

University of Dundee

DOCTOR OF PHILOSOPHY

The Damask Trade in Dunfermline 1750 - 1885

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The Damask Trade in Dunfermline 1750 – 1885

Catherine Mary Margaret Chorley

**Submitted in partial fulfilment of the
requirements of the degree of PhD**

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Abbreviations

BPP	British Parliamentary Paper
DCLG	Dunfermline Carnegie Library and Galleries
LBGA	Lloyds Banking Group Archives
NLS	National Library of Scotland
NRS	National Records of Scotland
NSA	The New Statistical Account of Scotland, (1834 – 1845)
OSA	The Statistical Account of Scotland, (1791 – 1799)
RCAHMS	The Royal Commission on Ancient and Historical Monuments of Scotland

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All experience is an arch wherethrough
Gleams the untravelled world, whose margin fades
For ever and for ever as I move.

Declaration

I hereby declare that I, Catherine Mary Margaret Chorley, am the author of this thesis: that unless otherwise stated, all references cited have been consulted by me; that the work of which the thesis is a record has been done by me; that this thesis has not, in whole or in part, been previously accepted for a higher degree.

Signed

Date: 15 January 2023

Abstract

This thesis examines the town of Dunfermline and the success of the damask table linen trade from the mid-eighteenth century until the last quarter of the nineteenth century. I argue that, whilst there were many ways in which industrialisation in Dunfermline was similar to other Scottish and British experiences, a number of factors defined damask production in the town which led to success. Although table linen was favoured by the nobility and privileged prior to the eighteenth century and Dunfermline manufacturers produced some admired goods, from then until the late nineteenth century, particular success lay in stock goods produced for the home market and, in quantity, for America.

I suggest that from the late eighteenth century a group of inventions, international, national and local, improved the design and quality of goods and reduced the human resource required so that linen tableware became economically available to a larger group of consumers. Whilst the importance of technological invention has been widely acknowledged as a key element in growth of textile production, by examining the work of Joseph Neil Paton, this thesis also emphasises the importance of popular artistic design to growing demand for output.

In addition, the thesis demonstrates that the putting out system in operation from the seventeenth century in Dunfermline, built up a wealth of understanding of organisational issues which manufacturers translated into the effective running of the hand-loom factories and, later, into power-loom production. Damask hand-loom weavers were considered to be the *élite* of the weaving trade and their adoption of new methods of working showed their flexibility and creativity defining their way of working from the heavy linen trades which required less skill. Whilst the lives of Dunfermline power-loom factory employees were, often, no different from other towns, the availability of young women cheerfully willing to work in factories added to the mix of technological advances and design successes that brought art and industry together to produce table linen popular over a number of generations, both at home and abroad.

Chapter 1 Introduction

The People are poor, but would be poorer, if they had not the Manufacture of Linen for their Support, the Diaper and better Sort of Linen trade being carried out here... with more Hands than ordinary.¹

Amid the numerous tall stalks, belching forth their clouds of smoke, the clanking engines, and the noise of the power loom, were an emigrant to return who had been absent only a few years ...he would not know his home town.²

Setting the Scene

Looking around Dunfermline in 2022 there is little to indicate that towards the end of the nineteenth century there were 'numerous tall stalks, belching forth their clouds of smoke'. The ten textile factories that belched and clanked in 1874 and a further one added in 1876 have either been demolished or, in the case of a few, turned into modern, flatted, domestic accommodation. With the exception of the two-storey, grey-stone cottage which now forms part of the Andrew Carnegie Birthplace Museum the vast majority of weavers' cottages have long gone with more modern housing taking their place.

This thesis addresses the way in which the damask table linen trade developed in Dunfermline during the period from the early eighteenth century until the last quarter of the nineteenth century when the trade was, arguably, at the peak of its production. This time frame has been chosen to illustrate a number of aspects which are linked to the maturing of industrialisation in Dunfermline and major change including the way in which the town manufacturers introduced national improvements to the local weaving process as well as the development of factory working and methods of increasing productivity. Most of the Dunfermline textile firms remained successful until the 1920s but an increasingly competitive and changing world meant that market share altered and companies which were household

¹ D. Defoe, *A Tour Thro' that Part of Great Britain called Scotland* (Dublin: George Faulkener, 1746), p. 147.

² *Campbell's Dunfermline and West of Fife Family Almanac* (Dunfermline: Campbell, 1875), (pages not numbered). A description of Dunfermline in 1874.

names in their time vanished almost overnight. As Nenadic has pointed out the Dunfermline fine damask industry, like many others which fell victim to changing fashions, disappeared with barely a whimper and has never been studied.³ This thesis studies the industry in Dunfermline and adds to the understanding of life and work in the town.

Damask is a fine linen cloth with a self-pattern using a mixture of plain and satin weave. A plain weave is made by passing each warp yarn over and under each weft yarn. A satin weave is characterised by four or more weft yarns floating over a warp yarn and four warp yarns floating over a single weft yarn. The fibres are usually flat and reversible which gives damask fabric a smooth texture with a pattern which can be seen on each side of the fabric. The textile is usually monochromatic and light falling on the fabric highlights the pattern. Damask patterns initially had religious themes but narrative, heroic, allegorical images and coats of arms became popular from around the eighteenth century.

The industrial experience of Scotland is often characterised as a country of coal and iron, metal and engineering which masks the other side of Scottish cultural and creative endeavour which was given over to consumer and fashion goods.⁴ The production of linen in Dunfermline wove art and industry together to produce fine-patterned tableware some of which was displayed at the Great Exhibition at Crystal Palace in London in 1851. At the peak of hand-loom weaving in Dunfermline in the 1830s, other towns having moved more quickly to power-loom weaving, there were still around three thousand hand-loom in use and just over four thousand people employed including the women and girls who filled the pirns.⁵ By 1880, there were four thousand power-loom in Dunfermline employing five thousand people and this rose to over seven thousand people employed in the textile industry by the end of the century.⁶ During the second half of the nineteenth

³ Stana Nenadic, 'Industrialisation and the Scottish People' in *The Oxford Handbook of Modern Scottish History*, ed. by T. M. Devine and Jenny Wormald (Oxford: Oxford University Press, 2014), pp. 405 – 38 (p. 421).

⁴ Nenadic, 'Industrialisation and the Scottish People', p.420.

⁵ Ebenezer Henderson, *The Annals of Dunfermline and Vicinity from the Earliest Authentic Period to the Present Time A. D. 1069 – 1878* (Glasgow: John Tweed, 1879), p. 643.

⁶ Hugh Walker, *The History of Hay & Robertson and the Robertson Family of Dunfermline* (Dunfermline: Carnegie Dunfermline Trust, 1996), p. 44.

century there were spectacular advances across a range of heavy industries where Scotland developed dominance in several sectors.⁷ However, the important developments in the weaving industry of Dunfermline mostly occurred in the first half of the nineteenth century in contrast to heavy industry development. A rise in emulation and cultural consumption drove change in other industries such as weaving before heavy industry dominated Scotland.

Patterns of economic and social change were not uniform throughout the country so that a regional perspective is important in understanding the process of industrialisation in Scotland. Many of the textile manufacturing towns developed specialisms. Dundee started with coarse linen and moved on to jute. Forfar developed a trade in Osnaburgs. Kirkcaldy also wove coarse linen and then commenced manufacturing floor covering. Paisley, in the west of Scotland, manufactured shawls and thread. Throughout the textile trade, differences were characterised by the availability of raw materials and markets and partly by the increasing encroachment of the particular form of capitalism which controlled the domestic trade.⁸ During the first half of the nineteenth century around forty per cent of all hand-loom weavers in Scotland resided in the eastern counties.⁹ As in other parts of the Scotland, the hand-loom trade was distinguished by the types of fabrics manufactured, industrial organisation and skills required. Thus, industrialisation created regions different in kind to those which exist now and those which existed earlier.¹⁰

Maxine Berg has argued that industrialisation was not a dramatic event, nor was the period characterised by slow growth and continuity.¹¹ Thus, she highlighted the importance of study at a local level to understand the dynamics of change which might differ from town to town, region to

⁷ T. M. Devine, *The Scottish Nation, 1700 – 2007* (London: Penguin, 2006), p.249 – 250.

⁸ Norman Murray, 'The Regional Structure of Textile Employment in Scotland in the Nineteenth Century: East of Scotland Hand Loom Weavers in the 1830s', in *Industry Business and Society in Scotland since 1870*, ed. by A. J. G. Cummings and T. M. Devine (Edinburgh: John Donald Publishers, 1994), pp. 218 – 33 (p. 221).

⁹ Murray, 'The Regional Structure of Textile Employment', p. 220.

¹⁰ Pat Hudson, *The Industrial Revolution* (London: Hodder Arnold, 1992), p. 102.

¹¹ Maxine Berg, *The Age of Manufactures 1700 – 1820: Industry, Innovation and Work in Britain* (London/New York: Routledge, 1993).

region. By investigating the industrialisation of Dunfermline in detail, this thesis will attempt to answer why a relatively small town became such an important damask manufacturing centre, not just in Scotland and Britain but in the world. The examination will add to the better known histories of Paisley shawls and Glasgow cotton demonstrating regional aspects of production. In studying industrialisation during the period from the late eighteenth century to the middle of the nineteenth century historians have concentrated on various aspects of change such as technology, geographical propinquity to trading routes and natural resources, and the growth of consumer demand fuelled, in part, by adaptations to product design. In the overview of Joel Mokyr, for example, it is argued that: 'It is appropriate to think about the Industrial Revolution primarily in terms of accelerating and unprecedented technological change.'¹² However, although technological change was important other factors came into play. Geography was key as, for example, it allowed merchants in the West of Scotland to take advantage of Atlantic trading routes to develop a flourishing cotton industry, considered by some historians to be the driving force behind the 'first' industrial revolution.¹³ Although it is important to place industrialisation in a national and international framework, studies of local industries can demonstrate the differences in industrial growth and rates of change. Before the eighteenth century, pre-industrial regions were relatively cut off from one another, their communication networks oriented to the metropolis or international ports. However, from the mid-eighteenth century these were displaced by internally integrated regions concentrating on an interrelated set of industries.¹⁴ Regionalised production was not simply for local markets. It served national and international markets and Dunfermline developed an early American market.

The rapid growth of the textile industry in Scotland in the early nineteenth century depended on a number of basic processes of which spinning and weaving were the most important. There were variations on

¹² Joel Mokyr, *The Lever of Riches, Technological Creativity and Economic Progress* (Oxford: Oxford University Press, 1992), p. 82.

¹³ Nenadic, 'Industrialisation and the Scottish People', p. 407.

¹⁴ Berg, *The Age of Manufactures*, p. 27.

process depending upon the fabric manufactured. For example, with damask the pattern was part of the process of weaving whereas in cotton the design was printed. Whilst the power-loom's productive advantage was acknowledged as early as 1800, it required considerable improvements before it could be successfully deployed for all types of textiles.¹⁵ The first successful power-loom to be employed in the linen trade in Scotland was in Brechin in 1810 followed by Dundee in 1836.¹⁶ In a further example of regional difference, the power-loom was not successfully introduced to Dunfermline until 1849 although earlier attempts had been made and this thesis will question what difference was made to the production process by the relatively late adoption of steam-powered technology..

The growth in consumption of domestic goods became prevalent in the eighteenth century. Yet, while there is now a considerable body of literature on the growth and shape of patterns of consumption, table linens are mentioned rarely.¹⁷ What had once been 'luxuries' for the aristocracy became 'decencies' for the better off middle class ranks and then, in turn, 'necessities'.¹⁸ Inventory analysis may help to understand the type of goods which consumers bought but it rarely discovers the motivations for purchasing the goods. The thesis seeks to give understanding of why Dunfermline tableware became so popular, both in bespoke woven goods and mass market stock products. There is an examination of how consumerism was driven by domesticity and the rise of the dining room as a separate place for eating.

A key aspect of Dunfermline damask tableware was design. This was important for the table coverings depicting historical scenes popular with

¹⁵ S. D. Chapman, *The Cotton Industry in the Industrial Revolution* (London/Basingstoke: Palgrave Macmillan, 1972), p. 25.

¹⁶ Henry Hamilton, *The Industrial Revolution in Scotland* (London: Frank Cass, 1966), p. 115.

¹⁷ Thorstein Veblen, *The Theory of the Leisure Class* (London: Penguin Books, 1994 [1899]); Neil McKendrick, John Brewer and J. H. Plumb, eds., *The Birth of a Consumer Society*, 2nd edn (Brighton: Edward Everett Root, 1982); Maxine Berg, *Luxury & Pleasure in Eighteenth Century Britain* (Oxford: Oxford University Press, 2005); Stana Nenadic, *Lairds and Luxury: The Highland Gentry in Eighteenth Century Scotland* (Edinburgh: Birlinn, 2007); Frank Trentmann, *Empire of Things: How We Became a World of Consumers, From the Fifteenth Century to the Twenty-first* (New York: Harper Collins, 2016).

¹⁸ W. Hamish Fraser, *The Coming of the Mass Market, 1850 – 1914* (Brighton: Edward Everett Root, 2017), p. x.

royalty and aristocracy in the mid-nineteenth century as well as the stock pieces which appealed to those keeping a more modest house. Flower designs from Dunfermline were particularly popular with consumers and designers and artists were an important part of the production process. In due course a drawing school was set up in Dunfermline to improve design. Continental damasks were defined by excellent design features.¹⁹ By employing skilled designers Dunfermline was more able to compete with continental fabrics for sales.

As well as the design and technology, people were important in the production of linen in Dunfermline. The putting out system of production of the eighteenth and early nineteenth centuries moved towards steam-powered factories from 1849. Putting out was common across the linen industry. Manufacturers distributed yarn which was woven by weavers at home on their own looms for a fixed price. In some areas of Scotland factories were set up in the eighteenth century.²⁰ However, in Dunfermline, hand-loom factories were not set up until the middle of the nineteenth century and steam-factories were set up later than most other parts of the linen industry. Manufacturers in the hand-loom era required little capital to set up in business but the power-loom manufacturers were required to build or rent a factory workplace along with the relevant equipment. For those who worked for manufacturers the workplace experience changed. Whereas in the hand-loom era families often worked together supporting each other, as the move to factory work took place this aspect of work was replaced by a different type of discipline.

It is important to consider why the damask trade once introduced, thrived in Dunfermline rather than in Edinburgh where it originated. The making of linen was one of Scotland's oldest industries with, as noted above, the household as a traditional unit of production and the weaver on occasion taking customary work which involved working on commissions from local

¹⁹ David M. Mitchell, 'Linen Damask Production: Technology Transfer and Design, 1580 – 1760', in *The European Linen Industry in Historical Perspective*, ed. by Brenda Collins and Philip Ollernshaw (Oxford: Oxford University Press, 2002), pp. 61 – 98 (p. 89).

²⁰ Alastair J. Durie, *The Scottish Linen Industry in the Eighteenth Century* (Edinburgh: John Donald Publishers, 1979), pp. 46 – 48.

families to weave their yarn.²¹ Although manufacture of linen had initially been scattered throughout the country by the beginning of the eighteenth century it was concentrated in five counties, Renfrewshire and Lanarkshire in the west and Angus, Perth and Fife in the east.²² In the eighteenth and early nineteenth century Edinburgh was a damask manufacturing centre supported by the Board of Trustees for Fisheries and Manufactures who engaged Nicholas d'Assaville in 1729 to bring ten experienced weavers of cambric and their families from St Quentin, France to Edinburgh in order to teach their art to others.²³ As late as 1822, John Guthrie of Drumsheugh, a village to the north-west of Edinburgh, wove a presentation piece for King George IV on the occasion of his visit to Edinburgh.²⁴ Whether Guthrie did this on his own account or because he was invited to do so by the city is not known. The craft of damask work lived on in Edinburgh in the 1830s but does not appear to have continued much later. Habib and Clark are of the view that: 'The interest and encouragement of the Board of Trustees in the pioneering work of the linen damask weavers of Edinburgh, including those of Drumsheugh, acted as a spur to the subsequent growth and reputation of the damask trade in Dunfermline.'²⁵ What is clear is, that by 1869, Dunfermline 'had outstripped all competitors in their staple industry'.²⁶ A question to be answered in this thesis is how Edinburgh acted as a spur to Dunfermline.

Craft specialism was an important part of the linen industry in Scotland from the eighteenth century. In some instances this was to ensure continued work availability.²⁷ Specialism also enabled the raising of work standards through greater skilling in certain areas of production. It is not known when the craft of weaving commenced in Dunfermline but the first

²¹ Durie, *The Scottish Linen Industry*, p. 8.

²² Christopher A. Whatley, *Scottish Society 1707 – 1830 Beyond Jacobitism, towards industrialisation* (Manchester: Manchester University Press, 2000), p. 24.

²³ David Bremner, *The Industries of Scotland, Their Rise, Progress and Present Condition* (Edinburgh: Adam and Charles Black, 1869), p. 217.

²⁴ Vanessa Habib and Helen Clark, 'The linen weavers of Drumsheugh and the linen damask tablecloth woven to commemorate the visit of George IV to Scotland in 1822', *The Proceedings of the Society of Antiquaries in Scotland*, 132 (2002), 529 – 50 (p. 542).

²⁵ Habib and Clark, 'The linen weavers of Drumsheugh', p. 548.

²⁶ Bremner, *The Industries of Scotland*, p. 239.

²⁷ Whatley, *Scottish Society*, p. 59.

mention of weavers is found in the Burgh Records of 1491.²⁸ Six ‘wabsters’ employed by John Shortig were tried by the magistrates on the 10 January of that year having been described as ‘strubblers’ or disturbers of the peace. A Minute Book exists for The Dunfermline Incorporation of Weavers from 1596 but it is likely the group existed well before then because the Articles of the Incorporation appear to have been copied from elsewhere and systems were well in place.²⁹ The Incorporation set standards of craftsmanship, provided services to all craftsmen and relief at times of need.

The rules and statutes set out in the first recorded minute dealt with many aspects of the weaving trade including ensuring that journeymen and apprentices were not ‘hired frae other places without testimonial from the master and place where he last served ... under the pain of forty shillings Scots money to the craft’.³⁰ This was, possibly, an attempt to ensure the quality of work was high but it may also have been to keep in-dwellers away as there were sufficient weavers in the town. Dunfermline linen traders were keen to get the best prices for their goods. In 1613, rules were set in place to try to suppress forestallers who intercepted sellers and bought outside the town walls when the Dunfermline market was held at the Mercat as well as suppressing regratters who bought inside the market but sold the cloth on at a higher price still within the market. In addition, the Incorporation fixed the widths and types of linen to be sold including ‘good dornicks for table or bed shall be two yards of breadth when whitened’.³¹ ‘All cloaths shall be made of weel assorted yearns, and sufficiently wrought; under a penalty of fortie shillings *toties quoties*’.³² Even at this early date the Incorporation aspired to manufacturing quality products and set out the widths required. In 1723, ‘a Weekly Yearne Market to be held at the Trone’ was introduced by the Council so that ‘all may be on Equall footing’ when buying.³³

²⁸ Daniel Thomson, *The Weavers’ Craft: Being a History of the Weavers’ Incorporation of Dunfermline, with Word Pictures of the Passing Times* (Paisley: Alexander Gardner, 1903), p. 1.

²⁹ Thomson, *The Weavers’ Craft*, p. 56.

³⁰ Thomson, *The Weavers’ Craft*, p. 72.

³¹ Thomson, *The Weavers’ Craft*, p. 89.

³² *toties quoties* – on every occasion.

³³ Henderson, *Annals of Dunfermline*, pp. 463 – 64.

The importance of apprentices and the time which they served was part of the ongoing discussion within the Incorporation and this continued to be a contentious issue into the eighteenth and nineteenth centuries. In 1639, apprenticeships lasted for four years with a further year of the weaver paying the apprentice's 'meat and fee' although in the later seventeenth century this was increased to six years overall before reducing again to five.³⁴ The increasing penalties on the master weaver for any apprentice breaching his conditions of employment, especially in the first half of the seventeenth century and the length of apprenticeship suggests that the weaving trade was lively at this time. In many locations hand-loom weaving was easy to enter and required little skill when cottons or coarse linens were produced. Damask required skilled labour and the Dunfermline Incorporation maintained apprentice restrictions until 1828.³⁵

In the early years of the seventeenth century, local merchants exported large quantities of Dunfermline linen to England as well as selling from their own booths. Plain linen and dornick were for the well-off, poorer people making do with harden which was made from coarser fibres once the finer ones had been heckled out of the flax.³⁶ Into the eighteenth century, the Dunfermline trade settled on the manufacture of fine linens as technology improved the ability to produce these and designs were enhanced.

Scottish hand-loom weavers were not a homogenous occupational group but were differentiated by the type of fabric woven and the complexity and amount of skill required to weave a web.³⁷ Whilst linen weavers were pre-dominant in the years before 1790, this gave way to an increasing number of cotton weavers. At the time of the major parliamentary enquiries of the 1830s, skill and training for the weaving of fabrics varied.³⁸ For shawl

³⁴ Thomson, *The Weavers' Craft*, pp. 137 – 42.

