited, Skipton, February 05, 2022.
[284] Dennis Moore, *British Clockmakers & Watchmakers Apprentice Records: 1710-1810* (Ashbourne: Mayfield, 2003) 53, 321.
[285] supra endnote 3.
[286] Historical Population of United Kingdom, 43 AD to Present.
[287] John Richard Green, *A Short History of the English People*, new rev. edn. (New York: Harper Brothers, 1894) 829.
[288] John Clemson family tree.
[289] John Scholes, *Manchester and Salford Directory*, 2nd edn. (Manchester, 1797) 29. Map (detail): *Manchester and Salford. Drawn from an actual survey by William Green*. 'Begun in the year 1787 and compleated in 1794'.
[290] Dressing shop: PRA 1798; stable: PRA 1797, 1798.
[291] Joseph is difficult to trace, because his surname is spelled in a half-dozen ways. He was born about 1762 and probably died in 1829, and is likely buried in St. Luke's churchyard, Cheetham Hill. His marriage record can be found at https://www.lan-opc.org.uk.
[292] *Scholes's Manchester & Salford Directory* (1797) 29 and 139; PRA 1795-8.
[293] G. Bancks, *Bancks's Manchester and Salford Directory* (Manchester, 1800) 39.
[294] PRA 1802, 1806: John Clemson 'calenderer'. PRA 1804 shows him on Friday Street (intersecting Watling Street: see map in text).
[295] Wilson was born in Tattenhall, Cheshire, the eldest child of John Wilson (1741–1816) and Rebecca Falkner (1734–1824), who were probably farmers. He seems to have migrated to Manchester in his early twenties. William married Margaret Oldfield on 9 May 1793 in Manchester Cathedral. Their marriage record describes him as a calenderer. He died in Withington, and was buried in Rusholme Road Cemetery, a burial ground for non-conformists, which is now Gartside Gardens. Interestingly, William Wilson and Joseph Horribin are both situated in the same building at 125 Deansgate: PRA 1797.
[296] *London Gazette*, no. 15733 (1 September 1804) 1093.
[297] PRA 1802, 1804, 1806, 1807, 1808, 1812, 1813.
[298] Map: Bancks & Co.'s Plan of Manchester & Salford, with their Environs (Manchester, 1832).
[299] G. Bancks, *Bancks's Manchester and Salford Directory* (Manchester, 1800) 95.
[300] *Scholes's Manchester and Salford Directory* (Manchester) 1794: 79; 1797: 69.
[301] PRA 1795,1796, 1797, 1798, 1802.
[302] PRA 1795.
[303] According to PRA 1806, the firm was called James Hyde & Co. It has not been possible to identify James Hyde with certainty. PRA 1796 shows a William Wilson at no. 8 Exchange Street, and James Hyde at no. 6. Each had a house and a shop, and perhaps they are the same individuals who later became partners of Clemson.
[304] PRA 1807-1810.
[305] *London Gazette*, no. 16384 (3 July 1810) 992.
[306] PRA 1810.
[307] *London Gazette*, no. 16438 (25 December 1810) 2075; no. 16445 (19 January 1811) 128; no. 16446 (22 January 1811) 151; no. 16564 (18 January 1812) 138; no. 16576 (18 February 1812) 350 [fire]; no. 17068 (7 October 1815) 2055; no. 17113 (24 February 1816) 368; no. 17116 (5 March 1816) 436; no. 17176 (24 September 1816) 1862; no. 17211 (21 January 1817) 145; no. 17234 (25 March 1817) 777-8. *The Monthly Magazine, or British Register* 31, part 1 (London, 1811) 178. George Merryweather, 'A list of bankruptcies from January 1, to March 31, 1811', *Kings, the Devil's Viceroys and Representatives on Earth* (n.pl.: The Author, 1838) 215.
[308] PRA 1811. Hyde and Clemson appear on a list of bankruptcies from Dec. 19th 1810 to Jan. 26, 1811 published in *The Universal Magazine*, new ser. 15, no. 86 (London, January 1811) 34.
[309] It is uncertain whether James Hyde, dyer, 5 Bailey Street is the same person: *Pigot and Son's General Directory of Manchester, Salford, &c for 1829* (Manchester) 163.
[310] Irk Street: PRA 1807, 1808, while still registered as living on Nicholas Croft.
[311] PRA 1813, 1814.
[312] PRA 1815.

[313] PRA 1816, 1822, 1823. The map, Ordnance Survey (Town Plans of England and Wales, 1840s-1890s) Manchester and Salford Sheet 18, surveyed: 1848, published: 1850 shows a 'Print and Dye Works' in the footprint of the former Jackson Dyehouse.
[314] PRA June 1817 (vol.3); PRA 1818. In 1814, he moved from Nicholas Croft to Hanover Street (see map): PRA 1814-1817.
[315] *Commercial Directory for 1818-19-20 ...* (Manchester: Pigot & Deane, 1818) 310.
[316] Estell & Co., *The Manchester Commercial List, 1873-1874* (London, 1873) unpaged.
[317] The baptism record of his daughter, Elizabeth.
[318] Examples are found in *Pigot and Co.'s National Commercial Directory of the Whole of Scotland* (Manchester: Pigot & Co., 1837) 98. *Pigot and Son's General Directory of Manchester, Salford, &c for 1829*: separate entry 287, entry for Clemson and Vaughan 78.
[319] *London Gazette*, no. 20373 (13 August 1844) 2836. Also reported in *The Colonial Gazette*, no. 299 (17 August 1844) 527. Roger Croom, an executor of the estate, and John Whittaker were partners in the firm Croom and Whittaker, woollen and calico printers, located in Horrocks (i.e. near to Clemson & Vaughan). It was dissolved in 1846: *London Gazette*, no. 20623 (17 July 1846) 2647. The 1851 census describes Croom as a calico manufacturer.
[320] Example of Clemson & Vaughan: *Pigot and Sons General Directory of Manchester, Salford, &c for 1829* (Manchester) 21 (dyers); 78 (dressers and dyers); 3 (Joseph Vaugh at Bank Terrace). Clemson & Vaughan as proprietors of Dolphin Baths: *Pigot and Slater's General and Classified Directory of Manchester and Salford* (Manchester, 1841) 84.
[321] *A New Alphabetical and Classified Directory of Manchester and Salford* (Manchester: Whelan, 1853) 324, 380, 451. *Slater's General and Classified Directory and Street Register of Manchester and Salford* (Manchester, 1850) 9, 27, 358.
[322] He was buried on Boxing Day, 1850 in St. Luke's Church, Cheetham. He features as a silk dyer in *Slater's General and Classified Directory and Street Register of Manchester and Salford* (Manchester, 1850) 26, 41, 80.
[323] Joseph Vaughan, dyer, living at Bank Terrace, Red Bank; William Clemson, dyer, living at Bank Place, Red Bank (i.e. near to each other and the works): *Pigot and Dean's New Directory of Manchester, Salford &c. for 1821-1822*: 254, 65.
[324] *Pigot and Dean's New Directory of Manchester, Salford &c. for 1821-1822*: 35 mentions only William Clemson & Co. as dressers and dyers. *Pigot and Slater's Directory of Manchester and Salford* (Manchester, 1841) 254. *The Cotton Spinners and Manufacturers' Directory for Lancashire and the Adjoining Manufacturing Districts*, 8th edn. (Oldham: Worrall, 1891) 117; 207 (calico printers). Vaughan & Clemson of 27 Hargreaves Street are found under the heading 'Printers – Woollen, Stuff and De-Laine': *A New Alphabetical and Classified Directory of Manchester and Salford* (Manchester: Whelan, 1853) 451.
[325] *Pigot and Slater's General and Classified Directory of Manchester and Salford* (Manchester: Pigot and Slater, 1841) Manchester, column 21 (Vaughan) and 65 (Clemson).
[326] *Slater's National Commercial Directory of Ireland* (Manchester: Slater, 1846) [Manchester section] 19.
[327] PRA 1841 (vol. 2); 1844 (vol. 2); 1847 (vol. 2); 1853 (vol. 5); 1856 (vol. 5). Number of employees: 1861 census for John Clemson (1819-1895) '380 men and lads'. There was a house on Hargreaves Street called 'The Vaughan' (PRA 1820 and 1822 show Vaughan residing at no. 6). Some properties are registered to Clemson and Vaughan, others only to John Clemson (1819-1895). The acquisition of these properties may have been facilitated by William Clemson's youngest brother, John Clemson (1808–1868), who was an estate agent. 'Clemson's Buildings' were located 'opposite the Baths' in Great Horrocks: mentioned in *London Gazette*, no. 21492 (8 November 1854) 3029, and in the 1841 census for England.
[328] Detail of Adshead's twenty four illustrated maps of the township of Manchester: divided into municipal wards. Corrected to the 1st. May, 1851 [map 12].
[329] *The Court Leet Records of the Manor of Manchester* 12 (1832-1846) (Manchester: Blacklock, 1890) 186.
[330] John Jones, born about 1801, is found in the 1841 census with an address on Hargreaves Street. In the same year, he is found living at 12 Bromley Street, off Ashley Lane, with an entry for John Jones & Co., Horrocks Silk Dyers, Red Bank: *Pigot and Slater's Directory of Manchester and Salford for 1841*: 147, 63 (column 63).
[331] In 1837, the firm is styled William Clemson and Co.: *Pigot and Co.'s National Commercial Directory of the Whole of Scotland* (London, 1837) [Manchester section] 98; the earliest reference seen is *Manchester Courier* (25 April 1840), which describes Jones as an 'acting partner'.

[332] The partnership was dissolved on 25 March 1846: *London Gazette*, no. 20633 (18 August 1846) 3003. The last report seen naming John Jones & Co: *I. Slater's National Commercial Directory for Ireland* (Manchester, 1846) 19.
[333] *London Gazette*, no. 22096 (12 February 1858) 743.
[334] National Archives (Kew) BT 44 Design Registers for Class 10 (Printed Fabrics).
[335] *London Gazette*, no. 22899 (4 October 1864) 4725. Vaughan had two daughters, Elizabeth and Frances, who were not involved in the business.
[336] (1885-6): *Slater's Royal National Commercial Directory of Manchester and Salford* (Manchester, 1886) 290.
[337] *London Gazette*, no. 24821 (9 March 1880) 1977.
[338] *Manchester of Today* (London: Historical Publishing Co., 1888) 169.
[339] *Slater's Royal National Commercial Directory of Manchester and Salford* (Manchester, 1879) 79.
[340] *Slater's Royal National Commercial Directory of Manchester and Salford* (Manchester, 1877-8) 256.
[341] Probate: *London Gazette*, no. 26253 (2 Feb 1892) 568.
[342] My maternal grandmother, Ethel Lomas Wood worked at Worrall's from 1920-1936. Her nephew, Norman Lomas, was a foreman there.
[343] W. S. Cameron, 'The Mersey' in *The Rivers of Great Britain: descriptive, historical, pictorial. Rivers of the South and West Coasts* (London: Cassell, 1897) 257 (after the original watercolour in the Manchester Art Gallery dated 1893–1894, accession no. 1894.124).
[344] *Slater's Manchester and Salford Directory for 1895*: unpaged.
[345] *The Stock Exchange Official Intelligence for 1912* (London: Spottiswoode, 1912) 638.
[346] Henry W. Macrosty, *The Trust Movement in British Industry: a study of business organisation* (London: Longmans, Green & Co., 1907) 169-70. The amalgamation resulted in a virtual monopoly: Henry W. Macrosty, *Trusts and the State* (London: Richards, 1901) 171. Henry W. Macrosty, *The Growth of Monopoly in English Industry* (Tract 88) (London: Fabian Society, 1899) 10-11.
[347] *Jubilee Number of the Dry Goods Economist, 1846-1896* (New York: The Textile Publishing Co., 1896) 133.
[348] William Farrer and J. Brownbill (eds.) *The Victoria History of the County of Lancaster,* 8 vols. (London: Constable, 1911) V, 139 (note 42).
[349] Samuel Lewis, *A Topographical Dictionary of England*, 7th edn., 4 vols. (London: Lewis, 1848) II, 504. Edwin Butterworth, *An Historical Description of the Town of Heywood and Vicinity* (Heywood, 1840). J. A. Green, *Heywood Notes & Queries* 2, no.13 (5 January 1906) 57.
[350] Parish registers record that of the 896 Kershaws living in Heywood, 30 of these resided in Wrigley Brook. Locally the area was known as "The Brook". In 1830, it was described as a hamlet: Steven Reynolds Clarke, *The New Lancashire Gazetteer* (London, 1830) 187.
[351] Peter Clark, 'Migration in England during the Late Seventeenth and Early Eighteenth Centuries', *Past & Present*, no. 83 (May, 1979) 68.
[352] *Reasons in Favour of Sir Robert Peel's Bill, for Ameliorating the Condition of Children* (London, 1819) 42. James Kershaw & Sons is listed under the heading of 'cotton spinners' in the 1824 edition of Edward Baines, *History, Directory, and Gazetteer, of the County Palatine of Lancaster*, 2 vols. (Liverpool: Wales, 1824) I, 584. See also: *Pigot & Co.'s National Commercial Directory for 1828-9*: 258.
[353] *The Manchester Commercial List, 1873-1874* by Estell & Co. (London: Seyd, 1873) unpaged. Their office was at 1 Exchange-buildings [Manchester].
[354] W. Whellan & Co., *A New Alphabetical and Classified Directory of Manchester and Salford* (Manchester, 1853) 1018.
[355] *Sheffield and Rotherham Independent* (5 August 1865) 5.
[356] Ownership: "premises [Deeply Vale in the township of Walmersley], so leased as aforementioned, are and still remain the sole property of the said Robert Kershaw [of Heywood]": *London Gazette*, no. 19995 (2 July 1841) 1730. The Mills: A. V. Sandiford and T. E. Ashford, *The Forgotten Valley* (Bury: Bury and District Local History Society, 1981) 32.
[357] *Bradshaw's Railway Gazette* 2, no. 24, (1 November 1845) 409. I can find no evidence that construction of the railway ever materialized, probably due to competition from the Manchester and Leeds Railway.
[358] Members of both the Clegg and Munn families are mention in Edward Walford, *The County Families of the United Kingdom* (London: Hardwicke, 1876) 202, 703.
[359] *Manchester of Today* (London: Historical Publishing, 1888) 134.

[360] Estell & Co., *The Manchester commercial List: 1867-1868, First and Second Years* (London: Seyd, 1867) unpaged. At this time the company had an office at 45 Cross Street, Manchester. Britannia Mills is mentioned in the directory for 1871 (shown in the text): 176.
[361] *The Manchester Commercial List, 1873-1874* by Estell & Co. (London: Seyd, 1873) [Manchester section of Dissolutions of Partnership] 27.
[362] *The Commercial Directory and Shippers' Guide*, 7th annual edn. (Liverpool: Fulton, 1875) 621 ('Kay Richard and Brother, Peel street, and Britannia mills, Heywood'). Repeated in the 9th edn. 1877: 659 and 12th edn. 1880: 1034.
[363] P. Barrett & Co., *General and Commercial Directory of Bury, Heywood, Radcliffe, Pilkington, Prestwich, Ramsbottom and Adjacent Villages and Townships* (Preston, 1883) 265.
[364] 'New companies', *Capital and Labour* 3 (31 May 1876) 369.
[365] *The Practical Mechanic's Journal* 4, 2nd ser. (1 August 1859) 140. Bennet Woodcroft, *Subject-Matter Index of Patents Applied for and Patents Granted for the Year 1864* (London: Eyre and Spottiswoode, 1866) 81.
[366] *London Gazette*, no. 21589 (1 September 1854) 2716.
[367] *London Gazette*, no. 24667 (10 January 1879) 129-30.
[368] *The Manchester District and General Lancashire Commercial List, 1885-1886* (London: Seyd & Co., [1885]) [Cotton Spinner and Manufacturers section] unpaged.
[369] *London Gazette*, no. 25232 (22 May 1883) 2699. Wrigley seems to have concentrated his efforts on Croft Mill, Ashton-under-Lyne: Ian Haynes, *Cotton in Ashton* ([Ashton]: Tameside Metropolitan Borough, 1987) 22.
[370] *London Gazette*, no. 25245 (26 June 1883) 3286.
[371] Ordnance Survey (Town Plans of England and Wales, 1840s-1890s) Heywood Sheet 1 (detail), surveyed: 1848, published: 1851.
[372] *Pall Mall Budget* 28, no. 706 (14 April 1882) 29.
[373] *Aberystwyth Observer* (28 June 1884) 7. *Flintshire Observer* (3 July 1884) 7 where it is mistakenly called Cobden, Rill & Co.
[374] *The Textile Mercury* (13 July 1889) 215. Insert: *The Textile Mercury* (6 July 1889) 197.
[375] John Albert Green, *Bibliography of the Town of Heywood* (Heywood: The Advertiser" Office, 1902) 92-3.
[376] Architects of Greater Manchester.
[377] 'The largest spinning mill in England', *The Practical Engineer* (3 June 1892) 425.
[378] Arthur J. Dobb and J. Reginald Smith, *1846 – Before and After: an historical guide to the ancient parish of Bury* (Bury: Bircle Parish, 1970) 139.
[379] A *prima facie* case for a date shortly after 1840 can be made on the grounds that the site of Wrigley Brook Mills was owned by Joseph Fenton (1765-1840), one of the storied giants of the Lancashire cotton industry. He owned a number of mills, a bank and numerous large estates, and is said to have left a considerable fortune. Upon his death, the spoils of his legacy led to a protracted and acrimonious dispute among his family. Uncertainty over the fate of Wrigley Brook Mills may have prompted Kershaw to relocate, with an eye to expansion. See: Gordon Baldwin, Malcolm Daniel, and Sarah Greenough, *All The Mighty World: the photographs of Roger Fenton, 1852– 1860* (New York: Metropolitan Museum of Art, 2004) 6. *The Bankers' Magazine for 1879* 39 (London: Waterlow, 1880) 69. *The British Trade Journal* (London) (1 Jan 1879) 22. The family dispute is cited for the cessation of operations at the Hooley Mill complex in Heywood for seven years: J. A. Green, *Heywood Notes & Queries* 1, no. 1 (31 March 1905) 39. *Supplement to the London Gazette*, no. 26718 (4 March 1896) 1407. Fenton v Fenton. Chancery Court Cause no. 1866 F. 73. See: National Archives (Kew) reference: C 16/340/F73. The *London Gazette*, no. 23705 (10 February 1871) 513, discusses the sale, describing the property as: "A cotton mill, known by the name of Brook-lane Mill, situate[d] near Wrigley Brook, in Heywood." No other source mentioning this name is known to the author. The *Supplement*, cited above, uses "Wrigley Brook Mills": pages 1407 and 1531.
[380] Ordnance Survey (details). Courtesy of The National Library of Scotland.
Top: (Town Plans of England and Wales, 1840s-1890s) Heywood, Lancashire LXXXVIII.11.1, surveyed: 1890, published: 1891.
Centre: (Town Plans of England and Wales, 1840s-1890s) Heywood, Lancashire LXXXVIII.11.6, surveyed: 1890, published: 1891.
Bottom Left: (Six-inch England and Wales, 1842-1952) Lancashire Sheet LXXXVIII, surveyed: 1844 to 1847, published: 1851.
Bottom Right: (25 inch England and Wales, 1841-1952) Lancashire LXXXVIII.11, revised: 1907, published: 1910.