³⁵ T. C. Smout, *A History of the Scottish People 1560 – 1830* (London: Fontana Press, 1997), p. 401.

³⁶ Sue Mowat, *Fire, Foe and Finance, Dunfermline 1600 – 1700* (Dunfermline: Dunfermline Heritage Community Projects, 2014), p. 266.

³⁷ Norman Murray, *The Scottish Hand Loom Weavers 1790 – 1850* (Glasgow: Bell & Bain, 1978), p. 26.

³⁸ BPP *Factories Inquiry Commission. First report of the Central Board of His Majesty's commissioners appointed to collect information in the manufacturing districts, as to the employment of children in factories, and as to the propriety and means of curtailing the hours of their labour: with minutes of evidence, and reports by the district commissioners,*

making and fine linens such as damask a level of skill and training was essential but for those making pullicates, calicoes and gingham only the barest of instruction was required and the weaving was simple. Whilst the data available for this time is insufficient to determine, overall, the number of weavers who worked on webs requiring skill and strength the Dunfermline harness linen workers fulfilled these criteria.³⁹ Dr Harding, of the 1839 Commissioners, reported that the Dunfermline weavers were 'remarkable for their intelligence as well as decency and demeanour', perhaps suggesting that they were superior to weavers of other locations.⁴⁰

The main Dunfermline damask trade was in fine linens for dressing the table. Although table linen from Dunfermline became popular from the early part of the nineteenth century, dressing the table for meal times had been in practice earlier. From the seventeenth century a taste for custom designed or otherwise personalised damask napkins and tablecloths inspired fashionable Scots to patronise local weavers. Such damask table linen was costly and thus, in Scotland as well as England, was found on the tables of the crown, the nobility and merchant élite. An inventory of Mary Queen of Scots in 1561, includes 'twa burd clathis and one clath for the cupburd damaskit'.⁴¹ As the Scottish damask trade was not yet firmly established these pieces would, most likely, have been imported. The technology of weaving figured damask linen on a draw-loom was adapted from Oriental damask silk production and required great expertise.⁴²

During the sixteenth and seventeenth centuries, Flanders and the Netherlands were the main damask production areas until manufacture

450 (1833); BPP *Factories Inquiry Commission. Second report of the Central Board of His Majesty's commissioners appointed to collect information in the manufacturing districts, as to the employment of children in factories, and as to the propriety and means of curtailing the hours of their labour: with minutes of evidence, and reports by the Medical Commissioners*, 519 (1833); BPP *Report from the Select Committee on Hand-loom Weavers Petitions: with minutes of evidence, and index*, 55 (1834); BPP *Select Committee on Petitions of Hand Loom Weavers, Report, Minutes of Evidence, Index*, 556 (1834); BPP *Select Committee on Petitions of Hand Loom Weavers, Report, Minutes of Evidence, Index*, 341 (1835); BPP *Select Committee on Petitions of Hand Loom Weavers, Analysis of Evidence* 492 (1835); BPP *Hand-Loom Weavers, Reports from the Assistant Hand-Loom Weavers' Commissioners*, 159 (1839).

³⁹ Murray, *The Scottish Hand Loom Weavers*, p. 28.

⁴⁰ BPP *Hand-Loom Weavers, Report*, 159 (1839), p. 186.

⁴¹ Mitchell, 'Linen Damask Production', p. 89.

⁴² Brenda Collins and Philip Ollernshaw, 'The European Linen Industry since the Middle Ages', in *The European Linen Industry*, ed. by Collins and Ollernshaw, pp. 1 – 41 (p. 5).

spread to other places such as Silesia, Saxony, Russia, Scotland and Ireland.⁴³ Historians generally credit the learning of damask weaving to come from Edinburgh in the early eighteenth century.⁴⁴ Edinburgh pioneered the manufacture of linen damask in imitation of the much admired figured linen made in continental Europe. The abilities of David Hastie, a weaver in the Canongate were recognised as he was ‘admitted burgess on February 9, 1659 for his dexteritie and skilfulness ... beyond any others of the calling in dameises [damasks] and hollands work’.⁴⁵ A further damask weaver, John Ochiltree, wove napkins for the Earl of Winton with Winton’s coat of arms and inscribed ‘John Ochiltree weaver in Edinburgh 1712’, thus recording early damask production.⁴⁶ Where the two men learned to weave damasks using the draw-loom is not clear though Ochiltree claimed it was ‘by his own industry and ingenuity without any foreign breeding being born a native of the kingdom’.⁴⁷

In 1993, in an archaeological dig, a Jetton coin was found in Dunfermline.⁴⁸ The coin may have originated in the Flemish town of Tournai which was an early source of damask. It is possible that damask was somehow introduced to Dunfermline in the sixteenth century either by Tournai weavers going to Dunfermline to teach the trade or by Dunfermline weavers travelling to Tournai. However, there is no evidence to support such travels.

The damask trade was central to the success of Dunfermline and James Blake is credited with introducing damask weaving to the town.⁴⁹ After visiting weavers in Drumsheugh near Edinburgh in 1718 and since ‘everything in the arts was a secret in those days’ Blake memorised the

⁴³ Collins and Ollernshaw, ‘The European Linen Industry’, pp. 1 – 41.

⁴⁴ Habib and Clark, ‘The linen weavers of Drumsheugh’, p. 529 – 30.

⁴⁵ Habib and Clark, ‘The linen weavers of Drumsheugh’, p. 530.

⁴⁶ Adolphe S. Cavallo, ‘To Set a Smart Board: Fashion as the Decisive Factor in the Development of the Scottish Linen Damask Industry’, *Business History Review*, 37 (1963), 49 – 58 (p. 51).

⁴⁷ Mitchell, ‘Linen Damask Production’, p. 90.

⁴⁸ *Living in the Past*, Dunfermline Heritage, p. 42

<http://www.dunfermlineheritage.org/uploads/1/5/6/2/15623980/___living_in_the_past.pdf> [accessed 31 March 2022].

⁴⁹ Durie, *The Scottish Linen Industry*, p. 11.

working of the draw-loom and replicated this in Dunfermline.⁵⁰ Blake's method of learning about the loom was to 'feign weak intellect and by telling queer stories to the workmen was allowed to come inside the factory to amuse them'.⁵¹ This act of relatively local industrial espionage set in motion the development of a major new industry. Blake set up a loom-shop in the Pends in Dunfermline which was above an arched gateway on the road leading into the town from the south-west. He was later joined by the weavers John Beveridge and John Gilmour who had previously woven in the 'Brucefield Feus'.⁵² In 1719, Blake produced a piece of linen decorated with Jacobite mottoes.⁵³ However, there is no evidence to suggest a Jacobite allegiance by Blake.

The major part of the Scottish linen was always oriented to the output of cheaper linens such as Osnaburg fabric produced in Forfar.⁵⁴ However, quality, particularly of design as highlighted before, was an important aspect of the success of the goods manufactured in Dunfermline. Blake's introduction of damask was the presentation of an opportunity to improve the quality of the goods from Dunfermline. The need to improve quality had already been recognised as, in 1711, Dunfermline had been trying to recruit a skilled linen manufacturer from London to teach its weavers who were in considerable distress due to the standard of cloth being unsuitable for foreign markets.⁵⁵ However, by 1723, the weaving trade must have recovered as Dunfermline was 'a commodious town with a very considerable Trade of Table Linnen, which is made and sold here, in great quantity, at six yearly faires' with 'a great many weavers employed in working on damask, tyckings and bengal'.⁵⁶ This suggestion of many weavers working on damask is most likely mistaken as other historians record the paucity of damask looms. Therefore, at this time the main weaving work in Dunfermline was, most likely, utilitarian through production of ticks and checks, both coarse linens

⁵⁰ Andrew Mercer, *The History of Dunfermline from the Earliest Records Down to the Present Time* (Dunfermline: John Miller, 1828), p. 169.

⁵¹ Henderson, *Annals of Dunfermline*, p. 400.

⁵² Mercer, *History of Dunfermline*, p. 164.

⁵³ Henderson, *Annals of Dunfermline*, p. 400.

⁵⁴ Durie, *The Scottish Linen Industry*, p. 27.

⁵⁵ Hamilton, *The Industrial Revolution in Scotland*, p. 9.

⁵⁶ John Fernie, *A history of the town and parish of Dunfermline* (Dunfermline: John Miller, 1815), pp. 179 – 80.

used for towelling and bedclothes. Over the next fifty years or so, weaving in Dunfermline progressed from the coarser fabrics to the finer dornicks and diapers.

Although the reason is not clear there appears to have been a delay in developing damask weaving as by 1778 there were 'not above twenty damask looms in the parish'.⁵⁷ Blake who died around 1770 may not have wanted the Drumsheugh weavers to know that he knew their secret or perhaps the early damask looms were very expensive and difficult to operate. Or, it may have been that Blake and his fellow damask weavers were well rewarded and wished to keep it that way as: 'He knew how to steal but he also knew how to keep a secret.'⁵⁸ However, in the late eighteenth century damask weaving became much more widespread and by 1792 there were around eight hundred looms in the parish.⁵⁹

Damask was also a popular product in the northern counties of Ireland and there is an early example of the setting up of a manufactory in Lisburn by William Coulson in 1766 employing over five hundred people using two hundred and fifty looms with some weavers working at home. The centralisation of the process meant that the factory was capable of producing cloth 'able to vie with any thing of the kind in Europe'.⁶⁰ Dunfermline was not producing linen at this capacity or quality at the time.

Export of linen was an important part of the early dynamic growth of Scotland's linen. Between the years 1736 to 1740 and 1768 to 1772 linen output rose fourfold.⁶¹ Much of this was exported to England or the American and Caribbean colonies and, in 1760, around two-thirds of output reached these destinations.⁶² Dunfermline's trade with London had opened up around 1765.⁶³

⁵⁷ Peter Chalmers, *History and Statistical Account of Dunfermline* [Vol. 1] (London/Edinburgh: Blackwood, 1844), p. 355.

⁵⁸ *Dundee Advertiser*, 12 October 1863.

⁵⁹ W. H. K. Turner, 'The textile industries of Dunfermline and Kirkcaldy: 1700 – 1900', *Scottish Geographical Magazine*, 73:3 (1957), 129 – 45 p. 130.

⁶⁰ John Duboudeu, *A Statistical Survey of the County of Antrim* (Dublin: Dublin Society, 1812), p. 191.

⁶¹ Devine, *The Scottish Nation*, p. 105.

⁶² Devine, *The Scottish Nation*, p. 58.

⁶³ Mercer, *The History of Dunfermline*, p. 165.

Manufacturing of damask linen was the principal occupation in Dunfermline by the early nineteenth century. In 1801, the town had twenty-six linen manufacturers and around eight hundred weavers in contrast to eighty-eight wrights, fifty-seven smiths and fifty-one shoemakers. The population of the town and its immediate suburbs was 5,484 with 705 houses in the town.⁶⁴ Weaving was undertaken on hand-loom in the main by men but the 1851 census records that a few women also wove. In 1837, at the height of hand-loom weaving there were forty-four manufacturers of table linen and between three and four thousand looms in use.⁶⁵

A small number of cotton weavers are recorded in Dunfermline in the 1851 census. Whilst most of the weaving communities in the East of Scotland wove linen, Perth and Auchtermuchty wove cotton for the 'Glasgow houses'.⁶⁶ Dunfermline manufacturers sent linen to Perth bleachfields so it is possible that there was some connection between Perth cotton production and the Dunfermline cotton weavers. In 1815, around one hundred and sixty weavers were employed on cotton goods 'for manufacturers of Glasgow, Perth and this place'.⁶⁷ Fernie's figures are not always accurate but if this number is correct it would represent around one tenth of the looms in operation on Dunfermline goods. There are no other records on cotton weaving in the town and it is likely that numbers diminished quickly as damask weaving became prevalent.

As mentioned earlier, manufacturers used a putting out system providing the necessary yarn and collecting the finished webs and selling them. Producing these webs was very much a family affair and women and children were important in supporting the male weavers through the tasks of yarn winding and pirn filling.⁶⁸ Women were able to match the working day to the needs of the household.

⁶⁴ Henderson, *Annals of Dunfermline*, p. 547.

⁶⁵ *Pigot & Co.'s National Commercial Directory of the Whole of Scotland and the Isle of Man* (London: J. Pigot, 1837), p. 393.

⁶⁶ Murray, 'The Regional Structure of Textile Employment', p. 222.

⁶⁷ Fernie, *A history of the town and parish*, p. 56.

⁶⁸ *The New Statistical Account of Scotland, Volume IX, Parish of Dunfermline* (Edinburgh/London: Wm. Blackwood and Sons, 1845), p. 888.

New technologies had far reaching ramifications for the division of labour, including sexual division of labour and for community structures.⁶⁹ Industrialisation involved movement of labour and resources away from primary production in the home to factory manufacture. Although there were a number of hand-loom damask manufactories in Dunfermline from the 1830s onwards, most weaving work was still undertaken in the home or loom-stances, with two or four looms, or in larger loom-shops. Manufacturing of damask on power-looms significantly changed the nature of both men and women's work from a supportive family enterprise to individually waged men and women. Instead of helping with production of goods in the home, women had to bring in cash by selling their labour in the factories. Industrialisation of weaving had an impact on male textile occupations which created a paternalistic hierarchy in some factories in Scotland. The operation of the loom moved damask production from a skilled craft in hand-loom weaving to one based on machine minding in the power-loom factories.

In 1784, the Reverend Edmund Cartwright filed his first patent in England on a mechanised loom.⁷⁰ Cartwright was a classically educated, poetry-writing, English clergyman with absolutely no engineering background. Until then, weaving had been a totally manual process with the power input dependent upon the operator. By 1830, it was possible to weave many types of cloth without human input by applying new, mostly steam, power sources although the loom still needed human attention to replenish the warp and weft and to repair broken yarn. The introduction of the power-loom was a critical aspect of the industrialisation of damask production in Dunfermline.

Mechanisation, sources of power and industrial organisation were all part of a process which changed the working and social lives of the people, both those who owned and managed the businesses and those who worked in them. Owners and workers moved from involvement in relatively small business, both in capital and people, to ones which were capital and people intensive and which were carried out in an environment where economies

⁶⁹ Berg, *The Age of Manufactures*, p. 169.

⁷⁰ Roger N. Holden, 'The Origins of the Power Loom Revisited', *The International Journal for the History of Engineering & Technology*, 84:2 (2014), 135 – 59 (p. 136).

could be made in skills, machinery and people. For those employed in the factories, working hours were often extended from those in the home and loom-shop environment and attendance at work based on time. With factory discipline the employer dictated when workers worked, their conduct on the job and ensured that they steadily attended to their tasks.⁷¹ The position of the male skilled craft weaver was eroded. Power-loom weaving became an overwhelmingly female occupation as a result of the pressure for cheaper and more 'docile' female labour and male dislike of working in power-loom factories.⁷² A later chapter will focus on the changes which the workers experienced as the working environment shifted location from home to factory and from hand craft work to operating machinery. Workers were affected in different ways and whilst the day of the weaver craftsman was over by the third quarter of the nineteenth century, opportunities for young female workers opened up.

Along with improved production technologies and organisation, design features of the table linen were important. The table linen industry had to supply the wealthy who wanted a bespoke product and, increasingly, those who wanted a stock product which was, nevertheless, of a high quality. The introduction of the power-loom factories meant that table linen which 'formerly had been the luxury of a few ... was now within the reach of many'.⁷³

Design had always been an important aspect of damask tableware. Early Scottish linen designs were indifferent copies of continental stock generally from Haarlem or Kortrijk.⁷⁴ One of the reasons for such imitation was that there was a lack of skilled local designers. To remedy this the Board of Trustees set up a Drawing Academy in Edinburgh in 1760.⁷⁵ Subsequently, although it was short lived, the Dunfermline Design School founded in the early 1820s gave opportunities to local designers to improve

⁷¹ Gregory Clark, 'Factory Discipline', *Journal of Economic History*, 54:1 (1994), 128 – 63 (p. 128).

⁷² Anthony Cooke, *The Rise and Fall of the Cotton Industry 1778 – 1914, The Secret Spring* (Manchester: Manchester University Press, 2010), p. 7.

⁷³ Thomas N. Brown, 'Dunfermline Linen Trade Past and Present', *Dunfermline Press*, 14 October 1863.

⁷⁴ Mitchell, 'Linen Damask Production' p. 97.

⁷⁵ Adolphe S. Cavallo, 'Continental Sources of Early Damask Patterns in Scotland', *Burlington Magazine*, 107 (1965), 559 – 63 (p. 559).

their skills. The introduction of the Jacquard machine in 1825 led to improved reproduction of patterns and increased productivity. Design was one of the features which led to the success of Dunfermline damask. High quality, attractive and sometimes intricate design defined the product and ensured high sales. Changing technology, increasing markets for linen, improved design and growing consumer demand for quality tableware placed Dunfermline in a position to become a main provider of damask tableware. The rest of this chapter uses these insights to examine in greater detail how this case study adds to our knowledge of the industrial revolution.

Studying the Industrial Revolution

'History rarely stands still.'⁷⁶ Debate amongst historians from the late nineteenth century into the twenty-first century on British industrialisation has produced diverse interpretations. Historical claims about the origins of industrialisation have often stemmed from an aspiration to influence public policy in such fields as economics, trade, scientific research, intellectual property and international development.⁷⁷ Alternative narratives have focused on the role of the state, on natural resources and on empire. In some cases, source material is partial and complex requiring interpretation by its examiner. Changes in use of iron and steel, coal and steam, new machines and the factory system have been highlighted along with the growth of urbanisation, changes to workers' rights and the devaluation of skilled work. Interpretations of history frequently change, not least in researching British industrialisation and the case of the damask industry in Dunfermline adds further granularity to these interpretations.

It was not until the end of the nineteenth century with the work of social reformer and historian Arnold Toynbee that the term 'industrial revolution' entered the English language.⁷⁸ In *Lectures on the Industrial Revolution* in 1884 Toynbee recorded a sudden, rapid and drastically

⁷⁶ Emma Griffin, *A Short History of the British Industrial Revolution* (Basingstoke: Palgrave Macmillan, 2010), p. 6.

⁷⁷ Daniel C. S. Wilson, 'Arnold Toynbee and the Industrial Revolution: The Source of History, Political Economy and the Machine Past', *History and Memory*, 26:2 (2014), 133 – 61 (p. 134).

⁷⁸ Griffin, *A Short History of the British Industrial Revolution*, p. 6.

unfavourable reorganisation of labour and its larger side effects where the old order 'was suddenly broken in pieces by the mighty blows of the steam engine and the power-loom'.⁷⁹ The machine became a complex agent of change.

However, at the beginning of the twentieth century historians began to take a view that industrialisation was less cataclysmic than suggested by Toynbee. A gradual interpretation of industrialisation became more commonplace. J. H. Clapham considered the process gradual, localised and sometimes, incomplete.⁸⁰ Although it was not identified as such, this proposition placed a focus on regionalisation and local history. Paul Mantoux took the view that the industrial revolution was the culmination of change which had been long under way.⁸¹ In an illustration of history not standing still, the contribution to the debate by W. W. Rostow in 1960 linked an analysis of the British industrial revolution to perceptions of industrialisation elsewhere. To do so he systemised the economy into a model with five stages of growth: traditional society; preconditions for take-off; take-off; drive to maturity; age of mass consumption.⁸² Rostow was criticised for being over precise in his specifications and chronology of stages and for failing to identify the mechanism which linked one stage with the next.⁸³ Nevertheless, his work was important in highlighting stages of growth. Technological features of industrialisation were suggested by T. S. Ashton which he described by suggesting that 'about 1760 a wave of gadgets swept over England'.⁸⁴

The 1960s saw the start of a debate which continued over the next three decades and appeared to favour a more gradualist approach to industrialisation. David Landes emphasised major technological advances

⁷⁹ Arnold Toynbee, *Lectures on the Industrial Revolution of the Eighteenth Century in England: Popular Addresses, Notes and Other Fragments with a Short Memoir by B. Jowett* (London: Rivingtons, 1884), p. 31.

⁸⁰ J. H. Clapham, *An Economic History of Britain* (Cambridge: Cambridge University Press, 3 vols., 1926 – 1938).

⁸¹ Paul Mantoux, *The Industrial Revolution in the Eighteenth Century: an Outline of the Beginnings of the Modern Factory System in England* (London: Cape, 1929).

⁸² W. W. Rostow, *The Stages of Economic Growth: A Non-Communist Manifesto* (Cambridge: Cambridge University Press, 1990).

⁸³ Hudson, *The Industrial Revolution*, p. 18.