[381] On the site of Wrigley Brook Mills, *Ward Bdy* refers to Ward Boundary.
[382] 'Yew Mill Company, Heywood: christening the engines', *The Textile Mercury* (28 May 1892) 385. This report was reiterated in 'Building Intelligence. Heywood' *The Building News* 62, no. 1955 (June 24, 1892) 882. The chimney was demolished in 1937: Hannah Haynes (ed.) *Heywood* (Stroud: Chalford, 1997) 47.
[383] supra endnote 362
[384] *The Bury Directory* (Bury: John Heap, 1850) 60.
[385] *The Guardian* (London) (23 September 1854) 11.
[386] *London Gazette*, no. 20814 (11 January 1848) 94. The partners, John Rawson and Thomas Ashworth, appear to be co-religionists of The New Church (Swedenborgian) at Heywood: *The Intellectual Repository and New Jerusalem Magazine* 11, no. 121 (January, 1850) 38.
[387] supra endnote 379.
[388] Thomas Adam, *Buying Respectability* (Bloomington: Indiana University Press, 2009) 65.
[389] *Extra-Beilage zu no. 230 der Leipziger Zeitung* (27 September 1857) 17. For *Battist* see Glossary s.v. batiste; *Tafelzeuglager* is a rare term meaning 'warehouse for tablewares (i.e. tablecloths with the napkins') or 'linen warehouse'.
[390] *Beilage zu no. 29 der Leipziger Zeitung* (3 February 1864) 588.
[391] *Extra-Beilage zu no. 177 der Leipziger Zeitung* (27 July 1864) 10.
[392] *Extra-Beilage zu no. 267 der Leipziger Zeitung* (10 November 1866) 5.
[393] Carl Porges, *Die Handelscorrespondenz und Comptoirwissenschaft* (Wien, 1867) 21.
[394] *Extra-Beilage zu no. 194 der Leipziger Zeitung* (17 August 1866) 17.
[395] *Extra-Beilage zu no. 237 der Leipziger Zeitung* (5 October 1867) 2, 16.
[396] *Erste Beilage zu no. 149 der Leipziger Zeitung* (25 June 1867) 3640.
[397] *Extra-Beilage zu no. 237 der Leipziger Zeitung* (5 October 1867) 17. He was also known as Gustav Charles Oskar de Liagre.
[398] *Extra-Beilage zu no. 143 der Leipziger Zeitung* (17 June 1868) 14.
[399] *Erste Beilage zu no. 139 der Leipziger Zeitung* (13 June 1867) 1.
[400] Alphonse Goovaerts, *Généalogie de la famille de Liagre* (Anvers: Van Merlen, 1878) 227-8. *Deutscher Reichs-Anzeiger und Königlich Preußischer Staats-Anzeiger* (29 March 1904) 11.
[401] *Leipziger Zeitung,* no. 48 (24 February 1867) 1106.
[402] Inventory no. L/2/2007/6. Watercolour by G. Wustmann 1908.
[403] *Slater's Royal National Commercial Directory of Manchester and Salford* (Manchester: Slater, 1886) [Alphabetical] 351. *Slater's Manchester & Salford Directory*, 1895. (Manchester, 1895) [Alphabetical] 543.
[404] Edward Pechuel-Loesche, *Kongoland* (Jena: Costenoble, 1887) 503-4. 'Das portugiesische Congogebiet', *Österreichische Monatsschrift für den Orient* 27 Jg. (Wien: Österreichisches Handelsmuseum, 1901) 45. Importation of latex sap into Liverpool: *The Chemical Trade Journal* (3 May 1890) unpaged.
[405] Many Ashkenazi families did not use surnames before the end of the eighteenth century, when the laws of various European countries compelled them to adopt one. As such, a number of surnames were artificially constructed: Alexander Beider, 'The notion of "Jewish surnames"', *Journal of Jewish Languages* 6 (2018) 194. Regarding Coppel Jonas Leppoc, the first name is a form of Jacob (little Jacob) whose spelling was reversed to form the surname: Albert M. Hyamson, 'Jewish surnames', *Jewish Literary Annual*, 2nd rev. edn. (London, 1903) 60-61. cf. Koppel, קופל ; Yiddish Kopl. Axon, William E. A. (ed.), *The Annals of Manchester* (Manchester: Heywood, 1886) 398.
[406] Lower Saxony State Archives. Civil Proceedings of the Regional Court of Braunschweig. Klingemann v. Leppoc (1819-1822) Archival shelfmark: Nds. Landesarchiv, Abt. Wolfenbüttel, NLA WO, 30 Neu, Nr. 3197.
[407] *Zweite Beilage zu Nr 112 der Leipziger Zeitung* (22 April 1849) 2014.
[408] *Beilage zur Deutschen Allgemeinen Zeitung,* nr. 35 (4 Feb 1849) 360. See also: *Zweite Beilage zu Nr 112 der Leipziger Zeitung* (22 April, 1849) 2008, 2011, 2013.
[409] Hubert Lang, *Martin Drucker (1869 - 1947): Lebenserinnerungen* (Leipzig, 2007) [unpaged] note 17.
[410] *Deutsche Allgemeine Zeitung*, Nr. 1 (1 January 1848) 7.
[411] *Erste Beilage zu Nº. 174 der Leipziger Zeitung* (24 July 1859) 3589.
[412] *Achter Jahresbericht des Vereins von Freunden der Erdkunde zu Leipzig 1868* (Leipzig, 1869) xxiii-xxiv.
[413] 'Mr. H. J. Leppoc [obituary]', *The Christian Life: a Unitarian journal (London)* 9, no. 390 (3 November 1883) 530.

[414] 'On the 15th inst., at Bacup, Mr. John Amos, late of Willow Bank, Lower Broughton, the 46th year of his age.' *Manchester Courier* (23 June 1849) 6.
[415] *London Gazette*, no. 19003 (11 December 1832) 2711.
[416] *Gores' Directory of Liverpool for 1829* (Liverpool: J. Gore & Son, 1829) 114.
[417] Alexander Geddes (1802-1855) belonged to a Scottish family who moved to Liverpool and Warrington, probably from the Aberdeen area, and specialized in the importation and wholesale distribution of tea, and are also described as 'coffee dealers and roasters'. The principal was William Geddes (1789-1875) and Alexander was his brother. The firm operated under the name of William Geddes & Sons, and was initially located a 5 Pool Lane – the next door neighbour of Geddes and Amos – before moving to 51 Brunswick Street, Liverpool: *Pigot & Co.'s National Commercial Directory for 1828-29* (London, Pigot) 464; *Gores' Directory of Liverpood and its environs, 1827* (Liverpool, Gore & Son) 391; *Gore's Liverpool Directory with its environs for 1825* (Liverpool, Gore & Son) 113; *Gores' Directory of Liverpool and its environs for 1829* (Liverpool: Gore and Son) 114, 354; *Gore's Directory of Liverpool & its Environs, 1853* (Liverpool, Mawdsley) 223. Another brother, John, was a tea dealer and coffee roaster in Golden Square, Warrington with a warehouse in Manchester at 4 Scholes Street (off Tib Street): *Pigot & Deans' New Manchester and Salford Directory for 1821-2* (Manchester: Dean & Pigot) 58; *Pigot & Co.'s Royal National and Commercial Directory and Topography ... Manchester and Salford* (London: Pigot, 1841) 162.
[418] *Manchester Courier* (11 January 1840) 3.
[419] *Pigot & Co.'s Royal National and Commercial Directory and Topography of the Counties of York, Leicester and Rutland, ... Manchester and Salford* (London: Pigot, August 1841) [Manchester section] 81.
[420] *Pigot and Slater's General and Classified Directory for Manchester and Salford* (Manchester, 1841) 20.
[421] *I. Slater's National Commercial Directory of Ireland* (Manchester, 1846) [Manchester & Salford, Classified lists of merchants ...] 34.
[422] PRA 1845 (vol. 3)
[423] Ordnance Survey (Town Plans of England and Wales 1840s-1890s). Manchester and Salford sheet 28 (detail), surveyed 1849, published 1851.
[424] Dissolution mentioned in *The Spectator*, no. 1003 (18 September 1847) 908; *The Economist* (18 September 1847) 1096.
[425] *Manchester Courier* (23 June 1849) 6.
[426] Edward Walford, *The County Families of the United Kingdom*, 3rd edn. (London: Hardwicke, 1865) 566. *London Gazette*, no. 16598 (28 April 1812) 804.
[427] Peter McGow, *Calico Printing Works At Merton Abbey, Merton (Later Liberty's)* (London: Wandle Industrial Museum, 2005) unpaged.
[428] Daniel Lysons, *The Environs of London*, 4 vols. (London, 1796) I, 345.
[429] *London Gazette*, no. 16651 (29 September 1812) 1997.
[430] *London Gazette*, no. 16945 (11 October 1814) 2041.
[431] *Slater's General and Classified Directory and Street Register of Manchester and Salford* (Manchester, 1850) 44.
[432] *New Alphabetical and Classified Directory of Manchester and Salford* (Manchester: Whelan, 1853) 183.
[433] 1861 census for England.
[434] 1851 census for England, PRA and Burgess Rolls for Manchester: Oaks Villa, 147 Wilmslow Road (now Didsbury Rd.), Fallowfield, Rusholme, Manchester.
[435] Chester Voting Registers, St. Oswald's Ward, 1888 and 1895.
[436] Photograph reproduced with the kind permission of the Cleveland Museum of Art. Historic England Archive AL0319 has a collection of 97 Kelham photographs.
[437] lawnd / launed in 15th century English lexis: *OED* s.v. lawn (noun[1]) 'A kind of fine linen, resembling cambric'. It is also described as a fine, lightweight, sheer fabric commonly made of cotton (or blends) and has a relatively high thread count, providing it with a silky texture.
[438] *Woman's Institute Library of Dressmaking* (Scranton: International Educational Publishing, 1921) 52.
[439] Foulsham & Banfield [photographic studio], "Miss Gertie Millar." 1919. Provenance: University of British Columbia. Library. Rare Books and Special Collections. Tremaine Arkley Croquet Collection: .
[440] *The Delineator* 60, no. 1 (July 1902) 60.
[441] J. H. Nodal and George Milner, *A Glossary of the Lancashire Dialect* (Manchester: Ireland & Co., 1875) 33. Joseph Wright, *English Dialect Dictionary*, 6 vols. (London: Frowde, 1898) I, 224-5.

[442] Alan McCutcheon, *Wheel and Spindle* (Belfast: Blackstaff Press, 1977) 69.
[443] J. M. Hause, *English Methods of Dyeing, Finishing and Marketing of Cotton Goods* (Washington DC: Department of Commerce and Labor, 1912) 12.
[444] David G. Norton, *Finishing Processes for Cotton Fabrics* (Salford: Sir James Farmer Norton & Co., [1900]) 112-13.
[445] Xi Zhang, *The Shapes of Ideas: Chinese philosophy in cultural relics* (Singapore: Palgrave Macmillan, 2024) 48.
[446] *OED* s.v. brocade (noun), Etymology.
[447] Joseph Dépierre, *Elementary Treatise on the Finishing of White, Dyed, and Printed Cotton Goods* (Manchester: Thomas, 1889) 232-3.
[448] S. P. Mishra, *Design and Structure of Textile Fabrics* (Abingdon, CRC Press, 2025) 45-7.
[449] A. E. Blanco, *Piece Goods Manual* (Shanghai: Statistical Department of the Inspectorate General of Customs, 1917) 11-12.
[450] George S. Cole, *A Complete Dictionary of Dry Goods and History of Silk, Cotton, Linen, Wool and Other Fibrous Substances*, rev. edn. (Chicago: Conkey Co., 1892) 49.
[451] *American Artisan and Patent Record* (New York), new ser. 1, no. 16 (23 August 1865) 242.
[452] Jonathan P. Eacott, 'Making an imperial compromise: the Calico Acts, the Atlantic colonies, and the structure of the British Empire', *William and Mary Quarterly*, 3d ser. 69, no. 4, (October 2012) 731-62.
[453] Eliza B. Thompson, *Cotton and Linen* (New York: Ronald Press, 1922) 78.
[454] William Watson, *Textile Design and Colour: elementary weaves and figured fabrics*, 2nd edn. (London: Longmans, Green & Co., 1921) 374–5, 386.
[455] Paul N. Hasluck, *Upholstery* (Philadelphia: McKay, 1904) 104. Spencer, Turner and Boldero Ltd., *Price List and Diary* (London,1898) 30, 55. William S. Murphy, *The Textile Industries* (London: Gresham, 1911) 146.
[456] Florence M. Montgomery, *Textiles in America, 1650–1870* (New York: Norton & Co., 2007) 191.
[457] Usually written now as 20/2 indicating two plies of size 20 yarn. Regarding the size, the higher the number, the thinner the yarn.
[458] *Encyclopædia Britannica*, 14th edn., 24 vols. (London, 1929) IX, 956.
[459] Illustration: William Watson, *Textile Design and Colour: elementary weaves and figured fabrics*, 2nd edn. (London: Longmans, Green & Co., 1921) 374, no. 70. Louis Harmuth, *Dictionary of Textiles* (New York: Fairchild, 1915) 33. H. Nisbet, *Grammar of Textile Design*, 2nd edn. (London: Scott, Greenwood & Son, 1919) 137. Janet Wilson, *Classic and Modern Fabrics* (New York: Thames & Hudson, 2010) 49, 284.
[460] *The Penny Magazine* (10 September 1842) 359.
[461] Willoughby Patterne, 'The sportsman's kit', *The Badminton Magazine* 58, no.328 (November 1922) 495.
[462] 'Hunting clothes', *Country Life Illustrated* 3, no.57 (5 February 1898) 154.
[463] *The Gentleman's Magazine of Fashions* I, no. 6 (1828) 104.
[464] Illustration (Riding Breeches): *The Bystander* 78, no. 1013 (2 May 1923) 138.
[465] Ann Cripps, *The Countryman Rescuing the Past* (Newton Abbot: Readers Union, 1974) 152.
[466] *Proceedings of the Old Bailey*.
[467] Carl Efvergren, *Names of Places in a Transferred Sense in English* (Cambridge: Heffer, 1909) 75. Efvergren proposed: 'Probably this word originates in the name of Canton in southern China, one of the principal markets of that country'. Canton comes to English via Portuguese Cantão, and refers to Guangzhou: Henry Yule and A. C. Burnell, *Hobson-Jobson: the definitive glossary of British India* (Oxford: Oxford University Press, 2013) 127. An early rendering of Cantoon for Canton can be found in William Hatchett, *A Chinese Tale* (London, 1740) 4.
[468] Laura Wright, 'On Early and Late Modern English non-native suffix -oon', *International Journal of English Studies* 20, no.2 (2020) 123–4.
[469] Henry George Liddell and Robert Scott, *Greek-English Lexicon* (Oxford: Clarendon, 1883) s.v. *κανθός* (kanthos) 'corner of the eye '.
[470] (As of Dec. 2023). Nicola Gentle, 'A study of the late seventeenth-century state bed from Melville House', *Furniture History* (2001) passim, note 9. Tessa Murdock, 'Worthy of the monarch: immigrant craftsmen and the production of state beds, 1660-1714' in Randolph Vigne and Charles Littleton (eds.) *From Strangers to Citizens* (Brighton: Sussex Academic Press, 2001) 156. Illustration: After Margaret Willes, *And So To Bed* (London: National Trust, 1998) [49].
[471] Madeleine Ginsburg (ed.), *The Illustrated History of Textiles* (New York: Portland House, 1991) 211.

[472] Peter Thornton, *Seventeenth-Century Interior Decoration in England, France, and Holland* (New Haven: Yale University Press, 1978) 165–6 and plate 118. Jean Dubois, René Lagane and Alain Lerond, *Dictionnaire du français classique : le XVIIe siècle* (Paris: Larousse, 1992) s.v. *cantonnier*. Percy Macquoid, 'The state beds at Hampton Court Palace', *Country Life* 35, no. 902 (18 April 1914) 565.
[473] M. Ménage, *Dictionnaire etymologique de la langue françoise,* 2 vols., nouvelle edn. (Paris, 1750), I, s.v. canton. Centre National de Ressources Textuelles et Lexicales: s.v. cantonnière 'that which garnishes the corners'. Cf. Spanish canto[2].
[474] *OED* s.v. cant (noun[1]), Etymology and various senses. C. du Cange, et al., *Glossarium mediae et infimae latinitatis*, 10 vols., éd. augm. (Niort: L. Favre, 1883-1887) s.v. cantus[2,] t. 2, col. 109a = Latin *angulus* 'angle, corner'.
[475] William A. Shaw, *Calendar of Treasury Books, 1685–1689. Preserved in the Public Records Office*, (London: HMSO, 1923) VIII, part 1, 164.
[476] Ann Pollard Rowe, 'Crewel embroidered bed hangings in Old and New England', *Boston Museum Bulletin* 1973, 71 (no. 365/366) 102-64.
[477] Diary entry for 27 July 1686. The figures on the right indicate cost measured in pounds, shillings and pence; 'd' represents pence: Edmund Hobhouse (ed.), *The Diary of a West Country Physician, A.D. 1684-1726* (London: Simpkin Marshall, 1934) 142. Cantoon is mentioned as a popular fabric in the manufacture of luxury beds: Ralph Fastnedge, *English Furniture Styles, 1500-1830* (Harmondsworth: Penguin, 1955) 84.
[478] As such 'cantoon' becomes polysemic: see Stéphane Robert, 'Words and their meanings' in Martine Vanhove (ed.), *From Polysemy to Semantic Change* (Amsterdam: Benjamins, 2008) 66-9.
[479] *OED* s.v. -oon (suffix).
[480] *OED* s.v. cant (verb[2]) sense I.2.a and II.6. There is a circularity here, considering that oblique, slant, slope or tilt are synonymous with 'at an angle'
[481] *OED* s.v. cant (noun[1]) sense II.10.a; cf. the sense of obliqueness I.5.
[482] *London Gazette*, no. 2328 (12 March 1687) 2.
[483] John Hargrove, *The Weavers Draft Book and Clothiers Assistant* (Baltimore, 1792) 17.
[484] Charlotte Rankin Aiken, *Millinery* (New York: Ronald Press, 1922) 67, 156-7.
[485] *London Gazette*, no. 22436 (19 October 1860) 3773.
[486] 'The Voyage of M. Joseph Salbancke through India, Persia, part of Turkie, the Persian Gulfe, and Arabia, 1609. Written unto Sir Thomas Smith', in Samuel Purchas, *Hakluytus Posthumus or Purchas His Pilgrimes*, 20 vols. (Glasgow: MacLehose, 1905) III, 86.
[487] Willem Floor, 'Economy and society: fibers, fabrics and factories', in Carol Bier (ed.) *Woven From the Soul, Spun From the Heart : textile arts of Safavid and Qajar Iran, 16th-19th centuries* (Washington DC: Textile Museum, 1987) 20-32.
[488] Josafa Barbaro and Ambrogio Contarini, *Travels to Tana and Persia* (London: Hakluyt Society, 1923) 72. Translated from the Italian original, written in 1487.
[489] *OED* s.v. cord (noun[1], sense 8).
[490] Harry Nisbet, *Grammar of Textile Design* (London: Scott, Greenwood & Son, 1906) chap. 5.
[491] J. Hayavadana, *Advanced Woven Fabric Design* (New Delhi: Woodhead, 2019) 136.
[492] Original: British Museum.
[493] M. Rafiq Chaudry and Andrei Guitchounts, *Cotton Facts* ([Washington DC]: International Cotton Advisory Commission, 2003) 87.
[494] Jonathan F. Wendel, Curt L. Brubaker, and A. Edward Percival, 'Genetic diversity in Gossypium Hirsutum and the origin of Upland Cotton', *American Journal of Botany* 79, no. 11 (1992) 1291.
[495] E. Lipson, *A Short History of Wool and its Manufacture* (Melbourne: Heinemann, 1953) 37-8.
[496] The Arabic version of Aït (Ayt) is *Banu* (Beni), meaning 'the children of' or 'descendants of'. Idris El Hareir, 'Islam in the Maghrib', in Idris El Hareir and El Hadji Ravane M'Baye (eds.) *The Different Aspects of Islamic* Culture. Vol. 3, *The Spread of Islam throughout the World* (Paris: UNESCO, 2011) 421.
[497] Thomas F. Glick, *Islamic And Christian Spain in the Early Middle Ages* (Leiden: Brill, 2005) 105. Harold Livermore, *A History of Spain*, 2nd edn. (London: Allen & Unwin, 1966) 139-41, 158-9.
[498] A. Khaneboubi, 'Mérinides (Berb. : Ayt Mrin)', *Encyclopédie berbère* 31 (2010). *Muqarnas: an annual on Islamic art and architecture* 7 (Leiden: Brill, 1990) passim. J. A. Conde, *History of the Dominion of the Arabs in Spain*, 3 vols. (London: Bohn, 1855) III, 99.
[499] Charles O'Neill (ed.), *The Textile Colourist* 4 (Manchester, 1877) 193.