⁸⁴ T. S. Ashton, *An Economic History of England: the 18th Century* (London: Methuen, 1955), p. 42.

under three principles which might be broadly described as: the substitution of machines for human skill and effort; the substitution of inanimate for animate sources of power such as fossil fuel and the steam engine; the use of more abundant raw materials with the substitution of mineral for animal and vegetable substances.⁸⁵ Overall, he drew ‘a convincing picture of the transformation initiated by technical innovation’.⁸⁶

During the second half of the twentieth century, industrialisation was considered to be a period of economic growth and many analyses concentrated on attempts to count and measure the exact pace.⁸⁷ Phyllis Dean and W. A. Cole developed early concepts of measuring the economic output of the eighteenth and early nineteenth centuries based on the initial work of W. G. Hoffman in the 1950s.⁸⁸ They suggested sustained gains in the period from 1780s until 1830 with industrialisation playing a part in accelerating growth. Dean and Cole’s work enabled other economic historians to quantify and discuss structural changes in the economy and the debate, in the 1960s and 1970s, centred around an industrial revolution described by Eric Hobsbawm as ‘the most fundamental transformation of human life in the history of the world recorded in written documents’.⁸⁹

A number of historians challenged the figures of Dean and Cole suggesting the growth was not at the rate estimated but considerably slower. Firstly, C. Knick Harley proposed that the spectacular growth described by Dean and Cole had been significantly overestimated in the period 1770 to 1815 particularly in the manufacturing sector.⁹⁰ Then Nick Crafts independently reworked the figures of industrial output from 1700 to 1830 and incorporated these into a new set of national accounts.⁹¹ Crafts

⁸⁵ David S. Landes, *The Unbound Prometheus: Technological Change and Industrial Development 1750 to the Present* (Cambridge: Cambridge University Press, 1969), p. 41.

⁸⁶ Maxine Berg and Pat Hudson, ‘Rehabilitating the Industrial Revolution’, *Economic History Review*, 45:1 (1992), 24 – 50 p. 24.

⁸⁷ Griffin, *A Short History of the British Industrial Revolution*, p. 15

⁸⁸ Phyllis M. Deane and W. A. Cole, *British Economic Growth 1688 – 1959: Trends and Structure*, 2nd edn (Cambridge: Cambridge University Press, 1967).

⁸⁹ Eric Hobsbawm, *Industry and Empire, from 1750 to the Present Day* (London: Penguin, 1999), p. xi.

⁹⁰ C. Knick Harley, ‘British Industrialization before 1841: Evidence of Slower Growth During the Industrial Revolution’, *Journal of Economic History*, 42:2 (1982), 267 – 89.

⁹¹; N. F. R. Crafts, *British Economic Growth 1688 – 1959* (Oxford: Oxford University Press, 1985).

employed P. H. Lindert and J. G. Williamson's revision of the structure of occupations in eighteenth century England.⁹² Previously, Deane and Cole and others had relied on social structure estimates from contemporary writers such as Gregory King (1688), Joseph Massie (1759) and Patrick Colquhoun (1801 – 1803) in interpreting eighteenth century growth. Lindert and Williamson considered that views on growth and inequality might have been distorted by flaws in social tables.⁹³ In order to provide a more accurate account of the percentage of males working in agriculture, industry, service and so on they used local censuses and burial records. Although, by their own account, Lindert and Williamson's figures 'replaced old rough tentative guesses with new rough tentative guesses' they opened up new perspectives on growth in England and Wales suggesting that King had underestimated the number of men working in commerce at the end of the seventeenth century.⁹⁴

Working together Crafts and Harley refined their calculations proposing a 'final' set of figures.⁹⁵ The main results showed that whilst the general picture provided by the authors in earlier papers was still acceptable insofar as any adjustment was required, the effect was slightly to lower the estimated growth rate. The idea of the industrial revolution as an important discontinuity was reasserted.

Maxine Berg and Pat Hudson then argued that the pendulum had swung too far in the adoption of gradualist change to the extent that 'the notion of industrial revolution has been dethroned almost entirely leaving instead only a long process of structural change in employment from agrarian to non-agrarian occupations'.⁹⁶ Their work summarised the debates which had taken place over rates of change in the previous twenty years or so. According to Berg and Hudson, not only were growth and productivity underestimated in arguments from some historians but they considered that

⁹² Peter H. Lindert and J. G. Williamson, 'Revising England's Social Tables: 1688 – 1812', *Explorations in Economic History*, 19 (1982), 385 – 408; Peter H. Lindert and J. G. Williamson, 'Revising England's Social Tables: 1688 – 1812' *Explorations in Economic History*, 20 (1983), 94 – 109.

⁹³ Lindert and Williamson, 'Revising England's Social Tables: 1688 – 1812', (1982), p. 386.

⁹⁴ Lindert and Williamson, 'Revising England's Social Tables: 1688 – 1812', (1982), p. 405.

⁹⁵ N. F. R. Crafts and C. Knick Harley, 'Output growth and the British industrial revolution – a restatement of the Crafts-Harley view', *Economic History Review*, 45:4 (1992), 703 – 30.

⁹⁶ Berg and Hudson, 'Rehabilitating the Industrial Revolution' p. 25.

growth rates on their own were inadequate for the task of identifying and comprehending the industrial revolution. They suggested that innovation, greater awareness of the importance of female and child labour and the recognition that the economic, social and cultural foundations of a capitalist order rested on much more than conventional measures of industrial or economic performance and that regional differences were important.

In fact, the 'final' view of Crafts and Harley was not final. A further debate ensued as Peter Temin put forward 'two views' on the British Industrial Revolution contrasting the view of broad change in British economy such as that held by Ashton and Landes with those held by Crafts and Harley which suggested technical change in only a few industries.⁹⁷ Temin argued that 'the traditional 'old-hat' view of the Industrial Revolution was more accurate than the new restricted image' and required more attention to fill gaps.⁹⁸ This brought a paper from Harley and Crafts examining technical change, economic structure and growth during the industrial revolution using computational general equilibrium (CBE).⁹⁹ A final response from Temin concluded that whilst Harley and Crafts had advanced the enquiry into the industrial revolution their complex model raised at least as many questions as it answered.¹⁰⁰

The work of Deane and Cole remained important and writing in 2001, Harley noted that: 'Our picture of the aggregate growth of Britain during the industrial revolution has changed significantly over the past few decades, but still rests fundamentally on Deane and Cole's evidence and analysis.'¹⁰¹

Subsequently, around 2000, a major long-term project led by Leigh Shaw-Taylor and E. A. Wrigley collected evidence from various archives leading to the development of an extremely detailed database on

⁹⁷ Peter Temin, 'Two Views of the British Industrial Revolution', *Journal of Economic History*, 57:1 (1997), pp. 63 – 82.

⁹⁸ Temin, 'Two Views of the British Industrial Revolution', pp. 79 – 80.

⁹⁹ C. Knick Harley and N. F. R. Crafts, 'Simulating the Two Views of the British Industrial Revolution', *Journal of Economic History*, 60:3 (2000), pp. 819 – 41.

¹⁰⁰ Peter Temin, 'A Response to Harley and Crafts', *Journal of Economic History*, 60:3 (2000), pp. 842 – 46.

¹⁰¹ C. Knick Harley, 'Review Essay: British Economic Growth 1688 – 1959: Trends and Structure', *EH.net* <https://eh.net/book_reviews/british-economic-growth-1688-1959-trends-and-structure/#:~:text=Foundations%20of%20British%20Quantitative%20Economic,also%20for%20those%20working%20on> [accessed 31 March 2022].

occupational structure in England and Wales from 1750 to around 1871.¹⁰² Shaw-Taylor and Wrigley's research suggested that nationally there was more growth in the secondary, manufacturing, sector between 1500 and 1750 than there was between 1750 and 1850. The occupational structure changed almost as much in the twenty years from 1850 to 1870 as in the one hundred years from 1750 to 1850. The authors considered that findings necessitated some rethinking of the first industrial revolution, its causes and its consequences and that the long standing controversy as to whether the first industrial revolution was a relatively short dramatic event or a more protracted process was resolved with evidence in favour of the latter view.

Maxine Berg challenged the orthodox economic history of industrialisation suggesting that historians needed to study manufacturing at a local and regional level to discover the dynamics of change. Innovation, she argued, was not necessarily mechanisation but had started early through the development of hand and intermediate techniques. Industrialisation was about work organisation with decentralisation, extended workshops and sweating which were new departures in work organisation. Berg also sought to demonstrate a variable impact of industrialisation on the division of labour, skills, employment and regions to the extent that in some cases some regional industries declined.

In addition, she highlighted that male occupational structures had been the building blocks of all macroeconomic estimates to the extent that women's labour-force participation had been omitted from discussions on productivity change. 'It was the female not the male workforce which counted in the new high-productivity industries.'¹⁰³ Considerable numbers of women and children were to be found in the manufacturing areas of textiles and manufacturers often preferred to hire women and children who were paid lower wages and were considered to be more submissive than the male workforce.

¹⁰² Leigh Shaw-Taylor and E. A. Wrigley, 'Occupational structure and population change', <<https://www.campop.geog.cam.ac.uk/research/occupations/outputs/preliminary/paper26.pdf>> [accessed 31 March 2022].

¹⁰³ Maxine Berg, 'What Difference did Women's Work Make to the Industrial Revolution?', *History Workshop Journal*, 35:1 (1993), 22 – 44; Berg, *The Age of Manufactures*, p.138.

Views on industrialisation from an economic point of view continued to vary towards the end of the twentieth century. Joel Mokyr highlighted aspects of a dual economy before 1820 where the traditional economy consisted of areas such as agriculture, domestic industry, food processing and construction. The modern economy, he suggested, consisted of factories, engineering, chemicals, transportation and mining alongside other industries.¹⁰⁴ At times the exact boundaries were hard to draw because progressive techniques operated alongside traditional approaches in the same industry.¹⁰⁵ As Mokyr argued technological progress did not always result in growth of industries. Some of the industries which grew slowly were those associated with mechanising and switching to factories such as paper, wool and chemicals. Others such as construction and coal mining which relied on manual techniques until the early nineteenth century grew at respectable rates.¹⁰⁶ Thus, the British economy as a whole grew much more slowly than its dynamic parts because growth was diluted by the slow-growing sectors and, therefore, it was not until around 1830 that the economic effects of the industrial revolution were experienced.

Mokyr's later work expressed the view that 'the Industrial Revolution ... that placed technology in the position of the main engine of economic change' was driven by 'the changing set of beliefs we associate with the Enlightenment'.¹⁰⁷ He emphasised that industrialisation in the years from around 1770 to 1830 was distinguished not simply through technological advances but through a society in which knowledge and the rate of technological progress continued to improve. In regard to the role of Scotland in industrialisation, Mokyr suggested that: 'It was no accident that Scotland brought to the party a disproportionate number of engineers, chemists, mathematicians and physicians'.¹⁰⁸ Skilled entrepreneurial craftsmen in Scotland had both the interest in leading scientific ideas and the knowledge

¹⁰⁴ Joel Mokyr, 'Editor's Introduction: The New Economic History and Industrial Revolution' in *The British Industrial Revolution: An Economic Perspective*, ed. by Joel Mokyr (Boulder/Oxford: Westview Press, 1993), pp. 1 – 131.

¹⁰⁵ Joel Mokyr, 'Has the Industrial Revolution Been Crowded Out? Some Reflections on Crafts and Williamson', *Explorations in Economic History*, 24:3 (1987), 293 – 319 p. 312.

¹⁰⁶ Mokyr, 'Has the Industrial Revolution Been Crowded Out?'. p. 314.

¹⁰⁷ Joel Mokyr, *The Enlightened Economy: An Economic History of Britain 1700 – 1850* (Princeton: Princeton University Press, 2010), p. 5; p.478.

¹⁰⁸ Mokyr, *The Enlightened Economy*, p. 10.

that enabled them to develop the process and products to turn science into manufacture. Thus, according to Mokyr, macro-inventions were the work of a few highly trained, literate men who linked science and production through a culture of experimentation to create an 'industrial enlightenment'.¹⁰⁹

However, in response Gregory Clark suggested that Mokyr faced a number of challenges in proving that the Enlightenment specifically was the source of a differential response to incentives.¹¹⁰ Clark was sympathetic to the argument that industrialisation was a product of change in people, not a change in circumstances but critical that 'as developed here the industrial enlightenment is a hypothesis that is not specified tightly enough for us to think, even in principle, what the empirical test of its truth would be'.¹¹¹

Robert C. Allen's interpretation of technological developments differed from Mokyr's view that a few highly trained literate men created an 'industrial enlightenment'.¹¹² He suggested that: 'Britain's success in the early industrial revolution was based on inventing technology that was tailored to its circumstances and useless elsewhere.'¹¹³ Britain, he argued, was the first economy to experience an industrial revolution because it had higher wages than other parts of Europe and that this was linked with low energy costs. Industrialists, therefore, chose to use cheaper energy and capital to replace expensive labour. As a result the development of the steam engine and coke blast furnaces took place and new textile machinery was invented. Allen's analysis of seventy-nine important inventors led him to conclude that 'the Industrial Enlightenment was mainly an upper-class cultural phenomenon with little relation to production'.¹¹⁴ The inventors did undertake experiments, but Allen attributed the practical shift to workable from unworkable methods to something he described as 'local learning' often a collective enterprise as industrialists watched each other.¹¹⁵ Clark summarised Allen's argument

¹⁰⁹ Mokyr, *The Enlightened Economy*, p. 136.

¹¹⁰ Gregory Clark, 'Review Essay: The Enlightened Economy. An Economic History of Britain 1700 – 1850 by Joel Mokyr', *Journal of Economic Literature*, 50:1 (2012), 85 – 95.

¹¹¹ Clark, 'Review Essay: The Enlightened Economy', p. 93.

¹¹² Robert C. Allen, *The British Industrial Revolution in Global Perspective* (Cambridge: Cambridge University Press, 2009).

¹¹³ Allen, *The British Industrial Revolution in Global Perspective*, p. 3.

¹¹⁴ Allen, *The British Industrial Revolution in Global Perspective*, p. 251.

¹¹⁵ Allen, *The British Industrial Revolution in Global Perspective*, p. 141.

suggesting that: 'The British were no smarter or more energetic than anyone else, they just happened to be sitting on a mountain of coal.'¹¹⁶

Considering the timing of the British industrial revolution Emma Griffin suggested that it occurred much later than claimed by other historians and that the relatively slow growth of the eighteenth century was dependent on specialisation and division of labour with only limited introduction of improved technology. This is contrasted with later more rapid and technologically sophisticated change.¹¹⁷ As Allen had suggested previously, Griffin also highlighted the role played by coal using technology.¹¹⁸ Although both Allen and Griffin highlighted the importance of coal in their works published in 2009 and 2010 respectively E. A. Wrigley had, over twenty years previously, emphasised the importance of the use of coal as a power source rather than wood with economic possibilities from vast resources of underground fuel.¹¹⁹

Industrialisation in Scotland

The previous section has illustrated the range of debates and the way in which historians have analysed change during industrialisation in Britain. Some have concentrated on technological change, some on changes in consumption patterns. Timing has been an important issue too. Previous work has been challenged through re-examination of information on productivity where the size of the field of examination has been questioned. This section concentrates of the ways in which Scotland changed in the eighteenth and nineteenth centuries.

T. M. Devine has suggested that whilst academic writing on industrialisation in Scotland increased in the years before 2005 it lacked 'the sheer richness and density of that on English economic and social history'.¹²⁰ Nevertheless, there are good sources prior to this date and some more recent studies. Devine, himself, has contributed substantially to the debate.

¹¹⁶ Clark, 'Review Essay: The Enlightened Economy', p. 88.

¹¹⁷ Griffin, *A Short History of the British Industrial Revolution*, pp. 124 – 42.

¹¹⁸ Griffin, *A Short History of the British Industrial Revolution*, pp. 103 – 23.

¹¹⁹ E. A. Wrigley, *Continuity, Chance and Change: The Character of the Industrial Revolution in England* (Cambridge: Cambridge University Press, 1990).

¹²⁰ T.M. Devine, 'The Modern Economy' in *The Transformation of Scotland*, ed. by T. M. Devine, C.H. Lee and G. C. Peden (Edinburgh: Edinburgh University Press, 2005), pp.13 – 33 (p.7).

In *The Industries of Scotland*, journalist David Bremner examined 'such branches of Scottish history as merit notice by their extent or other peculiarity' set out in 'a plain narrative of judiciously chosen facts'.¹²¹ Bremner's scrutiny of industries, first published in 1869, was wide-ranging and was originally written as a series of newspaper articles as he travelled around Scotland on research visits. The role of textile manufacture was important in the industrialisation of Scotland as well as in the rest of Britain. Bremner concentrated on technical developments in textile production but did not give detail on the uses of textiles. Most attention was paid to the cotton and linen industries as Bremner believed that the woollen industry in Scotland could not compete with the stronger woollen industry in England.¹²² Bremner's work on linen included statistics on the number of looms used in various locations, numbers of people employed and the type and amount of linen stamped giving useful background information to a study of linen and enabling comparisons between locations. Thus, the industrial scene was set for other historians to take forward.

Historians writing in the mid-twentieth century were divided in explanations of Scotland's economic performance. Whilst R. H. Campbell emphasised the competitive efficiency of low costs, mainly wages, accounting for the rise of Scottish industry, Bruce Lenman suggested low wages generated poverty and insufficient demand.¹²³ T. C. Smout extended historical research in Scotland in his two volumes covering the history of Scotland from 1560 to 1950 to social issues such as demography, social class and the life experience of ordinary people.¹²⁴ Within *A History of the Scottish People* he includes chapters on spinning and weaving and the lives lived by those employed in this way.¹²⁵ T. M. Devine's study of Scotland was equally comprehensive and written with the intention to 'present a coherent account of the last 300 years of Scotland's past with the hope of developing

¹²¹ Bremner, *The Industries of Scotland*, p. iii.

¹²² Bremner, *The Industries of Scotland*, pp. 150 – 53.

¹²³ R. H. Campbell, *The Rise and Fall of Scottish Industry 1707 – 1939* (Edinburgh: John Donald, 1980); Bruce Lenman, *An Economic History of Modern Scotland* (London: B. T. Batsford, 1977).

¹²⁴ Smout, *A History of the Scottish People 1560 – 1830*; T. C. Smout, *A Century of the Scottish People 1830 – 1950* (London: Fontana Press, 1997).

¹²⁵ Smout, *A History of the Scottish People 1560 – 1830*, pp. 384 – 92; pp. 393 – 402.

better understanding of the Scottish present'.¹²⁶ Devine explored the social and economic aspects as well as political facets of Scotland over a long period highlighting the diverse demographic histories of geographical areas of the country. In the early part of the nineteenth century, increasing mechanisation and concentration of spinning in mill complexes along with expanded production levels of linen and cotton, regional specialisation and improved textile finishing, particularly in the bleachfields led to the textile industries generating 'a powerful dynamic for manufacturing growth at the heart of the Scottish economic system'.¹²⁷ This was all assisted by a 'technology transfer' which took place in Britain from south to north and according to Devine, Scottish economic progress 'would surely have been impeded without English technical expertise and skills and, to a lesser extent, those of other countries'.¹²⁸ Men with experience of English mill practice were often appointed as managers in the early Scottish cotton spinning factories.

Christopher A. Whatley suggested that the pace and scale of change from traditional rural to modern industrial was greater in Scotland than the rest of Britain. In parts of Scotland there were some distinct natural advantages such as coal resources as well as the location of the industrial central belt with access to the Atlantic and the North Sea. In a short time Scotland become 'more industrialised than the rest of Britain' with industrialisation concentrated in the area around Glasgow, the central belt, Fife and Angus.¹²⁹ Whatley has also illustrated the part played by textile workers in social and economic events during the late eighteenth and nineteenth centuries.¹³⁰ The experiences of weavers and cotton spinners are discussed in relation to other industries and workers, thus tracing the development of a Scottish working class consciousness and exploring history from below.

¹²⁶ Devine, *The Scottish Nation*, p. ix.

¹²⁷ Devine, *The Scottish Nation*, pp. 108 – 09.

¹²⁸ T. M. Devine, 'Industrialisation' in *The Transformation of Scotland* ed. by Devine, Lee and Peden, pp. 34 – 70 (p. 48).

¹²⁹ Christopher A. Whatley, *The Industrial Revolution in Scotland* (Cambridge: Cambridge University Press), p. 33.

¹³⁰ Whatley, *Scottish Society*.

Stana Nenadic suggested that the Scottish industrial experience, 'a product of collective psychological trauma inflicted by rapid change' was ambiguous in nature and merited further study.¹³¹ One of the aspects which Nenadic highlighted was the uniting of art and design which was seen particularly strongly in Dunfermline.¹³² Prize winning artefacts such as the celebrated 'Crimean Hero Tablecloth' produced by Dewar & Sons in Dunfermline and admired by Queen Victoria were woven for a prosperous consumer market.