[500] Irene Emery, *The Primary Structures of Fabrics* (London: Thames & Hudson, 1994 [1980]) 136. Illustration: Wikimedia.
[501] Franz Sales Meyer, *A Handbook of Ornament*, 8th edn. (New York: Hessling, [1910]) 4, 9-13, 277-94. Illustration: Wikimedia.
[502] Marie Lynskey, *Illumination for Calligraphers* (Wellingborough: Thorsons, 1990) 52-7.
[503] X. Chen and J. W. S. Hearle, 'Structural hierarchy in textile materials', in X. Chen (ed.) *Modelling and Predicting Textile Behaviour* (Oxford: Woodhead, 2010) 20-1.
[504] Cognate with Byzantine Greek: E. A. Sophocles, *Greek Lexicon of the Roman and Byzantine Periods (from B.C. 146 to A.D. 1100)* (New York: Scribners, 1900) s.v. δίασπρος 'pure white' [before a vowel, *dia* is simply written *di*]. The word is a compound of δια- (dia-, 'in different directions') + ἄσπρος (áspros, "white"): Henry George Liddell and Robert Scott, *Greek-English Lexicon* (Oxford: Clarendon, 1883) s.v. *δια* (D II). The first element may allude to a monochrome fabric with a low volume background on which the woven designs are visible 'by the *direction* of warp and weft, by contrasting luster, or by opposite reflections of its surface', (cf. a monochromatic damask): Irene Emery, *The Primary Structures of Fabrics* (London: Thames & Hudson, 1994 [1980]) 136.
[505] Francisque-Michel, *Recherches sur le commerce, la fabrication et l'usage des étoffes de soie, d'or et d'argent*, 2 vols. (Paris: Crapelet, 1852) I, 240, 300.
[506] Ibid. I, 236. Old French: Frédéric Godefroy, *Dictionnaire de l'ancienne langue française et de tous ses dialectes du IXe au XVe siècle* (Paris: Vieweg, 1881–1902) s.v. diaspre 'a fabric of silk, with flowers, branches and arabesques'. Anglo-Norman: *Anglo-Norman Dictionary*, AND2 Online Edition (Aberystwyth University, 2023) s.v. diaspre 'flowered, patterned silken cloth'. Middle English: *Middle English Dictionary*, Online edition in *Middle English Compendium*, Frances McSparran, et al. (eds.) (Ann Arbor: University of Michigan Library, 2000-2018) s.v. diaper (noun) 'a textile fabric (?of silk) having a repeated pattern of figures or geometrical designs'; and diapren (verb) 'To ornament the surface of something with a repeated pattern of figures or geometrical designs'.
[507] R. Pfister, 'Le rôle de l'Iran dans les textiles d'Antinoé', *Ars Islamica* 13, 1948, passim. See also: diaper designs on burial clothing of the Coptic Period (6-7th century) from Akhmim: A. F. Kendrick, *Catalogue of Textiles From Burying-Grounds in Egypt. III, The Coptic Period* (London: HMSO, 1922) 90-1.
[508] Birgit Anette Olsen, *The Noun in Biblical Armenian: origin and word-formation* (Berlin: de Gruyter, 1999) 294, 316, 325, 422, 739. Birgit Anette Olsen, 'Armenian textile terminology', in Salvatore Gaspa, Cécile Michel, Marie-Louise Nosch (eds.) *Textile Terminologies from the Orient to the Mediterranean and Europe* (Lincoln: Zea, 2017) 197, n. 84.
[509] [cf. διασπείρω 'to scatter'] δία 'of the material out of which a thing is made': George Liddell and Robert Scott, *Greek-English Lexicon* (Oxford: Clarendon, 1883) s.v. δία A. III. 2) and σπεῖρον 'a piece of cloth', nom. pl. σπεῖρᾰ (s.v. σπεῖρον); 'shroud'. Anatole Bailly, *Dictionnaire Grec-Français*, 7th edn., 2 vols. (Paris: Hachette, 1850) s.v. σπεῖρον, sense 2. Robert Beekes, *Etymological Dictionary of Greek*, 2 vols. (Leiden: Brill, 2010) s.v. σπεῖρον < IE *sper 'twist' (as in yarn). [diaspeiron > loss of <s> (as in Old French and Anglo-Norman diapre, dyapre, diape, diapere) + loss of inflection = diapeir (cf. Middle English diaper).
[510] Anna Gonosová, 'The formation and sources of Early Byzantine floral semis and floral diaper patterns reexamined', *Dumbarton Oaks Papers* 41, 1987.
[511] Courtesy of the Metropolitan Museum of Art, [left] acc. no. 21.6.14, dated 4th–5th century, wool; [right] 'Coptic' acc. no. 90.5.493, 4th century, wool and linen.
[512] Frederick J. Furnivall (ed.), *The Ellesmere MS of Chaucer's Canterbury Tales* (London: Trübner, 1868) *The Knight's Tale*, lines 2157–9; cf. diapred (Landsdowne MS, no. 851).
[513] Erik Kooper (ed.) The Squire of Low Degree (Rochester: Middle English Text Series) [probably mid-15th century] lines 741–4.
[514] J. Strutt 1773, after Thomas Hoccleve, *Regiment of Princes* (1412), British Library, Harley 4866, f.88.
[515] To destroy vegetable impurities in (wool) by treatment with an acid followed by heating, which reduces cellulose to carbon dust: *OED* s.v. carbonise (verb[1], sense I.b).
[516] The rough layer of projecting threads or fibres on the surface of a woollen or other textile fabric. Later also: a special pile given to cloth, esp. velvet, by artificially raising, cutting, and smoothing the short fibres: *OED* s.v. nop (noun[2], I.b) variant of nap.
[517] The process of passing yarn or fabric rapidly through a gas flame in order to remove superfluous fibres: *OED* s.v. gassing (noun, I).

[518] To pass (cloth or other material) through a fulling-mill; to thicken (cloth, wool, etc.) by fulling: *OED* s.v. mill (verb[1]) I.2.
[519] To bring up (the nap or pile of cloth) by combing or carding with teasels, etc.; to produce a nap on (cloth): *OED* s.v. raising (verb[1]) IV.33.a.
[520] Operation by which the clumps of fluffed fibers on the surface of the fabric are twisted to be transformed into short nodules (curled nap), fixed to the body of the fabric. This is done by passing the fabric (after it has been cleaned of knots, washed, ironed, fluffed and trimmed) between two cylinders (i.e. calendering): *Lexiconul Tehnic Român*, 12 vols. (Bucuresti: Editura Tehnică, 1949) s.v. *Ratinare*. Cf. friezing 'brushing lightly to raise a nap' and nap: a special pile given to cloth, esp. velvet, by artificially raising, cutting, and smoothing the short fibres.
[521] A beam is a roller on which the cloth is wound as it is woven; also called back-beam, breast-beam, cloth-beam: *OED* s.v. beam (noun[1]) I.i.4.
[522] Friedrich Polleyn, *Dressings and Finishings for Textile Fabrics and Their Application*, 3rd edn. (London: Scott, Greenwood & Son, 1911) 1.
[523] Roberts Beaumont, *The Finishing of Textile Fabrics* (London: Scott, Greenwood & Son, 1909) 17-21.
[524] George E. Linton, *The Modern Textile and Apparel Dictionary*, 4th edn. (Plainfield, N.J: Bonn, 1973) 189.
[525] *OED* s.v. drill (noun[5]); drilling (noun[3]).
[526] Martin J. Brayley, *The British Army, 1939-1945. 2, Middle East & Mediterranean* (Oxford: Osprey, 2002) 36.
[527] *Cotton Mill Handbook* (New York: Bragdon, Lord and Nagle, 1922) 110.
[528] *Encyclopedia of Chemical Technology*, 4th edn., 25 vols. (New York: Wiley, 1993) VI, 596.
[529] *Southern Textile Bulletin* 7, no. 24 (13 August 1914) 9.
[530] 'The manufacture of emery', *The Chemist* n.s. 3, no. 36 (1852) 556-9.
[531] *Common Wood and Metal Repair*. Technical manual 9-270 (Washington DC: Department of the Army, 1971) 3-1. 'A few facts about emery', *Chambers's Journal of Popular Literature, Science and Arts,* no. 42 (17 June 1854) 383.
[532] Wikimedia: Grace's Guide.
[533] Phyllis G. Tortora and Ingrid Johnson, *Dictionary of Textiles*, 8th edn. (New York: Bloomsbury, 2014) 222.
[534] *Statutes of the Realm* 2 [1377-1509] (London: Dawsons, 1816) 489.
[535] *OED* s.v. Florence (noun[1]) 2 a,b; Florentine (adjective and noun) 2.
[536] Andrea Wynne, *Textiles* (London: Macmillan, 1997) 171.
[537] Cross-dyed: a technique of dyeing fabrics that contains more than one type of fibre in different yarns such that each fibre can be dyed a different shade.
[538] A. E. Blanco, *Piece Goods Manual* (Shanghai: Statistical Department of the Inspectorate General of Customs, 1917) 20.
[539] S. F. A. Caulfield and Blanche C. Saward, *The Dictionary of Needlework*, 2nd edn., 6 vols. (London: Cowan, 1890) III, 211.
[540] Abraham Rees, *The Cyclopaedia; or, Universal Dictionary of Arts, Sciences, and Literature* (London: Longman, Hurst, Rees, Orme & Brown, 1819) XIV, s.v. Florentine.
[541] Chris Wickham, *The Donkey and the Boat* (Oxford: Oxford University Press, 2023) 549-53, 600-4.
[542] Marcus Milwright, *An Introduction to Islamic Archaeology* (Edinburgh: Edinburgh University Press, 2010) 12, 87.
[543] Ruth Barnes, *Indian Block-Printed Textiles in Egypt: the Newberry Collection in the Ashmolean Museum, Oxford* (Oxford: Clarendon, 1997) 27.
[544] It is frequently claimed that the source of this etymology is Samuel Bochart (1599-1667), but the claimants do not cite their source. His works were published as an *opera omnia* in one volume. It is over 1300 pages of dense Latin, peppered with Greek, Hebrew and Arabic. One gets the impression that it was easier to repeat the claim than verify it. My own attempts to authenticate it have proven fruitless. The earliest claimant I have encountered is Gilles Ménage (1613-92) *Dictionaire [sic] etymologique au origines de la langue françoise* (Paris: Imprimerie Royale, 1694) 337 s.v. futaine. He may have misinterpreted an entry mentioning Fostat and 'a certain kind of cloth from which precious garments are made, which Arab writers call Tanitic garments' found in Samuelis Bocharti, *Opera Omnia, hoc est Phaleg, Canaan, et Hierozoicon ...*, 3rd edn. (Lugdunum Batavorum, 1692) 1200.
[545] See: A. Hume, 'Geographical terms, considered as tending to enrich the English language', *Transactions of the Historic Society of Lancashire and Cheshire* (Liverpool) 11 (1859) 136-9.

[546] S. D. Goitein and Mordechai Akiva Friedman, *India Traders of the Middle Ages: documents from the Cairo Geniza. India Book, Part 1* (Leiden: Brill, 2007) 169.
[547] S. D. Goitein, *A Mediterranean Society: the Jewish communities of the Arab world as portrayed in the documents of Cairo Geniza*. *Vol. 4, Daily Life* (Berkeley: University of California Press, 1983) 114, 379 note 44.
[548] J. P. Wild, *Textile Manufacture in the Northern Roman Provinces* (Cambridge: Cambridge University Press, 1970) 13, 51-2, 101.
[549] Charlton T. Lewis and Charles Short, *A Latin Dictionary* (Oxford: Clarendon Press, 1879.) s.v. *fustis*. Compare *fustaneum* 'wooden material': J. F. Niermeyer, *Mediae Latinitatis Lexicon Minus*, fasc. 5. (Leiden: Brill, 1975) 459. C. du Cange, et al., *Glossarium mediae et infimae latinitatis*, 10 vols., éd. augm. (Niort: L. Favre, 1883-1887) t. 3, col. 640a, s.v. fustanum.
[550] *Vocabolario de Comercio Medieval* s.v. fustanis. The yellow pigment is fugitive, and tends to turn into a russet colour.
[551] James Strong, *Strong's Exhaustive Concordance to the Bible* (Nashville: Broadman, 1979) H6593 s.v. pēšeṯ
[552] Ahmad Al-Jallad, 'The classification of Arabic and sociolinguistic variation in the pre-Islamic period' in Enam Al-Wer and Uri Horesh (eds.) *The Routledge Handbook of Arabic Sociolinguistics* (Abingdon: Routledge, 2019) 16. This is akin to Grimm's Law detailing a fricative shift from Indo-European p > f among Germanic languages (e.g. pater > father).
[553] Fabrizio Angelo Pennacchietti, 'On the Semitic origin of the English word fustian', in Manuel Sartori, Manuela E. B. Giolfo and Philippe Cassuto (eds.) *Approaches to the History and Dialectology of Arabic in Honor of Pierre Larcher* (Leiden: Brill, 2017) 367. *Diccionario de la Lengua Española*. Federico Corriente, *Dictionary of Arabic and Allied Loanwords* (Leiden: Brill, 2008) *fustán* 305-6; cf. *alfóstigo* 114-5.
[554] Also transliterated as quṭn / quṭun / ḳuṭn. See: *OED*, s.v. cotton (noun[1]), Etymology.
[555] Ibn Khaldûn, *The Muqaddimah*, transl. Franz Rosenthal, 2nd edn., 3 vols. (Princeton: Princeton University Press, 1967) II, 67.
[556] Philip Drew, *Tensile Architecture* (London: Routledge, 1979) 42. Torvald Faegre, *Tents: architecture of the nomads* (Garden City: Anchor, 1979) 10-13.
[557] Alexandra D. Pleşa, 'Popular garments, fabrics and colours: textile terminology in Early Islamic Arabic documents in Egypt', *Beiträge zur Islamischen Kunst und Archäologie* 7 (Wiesbaden: Reichert, 2021) 93-5. Some of the Fustat textiles were imports from India: Elizabeth Oley, 'Craft, culture and sustainable development – weaving their way to self sufficiency', in Lindy Joubert (ed.) *Craft Shaping Society* (Singapore: Springer, 2022) 90.
[558] R. Morris, *Old English Homilies of the Twelfth Century*, 2nd series (London: Trübner, 1873) 163. *Middle English Dictionary*, Online edition, in *Middle English Compendium*, Frances McSparran, et al. (eds.) (Ann Arbor: University of Michigan Library, 2000-2018) s.v. fustian. A word, in the form of fustane, introduced into English lexis from Norman French: Richard Morris, *Historical Outlines of English Accidence* (London: Macmillan, 1885) 338. Also fustiane, fustanie, fustayn: Louise W. Stone, William Rothwell and .B.W. Reid (eds.) *Anglo-Norman Dictionary* (London: Modern Humanities Research Association, 1983) fasc. 3, s.v. fustian.
[559] E. F. Willoughby, *The Prologue to Canterbury Tales* (New York: Maynard, [1889]) line 75.
[560] William Edward Mead, *The squyr of lowe degre* (Boston: Ginn, 1904) 37. Fustyane in another MS.
[561] Thomas Amyot, 'Transcript of two rolls, containing an inventory of effects formerly belonging to Sir John Fastolfe', *Archaeologia* 21 (1826) 27.
[562] The nature of the item is unknown due to a lacuna in the MS: Surtees Society, *Testamenta Eboracensia*, 6 vols. (Durham: Andrews, 1865) III, 70.
[563] Surtees Society, *A Volume of English Miscellanies Illustrating the History and Language of the Northern Counties of England* (Durham: Andrews, 1890) s.v. Ables.
[564] James Raine, *Wills and Inventories From the Registry of the Archdeaconry of Richmond* (Durham: Andrews, 1853) 9.
[565] Albertus Way (ed.) *Promptorium Parvulorum Sive Clericorum, Dictionarius Anglo-Latinus Princeps*, 3 vols. (London: Camden Society, 1843) I, 183.
[566] Lewes Roberts, *The Treasure of Traffike or A Discourse of Forraigne Trade* (London, 1641) 32-3.
[567] Sykas, P. A., 'Fustians in Englishmen's dress: from cloth to emblem', *Costume* 43 (2009) 4, 8.
[568] S. Austin, et al., *Lancashire Illustrated* (London: Fisher, Fisher & Jackson, 1832) 76, 80. It is claimed that fustian production in (and around) Manchester, and its shipment to the London market, was established by the mid-16th century: J. Herbert Cooke, *The Velvet and Corduroy Industry* (London: Pitman, [1922]) 6.

[569] Pamela V. Ulrich, 'From fustian to merino', *Agricultural History* 68, no. 2 (1994) 221.
[570] Alfred P. Wadsworth and Julia De Lacy Mann, *The Cotton Trade and Industrial Manchester, 1600-1780* (Manchester: Manchester University Press, 1931) 15-20.
[571] John Styles, 'Re-fashioning Industrial Revolution: fibres, fashion and technical innovation in British cotton textiles, 1600-1780' in Giampiero Nigro (ed.) *Fashion as an Economic Engine* (Florence: Firenze University Press, 2022) 52.
[572] Joseph Depierre, *Elementary Treatise on the Finishing of White, Dyed, and Printed Cotton Goods* (Manchester: Thomas, 1889) 317.
[573] Not according to *Diccionario de la lengua española*. Fustian certainly did not originate in Barcelona. It is argued that the production of fustian in Barcelona, from the early 13th century, was not export driven like northern Italy, but served local needs: Maureen Fennell Mazzaoui, *The Italian Cotton Industry in the Later Middle Ages, 1100-1600* (Cambridge: Cambridge University Press, 1981) 30, 61.
[574] S. F. A. Caulfield and Blanche C. Saward, *The Dictionary of Needlework*, 2nd edn., 6 vols. (London: Cowan, 1890) III, 218–9. cf. Robert Hunt (ed.), *Ure's Dictionary of Arts, Manufactures, and Mines*, 5th edn., 3 vols. (London: Longman, Green, Longman and Roberts, 1861) II, 315-8.
[575] Thomas Webster, *An Encyclopædia of Domestic Economy* (London: Longman, Brown, Green and Longmans, 1844) 982.
[576] Roger Holden, 'Fustian and velvet cutting - a subdivision of the Lancashire cotton industry', *Industrial Archaeology Review* 38 (2016) 133.
[577] Robert Head, *Congleton Past and Present* (Congleton: Author, 1887) 159.
[578] J. Herbert Cooke, *The Velvet and Corduroy Industry* (London: Pitman, [1922]) 46 [for men, more for women].
[579] John Fortune, 'Fustian cutting and health', *The Journal of State Medicine* 22, no. 1 (January, 1914) 10.
[580] Robert Head, *Congleton: past and present* (Congleton: the author, 1887) 159.
[581] Leigh Prestwich, 'Experiences of an inventor', *Tinsley's Magazine* 37, issue 221 (1885) 541.
[582] T. Woodhouse and A. Brand, 'The design and manufacture of fustians', *Cotton* 87, no. 1 (November, 1922) 25. See also: supra endnote 200.
[583] T. Woodhouse and A. Brand, 'The design and manufacture of fustians', *Cotton* 85, no. 11 (September 1921) 829.
[584] *Fibre and Fabric* 21, no. 534 (25 May 1895) 167.
[585] Leigh Prestwich, 'Experiences of an inventor', *Tinsley's Magazine* 37, issue 221 (1885) 539-60.
[586] *The Journal of Fabrics and Textile Industries* 12, no. 71 (12 July 1887) 9.
[587] J. Herbert Cooke, *The Velvet and Corduroy Industry* (London: Pitman, [1922]) 94.
[588] Andrew Ure, *The Cotton Manufacture of Great Britain Systematically Investigated*, 2 vols. (London: Knight, 1836) II, 333-4.
[589] T. Woodhouse and A. Brand, 'The design and manufacture of fustians', *Cotton* 87, no. 1 (November, 1922) 28.
[590] B. Eldred Ellis, *Gloves and the Glove Trade* (London: Pitman, 1921) 98. *Hearings on General Tariff Revision* (Washington DC: Government Printing Office, 1921) 2367.
[591] Richard Dwight Porcher and Sarah Fick, *The Story of Sea Island Cotton* (Charleston: Wyrick, 2005) xvii.
[592] R. Senthil Kumar and S. Sundaresan, 'Mechanical finishing techniques for technical textiles', in M. L. Gulrajani (ed.) *Advances in the Dyeing and Finishing of Technical Textiles* (Cambridge: Woodhead, 2013) 136-8.
[593] C. M. Brown and C. L. Gates. *Scissors and Yardstick; or All About Dry Goods* (Harford: Brown & Jaqua, 1872) 217. Compare 'Venetian', a twilled lining material of cotton warp and worsted weft: William Henry Baker, *A Dictionary of Men's Wear* (Cleveland: Baker, 1908) 276.
[594] *L. H. Mace & Co., 1883* (American Historical Catalog Collection) (Princeton: Pyne Press, 1971) 61.
[595] *Your Gas Mask; Masking Your Windows*. Civil Defence Information Leaflet, no. 2 (London: Lord Privy Seal's Office, 1939).
[596] A. E. Blanco, *Piece Goods Manual* (Shanghai: Statistical Department of the Inspectorate General of Customs, 1917) 44.
[597] Jeanette E. Davis, *The Elements of Modern Dressmaking* (London: Cassell, 1896) 89.
[598] William H. Dooley, *Textiles for Commercial, Industrial, and Domestic Arts Schools*, rev. edn. (Boston: Heath, 1912) 183.
[599] *The Chemist and Druggist* 139, no. 3297 (17 April 1943) 400.