According to Pat Hudson understanding the implications of economic, social and political processes was best accomplished 'with the regional perspective at centre stage' and links between industrial change, peasant ecosystems, family life, demography and culture change becoming integrated areas of study which significantly altered the way in which the regional aspect was perceived in the analysis of industrialisation.¹³³ Both economic structures and human agency in the form of economic and social action as well as identity operated at regional levels through regional institutions of employers, pressure groups, trades unions and political groups. Hudson assembled ten essays which looked in detail at regional industries and demonstrated through qualitative and quantitative studies that the country was more diverse in industrialisation patterns than might have been suggested previously.¹³⁴ Looking at what happened in a location and examining why it happened there and not elsewhere enabled the identification of diversity found in relatively small geographical locations. As well as a theme of regionalisation some of the chapters addressed proto-industrialisation including a chapter on Scotland on this aspect.

The concept of proto-industrialisation was introduced by Franklin Mendels in a description of textile production in Flanders.¹³⁵ Mendels' defining characteristics of proto-industrialisation were rural industry, external

¹³¹ Nenadic, 'Industrialisation and the Scottish People', p.420.

¹³² Nenadic, 'Industrialisation and the Scottish People', p. 420.

¹³³ P. Hudson, 'The Regional Perspective' in *Regions and industries: a perspective on the industrial revolution in Britain*, ed. by P. Hudson (Cambridge: Cambridge University Press, 1989), pp. 5 – 38 (p. 6).

¹³⁴ Hudson, *Regions and industries: a perspective on the industrial revolution in Britain*.

¹³⁵ Franklin F. Mendels, 'Proto-Industrialisation: The First Phase of the Industrialisation Process', *Journal of Economic History*, 32:1 (1972), 241 – 61 (p. 241).

markets and a symbiosis of agriculture and industry. Whilst agriculture was the mainstay of livelihood for the peasant farmer textile production provided additional income. Mendels' initial work saw proto-industrialisation as a stage on the road to industrialisation. Kriedte, Medick and Schlumbohm added to the debate as a way of explaining both the move from feudalism to capitalism and from a traditional society of peasant agriculture to a modern industrial world.¹³⁶ They argued that proto-industrialisation had consequences for the entire society as it affected finished raw materials, products, food and labour power.¹³⁷

Increasingly, notions of proto-industrialisation as a direct lead-in to industrialisation have been challenged both in concept and with regard to regional variations. Rab Houston and K. D. M. Snell challenged proto-industrialisation theory in a number of areas such as the theory that the market for goods should be located outside the area of production and that since family labour was considered to be important the size of rural production families was larger than elsewhere.¹³⁸ They suggested that because there was no closeness to theoretical understanding of the transition from agrarian to the industrial world that 'proto-industrial theory will have to be abandoned'.¹³⁹

For Dunfermline damask the role of the market outside the town was important and buyers travelled to Dunfermline from the early seventeenth century to purchase goods.¹⁴⁰ A type of proto-industrialisation as described by Ian D. Whyte was probably in place there with time spent on the land by families as well as making goods for sale. Whyte examined in detail the possibility of pro-industrialisation in Scotland using a model which looked at regional specialisation in industry and agriculture, the relationships between agrarian structures, land ownership and household production and the

¹³⁶ Peter Kriedte, Hans Medick and Jürgen Schlumbohm, *Industrialization before Industrialization: Rural Industry in the Genesis of Capitalism*, trans. by Beatrice Schempp (Cambridge: Cambridge University Press, 1981).

¹³⁷ Kriedte, Medick and Schlumbohm, *Industrialization before Industrialization*, p. 8.

¹³⁸ Rab Houston and K. D. M. Snell, 'Proto-Industrialisation? Cottage Industry, Social Change and the Industrial Revolution', *Historical Journal*, 27:2 (1984), 473 – 92.

¹³⁹ Houston and Snell, 'Proto-Industrialisation?' p. 492.

¹⁴⁰ Thomson, *The Weavers' Craft*, p. 89.

importance of gender divisions in both agriculture and industrial labour.¹⁴¹ Whilst medieval monopolies and restrictive guild practices were disappearing in England, in Scotland royal burghs and burghs of barony still retained control over the country's manufacturing and trading so that commercial production of textiles and commodities was more urban in character than in England. In addition, land was held in commonty in Scotland which meant that through this shared ownership of land there was less opportunity for new small-holders. Where there were new opportunities, such as in Aberdeenshire, it was more likely that the new small-holders would be a supply of part-time labour for bigger farms rather than introducing new rural industry. Classic pre-conditions for large scale production existed in the north and west Highlands due to a build-up of population, sub-division of small holdings and the adoption of the potato so that people were forced to take up activities outside agriculture to earn a living. However, large-scale manufacture did not develop, possibly due to a lack of skills and distance from urban markets and urban capital. Instead, kelp burning, fishing and seasonal migration was the way in which a living was eked out. In Scotland, therefore, the proto-industrialisation model had less of an explanation as a step to industrialisation than it did elsewhere.

Jane Grey has examined the regional differences during a period of proto-industrialisation with particular attention to Ireland, Scotland and Flanders.¹⁴² Her argument was that the labour of men and women was mobilised in different ways in different locations. In some instances women were assigned to low productivity tasks because their industrial contribution was not distinguished from their domestic tasks as wives and mothers. Their contribution to the workforce in these circumstances was inefficient but cheap.

¹⁴¹ Ian D. Whyte 'Proto-industrialisation in Scotland' in *Regions and industries: a perspective on the industrial revolution in Britain*, ed. by Hudson, pp. 228 – 51 (p. 229).

¹⁴² Jane Grey, 'The Irish, Scottish and Flemish Linen Industries during the Long Eighteenth Century' in *The European Linen Industry*, ed. by Collins and Ollerenshaw, pp. 159 – 86.

Consumerism

As will be argued later in this thesis, technology and design were important aspects of industrialisation in Dunfermline. However, a further key issue was consumerism in the wish of individuals to purchase good quality goods. New goods were often determined by fashion and a market was created in Dunfermline from the eighteenth century for damask tableware which appealed both to those who could afford to pay for bespoke goods and to those who were part of a mass market.

Modern interest in the historiography of consumerism can probably be dated from the publication of Neil McKendrick, John Brewer and J. H. Plumb's *The Birth of the Consumer Society*.¹⁴³ This study argued that a growing diversity of goods and increased skill in retailing combined to form what was to become a consumer society. According to McKendrick the eighteenth century saw 'such a convulsion of getting and spending, such an eruption of new prosperity and such an explosion of new production and marketing techniques, that a greater proportion of society in human history was able to enjoy the pleasures of buying consumer goods'.¹⁴⁴ The consumer revolution was 'the necessary analogue to the industrial revolution, the necessary convulsion on the demand side of the equation to match the convulsion on the supply side' and was the 'take-off' period of consumerism.¹⁴⁵ A new hunger for services and belongings was created through choice, markets, fashion and a rise in discretionary income. In society, there was a constant clamour to move from one rank to another in Britain where possessions, especially clothes, signalled each step in social promotion. The appeal of goods satisfied a desire in the middle class to emulate higher social groups, leading to what has been termed the 'trickle-down' theory.¹⁴⁶

Not everyone agreed with McKendrick that a 'consumer revolution' had taken place in the eighteenth century. Lorna Weatherill suggested that there was not one 'world of goods' or one pattern of consumption so that

¹⁴³ McKendrick, Brewer and Plumb, eds. *The Birth of a Consumer Society*..

¹⁴⁴ Neil McKendrick, 'Introduction', in *The Birth of a Consumer Society*, ed. by McKendrick, Brewer and Plumb, pp. 9 – 33 (p. 9).

¹⁴⁵ McKendrick, 'Introduction', p. 9.

¹⁴⁶ Veblen, *The Theory of the Leisure Class*, p. 85.

there might not be one explanation of the increase in consumerism in the eighteenth century.¹⁴⁷ However, it was the view of Paul Langford that: 'A history of luxury and attitudes to luxury would come close to being a history of the eighteenth century.'¹⁴⁸

Consumerism had first been identified by Thorstein Veblen nearly a century earlier when he suggested that consumer behaviour was articulated through middle class ambitions but with rising incomes, similar motivations soon trickled down to the labouring ranks. According to Nenadic, class boundaries were formed through dynamics of material accumulations along with the self-conscious evolution of intellectual identity.¹⁴⁹ An anonymous contemporary writer of 1763 suggested that: 'The present age of imitating the manners of the high-life hath spread itself so far among the gentlefolks of lower-life, that in a few years we shall probably have no common people at all.'¹⁵⁰

For Beverly Lemire, fashionable consumerism stimulated innovation and production in the cotton industry.¹⁵¹ Similarly, as is argued later in this thesis, the diaper and damask industry in Dunfermline was stimulated by both the acquisition of luxury goods and the fashionable mass market.

Consumption and the World of Goods edited by John Brewer and Roy Porter developed the argument of the role of consumerism in formulating social and political economies and added to the work of McKendrick, Brewer and Plumb in the introduction of consumerism as an important historical subject to be studied.¹⁵² The volume is divided into six sections addressing aspects of consumerism and according to Brewer and Porter the intention

¹⁴⁷ Lorna Weatherill, 'The meaning of consumer behaviour in late seventeenth- and early eighteenth-century England', in *Consumption and the World of Goods*, ed. by Brewer and Porter, pp. 206 – 28 (p. 206).

¹⁴⁸ Paul Langford, *A Polite and Commercial People: England 1727 – 1783* (Oxford/New York: Oxford University Press, 1989), p.3.

¹⁴⁹ Stana Nenadic, 'The Rise of the Middle Class', in *People and Society in Scotland, Volume I 1760 – 1830*, ed. by T. M. Devine, and R. Mitchison (Edinburgh: John Donald Publishers, 1988) pp. 109 – 26 (p. 110).

¹⁵⁰ *British Magazine*, iv (1763), p. 417.

¹⁵¹ Beverly Lemire, *Fashion's Favourite, The Cotton Trade and the Consumer in Britain, 1660 – 1800* (Oxford: Oxford University Press, 1991).

¹⁵² Brewer and Porter, eds., *Consumption and the World of Goods*.

was not to demonstrate that consumerism was key to all modern history but to encourage a new way of thinking and interpretation.¹⁵³

In this volume, Amanda Vickery's work has shown that not all members of the middling class were interested in conspicuous consumerism. For example, Elizabeth Shackleton, a Lancashire gentlewoman and diarist, rejected the extravagance that was associated with high fashion.¹⁵⁴ John Styles questioned the assertion by McKendrick that there had been a take-off of consumption in the eighteenth century rather than in preceding or succeeding centuries suggesting the need to explain what was distinctive about the pattern of consumption in that century and proposing that consumerism built on a market for new products which started in the previous century.¹⁵⁵

However, in an exploration of Scottish purchasing Stana Nenadic suggested that the purchase of luxuries in the middle-class families of Edinburgh and Glasgow between 1720 and 1840 was relatively rare and usually involved considerable planning.¹⁵⁶ Families concentrated on expenditure for food, heating and lighting with the occasional purchase of clothing and relatively rare luxury items. Gender and domestic culture and, in particular, the role of public space in the household mainly the dining room, were important features.

According to Jane Hamlett, material objects played a crucial role in creating meaning in the home, in reflecting and creating the gendered hierarchies of the middle-class household.¹⁵⁷ Although there was no single narrative for middle class domestic practice, nineteenth century advice writers, both male and female, often marked out masculine and feminine

¹⁵³ John Brewer and Roy Porter, 'Introduction' in *Consumption and the World of Goods*, ed. by Brewer and Porter, pp. 1 – 7 (p. 7).

¹⁵⁴ Amanda Vickery, 'Women and the World of Goods: A Lancashire Consumer and Her Possessions, 1751 – 81', in *Consumption and the World of Goods*, ed. by Brewer and Porter, pp. 274 – 304.

¹⁵⁵ John Styles, 'Manufacturing, Consumption and Design in Eighteenth-century England in *Consumption and the World of Goods*, ed. by Brewer and Porter, pp. 527 – 59 (pp. 533 – 39).

¹⁵⁶ Stana Nenadic, 'Middle-rank Consumers and Domestic Culture in Edinburgh and Glasgow, 1720 – 1840', *Past & Present*, 145 (1994), 122 – 56 (p. 128).

¹⁵⁷ Jane Hamlett, 'The Dining Room should be the Man's Paradise, as the Drawing Room is the Woman's': Gender and the Middle-Class Domestic Space in England, 1850 – 1910', *Gender & History*, 21:3 (2009), 576 – 91 (p. 578).

spaces in the home with the drawing room mainly for female use and the dining room for male use. Thus, the drawing room had furnishings which writers associated with femininity such as oak or rosewood whilst the dining room contained heavier furniture of mahogany.¹⁵⁸ Middle rank consumer behaviour and the discourse of luxury and emulation in the eighteenth century offers insight into elite anxieties but limited explanation of consumer motivations amongst other groups.¹⁵⁹

The role of the consumer in prompting economic growth was also explored by Jan de Vries.¹⁶⁰ He argued that traditionally families preferred leisure over ownership of goods so worked sufficient hours to buy life's essentials and then abandoned work for leisure. Early modern workers produced much of what they needed at home so they grew crops, baked their own bread and turned yarn into clothing. In the long eighteenth century, this turned into a more modern working pattern where they reallocated labour to enable the direct consumption of marketed goods. A rise in fashion took place for new goods such as cutlery, ceramics, bed linens and other luxury products. The 'industrious revolution' marked the difference between the peasant family's self-sufficiency and the modern family which was a unit of consumption.

Other historians have agreed that whilst a concept of 'industrious revolution' may not always be helpful, the rise of consumption is nevertheless an important factor in the lead up to later industrial growth. Maxine Berg focussed on the global trade of invention, making and buying of new semi-luxury and fashionable goods during the eighteenth century.¹⁶¹ She examined the juxtaposition of the narrative of a consumer revolution and an industrial one and concluded that luxury and pleasure were the missing constructs of the industrial revolution. Key to her argument was the global trade in luxuries and manufactured goods and the need for design and marketing to be considered alongside manufacture and materials.

¹⁵⁸ Hamlett, 'The Dining Room', p. 583.

¹⁵⁹ Nenadic, 'Middle-rank Consumers', p. 154.

¹⁶⁰ Jan de Vries, *The Industrious Revolution: Consumer Behaviour and the Household Economy, 1650 to the Present* (Cambridge: Cambridge University Press, 2008).

¹⁶¹ Berg, *Luxury & Pleasure*, p. 15; pp. 49 – 53.

According to Adolphe S. Cavallo, fashion was the solid prop supporting the Dunfermline damask industry in the eighteenth century.¹⁶² A taste for custom-designed or otherwise personalised napkins and tablecloths inspired stylish Scots to patronise local damask weavers and this developed a lucrative market amongst the fashionable housekeepers of the time.

When exploring consumerism, some historians have used inventories to research ownership of goods.¹⁶³ Whilst this illustrates the ownership of goods, the way in which the goods were acquired cannot always be known unless the owner kept household records. However, as de Vries argues there is evidence that the inventories of each succeeding generation, where available, showed that from the mid-seventeenth to mid-eighteenth centuries each left more and better possessions than the generation before although their relative value often fell.¹⁶⁴

Looking at the global impact of consumerism, Brenda Collins and Philip Ollernshaw brought together a collection of essays.¹⁶⁵ The chapters examined the history of linen from the Middle Ages to the present time and illustrated the global nature of the linen trade from luxurious damask to everyday cloth intended for export to colonies. Together the essays illustrated how local histories could be used to produce geographically wider histories. In a chapter which showed the growth of the damask trade, David M. Mitchell highlighted that manufacture in Scotland had to overcome indifferent drawing of patterns, inaccurate tying up of looms and weaving mistakes in order to become preeminent in the industry.¹⁶⁶ The way in which Dunfermline overcame this is illustrated in later chapters of this thesis.

In a series of essays edited by Giorgio Riello and Prasanna Parthasarathi, a wide variety of specialists in the study of textiles argued that

¹⁶² Cavallo, 'To set a Smart Board', p. 58.

¹⁶³ Lorna Weatherill, *Consumer Behaviour & Material Culture in Britain 1660 – 1760*, 2nd edn (London: Routledge, 1996); Amanda Vickery, 'Women and the World of Goods'; Margot Finn, 'Men's Things: Masculine Possession in the Consumer Revolution', *Social History*, 2:2 (2000), pp.133 – 55.

¹⁶⁴ Jan de Vries, 'Between purchasing power and the world of goods: understanding the household economy in early modern Europe' in *Consumption and the World of Goods* ed. by Brewer and Porter, pp. 85 – 132 (p. 99 – 100).

¹⁶⁵ Collins and Ollernshaw, eds., *The European Linen Industry in Historical Perspective*.

¹⁶⁶ Mitchell, 'Linen Damask Production' p. 90.

cotton was the first good to have a global reach.¹⁶⁷ The essays also explored the different development of cotton in different parts of the world and the long history of commerce between producers and consumers in Asia, Africa, the Americas and Europe. With contributions from so many specialists and with different approaches the volume presented a global picture and highlighted the importance of a single textile in global economies.

During the period of industrialisation, technological inventions enabled textiles, including Dunfermline damask, to be produced more cheaply opening up the sale of tableware to a wider number of consumers. Kitchen and chinaware along with clocks, mirrors and pictures became more popular everywhere. Dressing the table for meals became more widespread and for those on a limited budget tableware became a way in which householders could demonstrate their interest in fashionable goods through stock items. This was an important feature of the market for Dunfermline damask.

Scottish Textiles

W. W. Knox argued that during the period 1740 to 1840 it was textile manufacture with novel methods of organising work, rapidly changing technologies and dynamic growth which was the engine of economic growth in Scotland.¹⁶⁸ By 1826, nine out of ten manufacturing workers were in textiles with a ratio of six workers in cotton to three in linen to one in wool.¹⁶⁹ In Glasgow, in 1841, 37.56 per cent of the working population were occupied in textiles and clothing, whilst in Aberdeen it was 34.68 per cent and in Dundee 50.54 per cent.¹⁷⁰ Thus, textiles were central to Scotland's economic development.

One of the first publications which addressed the linen trade was that of Alex J. Warden a linen merchant in Dundee.¹⁷¹ Warden not only researched linen throughout the world but also concentrated on Scotland and

¹⁶⁷ Giorgio Riello and Prasanna Parthasarathi, *The Spinning World: A Global History of Cotton Textiles, 1200 – 1850* (Oxford: Oxford University Press, 2009).

¹⁶⁸ W. W. Knox, *Industrial Nation, Work, Culture and Society in Scotland, 1800 – Present* (Edinburgh: Edinburgh University Press, 1999), p. 34.

¹⁶⁹ Knox, *Industrial Nation*, p.34

¹⁷⁰ Devine, *The Scottish Nation*, p. 160.

¹⁷¹ Alex. J. Warden, *The Linen Trade, Ancient and Modern* (London: Longman, Green, Longman, Roberts and Green, 1864).

the various specialisms of each centre. In all he researched over one hundred rural locations and eleven regional ones of which the biggest study was of Dundee. Warden included information on the number and size of looms, people employed, wage levels, yards of stamped linen produced and the diverse linens manufactured. Subsequently other writers, beginning with Bremner have either engaged in comparative discussions or written about particular specialisms.

Using a statistical approach W. H. K. Turner compared the textile industries of Dunfermline and Kirkcaldy.¹⁷² Although both towns primarily manufactured linen, Dunfermline concentrated on damask which required skilled weavers whilst Kirkcaldy concentrated on ticking and dowlas the weaving of which required less expertise. On a wider scale Norman Murray's examination of the hand-loom weavers of Scotland evaluated the way in which weavers lived and worked.¹⁷³ In later work Murray highlighted regional aspects of textile employment through a study of the East of Scotland hand-loom weavers.¹⁷⁴

Alistair J. Durie's work concentrated on the history of the linen industry in Scotland in the eighteenth century identifying trends and markets and the specialisms of various locations.¹⁷⁵ In addition, Durie highlighted the roles played by the Board of Trustees and the private enterprise of the British Linen Company demonstrating how, in a relatively short period, the British Linen Company was a catalyst in improving the quality and design of linens before attention was turned to banking activities.¹⁷⁶ Letters between representatives of the British Linen Company and local manufacturers, including some from Dunfermline, give insight into the working of the Company as well as the relationships with producers.

John Butt and Kenneth Ponting's *Scottish Textile History* contained a range of contributions which dealt with topics such as textile finishing in the north-east, textile production in the south-west as well as a chapter which

¹⁷² Turner, 'The textile industries of Dunfermline and Kirkcaldy', pp. 129 – 45.

¹⁷³ Murray, *The Scottish Hand Loom Weavers*.

¹⁷⁴ Murray, 'The Regional Structure of Textile Employment' pp. 218 – 33.

¹⁷⁵ Durie, *The Scottish Linen Industry in the Eighteenth Century*.

¹⁷⁶ Alistair J. Durie, ed., *The British Linen Company 1745 – 1775* (Edinburgh: Pillans and Wilson, 1996).

looked at regional aspects such as jute making in Dundee and Shetland hand-knitting.¹⁷⁷ The diverse essays highlighted the importance of textiles in the industrial, commercial and social development of Scotland.

Explorations of the cotton industry in Scotland have illustrated the expansion of that textile trade. W. W. Knox authored the first book length study of cotton production in Scotland.¹⁷⁸ Although the time period studied is relatively short Knox sought to illustrate the more rapid and wide ranging effects of industrialisation in the cotton trade in Scotland with accelerated growth in the late eighteenth and early nineteenth centuries and thus a 'Secret Spring' in the industrialisation of Scotland. Anthony Cooke argued that industrialisation was more rapid and wide-ranging in its effects in Scotland compared to the United Kingdom and that 'the driving force in the industrial revolution was the ... clustering of a relatively small number of macro-inventions in a relatively small corner of north-west Europe'.¹⁷⁹

A number of studies of regional textile specialisms have been carried out. An early examination of the Dundee textile industry was followed by an analysis of the Osnaburg trade in Forfar.¹⁸⁰ Despite being geographically close the products of the towns varied indicating the production differences even in small areas.

Stuart M. Nisbet's focus was on why Renfrewshire, such a small, remote region of Scotland, achieved success in cotton production citing the importance of established manufacturing families, adapting to changes in London and other markets by experimenting in new products, the development of a fully integrated textile making region and making best use of water resources.¹⁸¹

¹⁷⁷ John Butt and Kenneth Ponting, eds., *Scottish Textile History* (Aberdeen: Aberdeen University Press, 1987).

¹⁷⁸ W. W. Knox, *Hanging by a Thread: The Scottish Cotton Industry c. 1850 – 1914* (Preston: Carnegie Publishing, 1995).

¹⁷⁹ Cooke, *The Rise and Fall of the Scottish Cotton Industry*, p. 100.

¹⁸⁰ Enid Gauldie, *The Dundee Textile Industry 1797 – 1885: From Papers of Peter Carmichael and Arthur Stone* (Edinburgh: Scottish History Society, 1969); Christopher A. Whatley, *Onwards from Osnaburgs: The Rise and Progress of a Scottish Textile Company Don and Low of Forfar 1792 – 1992* (Edinburgh: Mainstream, 1992).

¹⁸¹ Stuart M. Nisbet, 'The Rise of the Cotton Factory in Eighteenth Century Renfrewshire' (unpublished doctoral thesis, University of Paisley, 2003).

From the 1790s, Paisley was dominated by textiles as a source of successful manufacture, initially with Indian-patterned shawls and then thread production. Fashion was important in the creation of attractive patterns for Paisley shawls.¹⁸² Catriona M. M. Macdonald suggests that Paisley saw itself as a 'radical town' which was borne of the independent artisan culture of the hand-loom weavers.¹⁸³ There is some evidence that this was also the case in Dunfermline.¹⁸⁴

Turkey red dyeing was a major industry in the west of Scotland, particularly on the banks of the River Clyde and in the Vale of Leven area. Used on cotton cloth it was produced initially in the East, hence its name, and introduced to European dyers in the late eighteenth century. Stana Nenadic and Sally Tuckett's close examination of three prominent dyeing firms specialising in this product highlighted the need for textile firms to be competitive and cutting-edge in order to succeed.¹⁸⁵

Study of regional specialisms emphasises the competitive nature of the textile industry in Scotland and the need to ensure the production of superior goods whether through advantages of design or the quality of production. It also highlights the global importance of textiles where those originating in other parts of the world were introduced to Scotland.

Contemporary Dunfermline Historians

Nineteenth century Dunfermline historians, John Fernie, Andrew Mercer and Alexander Stewart presented rich historical sources of events and developments in the town but less is recorded about the people at that time and how they lived.¹⁸⁶ Thus, whilst much can be learned about changes and advancements in the town and, for example, when factories were

¹⁸² Valerie Reilly, *The Paisley Pattern* (Glasgow: Richard Drew, 1987).

¹⁸³ Catriona M. M. Macdonald, *The Radical Thread: Political Change in Scotland. Paisley Politics 1885 – 1924* (East Linton: Tuckwell Press, 2000).

¹⁸⁴ Thomson, *The Weavers' Craft*, pp. 290 – 302.

¹⁸⁵ Stana Nenadic and Sally Tuckett, *Colouring the Nation: The Turkey Red Printed Cotton Industry in Scotland c. 1840 – 1940* (Edinburgh: National Museums of Scotland, 2013).

¹⁸⁶ Chalmers, *History and Statistical Account of Dunfermline* [Vol. 1]; Peter Chalmers, *History and Statistical Account of Dunfermline, Vol.2* (London/Edinburgh: Wm. Blackwood & Son, 1859); Fernie, *A history of the town and parish of Dunfermline*; Mercer, *History of Dunfermline*; Alexander Stewart, *Reminiscences of Dunfermline and Neighbourhood* (Edinburgh: Scott and Ferguson, 1889).

opened there is less to learn about how and where people lived and worked. An exception is the valuable description of Pilmuir Works in 1857 recorded by Peter Chalmers which gives an insight into the noise and drama of working in a busy factory environment.¹⁸⁷ Chalmers was the minister at Dunfermline Abbey Church and had, at the time of the Disruption of the Church of Scotland in 1843, been associated with the Free Church of Scotland before returning to the Established Church.

Modern historians of Dunfermline have often used Ebenezer Henderson's *The Annals of Dunfermline* as a source of information and his volume is extensive commencing in the eleventh century and continuing till the late nineteenth century.¹⁸⁸ Born in Dunfermline in 1809, Henderson spent most of his life living away from the town, including over thirty years in Liverpool and London. In his later years he was instrumental in restoring the old market cross of Dunfermline and 'Queen Margaret's Stone,' on the Dunfermline and Queensferry road, for which he wrote the inscription. Despite being quoted widely by modern historians, *The Annals of Dunfermline* is 'not without instances of unsifted legends and specimens of archaeological credulity'.¹⁸⁹ Some of his 'facts' are best checked in government records or newspapers as some of his sources are unclear and possibly unreliable.

A further useful resource comes from Daniel Thomson and addresses the weaving industry and The Weavers' Incorporation of Dunfermline from the fifteenth century until around 1840.¹⁹⁰ Thomson was apprenticed as a hand-loom weaver but by the time he finished his apprenticeship in 1851 hand-loom weaving was becoming less common so he took up drapery work in Glasgow returning in the mid-1850s to work at St Leonard's Works later becoming a manager with the Scottish Wholesale Co-operative Society and a contributor of a stream of articles to the local press.¹⁹¹

¹⁸⁷ Chalmers, *History and Statistical Account of Dunfermline*, Vol.2, pp. 337 – 42.

¹⁸⁸ Henderson, *Annals of Dunfermline*.

¹⁸⁹ T, W. Bayne revised by Chris Neale, 'Henderson, Ebenezer, the younger' in *Oxford Dictionary of National Biography* <<https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-12906>> [accessed 31 March 2022].

¹⁹⁰ Thomson, *The Weavers' Craft*.

¹⁹¹ *Dunfermline Journal*, 15 February 1908.

The history of Dunfermline has also caught the interest of modern writers. Although it is before the period researched for this study Sue Mowat's *Fire, Foe and Finance: Dunfermline 1600 – 1700* is a good scene setter.¹⁹² Eric Simpson has concentrated on the period 1835 to 1919 which covered the years of Andrew Carnegie's life.¹⁹³ Carnegie left Dunfermline in 1848 at the age of twelve when his father, William, in common with many other hand-loom weavers, could not find work because of a recession in the trade. Carnegie lived in America for the rest of his life, occasionally returning to Dunfermline. Simpson has drawn extensively on Daniel Thomson's work along with contemporary newspapers to give an indication of how life was lived in Dunfermline at this time. As part of the Scottish Burgh Surveys series E. Patricia Dennison and Simon Stronach have used archaeological sources in order to illustrate the history of Dunfermline.¹⁹⁴

Using written records and interviews with former employees local historian Hugh Walker has documented two of the Dunfermline textile firms. The second of the factories to be opened in Dunfermline, St Leonard's Works operated by Erskine Beveridge, ultimately became the factory with most employees in the town.¹⁹⁵ Walker also explored the firm of Hay & Robertson which owned Inglis Street Works and St Margaret's Works and although not major employers in the town, the sons and grandsons of the sole partner in 1875, William Robertson, remained working in the business.¹⁹⁶ William Robertson's granddaughter Mima Robertson was a local historian and novelist producing a volume on the history of Dunfermline.¹⁹⁷

Argument of the Thesis

This thesis has taken a local history approach in understanding the way in which damask production thrived for a number of years Dunfermline. As well as literature resources cited above, research for this thesis has relied

¹⁹² Mowat, *Fire, Foe and Finance: Dunfermline 1600 – 1700*.

¹⁹³ Eric Simpson, *The Auld Grey Toun: Dunfermline in the Time of Andrew Carnegie, 1835 – 1919* (Dunfermline: Carnegie Dunfermline Trust, 1997).

¹⁹⁴ E. Patricia Dennison and Simon Stronach, *Historic Dunfermline* (Perth: Farquhar and Son, 2007).

¹⁹⁵ Hugh Walker, *The Story of Erskine Beveridge and St Leonard's Works: 1833 – 1989* (Dunfermline: Carnegie Dunfermline Trust, 1991).

¹⁹⁶ Walker, *The History of Hay and Robertson*.

¹⁹⁷ Mima Robertson, *Old Dunfermline* (Edinburgh: P. Harris, 1979).

on contemporary newspapers, census records, birth and death data along with wills and testaments. The use of inventories has been important in understanding the goods which were owned by manufacturers so that comparisons of wealth can be understood. Parliamentary Papers have also added to the information gleaned from other written sources. Whilst these are mostly general in information some have addressed particular locations including Dunfermline. Valuation rolls have given some indication of the value of properties including factories. Portraits and sketches as well as maps serve to put other information into context.

Four major components for the development and success of Dunfermline damask have been identified from the analyses put forward by historians to help explain the regional and national variation in Britain's industrial transformation. These – when focussed on the textile industries – are consumerism and the importance of design; improved technology; the developing role of the manufacturer both in hand-loom and power-loom weaving and the role which workers played in adding to success. To build on these insights in my examination of Dunfermline this thesis is divided into chapters which analyse the importance of these components for damask production emphasising the way in which a move from poorly designed and manufactured goods to high quality popular merchandise was achieved.

Chapter 2 will argue that the damask linen trade in Dunfermline reacted quickly to the increasing desire for linen tableware from consumers. The eighteenth century saw an increase in conspicuous consumerism where articles of a luxury nature were attractive to the increasing numbers in the middling class who were able to express their identity in the type of goods which they purchased and had on show in their houses. Consumerism in the eighteenth century began to drive the wish for tableware. Was the intervention of the British Linen Company a significant aspect of the widening of markets to the rest of Britain and to America? As well as different geographical markets there were different social markets. Design of damask was of key importance in linking art to industry and, thus, the need for good designers was crucial in producing products which attracted those who desired unique, prestigious tableware and also those who desired less expensive, quality stock products. The chapter seeks to examine ways in

which design assisted in the production of goods which were attractive to buyers. How did Dunfermline copy and then, perfect, design so that the products rivalled the best of European goods? What importance was ascribed to having skilled designers? A number of factors ensured that design improved and key individuals in Dunfermline were either designers or took steps to improve design.

Chapter 3 will argue that technology played an important part in simplifying the linen weaving process and in improving productivity. Technology improved productivity and quality through better weaving techniques during the hand-loom era with further major change from the introduction of power-looms. From the late 1730s, a number of inventions, such as those in spinning, revolutionised the cotton industry and introduced the modern factory system and this chapter argues that these technological changes in cotton influenced improvement in linens. Whilst some techniques were adapted for use in Dunfermline, others originated there. Pattern representation, an important aspect of the damask linen, became more defined in order to make high quality goods at affordable prices. An important question is the extent to which micro-inventions introduced by the weavers assisted better pattern design. The sophisticated Jacquard machine invented in 1820 in France was introduced to Dunfermline in 1825 and by 1830 was popular in use there. In 1869, Bremner argued that the trade in Dunfermline gradually increased through technological improvements 'but received its greatest impulse from the introduction of the Jacquard machine in 1825'.¹⁹⁸ The thesis seeks to evaluate whether this might still be considered to be the case. Later in the century, technology improvements led to use of power-looms enabling mass production of table linens in stock patterns but also the de-skilling of operatives who attended the looms. How was technology developed which assisted Dunfermline manufacture? Were there particular aspects which were critical to damask weaving development?

The putting out system for hand-looms, both cotton and linen, worked successfully in many towns. Chapter 4 questions the role of the British Linen Company and the relationship with manufacturers. Many first generation

¹⁹⁸ Bremner, *The Industries of Scotland*, p. 241.

manufacturers developed links with London merchants or set up family members in London to undertake that role. Was this important an important development? Some hand-loom manufacturers moved into the power-loom business and other new entrepreneurs entered the trade. Factory work was very different from work in the home or loom-shop and women took a key role as machine operatives. Why did employers try to attract women to factory work? In some towns paternalism, played a part in attracting and rewarding employees. Was this a significant aspect in Dunfermline?

Chapter 5 examines the way in which the workforce was employed both in the hand-loom trade and the power-loom factories. The roles of men and women are considered and how the workplace became gendered with a move from men working looms in skilled conditions and women machine minding. Understanding these changes in working practices suggest a number of questions. What type of man undertook the role of manufacturer in the putting out system? What were the implications for the workforce when manufacture moved from hand-power to steam-power? How did the work roles of men and women change?

Chapter 6 records the conclusions.

Overall, the thesis seeks to answer the question, 'Why Dunfermline?'. Why was damask weaving adopted in Dunfermline and how did it develop into a key industry by 1880 with products admired throughout the world?

Chapter 2 Consumerism, Design and Marketing

But demask now in all its kinds
 is drove on to great extante
 From this to London by the sea
 to Merchants it is sent
 From thence it through the world go
 and serves both east and west
 Both Affrica and India too
 has there teables with it dres'd.¹

Introduction

This chapter explores the role of consumerism, design and marketing in relation to damask linen tableware manufactured in Dunfermline. The dining room began to develop more importance in the eighteenth and nineteenth centuries and became an area of conspicuous consumption. A variety of sources is examined to test the theories of consumerism identified in Chapter 1. Probate inventories provide a useful approach to consumerism but they can also be used to show the relatively modest way in which people lived as exemplified by eighteenth century manufacturer John Harley in this chapter. Design was an important feature of Dunfermline damask and manuscript letters from the archives of the British Linen Company illustrate the way in which the Company intervened in order to improve the standard of designs and quality of the work. The intricacy of designs is illustrated with extracts from a catalogue for the Great Exhibition of 1851. By this time Joseph Neil Paton, a native of Dunfermline, was considered to be the best damask designer in Scotland. In order to improve the level of design, prizes were awarded by the Board of Trustees and an understanding of the success of Dunfermline designers is gained from contemporary newspapers which publicised the winners. Table linens were becoming more popular with those who organised the household and contemporary newspaper advertisements demonstrate that it was popular among manufacturers in the 1820s and 1830s to travel to locations in England to set up temporary bases in order to sell Dunfermline damask. The intention in this chapter is to show how cultural

¹ David Patton, *The History of Dunfermline gather'd from Good Authority, personal knowledge and hear-say* (Dunfermline: Patton, 1813), p. 29; David Patton (or Paton) was a Dunfermline weaver who later turned to wood turning making pirns and bobbins for weavers. He was the father of Joseph Neil Paton, a well-known Dunfermline damask designer.

and social change developed new markets for damask table linen and the way in which government through the Board of Trustees and the private British Linen Company raised standards in design.

Background

From the fifteenth century the 'bords' of the wealthy in western Europe were covered in fine white linen, sometimes plain but more often self-patterned.² The establishment of fine damask linen weaving in eighteenth-century Dunfermline resulted in the town becoming the leader in the world for damask table linen by the nineteenth century.³ A key element of the initial success of the trade in Dunfermline damask was the widening of the market for 'luxury' goods in the eighteenth and into the nineteenth centuries. In the late eighteenth century, the market for damask was directed towards individual pieces for discerning nobles and men of means and their wives. However, as production moved from the individual weaver working alone or with a few journeymen to mass production through a putting out system it was aimed towards a discriminating middling class who favoured high quality, decorative table linen. As time progressed and damask became cheaper through innovation in hand-loom production as well as standardisation of the product, the market widened to those who were less affluent but still favoured a well-presented table.

By the end of the eighteenth century, a middle class was emerging as a major force in English and Scottish society. Commercial, manufacturing, professional and farming families gained in wealth, knowledge and prestige.⁴ Their aim was not only to be part of the existing system but to challenge the legitimate basis of aristocratic domination. Growing consumerism led to families reconsidering priorities so that household resources were reallocated. Ways of spending and acquiring goods altered and ordinary

² David M. Mitchell, 'Linen Damask Production: Technology Transfer and Design, 1580 – 1760,' in *The European Linen Industry in Historical Perspective*, ed. by Brenda Collins and Philip Ollerenshaw (Oxford: Oxford University Press, 2003), p. 61.

³ W. H. K. Turner, 'The textile industries of Dunfermline and Kirkcaldy: 1700 – 1900', *Scottish Geographical Magazine*, 73:3 (1957), 129 – 45 (p. 132).

⁴ Leonore Davidoff, *Worlds Between, Historical Perspectives on Gender & Class* (Cambridge/Walden MA: Polity Press, 1995), p. 180.

people began to acquire items which were associated with style and comfort rather than the purchase of simple everyday necessities.

British luxuries of the eighteenth century deployed quality, art and style together with invention, mechanism, imitation and novelty which formed the attributes of new luxury.⁵ Malthus drew attention in the early 1820s to the extent to which foreign trade attracted people of the middling class and, sometimes, ordinary people to buy new luxuries with 'its tendency to inspire new wants, to form new tastes, and to furnish fresh motives for industry'.⁶ In addition, the desire for new luxury items by the middle classes shaped a major motivation for the mercantile classes to produce new goods.

⁵ Maxine Berg, *Luxury & Pleasure in Eighteenth Century Britain* (Oxford: Oxford University Press, 2010), p. 26.

⁶ T. R. Malthus, *Principles of Political Economy*, 2nd edn (London: W. Pickering, 1836), p. 403.

Plate 2.1 *Saying Grace*: Joseph Van Aken c. 1720, Oil on Canvas, 35 x 30 cm.



Source: *Ashmolean Museum of Art and Archaeology, Oxford*
<<https://artuk.org/discover/artworks/saying-grace-141453>> [accessed 31 March 2022].

In the eighteenth century there was already evidence of relatively modest middle class families introducing luxury goods to their households. *Saying Grace* is an oil on canvas work painted by Joseph van Aken (c.1688-1749). Van Aken settled in London, permanently, from Flanders around 1720 (Plate 2.1). His work is illustrative of the English middle-class lifestyle at the time which, in this painting, he expresses through the ritual of a mealtime. The painting shows that the room functions both as a kitchen and dining room as well as having places for storage. The furniture is simple and there are few decorative items. The tablecloth is the only fabric seen dressing the

room and it is significantly whiter than any of the caps and scarves in the painting. It transforms the small round table from a workplace to a dining space. The room contains 'frontstage' goods such as table linen and pewter dishes in contrast to 'backstage' goods such as cookery utensils which are kept out of sight.⁷

Motivation for increased consumption is a contested area amongst historians. Thorstein Veblen identified the emergence of 'conspicuous consumption' in displaying social status by emulating consumption patterns of higher status members of society.⁸ However, in contrast, Pierre Bourdieu argued that consumption was motivated by a desire for differentiation rather than emulation.⁹ Neil McKendrick used the term 'consumer revolution' to describe the desire for mass produced goods which he claimed accompanied industrialisation in the last quarter of the eighteenth century suggesting that: 'Men, and in particular women, bought as never before.'¹⁰ For McKendrick, the mass consumerism which emerged was created by both competitive and emulative behaviour.

Purchasing and displaying goods in their homes through everyday lives and special occasion entertaining allowed the middle ranks to project a genteel standing and lower classes a degree of comfort. Mary Douglas and Baron Isherwood suggest that: 'Goods assembled together in ownership make physical, visible statements about the hierarchy of values to which the chooser subscribes.'¹¹ The presence or absence of goods reveals something about the household and attitudes and behaviour. One way in which a number of goods might be displayed together was the dining table whether for a simple family meal or a grander type of event. Thus, consumption of tableware, table decoration and food played an important part in the construction of identity from the seventeenth century onwards. The

⁷ Lorna Weatherill, *Consumer Behaviour & Material Culture in Britain 1660 – 1760*, 2nd edn (London: Routledge, 1996), pp. 28 – 29.

⁸ Thorstein Veblen, *The Theory of the Leisure Class* (London: Penguin Books, 1994 [1899]).