[600] International Congress of Chambers of Commerce, *A Brief History of London and its Commercial Development* (London: Burroughs, Wellcome & Co., 1910) 128.
[601] George White, *A Practical Treatise on Weaving by Hand and Power Looms* (Glasgow: Niven, 1846) 277.
[602] Philip A. Sykas, 'Fustians in Englishmen's dress: from cloth to emblem' *Costume* 43 (2009) 5-6.
[603] Richard Cunliffe and Geoffrey Payton, *Blackie's Compact English Dictionary* (London: Blackie, 1969) 219. Jenny Balfour-Paul, *Indigo* (London: British Museum, 1998) 29-30, 203.
[604] *Middle English Dictionary*, Online edition, in *Middle English Compendium*, Frances McSparran, et al. (eds.) (Ann Arbor: University of Michigan Library, 2000-2018) s.v. gene.
[605] James Sullivan, *Jeans: a cultural history of an American icon* (New York: Gotham,) 12-13.
[606] Richard Marsden, *Cotton Weaving* (London: Bell, 1895) 111-2.
[607] A. E. Blanco, *Piece Goods Manual* (Shanghai: Statistical Department of the Inspectorate General of Customs, 1917) 45. *Pile Weaves* (International Library of Technology) (Scranton: International Textbook, 1906) §82. 9.
[608] On the etymology of denim: Katherine Weisman, 'Vive le Jeans!' *Women's Wear Daily* (May 18, 2000).
[609] Emma McClendon, *Denim: fashion's frontier* (New Haven: Yale University Press, 2016) 13.
[610] Photo: Wikimedia.
[611] Rita P. Wright, et al., 'New evidence for jute (Corchorus capsularis L.) in the Indus civilization', *Archaeological and Anthropological Sciences* 4 (2012) 137-143.
[612] Thomas Lord Busby, *Costume of the Lower Orders of the Metropolis* (London: Leigh, 1820).
[613] Jim Tomlinson, 'Managing decline: the case of jute', *The Scottish Historical Review* 90, no. 230 (2011) 262.
[614] Thomas R. Ashenhurst, *Design in Textile Fabrics*, 2nd edn. (London: Cassell, 1885) 206.
[615] *Textile World* 15, no. 5 (November 1898) 79.
[616] Paul D. Blanc, *How Everyday Products Make People Sick* (Berkeley: University of California Press, 2007) 153.
[617] Illustration: Wikimedia. A Lincoln Longwool sheep.
[618] Robert Hunt, *Ure's Dictionary of Arts, Manufactures and Mines*, 4 vols. (London: Longman, Green & Co., 1878) IV supplement: 976.
[619] *Glossary of Textile Terms* (New Delhi: Indian Standards Institution, 1985) passim. William Watson, *Textile Design and Colour*, 5th edn. (London: Longman, Green & Co., 1946) 384-5.
[620] Ibid.
[621] A. F. Barker, *Textiles* (New York: Van Nostrand, 1910) chap. 3.
[622] Tasneem Sabir, 'Fibers used for high-performance apparel', in John McLoughlin and Tasneem Sabir (eds.) *High-Performance Apparel: materials, development, and applications* (Duxford: Woodhead, 2018) 18-19.
[623] Ruth Goodman, *How to be a Victorian* (London: Viking, 2014) unpaged.
[624] Petronius, *Satyricon,* line 55. *A Descriptive and Historical Account of the Cotton Manufacture of Dacca, in Bengal* (London: Mortimer, 1851) 50-1.
[625] Illustration courtesy of the Metropolitan Museum of Art in New York. After George Murgatroyd Woodward (1765–1809, London), pirated and published in Dublin, Ireland by William McCleary, dated to ca. 1808.
[626] Saiful Islam, *Muslin: our story* ([Dhaka]: Drik Picture Library, 2016) 22, 44.
[627] Logan Kistler, et al., 'The search to resurrect muslin cotton in Bangladesh', Presented at the 82nd Annual Meeting of the Society for American Archaeology, Washington, DC. 2018.
[628] *OED* s.v. muslin (noun and adjective), Etymology. Sven Beckert, *Empire of Cotton* (New York: Knopf, 2014) 19: Kurdish *Musil*.
[629] Eliyahu Ashtor, 'The Venetian cotton trade in Syria in the Later Middle Ages', in *Studies on the Levantine Trade in the Middle Ages* (London: Variorum Reprints, 1978) VII, 690.
[630] Sohel Rana, et al., 'Regenerated cellulosic fibers and their implications on sustainability', in Subramanian Senthilkannan Muthu (ed.) *Roadmap to Sustainable Textiles and Clothing* (Singapore: Springer, 2014) 239-76. Calvin Woodings, 'A brief history of regenerated cellulosic fibres', in Calvin Woodings (ed.) *Regenerated Cellulose Fibres* (Cambridge: Woodhead, 2001) 1-21.
[631] *Middle English Dictionary*, Online edition in *Middle English Compendium*, Frances McSparran, et al. (eds.) (Ann Arbor: University of Michigan Library, 2000-2018) s.v. sarsinet. Appears as *sarzinet* in AD 1373: Reginald R. Sharpe, *Calendar of Wills Proved and Enrolled in the Court of Husting, London, A.D. 1258-A.D. 1688*, 2 vols. (London: Francis, 1890) II, 155. *Anglo-Norman Dictionary* s.v. sarszinet. C. du Cange, et al., *Glossarium mediae et infimae latinitatis*, 10 vols., éd. augm. (Niort: L. Favre, 1883-1887) t. 7, col. 308b, s.v. Saracenicum. *Dictionnaire Étymologique de l'Ancien Français*.
[632] Walter Taylor, 'The etymology of "Saracen"', *Leeds Studies in English and Kindred Languages* 1 (1932) 31-5.

[633] Morton Paterson, 'The stagecraft of the Revels Office during the reign of Elizabeth' in Charles T. Prouty (ed.) *Studies in The Elizabethan Theatre* ([Hamden]: Shoe String Press, 1961) 14.
[634] Hilary Davidson, 'Reconstructing Jane Austen's silk pelisse, 1812-1814', *Costume* 49 (2015) passim.
[635] *The Ladies' Monthly Museum* 20 (October, 1824) illustration following 228, description 229.
[636] Phyllis G. Tortora and Ingrid Johnson, *The Fairchild Books Dictionary of Textiles*, 8th edn. (New York: Fairchild, 2014) 530.
[637] Lisa Monnas, *Merchants, Princes and Painters: silk fabrics in Italian and northern paintings, 1300-1550* (New Haven: Yale University Press, 2008) 230.
[638] *The Repository of Arts, Literature, Commerce, Manufactures, Fashions, and Politics* 9, no. 51 (March 1813) 180; illustration (on right) following 168.
[639] A. Brent Strong, *Fundamentals of Composites Manufacturing: materials, methods, and applications* (Dearborn: Society of Manufacturing Engineers, 1989) 67. 'Harness' is sometimes called 'leafed'; four harnessed = 4 leafed: John Murphy, *A Treatise on the Art of Weaving* (Glasgow: Blackie, 1827) 23.
[640] Irene Emery, *The Primary Structures of Fa*brics (Washington DC: Textile Museum, 1966) 108, 137.
[641] F. W. Smith, *The Irish Linen Trade Hand-book and Directory* (Belfast: Greer, 1876) 76. *The Industries of Ireland. Part 1, Belfast* (London: Historical Publishing, 1891) 90.
[642] C. M. Brown and C. L. Gates. *Scissors and Yardstick; or All About Dry Goods* (Harford: Brown & Jaqua, 1872) 41. A. E. Blanco, *Piece Goods Manual* (Shanghai: Statistical Department of the Inspectorate General of Customs, 1917) 83.
[643] Thomas Blount, *Glossographia, or a Dictionary of Hard Words*, 3rd edn. (London, 1670) 595.
[644] *OED s.v.* Holland (noun[1]), compounds.
[645] *OED s.v* sleazy (adjective) 2.a. 'Of textile fabrics or materials: thin or flimsy in texture; having little substance or body.'
[646] Joseph Wright, *The English Dialect Dictionary*, 6 vols. (Oxford: Frowde, 1905) V, 513.
[647] Chrysti M. Smith, *Verbivore's Feast*, ebook edn. (Helena: Farcountry Press, 2004) s.v. sleazy (unpaged).
[648] *OED s.v* sleazy (noun) = Silesia n. 1; cf. Silesia = Slesia: J. F., *The merchant's Ware-house Laid Open* (London, 1696) 36.
[649] Stanisław Rosik, *The Slavic Religion in the Light of 11th- and 12th-Century German Chronicles* (Leiden: Brill, 2020) 149-55.
[650] Paweł Jasienica, *Piast Poland* (New York: Hippocrene, 1985) 16.
[651] Alex J. Warden, *The Linen Trade: ancient and modern* (London: Longman, Green, Longman, Roberts & Green, 1864) 266-79.
[652] Cassie Paine Small, *How to Know Textiles*, enl. edn. (Boston: Ginn, 1932) 220.
[653] 'Artificial silk and horse hair', *The American Catholic Quarterly Review* 31 (1906) 382.
[654] *Merchandise Misbranding Bills*. [Congressional] Hearings, March 19-31, 1920 (Washington DC: Government Printing Office, 1920) 161.
[655] S. F. A. Caulfield and Blanche C. Saward, *The Dictionary of Needlework*, 2nd edn., 6 vols. (London: Gill, [1887]) V, 451.
[656] *The Cotton Yearbook 1916: compiled (for the "Textile Mercury")* by S. Ecroyd (Manchester: Marsden, 1916) 408.
[657] *The Delineator* 27, no. 2 (February 1886) 99.
[658] Fred Bradbury, *Carpet Manufacture* (Belfast: Municipal Technical Institute, 1904) 76.
[659] John Richard Burton, *A History of Kidderminster* (London: Stock, 1890) 184.
[660] *History and Manufacture of Floor Coverings* (New York: Review Publishing, 1899) 91.
[661] *A Ready Calculator* (Manchester: Rylands & Sons, 1863) [iii].
[662] *The Carpet and Upholstery Trade Review* (New York) 25, no. 1 (1 January 1894) 58.
[663] *Clothes Dictionary* (Chicago: Cahn, Wampold & Co., 1901) 38.
[664] *OED s.v.* stuff (noun[1]), I.1.b ; II.5.a-c.
[665] Edward H. Knight, *Knight's American Mechanical Dictionary*, 3 vols. (Boston: Houghton, Mifflin & Co., 1882) III, 2667.
[666] Asim Kumar Roy Choudhury, *Principles of Textile Finishing* (Duxford: Elsevier, 2017) 34.
[667] Left illustration after Yijun Fu, et al., 'Influence of structures on the mechanical and absorption properties of a textile pile debridement material and its biological evaluation', *RSC Advances* 5 (2015) 87583. Right: Wikipedia.