⁹ Pierre Bourdieu, *Distinction: A Social Critique of the Judgement of Taste* (London: Routledge, 1984).

¹⁰ Neil McKendrick, 'Introduction', in *The Birth of a Consumer Society, The Commercialization of Eighteenth-Century England*, ed. by Neil McKendrick, John Brewer and J. H. Plumb, 2nd edn (Brighton: Edward Everett Root, 1982), pp. 9 – 33 (p. 9).

¹¹ Mary Douglas and Baron Isherwood, *The World of Goods: Towards an anthropology of consumption*, 2nd edn (London/New York: Routledge, 1996), p. iv.

seventeenth century saw widespread acceptance of the fork in dining along with the adoption of routinised etiquettes to govern eating.¹² The eighteenth century brought new forms of segmented dining based on symmetrically arranged tables and individual place settings rather than a variety of foodstuffs laid on the table at the same time. Manufactured goods such as dishes, cutlery and table linen added to the uniformity of the dining experience. In turn, this meant that dining rituals previously open only to the court élites entered the homes and routines of the middling sort.

Consumerism in the Long Eighteenth Century

The period of 'the long eighteenth century' shows a rapidly growing middling class avid for fashion, modernity, individuality, variety and choice who sought out new products and took delight in their consumer experience.¹³ An understanding of consumption not only explains the nature of the goods which were acquired by people but also gives a greater understanding of economic, cultural and social change in Britain. Thus, key to an understanding of the success of diaper and damask from Dunfermline is knowledge of what made the products attractive to whom and how those products reached the purchasers. This was not static but changed over time.

The middle class defined their modernity by their possession of newly invented goods, made by mechanical techniques.¹⁴ This middle or middling class were highly diverse in occupational structure and levels of income, widely dispersed and not just a feature of London. They were socially, economically and politically important and, even in the seventeenth century, the largest market for new and imported goods was amongst these consumers.¹⁵ In the eighteenth century, they furnished and decorated their homes in a fashionable way focussing not simply on unique products but on collection, imitation, seriality, ornament and commodity groupings.¹⁶ The purchase of tea ware, silver plate or cutlery and linen marked the setting up

¹² James Symonds, 'Introduction', in *Table Settings: The Material Culture and Social Context of Dining AD 1700 – 1900*, ed. by James Symonds (Oxford: Oxbow Books, 2014), pp. 1 – 5 (p. 1).

¹³ Berg, *Luxury & Pleasure*, p. 20.

¹⁴ Berg, *Luxury & Pleasure*, p. 195.

¹⁵ Weatherill, *Consumer Behaviour & Material Culture*, p. 14.

¹⁶ Berg, *Luxury & Pleasure*, p. 196.

of a household for both men and women. However, items such as watches and chains, shoe and knee buckles, silver sugar tongs and new model candle snuffers were bought for design and for presents to friends and relatives rather than as necessary household items.

Therefore, the introduction of new luxuries in one form or another was important. In the eighteenth century, luxuries moved from being import substitutions to new products manufactured in Britain to be sold at home and overseas. However, the restless pursuit of novelty and gratification of anticipated pleasure by the middle class was juxtaposed with a need for respect and stability.¹⁷

From the beginning of the eighteenth century all parts of society began to acquire more goods. Ordinary men and women would invest in luxury items if they had a windfall of funds. For men, acquisition of a pocket watch, developed in the clock industry towards the end of the seventeenth century, became popular even though cheap watches might cost several weeks' pay.¹⁸ Remarking on the fashions in Dunfermline in 1772, nineteenth-century historian Ebenezer Henderson writes: 'Clocks and Watches, formerly so rare, began to be more common. At this time a newly married couple began to think that their house was not complete without a clock and a chest of drawers, and the guid-man must have a watch.'¹⁹ A watch came to symbolise working men's status. In due course, some luxury goods such as tea and sugar became everyday items. Goods were valued for a variety of reasons. They might be new and innovative, old and classical, or perhaps, fashionable or unique.

Sometimes, what might be perceived to be modern advertising techniques were used to exploit the new propensity to consume. Josiah Wedgwood's provision of pottery of an excellent quality was not, on its own, sufficient to gain high sales. Wedgwood, therefore, adopted a number of strategies such as free carriage of his products to London, a satisfaction or money back policy, wares introduced personally through an early version of

¹⁷ Berg, *Luxury & Pleasure*, p. 19.

¹⁸ Jan de Vries, *The Industrious Revolution: Consumer Behaviour and the Household Economy, 1650 to the Present* (Cambridge: Cambridge University Press, 2008), pp. 1 – 4.

¹⁹ Ebenezer Henderson, *The Annals of Dunfermline and Vicinity from the Earliest Authentic Period to the Present Time A. D. 1069 – 1878* (Glasgow: John Tweed, 1879), p. 496.

the travelling salesman and considerable advertising.²⁰ In common with other fine metal ware producers, he used catalogues to sell his goods, particularly in international markets. Neil McKendrick suggests that key to Wedgewood's success was his ingenuity and marketing by using perceptions of what the consumer wished to acquire to create fashionable images through advertising in order to provoke the purchaser to buy. On the other hand, John Styles is less convinced that energetic promotional activities by a few entrepreneurs such as Wedgewood influenced new consumption patterns.²¹ Styles, however, acknowledges that the labouring poor had a capacity to respond to marketing of accessible innovations such as gin and cheap cotton clothing although the bulk of household funds was still spent on food. Later in this chapter the way in which the early nineteenth century manufacturers from Dunfermline marketed and advertised goods is explored.

W. Hamish Fraser suggested that demand for goods rose in the years after the 1851 Great Exhibition.²² He cited three reasons: an increase in population; an increase in spending power; a change in fashion or taste where funds previously spent on one set of goods were now spent on another. To meet this demand industry expanded and was restructured. Certainly, Dunfermline damask items were popular items at the Great Exhibition showing 'considerable taste displayed ... in the damasks of Dunfermline ... many of which are excellent'.²³

Personal dress created styles and established identities. Cheap luxury goods, such as fans and umbrellas enabled a large number of people to be included in showing off the latest fashions. Shopping became an important activity as it was not only for making purchases but also because it enabled social interaction and spectacle.²⁴ Berg has highlighted the importance of

²⁰ Neil McKendrick, 'Josiah Wedgewood and the Commercialisation of the Potteries', in *The Birth of a Consumer Society*, ed. by McKendrick, Brewer and Plumb, pp. 100 – 45.

²¹ John Styles, 'Manufacturing, Consumption and Design in Eighteenth-century England in *Consumption and the World of Goods*, ed. by John Brewer and Roy Porter (London and New York: Routledge, 1994), pp. 527 – 59.

²² W. Hamish Fraser, *The Coming of the Mass Market, 1850 – 1914* (Brighton: Edward Everett Root, 2017), p. 3.

²³ *The Art Journal Illustrated Catalogue: the Industry of all Nations* (London: George Virtue, 1851), p. vii.

²⁴ Clare Walsh, 'Social Meaning and Social Space in the Shopping Galleries of Early Modern London', in *A Nation of Shopkeepers: Five Centuries of British Retailing*, ed. by John Benson and Laura Ugolini (London: I B Tauris, 2003), pp. 52 – 79.

social emulation, personal self-worth, identity, gender-fashioning, and gift exchange in the art of shopping.²⁵ It was a skill and an entertainment. Therefore, the world of goods relied heavily on information and visibility in order to promote shopping sales and to this end in the next century books and newspapers became the new technology. However, in the early nineteenth century, newspaper editors showed little understanding of the opportunities which advertising offered their newspapers.²⁶ Convention had it that nothing must break the regular columns and there was general agreement to ban large type. Thus, the only way to catch the eye was to repeat the firm's name endlessly or to use slogans such as Beecham's 'Worth a Guinea a Box' constantly.²⁷

Many new consumer products were sold internationally, quickly becoming global commodities. Most of the better quality British items were manufactured mainly in England, but many were made with Welsh iron and copper or they were sold with prominent Scots linens and fine cottons.²⁸ Part of the global market was the extensive trade between Scotland and America. Often emigrants wished to create something that was part of 'home' in their new location. Textiles were frequently used, as both necessities and adornments so that 'Scotch carpets' became ubiquitous in the American eighteenth-century home.²⁹ Made from wool, they were colourful, made into strips of various widths with no pile and so were easy to transport and fit to any size of room. During the period tastes changed. Products from Scotland were often valued because of their lower cost.³⁰ Different items were favoured in different locations but material goods, especially the new consumables, made statements about their owners and their background. The second-hand market played a vital role in goods acquisition often through the sale of house contents at death or through bankruptcy. Chapter

²⁵ Berg, *Luxury & Pleasure*, p. 195

²⁶ Fraser, *The Coming of the Mass Market*, p. 137.

²⁷ Fraser, *The Coming of the Mass Market*, p. 138.

²⁸ Berg, *Luxury & Pleasure*, p. 7.

²⁹ Vanessa Habib, 'Kilmarnock carpets in the American colonies', in *Making for America, Transatlantic Craftmanship: Scotland and the Americas in the Eighteenth and Nineteenth Centuries*, ed. by Vanessa Habib, Jim Gray and Sheila Forbes (Edinburgh: Scottish Antiquaries of Scotland, 2013), pp.151 – 69 (p. 168).

³⁰ Ann Smart Martin, 'Scottish Merchants: sorting out the world of goods in early America', in *Making for America*, ed. by Habib, Gray and Forbes, pp. 23 – 44 (pp. 30 – 31).

4 of this thesis highlights that household goods were often roused after death in order to realise assets.

Karen Harvey argued that a new domestic architecture was created in the eighteenth century by modern concepts of self through new narratives and material culture and that this coalesced into a more intense nineteenth century domestic culture.³¹ The centrality of the house and furnishings to the self-definition of its inhabitants was a conspicuous feature of British life by the eighteenth century.³² The cult of domesticity and the stress on materiality meant that family events which were previously celebrated with communal drinking and feasting now had a focus on goods acquisition.³³ Household objects and the use of rooms was often similar in different middle rank homes, particularly the use of the kitchen and dining room and the items in each.

The examination of probate inventories has filled a research deficiency in understanding the types of goods acquired by whom. Previously, there was little systematic evidence of ownership broken down by region, status and specific consumer goods before the research undertaken by Lorna Weatherill. Examining around three thousand probate inventories taken from eight regions of England in the middle year of each decade from the period between 1675 and 1725 she sought to establish patterns of ownership.³⁴

Weatherill determined that the rapid expansion in new and luxury items was in 'frontstage' activities where the house proprietors expressed themselves through the purchase of new decorative goods such as mirrors and curtains and a new behaviour around mealtimes. 'Backstage' goods such as standard tables and cooking utensils appeared less frequently in inventories. Purchasing patterns were not the same in all geographical areas of the study with those demonstrating most possessions in locations close to manufacturing and distribution centres. Tradespeople in urban areas seemed

³¹ Karen Harvey, 'Men Making Home: Masculinity and Domesticity in the Eighteenth-Century' *Gender & History*, 21:3 (2009), 520 – 40 (p. 523).

³² Neill Thomas, 'To Buy or not to Buy', *History Today*, 59:2 (2009), 12 – 18 (p. 13).

³³ Stana Nenadic, 'Middle-rank Consumers and Domestic Culture in Edinburgh and Glasgow, 1720 – 1840', *Past & Present*, 145 (1994), 122 – 56 (pp. 136 – 37).

³⁴ Weatherill, *Consumer Behaviour & Material Culture*, p. 3.

to be the most innovative consumers but, overall, Weatherill agreed with other historians that growing consumption was powered in eighteenth century England by the middle ranks. Fashion and social emulation were considered as explanations for changing consumption patterns.³⁵

In a different approach, looking at probate records in the counties of Kent and Cornwall for the period between 1600 to 1750, Mark Overton and colleagues highlighted the usefulness of inventories in judging the number of new types of goods, such as clocks and mirrors, introduced to households along with possessions which began to disappear from inventories such as cauldrons and carpets (which were often used to cover crudely built furniture rather than as a floor covering).³⁶ Carpets such as these were manufactured in Dunfermline where John Mackie who introduced a carpet manufactory to Dunfermline had 'a great many looms in Rotten Row and Collierow and gave employment to thirty persons' in 1775.³⁷

The inventories can be used to assess the value of goods, an increase in the variety of goods in households and new assemblages of items such as those used for cooking. However, the use of inventories can have drawbacks through inconsistency of approach to compiling the information. Sample inventories may not be representative of the social status and wealth of the population as a whole and a complete picture of the household may not be given. For example, married women's goods were considered to be under her husband's ownership so that in Overton and colleagues' study only sixteen per cent of the sample deals with women's goods.³⁸

Probate inventories form a useful approach to consumerism but they are limited in their use as they record property at death and do not indicate property owning during the life cycle. In addition, social meaning cannot be understood by simply recording ownership. To address this, Weatherill used household accounts to examine the behaviours which determined

³⁵ Lorna Weatherill, 'Consumer behaviour and social status in England, 1660-1750, *Continuity and Change*, 2 (1986), 191 – 216 (p. 191).

³⁶ Mark Overton and others, *Production and Consumption in English Households 1600 – 1750* (Abingdon/ New York: Routledge, 2004), p.10; p. 94.

³⁷ Henderson, *Annals of Dunfermline*, p. 503.

³⁸ Overton and others, *Production and Consumption*, p. 22.

consumption patterns. Household expenditure patterns help to understand consumption as opposed to ownership as articles were sometimes obtained through methods other than direct purchase.³⁹ Weatherill concluded that there were a number of practical, financial and economic reasons why people wanted to own material goods. Whilst Weatherill considered that growth of the manufacturing industry in the late seventeenth and early eighteenth century was fuelled by consumption by the middling ranks she rejected the emulation theory not only because the ways of people learning about new goods was limited but also because emulation gave the purchase of new goods the single function of keeping up with others. Consumption had social boundaries and could be influenced by, and influence, economic growth so that meanings of consumption are multi-layered with general implications not always visible.⁴⁰ Weatherill's extensive use of inventories from a variety of locations demonstrated variety in types of possessions and led her to suggest that some items were simply functional rather than fashion imperatives.⁴¹ Therefore, customs and tradition of the family may be important in patterns of consumption. Weatherill's statistics reveal a dramatic expansion in the ownership of goods during the period between 1675 and 1725 which would challenge McKendrick's assertion of a late eighteenth-century take-off.⁴²

Amanda Vickery's examination of account books highlights gender differences in the consumption of goods.⁴³ She identified, that during the eighteenth century, a gulf appeared between the producing male and the consuming female with female materialism criticised and male consumerism seemingly invisible.⁴⁴ Women developed gendered attitudes towards material possessions that shaped their consumption, using objects to convey a multitude of meanings from fashion, taste and style to wealth and status along with political and religious allegiance and personality, relationships,

³⁹ Weatherill, *Consumer Behaviour & Material Culture*, p. 112.

⁴⁰ Weatherill, *Consumer Behaviour & Material Culture*, p. 190.

⁴¹ Weatherill, *Consumer Behaviour & Material Culture*, Chapters 3 and 9.

⁴² McKendrick, 'Introduction', p. 9.

⁴³ Amanda Vickery, 'His and Hers: Gender, Consumption and Household Accounting in Eighteenth-Century England', *Past and Present*, Supplement 1 (2006), 12 – 38.

⁴⁴ Vickery, 'His and Hers' p. 13.

memory and mortality.⁴⁵ Account books assume literacy and numeracy, creditworthiness, a regular income stream and an accounting frame of mind.⁴⁶ Thus, they were kept mainly by middle and upper classes. As account books were not written with the historian in mind, they lack the emotional expansiveness of diaries and letters and were used in different ways by different families. Nevertheless, Vickery argued that account books contain consistent categorisations of material responsibility, propriety and expertise.⁴⁷

New goods transformed houses, food and drink and the way people lived through items of convenience, such as cooking utensils and items which might be displayed, as well as paintings or 'toys' (ornamental metal ware) and fashion furnishings. Women are often stereotyped as the 'shoppers' in society and whilst some of the new commodities were very desirable to women, men also enjoyed acquiring goods which marked them out as respectable and independent.

Account books, therefore, can also demonstrate the way in which retailers and merchants might target different genders in their marketing practices. Although in the eighteenth century it was women who were principally identified with shopping it is clear from the account books which Vickery studied and journals which Margot Finn examined that men were also acquisitive but, perhaps, in different types of objects.⁴⁸ Whilst diaries may give more information than account books and contain a more emotional setting they can, nevertheless, be limited and are a selective recollection of the particular author's experience. However, daily journals such as those studied by Finn offer a wealth of descriptive detail about economic activities.⁴⁹ Finn studied journals of four men during the mid-eighteenth century. Although these men led very different lives, a shopkeeper, a priest who also owned a landed estate, a rural priest and a schoolteacher, they all made both substantial and insubstantial purchases on

⁴⁵ Vickery, 'His and Hers' p. 14.

⁴⁶ Vickery, 'His and Hers' p. 19.

⁴⁷ Vickery, 'His and Hers' p. 37.

⁴⁸ Margot Finn, 'Men's Things: Masculine Possession in the Consumer Revolution', *Social History*, 25:2 (2000), 133 – 53.

⁴⁹ Finn, 'Men's Things', p. 136.

a regular basis. The Reverend James Woodeford of Norfolk, a bachelor, whose niece helped him run the household went on a trip to London in September 1789 where he bought a dozen silver tablespoons and half a dozen silver dessert spoons at a shop in the Strand for £10. In November he went to Norwich and bought two large double-flapped mahogany tables, a new mahogany washstand and a second-hand mahogany dressing table with drawers for £4 14s. 6d. The furniture was a bargain beside his silver spoons and he thought the whole of it 'to be very cheap'.⁵⁰ Woodeford demonstrates some sensitivity to the difference between best and second-hand goods. Finn considered that masculine purchasers were essential to the consumer revolution.⁵¹

Luxury is often used in relation to new goods although there is difficulty in using and understanding the word. It suggests high quality goods and services but often there was the implication that such goods and services were unnecessary and had been done without in an earlier age. The cultural aspects of luxuries were also recognised as a way to mark out the owner and thus communicate social position in a non-verbal way. There is also the difficulty of pinpointing a 'necessity' and the need to consider differing priorities and that there was a class of goods between 'luxuries' and 'necessities' which might be considered 'decencies'.⁵²

Historians may disagree on consumer theories of the eighteenth century. However, most will agree that in that century there was a middle class who took great delight in the purchase of new goods to enhance their homes. Examination of the inventory of John Harley gives an indication of the way in which a Dunfermline manufacturer lived in the middle of the eighteenth-century and the goods which were owned by a relatively modest family.

John Harley, Manufacturer - Inventory

John Harley was an eighteenth-century Dunfermline manufacturer. He was admitted into the Incorporation of Weavers in 1748, was Burgh

⁵⁰ Finn, 'Men's Things', p. 141.

⁵¹ Finn, 'Men's Things', p. 153.

⁵² Weatherill, 'The meaning of consumer behaviour', p. 207.

Treasurer from 1761, a Baillie from 1765 and Dean of the Guild Court from 1767.⁵³ Harley died in 1770 and the inventory of his heritable goods gives some sort of indication of the type of man he was. As well as working as a manufacturer, he had leases on farms in Plealands and Bellyeoman so that it is likely that he augmented any earnings as a manufacturer with farm work, either carried out by himself or farm servants employed by him. The lands he leased were rather more than places to grow crops as he owned four horses, a cow and a plough along with farm implements.⁵⁴ His Inventory at Death is reproduced at Table 2.1. Although he had a considerable list of goods most were old and of little value and he appears to have lived in quite a modest house with the kitchen and loom shop on the ground floor and an upper floor with two rooms as well as a garret.⁵⁵ He is recorded as having a tea kettle but did not appear to have any drinking vessels. The tea kettle is the only example of what might be considered a 'modern' consumer good.

Harley may have undertaken weaving himself or may have had other weavers using his looms. He seems to have had two looms and possibly access to a damask loom as he had implements such as a comb, reed and eveners to work the loom. At his death he had some cloth at the bleachfield. He had a wheel for winding pirns so his wife or a daughter may have been engaged in this occupation.

In the late eighteenth century in Dunfermline Harley was an unusual name. A 1771 map of the Pittencrieff estate shows that the laird owned a large field in the north-east of the town known as 'Back Acres'.⁵⁶ Details of the feus between 1827 and 1830 in Pittencrieff Estate show that six feus were granted in an area called 'Harley's Acres'.⁵⁷ This was the area previously known as 'Back Acres'. John Harley may well have been of significant status to own property.

⁵³ Sue Mowat, 'Harleys Acres', Dunfermline Historical Society, (2020) <<https://dunfermlinehistsoc.org.uk/harleys-acres/>> [accessed 31 March 2022].

⁵⁴ NRS, Wills and Testaments, CC20/4/23, John Harley (1770).

⁵⁵ Sue Mowat, 'Harleys Acres'.

⁵⁶ NRS, RHP 199, Plan of the Estate of Pittencrieff, Luscar and Clune, Dunfermline, 1771.

⁵⁷ DCLG, Pittencrieff Estate Deed Box, Feu Notebook.

Table 2.1 Inventory at the Death of John Harley on 22 December 1770

A chist of drawers	5 pewter plates and a dozen trenchers
7 chairs	A pint stoup
Standing tea table	2 looms in the loom shop
Desk	A dozen spoons
Teakettle	A goblet pan
Hung bed and curtains	A pirn wheel and whisks
4 pairs of sheets	A broad damask comb, reed and three
3 pairs of blankets	eveners
Chimney	3 pirn wheels
6 stands	2 shovels
3 beds and 6 pairs of blankets in the garret	4 carts
2 old chists	4 corn carts
10 old reeds	2 forks
A hand barrow	4 barrows
An old table	A plough
A boat	A black mare
A folding bed	A logie horse
2 pair of whisks and 2 old wheels	A horse
A folding table	A Jack horse
A kitchen bed and 3 pairs of blankets	A cow
Chair and stool	Corn and straw

Source: NRS, Wills and Testaments, CC20/4/23, John Harley (1770).

However, at the time Archibald Harley also lived in Dunfermline. Archibald was Deacon of the Incorporation of Weavers from 1746 to 1748, which automatically gained him a seat on the Town Council.⁵⁸ Archibald may have been the father of John Harley but there are no known records to support this. At the time of his death Archibald was the guarantor of a loan of £42 from the Kirk Session to John Harley and Adam French. Archibald did not leave a will. John Kerr, the Treasurer of the Kirk Session, therefore, was appointed executor and a Testament Dative drawn up in order to obtain some of the money owed.⁵⁹ Rents from a barn and barnyard were due to Archibald Harley along with rents of two houses to the value of £4.1s. In

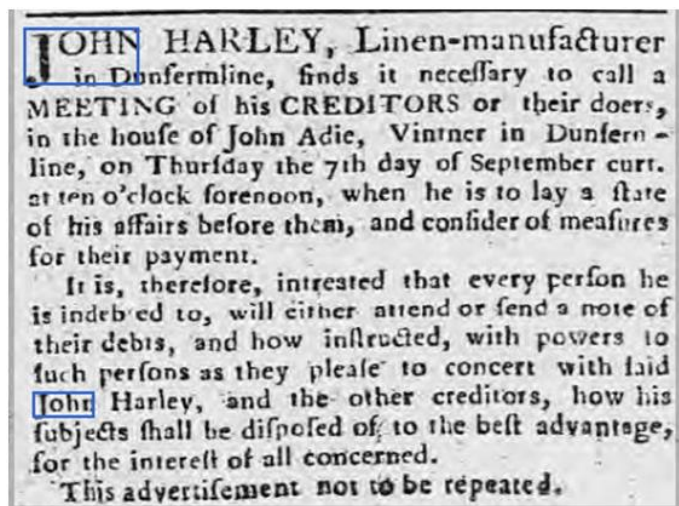
⁵⁸ Sue Mowat, 'Harleys Acres'.

⁵⁹ NRS, Wills and Testaments, CC20/4/23, Archibald Harley (1772).

addition, his household goods had been roused raising after funeral costs £3. 9. 2 ½ d. As 'Harley's Acres' belonged to the Pittencrieff estate by 1771, Archibald Harley most likely sold the field to the laird at some time previously.⁶⁰

John Harley's inventory serves to show some aspects of his life. In the domestic situation he had, apparently, little of worth in his home and the items could be considered to be necessities. His agricultural life seemed to involve more items of worth, mainly animals. From this it might be concluded that John Harley's life was a mix of the role of manufacturer with other weavers working on a putting out system and agricultural work. He does not seem to have owned property. In 1769, his weaving business was in financial difficulties and the loan from the Kirk Session mentioned in Archibald Harley's Testament Dative may have been to help with difficulties. On the other hand, Archibald Harley owned buildings and obtained some rent from them. The extent of his household effects is unknown as they were roused and not listed in a will or Testament Dative. Therefore, from inventories and wills some aspects of a person's life can be indicated but they do not give a full understanding.

Plate 2.2 Notice to Creditors from John Harley



JOHN HARLEY, Linen-manufacturer
in Dunfermline, finds it necessary to call a
MEETING of his CREDITORS or their doers,
in the house of John Adie, Vintner in Dunfer-
line, on Thursday the 7th day of September curt.
at ten o'clock forenoon, when he is to lay a state
of his affairs before them, and consider of measures
for their payment.
It is, therefore, intreated that every person he
is indebted to, will either attend or send a note of
their debts, and how instructed, with powers to
such persons as they please to concert with laid
John Harley, and the other creditors, how his
subjects shall be disposed of, to the best advantage,
for the interest of all concerned.
This advertisement not to be repeated.

Source: *Caledonian Mercury*, 4 September 1769.

⁶⁰ Mowat, 'Harleys Acres'.

Luxury Living and Dining

Harley's assets for dining were very modest and despite being a linen manufacturer there is no mention of table linen. Elsewhere: 'A quintet of exotic drug foods conquered Europe: tea from China, coffee and cane sugar from Arabia and tobacco and cocoa from the New World.'⁶¹ Breakfast and tea drinking were new customs in Britain which coincided with the introduction of hot drinks and the ceramic, steel or silver-plated and glass vessels to go with this.⁶² Exotic beverages became popular because they were flexible and could serve a variety of social groups, cultural meanings and economic regimes.⁶³ Tea and sugar became important additions to eating and drinking habits. Deserts which mixed sugar with lemon and limes were popular. Tea was adopted by the middle classes by 1750 and later in the century was a drink for all classes and, as a result, during the course of the eighteenth century tea consumption in England increased fifteenfold.⁶⁴ In the Scottish Highlands, pedlars and packmen carried tea for customers along with imported tobacco and snuff.⁶⁵ Moralists denounced the luxury habits of the poor, encapsulating consumer vice in tea paraphernalia.⁶⁶

In Scotland, concern was raised in 1744 because 'tea had become the common Breakfast of Bluegowns and the Fish-carriers of Musselburgh, while footmen and porters got drunk on punch as freely and as cheaply as they had formerly done on ale'.⁶⁷ The popularity of tea in Scotland caused controversy because of the cost of tea equipage and the fashionable English association but also because of the feminine and leisured connections and the impact of more masculine, indigenous habits. Tea parties were an important female-led hospitality occasion. Unlike the male socialising that

⁶¹ Frank Trentmann, *Empire of Things: How We Became a World of Consumers from the Fifteenth Century to Twenty-first* (New York: Harper Collins, 2016), p. 78.

⁶² Berg, *Luxury & Pleasure*, p. 229.

⁶³ Trentmann, *Empire of Things*, p. 80.

⁶⁴ McKendrick, 'Introduction', pp. 28 -29.

⁶⁵ Stana Nenadic, 'The Highlands of Scotland in the First Half of the Eighteenth Century: Consuming at a Distance', *Journal for Eighteenth-Century Studies*, 28:2 (2005), 215 – 28 (p. 216).

⁶⁶ Berg, *Luxury & Pleasure*, p. 231.

⁶⁷ Forbes, *Some Considerations on the Present State of Scotland in a Letter to the Commissioners and Trustees for Improving the Fisheries and Manufactures* (London, 1744), cited in Christopher A. Whatley, *Scottish Society 1707 – 1830: Beyond Jacobitism, towards industrialisation* (Manchester: Manchester University Press, 2000), p. 75.

took place in coffee houses and ale houses, tea drinking took place within the home. It provided an opportunity for sociability of all members of the household and, for the middling class, an opportunity to invite people into an environment where they could see other items owned by the household on display such as paintings, ornate drapes and furnishing. Tea drinking increased personal availability and acted as a marker of rank.⁶⁸ By the 1760s, consumer goods such as tea, china and cotton were purchased in a widespread manner that 'even labourers mending the road required their tea'.⁶⁹ When a gentlewoman was dealing with tradeswomen such as the haberdasher, seamstress or at the mantua-maker tea was routinely served.⁷⁰

In middle class households food, which was well, but simply, cooked was preferred.⁷¹ Eating of food was considered to be important to health and welfare but the preparation of it, which could be time-consuming in the eighteenth century household, was a private exercise and not a status enhancing activity.

As early as the 1720s, the term 'dining room' was in use in Scotland. Initially, it was a modestly furnished family room used for a variety of functions. However, over time its use and decoration transformed so that it became a sumptuously furnished room for male hospitality and display of focal activities.⁷² Mixed gender dining was not widely fashionable in the Scottish upper middle class household until the 1810s and 1820s.⁷³ For more modest income levels, dining was still central and was less rigidly gender divided. The new dining customs and tea drinking led to the increased use of decorated table linen.

As well as everyday dining, special occasions were celebrated. In the eighteenth century dining was more often than not an afternoon prelude to an evening at the theatre or public gardens. With the decline in public amusements in the nineteenth century its replacement was domestic dining,

⁶⁸ Berg, *Luxury & Pleasure*, p. 230.

⁶⁹ McKendrick, 'Introduction', pp. 28 – 29.

⁷⁰ Amanda Vickery, 'Women of the Local Elite in Lancashire 1750 – c.1825 (unpublished doctoral thesis, University of London, Royal Holloway and Bedford New College, 1991), p. 321.

⁷¹ Weatherill, *Consumer Behaviour & Material Culture*, p. 146.

⁷² Nenadic, 'Middle-rank Consumers', p. 141.

⁷³ Berg, *Luxury & Pleasure*, p. 228.

when 'dinner became the apogee of the social day'.⁷⁴ New etiquette underpinned emerging dining circles and processes reflected the values and attitudes of a new class in society.

Whilst tea drinking took place in the parlour in middle ranking homes, meals with or without guests usually took place in the dining room. Throughout the long eighteenth century, the contents of the kitchen and dining room altered. Whilst there was a proliferation of low value objects used for cooking in the kitchen, objects of value and beauty were moved into the dining room. This included tableware and cutlery. There was also a proliferation of domestic linen between 1760 and 1810. Elizabeth Shackleton treated her dining guests to the best china and linen and, on an occasion when surprise visitors arrived at dinner time, she: 'Used my handsome, new, damask tablecloth for the first [time]. Good luck to it.'⁷⁵

A significant part of household expenditure was a dining table and chairs which were frequently the costliest objects in the house. Often the table had many leaves and a house might contain as many as sixteen chairs. However, from about 1820 the piano replaced the table and chairs as the costliest object.⁷⁶ The piano was most often played by the female members of the household giving them the opportunity to display womanly grace and to be admired because the ability to play took time and skill to acquire.

Changes in the types of goods in households were sometimes simply for comfort so that the use of new types of chairs, chests of drawers and jacks improved comfort but did not change behaviour. On the other hand, some of the new goods associated with dining, changed habits. Utensils for hot drinks, forks, saucepans and non-rectangular tables implied new social rituals in eating and entertaining. On some occasions these new behaviours may have been resisted. For example, tea drinking was quickly adopted in Kent whilst the purchase and use of knives and forks took longer even though households were in a financial position to purchase the implements much earlier but seemed reluctant to adopt new methods of eating.⁷⁷

⁷⁴ Leonore Davidoff, *The Best Circles, Society, Etiquette and the Season* (London: Century Hutchinson, 1986), p.47.

⁷⁵ Vickery, 'Women and the world of goods', p. 285.

⁷⁶ Nenadic, 'Middle-rank Consumers', p. 151.

⁷⁷ Overton and others, *Production and Consumption*, p. 175.

Glass and ceramics were the most celebrated imitative commodities of the late seventeenth century and eighteenth centuries along with printed textiles.⁷⁸ Both glass and ceramics were considered to be luxury goods and open to market opportunities and innovation created by the shifting social structures in Britain at the time. Earthenware was often produced as an imitation of chinaware. Similarly, metal wares were often produced as imitations including buttons and buckles as well as a wide range of steel toys.⁷⁹ Whilst some were fashion items, others were for display purposes in the home with new markets created and spread across social classes.

The new goods added to the capacity to *dine* rather than merely to *feed* during the eighteenth century and into the nineteenth. Material goods enabled graceful eating, chiefly by separating food from the fingers on its journey to the mouth.⁸⁰ The way in which the dining table was dressed showed the host's taste in the use of resources so that a meal was not simply a display of culinary skills but also a demonstration of control over the whole range of goods and service that made up the act of dinner giving.⁸¹ It was not only the table which was important to keep tidy as 'a table rug or crumb cloth, is useful to save carpets from injury.'⁸² These socially correct dining goods conferred status

Methods of dining changed. 'A la Française' dining had involved various dishes of a meal served on the table at the same time with diners helping themselves from the serving dishes. A Birmingham banker's daughter remembered dinner parties in her youth in the 1820s where 'soup and fish, next [to] a joint at the bottom, Calf's head or veal at the top, Fowles on one side, Ham on other and four entrees at the corners of vegetables with

⁷⁸ Berg, *Luxury & Pleasure*, p. 117.

⁷⁹ Berg, *Luxury & Pleasure*, p. 191.

⁸⁰ Linda Young, 'Gentility: A Historical Context for the Material Culture of the Table in the Long Nineteenth Century', in *Table Settings: The Material Culture and Social Context of Dining AD 1700 – 1900*, ed. by James Symonds (Oxford: Oxbow Books, 2014) pp.133 – 41 (p. 133).

⁸¹ Valerie Mars, 'Ordering Dinner: Victorian Domestic Dining in London' (unpublished doctoral thesis, University of Leicester, 1997), p. 185.

⁸² Catherine E. Beecher, *A Treatise on Domestic Economy: For the Use of Young Ladies at Home or at School*, rev. edn (Boston: Thomas H. Webb, 1843), p. 307. Crumb clothes were spread under the table on top of floor coverings to catch any falling food.

all the dishes on the table at once'.⁸³ This was followed by a further course which was game and seven or eight sweet dishes. This form of eating gave way to 'a la Russe' where savoury and sweet courses were separate and were often handed round by servants. An added advantage to this method of dining was that the food was still hot when eaten.

Hosting dinner required more resources than any other form of home entertainment and it allowed visitors to judge the host by the décor of the home and whether the correct goods were displayed. In order to assist with this, domestic advice manuals became popular in the second half of the nineteenth century with the authors acting as arbiters of taste. Charles Eastlake's *Hints in Household Taste* gives some indication on home furnishing styles in the 1870s.⁸⁴ Mrs. Loftie's *The Dining Room* (1878) was one of the publications included in Macmillan's 'Art at Home' series as a collection of domestic advice manuals.⁸⁵ At the time advice manuals on household matters aimed at a growing lower middle class were commonplace.

Use of table linen varied from family to family and for specific occasions. The preparation of linen damask for the table, white, spotless and without a crease, was an arduous business which reflected the status and domestic management skills of the host or hostess. By Victorian times, experts were giving guidance on how tables should be presented. Eastlake's traditional view was that: 'A well-appointed dinner-table is one of the triumphs of an English Housewife's domestic care ... [and] the cloth shall be of fine and snow white damask.'⁸⁶ Mrs. Loftie recommended that linen had to be clean but she disliked starched napkins 'stiffened in order that the butler may torture them into a fantastic shape'.⁸⁷ Nevertheless, well starched linen napkins needed to be carefully laundered and ironed and when displayed in complex patterns were an overt demonstration of high quality service and

⁸³ Leonore Davidoff and Catherine Hall, *Family Fortunes: Men and Women of the English Middle Class*, rev. edn (London: Routledge, 2002), p.385.

⁸⁴ Charles Eastlake, *Hints on Household Taste* (London: Longman & Co., 1878).

⁸⁵ Emma Ferry, 'Any Lady Can Do This Without Much Trouble ...': Class and Gender in the Dining Room (1878), *Interiors*, 5:2 (2014), 141 – 60 (p. 141).

⁸⁶ Mars, 'Ordering Dinner', p.302.

⁸⁷ Mrs. Loftie, *The Dining Room* (London: Macmillan, 1878) p. 86.

economic capital. Napkin folding was taken seriously with basic styles of folding part of table laying.⁸⁸

Mrs. Loftie also gave suggestions of alternative materials that could be used as table linen, such as unbleached tablecloths with coloured checks to harmonise with the dinner ware. But views on tableware varied and in contrast, the middle range *Cassell's Domestic Dictionary* (1878/9) suggests that good table linen 'should look smooth and glossy'.⁸⁹ Keen to distance herself from the day to day mainstream shopper Mrs Loftie considered that modern tablecloth designs were poor and that the bigger the cloth then in all probability the design would be even poorer.

The Dining Room is largely concerned with class status and inconspicuous consumption and whilst her remarks include the roles of servants, Mrs Loftie also addresses those who might not have paid help in the home. Concerning the arrangement of dust-covers to protect soft furnishings she comments that 'any lady can do this without much trouble'⁹⁰ Her book moves the dining room from a male oriented space to one where the housekeeping skills and feminine activities are celebrated but, nevertheless, shows the power of purchased goods, particularly napery. The key issue for those wishing to show good taste in their dining room was a collection of high quality tableware including napery which complemented other goods.

The Importance of Fashion and Design in Damask Table Linens

Adolph S. Cavello suggests that fashion was the solid prop which supported the Scottish damask linen industry during the seventeenth and eighteenth centuries.⁹¹ During the seventeenth century, Scots who could afford damask tableware usually bought stock-patterned goods imported from the continent, particularly the Low Countries. Most stock patterns were scenes from the Old or New Testaments, mythological scenes, city views or

⁸⁸ 'Folding Dinner-Napkins', in *Cassell's Book of the Household* (London: Cassell, 1889), pp. 72 – 76.

⁸⁹ *Cassell's Domestic Dictionary*, (London: Cassell, Petter, Galpin, 1878/9) p. 1124.

⁹⁰ Loftie, *The Dining Room*, pp. 75 – 76.

⁹¹ Adolphe S. Cavello, 'To Set a Smart Board: Fashion as a Decisive Factor in the Development of the Scottish Linen Damask Industry', *Business History Review*, 37:1 (1963), 49 – 58 (p. 49).

floral patterns. Personal vanity and national pride led to the fashion of nobles adding coats of arms or national emblems to stock patterns. A taste for custom designed or otherwise personalised damask tablecloths and napkins inspired fashionable Scots to patronise local weavers from the beginning of the eighteenth century. Early Scottish weavers selling goods commercially did not appear to adopt a native style of patterns and, generally, apart from a patron's coat of arms or some other well-known national emblem, copied Dutch and Flemish damask patterns.⁹² Nobles, gentlemen, professional men and merchants who were rich enough to set tables in a fashionable way did so with custom designed or personalised linen. However, commissioning linen had become unusual as by the late eighteenth century the taste for custom or personalised damasks had filtered so low in the social scale that it was no longer fashionable.⁹³ From around 1800, impersonal patterns were more popular and led to a 'larger and less discriminating market'.⁹⁴

Damasks for Henry VIII, Edward VI, Elizabeth I and James I (VI of Scotland) had been woven in the Low Countries on commission from the English Court.⁹⁵ Inventories for noble houses in the early eighteenth century listed large amounts of linen tableware. For example, Thunderton's lodging in Duffus dated 25 May 1708 showed 184 napkins and fourteen tablecloths – all diaper or damask.⁹⁶ In 1760, an inventory for the late Sir Robert Burnett of Leys at Crathes Castle in Aberdeenshire recorded amongst the linens 414 napkins and 86 tablecloths.⁹⁷ The origin of the items of both households is not known.

Design was, thus, an important aspect of maintaining fashion in damask tablecloths and napkins. High standards of design were needed to keep pace with competitors. It was suggested that: 'Taste in table linen changes as frequently as taste in matters of dress.'⁹⁸ Early patterns for Dunfermline goods were simple with images such as the British flag but by

⁹² Adolph S. Cavallo, 'Continental Sources of Early Damask Patterns in Scotland', *The Burlington Magazine*, 107 (1965), 559 – 63 (p. 559).

⁹³ Cavallo, 'To Set a Smart Board', p. 50.

⁹⁴ Cavallo, 'To Set a Smart Board', p. 57.

⁹⁵ Cavallo, 'To Set a Smart Board', p. 50.

⁹⁶ Cavallo, 'To Set a Smart Board', p. 52.

⁹⁷ Cavallo, 'To Set a Smart Board', pp. 52 – 53.