[668] Leonard B. Gary, 'British imitation hat velour', *Commerce Reports* 4 (28 October 1919) 559.
[669] Wendy S. Landry, 'On the Possibility of Byzantine Velvets', in *Textile Society of America Symposium Proceedings* (Lincoln: University of Nebraska, 2003) unpaged..
[670] *Cathédrale Notre-Dame du Puy-en-Velay*, MS. 01. There is a report of a contemporary twin copy (*Codex Mesmianus*), also bound in purple velvet: M. G., 'Les nouveaux Bénédictins de France', *La Belgique: recueil périodique* 3 (Bruxelles: Mortier, 1857) 415.
[671] Fragments of the original 9th century velvet were preserved beneath the new velvet binding of 1511: Paul Eymard, 'La bible de saint Théodulfe du Puy-en-Velay et les étoffes qu'elle contient', *Extrait des Annales de la Société d'Agriculture, Histoire naturelle et Arts utiles de Lyon* (Lyon: Ainé, 1877) 5, 14.
[672] M. Ph. Hedde, 'Considérations générales sur l'art de se vêtir et la tissage, depuis leur origine jusqu'à no jour', *Annales de la Société d'Agriculture, Science, Arts et Commerce du Puy pour 1835-1836* (Puy: Pasquet, 1836) 142, 150. M. Ph. Hedde, 'Notice sur le manuscrit de Théodulfe', *Annales de la Société d'Agriculture, Science, Arts et Commerce du Puy pour 1837-1838* (Puy: Gaudelet, 1839) 168-224, plates 1-2.
[673] Christiane Elster, 'Inventories and textiles of the Papal Treasury around the year 1300: concepts of papal representation in written and material media', in Thomas Ertl and Barbara Karl (eds.) *Inventories of Textiles – Textiles in Inventories* (Vienna: Vienna University Press, 2017) 30.
[674] *Inventarivm Thesavri Ecclesiae Romanae apvd Pervsivm Asservati Ivssv Clementis Papae V Factvm Anno MCCCXI* (pages 369-513), in *Regestvm Clementis Papae V* (Rome: Vatican, 1888) 431; cf. *Praefatio* 359 (*panni Lucani qui vocantur velluti rubei coloris* [Lucanian cloths (of Lucca) which are called red-coloured velvet].
[675] *Ibid*., 460; cf. 437 (*uno panno quasi velluto barbarico* / one piece of cloth like barbarian velvet).
[676] Sumiyo Okumura, 'Velvet and patronage: the origin and historical background of Ottoman and Italian velvets', *Crosscurrents: land, labor, and the port. Textile Society of America's 15th Biennial Symposium. Savannah. GA. October 19-23, 2016*. (rev. 2020) unpaged. Sumiyo Okumura, 'Silk velvets identified as Byzantine. Were warp-looped silk pile velvets woven under the Byzantine Empire?', in *The Social Fabric: deep local to pan global. Proceedings of the Textile Society of America 16th Biennial Symposium. Presented at Vancouver, BC, Canada; September 19 – 23, 2018*, unpaged.. In the 14th century, Nishapur (a historic Silk Road city in north-eastern Iran) is mentioned as a manufacturer of silk and velvet and an exporter of these textiles to India: H. A. R. Gibb (transl.), *Ibn Battúta: Travels In Asia And Africa, 1325-1354* (London: Routledge & Kegan Paul, 1929) 177. Earlier still (AD 813), and contemporary with Theodulf, is an Arabic reference to 'velvet': Tayeb El-Hibri, *Reinterpreting Islamic Historiography* (Cambridge: Cambridge University Press, 1999) 69. I have not seen the original Arabic text; see wiktionary.
[677] Alan Priest and Pauline Simmons, *Chinese Textiles* (New York: Metropolitan Museum of Art, 1934) 20.
[678] Helena Březinová, Milena Bravermanová, and Jana Bureš Víchová, 'The structure of archaeological textiles from the Early and High Middle Ages in finds from the Czech Republic', in *Strutex: Structure and Structural Mechanics of Textile Fabrics* (22nd International Conference, Technical University of Liberec, 2018) 26, fig. 17a.
[679] TEXtalks International, *Crepe Weave, Cordroi Weave and Velvet Weaves* (Lahore, 2011) video.
[680] *Johann Christian Schedel's neues und vollständiges allgemeines Waaren-Lexikon*, 2 vols. (Offenbach am Main: Brede, 1814) II, 13. Johann Heinrich Ludwig Bergius, *Neues Policey- und Cameral-Magazin nach alphabetischer Ordnung*, 6 vols. (Leipzig: Weidmanns, Erben und Reich, 1779) V, 77.
[681] Martin Hardingham, *Illustrated Dictionary of Fabrics* (London: Macmillan, 1978) 71. George S. Cole, *A Complete Dictionary of Dry Goods* (Chicago: Conkey, 1892) 368.
[682] Tariff of 1890 (McKinley Tariff). Fifty-First Congress, Session I, Ch. 1244: 593 and 598:.
[683] F. W. Taussig, *The Tariff History of the United States*, 5th edn. (Auburn: Ludwig von Mises Institute, 2010 [1910]) 229-30.
[684] United States Tariff Commission, *Cotton Velveteen Fabrics* (Washington DC, 1956) 2, 7, 13; production methods 10-11.
[685] John Styles, 'Re-fashioning Industrial Revolution: fibres, fashion and technical innovation in British cotton textiles, 1600-1780' in Giampiero Nigro (ed.) *Fashion as an Economic Engine* (Florence: Firenze University Press, 2022) 58.
[686] William Arthur Shaw, *Manchester Old and New*, 3 vols. (London: Cassell, [1894]) II, 24.
[687] J. R. Harris, *Industrial Espionage and Technology Transfer: Britain and France in the eighteenth century*, epub edn. (London: Routledge, 2017) chaps. 3 and 5, unpaged.

[688] Arthur Young, *Travels During the Years 1787, 1788, & 1789; undertaken more particularly with a view of ascertaining the cultivation, wealth, resources, and national prosperity of the Kingdom of France*, 2nd edn., 2 vols. (London: Richardson, 1794) I, 550.
[689] *Myra's Journal of Dress and Fashion* (London) 10, no. 9 (1 September 1884) 414.
[690] A. E. Blanco, *Piece Goods Manual* (Shanghai: Statistical Department of the Inspectorate General of Customs, 1917) 98.
[691] Alfred Barlow, *The History and Principles of Weaving by Hand and by Power* (London: Low, Marston, Searle & Rivington, 1878) 67 (modified).
[692] *The Useful Arts Employed in the Production of Clothing*, 2nd edn. (London: Parker, 1851) 39.
[693] Drawing after Rebecca Mezoff.
[694] *Survey of English Place-Names* (English Place-Name Society, Univ. of Nottingham) Worstead
[695] John Walter Taylor, 'Dumbleton, Gloucestershire and the Celtic Substrate' (Working Paper) (Dublin, 2022) 13-5.. H. C. Darby, 'The Domesday Geography of Norfolk and Suffolk', *The Geographical Journal* 85 (1935) 440 fig.6. The place-name is Old English, and too early to refer to the enclosure movement.
[696] John James, *History of the Worsted Manufacture in England* (London: Cass, [1857], repr. 1968) 38-9.
[697] Milan Pajic, *Flemish Textile Workers in England, 1331-1400* (Cambridge: Cambridge University Press, 2024) 54. M. M. Barron, 'Forgotten Fabrics', *The Nineteenth Century and After* 103, issue 616 (June 1928) 840-1. P. A. Sykas, 'Fustians in Englishmen's dress: from cloth to emblem', *Costume*, 43 (2009) 2.
[698] Aldred F. Barker and Eber Midgley, *Analysis of Woven Fabrics* (London: Scott, Greenwood & Son, 1914) 20.
[699] Walter S. Bright McLaren, *Spinning Woollen and Worsted* (London: Cassell, 1884) 60.
[700] William S. Murphy, *The Textile Industries* (London: Gresham, 1911) 45-7.
[701] Courtesy of the Henry Ford Museum. Object ID 36.343.2.
[702] S. N. Dexter North, 'The development of American industries since Christopher Columbus', *Popular Science Monthly* 29 (July 1891) 297.
[703]Walter S. Bright McLaren, *Spinning Woollen and Worsted* (London: Cassell, 1884) 52-60.
[704] E. A. Posselt, *The Structure of Fibres, Yarns and Fabrics*, 2 vols. (London: Sampson, Low, Marston, Searle & Rivington, 1891) I, 155.
[705] Rodney Kott, 'Wool Grading', *Montguide*, MT 8380 (Montana State University) repr. 1993.
[706] Deborah Robson and Carol Ekarius, *The Fleece and Fiber Sourcebook*, ebook edn. (North Adams, Mass.: Storey, 2011) unpaged.
[707] Bethy Squires, The Internet Archive Loses Copyright Suit With Hachette', *Vulture* (4 September 2024):.