⁹⁸ David Bremner, *The Industries of Scotland: Their Rise, Progress and Present Condition* (Edinburgh: Adam and Charles Black, 1869), p. 244.

the end of the eighteenth century they were more intricate with flowers, animals and landscapes. Dunfermline dornick may have been favoured by aristocrats and there are records which show that Jean Scott, the wife of the Earl of Tweeddale, bought dornick hangings and serviettes from George Stirk, a Pittencrieff (on the outskirts of Dunfermline) weaver, in 1658.⁹⁹ The trade of Dunfermline at this time was generally restricted to more utilitarian domestic linens such as checks and ticks. Elsewhere, particularly in Edinburgh, there was a market for damask from the beginning of the eighteenth century. The price of linen was high in Edinburgh because of the fineness of the quality of damask table linen manufactured there in the Dutch manner.¹⁰⁰ James Donaldson, for example, had a manufactory in Drumsheugh in the early eighteenth century and may have hoped to sell napery south of the border to families settling in London.¹⁰¹

Although there was some damask manufacture in Dunfermline from the mid eighteenth century, Edinburgh remained the main seat of damask production at this time. In order to compete with continental linens a number of methods of encouragement to weavers to improve quality both in weaving and in design were introduced. In 1740, Arthur Onslow, Speaker of the House of Commons, offered £100 in prize money for the 'Encouragement of the Manufacture of Table Linnen in Scotland'.¹⁰² The funds were distributed by the Convention of Scottish Burghs. Prizes were offered for damask tablecloths and napkins in Edinburgh and diaper and dornick tablecloths and napkins in Dunfermline and Cupar suggesting that Dunfermline had not yet moved into great production of damask. In 1763 it was recorded that: '[William] Cheap in Edinburgh excels in fine table-linen; and the town of Dunfermline in coarse table-linen and towelling to some extent'.¹⁰³

Both men and women bought table linen and a letter in 1754 from Ebenezer McCulloch, one of the first British Linen Company managers, to

⁹⁹ Sue Mowat, *Fire, Foe and Finance, Dunfermline 1600 to 1700* (Dunfermline: Dunfermline Heritage Community Projects, 2014), p. 265.

¹⁰⁰ Bremner, *The Industries of Scotland*, p. 230.

¹⁰¹ Vanessa Habib and Helen Clark, 'The linen weavers of Drumsheugh and the linen damask tablecloth woven to commemorate the visit of George IV to Scotland in 1822', *The Proceedings of the Society of Antiquaries in Scotland*, 132 (2002), 529 – 50 (p. 531).

¹⁰² *Caledonian Mercury*, 11 August 1740.

¹⁰³ *Scots Magazine*, 25 (1763), p. 654.

David Campbell, a manufacturer in Dunfermline, suggested as attractive designs and patterns were key to the success of table linen that 'we must have a woman to direct us in this affair'.¹⁰⁴ However, there is no evidence to suggest that any women did become involved in design at this stage.

Campbell who employed as many as ninety weavers received an order from the British Linen Company in December 1755 for 'seventeen hundred and eighty dozen tablecloths' of varying sizes to be ready by August 1756.¹⁰⁵

Later, in April 1758, Campbell was directed to the patterns of foreign diapers and asked to produce similar work which 'should be bordered at both ends and have no fringes and only a small division left for cutting between each cloth because the foreign at and above these prices are all made so and better liked at London'.¹⁰⁶ It would appear that fringed table cloths were popular in Scotland but not in England.

Therefore, as patterns were an important part of the success of damask and became more intricate the job of designer became prestigious. Most patterns woven in Scotland before 1750 used continental sources but with the addition of the date of production and name of the owner at either end of the piece of cloth.¹⁰⁷ This may have been a matter of fashion but the principal reason may have been that Scottish damask weavers could not compete with continental designs so added the name of the owner to personalise the cloth. Although the design was similar to Low Countries' damasks, Scottish patterns were 'indistinct and muddled'.¹⁰⁸ This was often caused by indifferent drawing of design, inaccurate tying up of the loom and mistakes in the weaving. A late nineteenth century linen expert considered the designs of the eighteenth century to be 'at best rude and without taste and much inferior to foreign specimens'.¹⁰⁹ Thus they did not compete well in the market.

¹⁰⁴ LBGA, BLB 1/4, Letter from Ebenezer McCulloch to David Campbell, 18 October 1754.

¹⁰⁵ Alistair J. Durie, ed., *The British Linen Company 1745 – 1775* (Edinburgh: Pillans and Wilson, 1996), pp. 71 – 72.

¹⁰⁶ Durie, *The British Linen Company*, pp. 91 – 92.

¹⁰⁷ Cavallo, 'Continental Sources of Early Damask Patterns', p. 559.

¹⁰⁸ Mitchell, 'Linen Damask Production', p. 90.

¹⁰⁹ Warden, Alex. J. *The Linen Trade, Ancient and Modern* (London: Longman, Green, Longman, Roberts and Green, 1864) p. 555.

Designs tended to be drawn from imagination rather than nature and the action of moving the drawing to a design for the web was tedious when every thread had to be accounted for. The development of design features had commenced with the work undertaken by the Board of Trustees and the British Linen Company. The initial copying of continental designs moved on to a stage where Dunfermline began to produce original designs of a superior quality.

Around 1770, James Thomson from Drumsheugh, Edinburgh, supplied the Dunfermline table-linen manufacturers with 'patterns and other beautiful drawings for their weavers'.¹¹⁰ Dunfermline historian Andrew Mercer was less complimentary. Although he thought Thomson an artist of considerable talent and taste praising his designs as being 'as near an imitation of nature as his narrow resources permitted' he was critical of Thomson being a mannerist in the pictorial world with 'no variety of fancy'.¹¹¹ The Board of Trustees had set up a Drawing Academy in Edinburgh in 1760, to train designers for the manufacturers and Thomson had been a student there.¹¹² Regardless of Mercer's view of Thomson, his contribution to Dunfermline was significant in that he introduced stock patterns from which skilled weavers could amend the patterns. Thomson was awarded a significant £10 Linen Hall prize granted by the Board of Trade in 1777 for a damask table cloth design which was presented on point paper ready to be used by weavers and a review of the Drawing Academy in 1786 suggested that Thomson was supplying almost all of the damask manufacture in Scotland with patterns.¹¹³

In 1798, the importance of design led some of the Dunfermline manufacturers to invite John Burlin from Edinburgh to Dunfermline to set up a drawing school in Mill Port in order to 'inspire the youths with a taste for drawing for the webs &c.'.¹¹⁴ Burlin died around 1803 and, in 1806, John

¹¹⁰ Henderson, *Annals of Dunfermline*, p. 489.

¹¹¹ Andrew Mercer, *The History of Dunfermline from the Earliest Records down to the Present Time* (Dunfermline: John Miller, 1828), p. 170.

¹¹² Habib and Clark, 'The linen weavers of Drumsheugh,' pp. 537 – 38.

¹¹³ Habib and Clark, 'The linen weavers of Drumsheugh', pp. 538.

¹¹⁴ Henderson, *Annals of Dunfermline*, p. 538.

Lothian, a weaver of Boofiesbrae (Buffie's Brae), set up a drawing class to teach pupils to 'draw from nature, old ruins, web patterns &c.'¹¹⁵

By the beginning of the nineteenth century pattern design in Dunfermline was improving. 'The manufacturers, within these few years have paid unusual attention to the designs, or figures for diaper, back-harness, and damask and much improvement, (particularly with respect to the damask) has taken place, in point of novelty, variety, and beauty. In order to have a succession of new and elegant ones, they employ several persons in drawing patterns and give very handsome prices for the productions of their ingenuity and labour'.¹¹⁶ Borders of tablecloths became more interesting and consisted of 'festoons, ornaments and other fancy pieces'.¹¹⁷

In 1808, three Dunfermline weavers, George Birrel, Andrew Colvill and Robert McGregor were admitted to the Drawing Academy in Edinburgh.¹¹⁸ Birrel went on to found the largest hand-loom business in Dunfermline. This is discussed in Chapter 4. Nothing more is known about Colvill but McGregor is shown as a damask pattern painter in the 1841 and 1851 censuses.¹¹⁹

Whilst early weaving and design had been criticised, Dunfermline linen began to win awards made by The Board of Trustees and, in 1822, of the ten awarded for the design of table linen, all were won by designers from Dunfermline including four by Paton.¹²⁰ In 1826, a branch school of the Edinburgh Drawing Academy was formed in Dunfermline in collaboration with some of the manufacturers on the basis that the Board of Trustees would pay £50 a year as would the manufacturers. The intention was that all branches of drawing 'would be taught gratis to a limited number of young men' and the school opened with thirty-seven pupils and concentrated on the design of damask table cloths and diaper.¹²¹ John Campbell was elected

¹¹⁵ Henderson, *Annals of Dunfermline*, p. 557.

¹¹⁶ John Fernie, *A history of the town and parish of Dunfermline* (Dunfermline: John Miller, 1815), p. 59.

¹¹⁷ Fernie, *A history of the town and parish*, p.60.

¹¹⁸ Habib and Clark, 'The linen weavers of Drumsheugh', pp. 540.

¹¹⁹ NRS, Census Enumerators Books, Dunfermline, Robert McGregor, 424/6/11 (1841); 424/6/19 (1851).

¹²⁰ *Caledonian Mercury*, 12 December 1822; *Caledonian Mercury*, 10 December 1808; *Caledonian Mercury* 7 December 1811.

¹²¹ Mercer, *History of Dunfermline*, p. 325.

master from thirty applicants from throughout Scotland and England until 1831 when Joseph Neil Paton took over. For a further two years this was successful but in 1833 the number of manufacturers who supported the school 'had reduced to two or three who 'thought the burden too much'.¹²² The school could not run on less than £100 and the Board did not wish to contribute more and so it closed. It is unclear whether this was a financial issue or whether the manufacturers did not want to share design knowledge. The Edinburgh Drawing Academy remained open.¹²³

In 1827, the Dunfermline manufacturers had been consulted by the Board of Trustees on the premiums which should be offered that year for good design. In some way there was confusion and when manufacturers suggested that larger and more complex designs should be rewarded, they were reprimanded by the Board of Trustees. 'The Board have merely ordered an extension of the number of Designs for the best drawing of a Damask pattern, with a view if possible, to bring your fine manufacture more on a par with that of Germany, to which it is yet *prodigiously inferior*. One can scarce bear to look at the one in comparison with the other: you must all proceed in a very different way in order to reach the superlative beauty of German Damask.'¹²⁴ The Board of Trustees were still unhappy with the standard of design of Dunfermline fine linens.

Joseph Neil Paton (1797 – 1874) was the most famous of the Scottish damask designers.¹²⁵ Designers for damasks were not necessarily weavers but they needed to understand how their designs would translate to the loom. However, Paton's father was a master weaver and Paton began work as a weaver before going to Edinburgh to train as a bookbinder and then returning to Dunfermline as a designer. He attended the Edinburgh Drawing Academy. Paton was a prolific worker and when he died the *Victoria and Albert*

¹²² BPP, *Report from the Select Committee on the Arts and their Connection with Manufacturers: Report, Minutes of Evidence, Appendix, Index*, 568 (1836), p. 86.

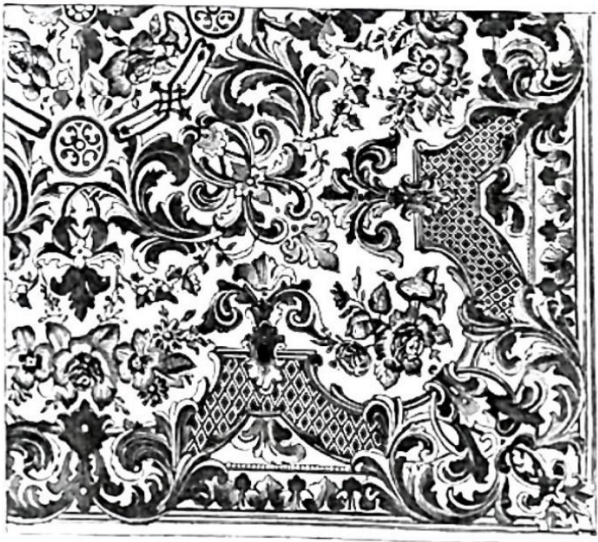
¹²³ BPP, *Report from the Select Committee on the Arts and their Connection with Manufacturers: Report, Minutes of Evidence, Appendix*, 598 (1835), p. 78.

¹²⁴ NRS, Board of Trustee Records, NG 1/3/23, 27 January 1825, 112.

¹²⁵ Stena Nenadic, 'Designers in the Nineteenth-Century Scottish Fancy Textile Industry: Education, Employment and Exhibition', *Journal of Design History*, 27:2 (2014), 115–31 (p. 118).

Museum purchased over 725 works from his estate.¹²⁶ Designers in the textile industries were of two distinct types.¹²⁷ There were those who worked independently, had artistic credentials and status and those who were full-time employees of one company. Paton was freelance but particularly associated with Erskine Beveridge & Co. in the mid nineteenth century as well as selling to other firms throughout Britain.¹²⁸ Plates 2.3 and “.5 illustrates the complex designs of Joseph Neil Paton popular with customers. Plate 2.6 was work undertaken for Messrs Hunt of Dunfermline but the designer is not recorded.

Plate 2.3 An engraving of a damask design exhibited at the 1851 Great Exhibition¹²⁹



Source: *The Art Journal Illustrated Catalogue: The Industry of All Nations* (London: George Virtue, 1851), p. 64.

Paton was a local celebrity not only for his designs but also his interest in antiquaries and for the Swedenborgian chapel he set up and preached in. Recounting a visit to Paton’s residence at Wothers’ Alley Cottage, David George Goyder, a phrenologist and Swedenborgian, ‘was not a little startled at the furniture and ornament’ of his bed chamber.¹³⁰ Included

¹²⁶ J. S. Moncrieff, ‘The Queen’s Limner for Scotland, Sir Noel Paton – His Art’, *Chamber’s Journal* Vol. VII, (1904) 805-08 (p. 805).

¹²⁷ Stana Nenadic and Sally Tuckett, *Colouring the Nation, The Turkey Red Printed Cotton Industry in Scotland c. 1840 – 1940* (Edinburgh: NMS Enterprises, 2013), p. 44.

¹²⁸ Bremner, *The Industries of Scotland*, p. 244.

¹²⁹ A table cover in the French Style. Designed by Joseph Neil Paton for Messrs. Erskine Beveridge.

¹³⁰ *Dunfermline Saturday Press*, 15 August 1863.

in the many artefacts was a massive oak bedstead said to have belonged to King James VI as well as a crystal dish from Holyrood containing a small bone of Robert the Bruce. Paton was clearly successful as Woovers' Alley Cottage was a detached residence in a large garden (Plate 2.3). In addition Paton owned other houses and loom stances in the vicinity.¹³¹ Paton's two sons (one of whom was Joseph Noel Paton, who became the Queen's Limner in Scotland) and a daughter, Amelia, were also designers and worked with him at his design studio in Dunfermline though eventually the sons took up careers as fine artists and Amelia became a sculptor and artist in Edinburgh. Paton's designs were exhibited at the 1851 Great Exhibition. He 'had for upwards of a quarter of a century aided the manufacturers of that famous and venerable town'.¹³² Bremner suggested that Paton 'had done more, perhaps, than any other to maintain the fame of the local trade'.¹³³

Plate 2.4 Joseph Neil Paton's house at Woovers' Alley Cottage. Drawn by Waller Hugh Paton



Source: Engole, 2020 <https://engole.info/joseph-neil-paton/#citation_7> [accessed 31 March 2022].

Designers would visit factories with a portfolio of designs for selection by the manufacturer. The sketch was often on tracing paper with details of loom mounting, repeats, calculations of the number of warp ends and

¹³¹ NRS, Valuation Roll, Joseph Noel Paton, VR002600001 (1856).

¹³² *The Art Journal Illustrated Catalogue*, p. 53.

¹³³ Bremner, *The Industries of Scotland*, p. 244.

number of hooks on the Jacquard machine.¹³⁴ The design then need to be transferred to graph paper in order that the Jacquard cards might be cut. By 1844, the number of designers in Dunfermline had increased and there were 'five or six' of the operative class as familiarity of the loom was required.¹³⁵

Payment for designs was variable but for a complex table cloth and napkin design in 1851, £100 might be paid.¹³⁶ In Scotland pattern design was not considered a trade whereas European designers held a much higher place in society.¹³⁷ The Expositions held in France were commended as an example of the good practice of making awards in order to improve design and production.¹³⁸ Overall, the importance of design was recognised by all manufacturers with Erskine Beveridge & Co. noting in their own history that 'ever since those two great exhibitions the matter of design has continued to occupy a preeminent position in the policies of the company'.¹³⁹ One of the methods of promotion of designers was through exhibitions. In 1883, the Dunfermline Institute of Fine Art was formed and tri-annual exhibitions were held 'for the benefit of design and appreciation of beauty'.¹⁴⁰ Chapter 3 explores, amongst other technology topics, the introduction of the Jacquard machine to Dunfermline from 1825. The Jacquard machine used a series of cards linked together to drive a mechanism which lifted the warp threads according to the pattern. As well as speeding up the weaving process, the Jacquard machine led to a much better quality in the reproduction of the pattern. Since design was a key factor in ensuring that goods made in Dunfermline could compete with those from the continent this ensured increased sales.

¹³⁴ Hugh Walker, *The History of Hay & Robertson Ltd and the Robertson Family of Dunfermline* (Dunfermline: Carnegie Dunfermline Trust, 1996), p. 49.

¹³⁵ Peter Chalmers, *History and Statistical Account of Dunfermline [Vol. 1]* (London/Edinburgh: Wm. Blackwood & Son, 1844), p.371.

¹³⁶ *The Art Journal Illustrated Catalogue*, p. 63.

¹³⁷ BPP, *Report from the Select Committee on the Arts*, 598 (1835), p. 88.

¹³⁸ BPP, *Report from the Select Committee on the Arts*, 598 (1835), pp. 135 – 38.

¹³⁹ *Weave Trust with Truth* (Dunfermline: Erskine Beveridge, 1928), p. 21.

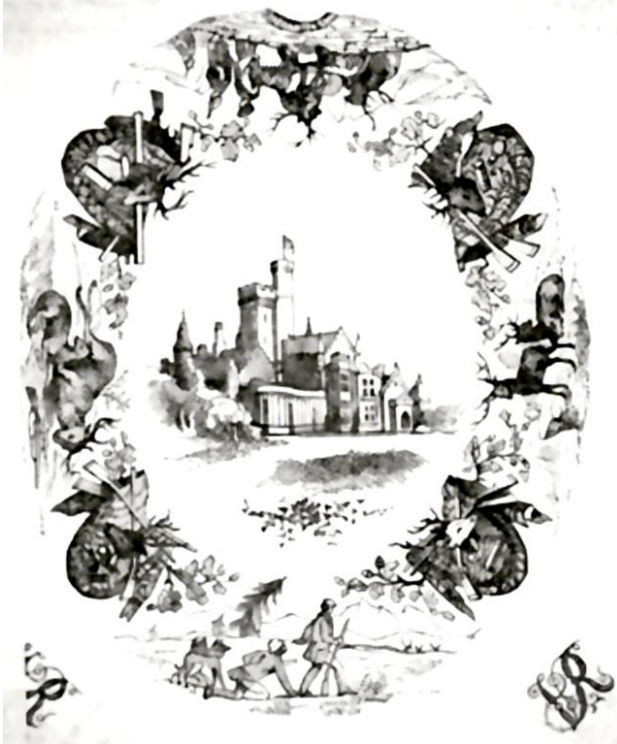
¹⁴⁰ *Dundee Courier and Argus*, 3 December 1883.

Plate 2.5 An engraving of a damask design exhibited at the 1851 Great Exhibition¹⁴¹



Source: *The Art Journal Illustrated Catalogue: The Industry of All Nations* (London: George Virtue, 1851), p. 64.

Plate 2.6 An engraving of a damask design exhibited at the 1851 Great Exhibition¹⁴²



Source: *The Art Journal Illustrated Catalogue: The Industry of all Nations* (London: George Virtue, 1851), p. 102.

¹⁴¹ 'Based on a Vine design and included a tablecloth, napkins and Matching doyleys.'
Designed by Joseph Neil Paton for Messrs. Erskine Beveridge.

¹⁴² 'The centre piece of a tablecloth made by Messrs. Hunt of Dunfermline for Queen Victoria when sojourning in the Highlands showing a representation of Balmoral Castle.' The designer is not recorded.

The Crimean Hero Tablecloth – Designing a Fashionable Tablecloth

Nineteenth century designs of damask tablecloths were often narrative and celebratory. Exhibition pieces were large and ornate. One of the first commemorative tablecloths was produced for the visit of George IV to Scotland in August 1822, the first visit of a British monarch since 1650 and consisting of spectacular events, balls, dinners and private parties. At one dinner, a tablecloth measuring eighteen feet by seven feet, six inches and an example of imperial style napery was used for the King's table.¹⁴³ It was full of ceremonial detail with the weaver's name, John Guthrie, woven in below the border. Guthrie who was one of the Edinburgh Drumsheugh weavers is likely to have taken orders for suits of commemorative damask to be used as family souvenirs by those attending the dinner. Whilst this was a celebrated item of its time, other sophisticated cloths commemorating events or families were also manufactured.

Prior to the power-loom era David Dewar and Co. had been a prominent hand-loom damask linen manufacturer in Dunfermline. The owners of the Dewar business clearly had an eye for style. They introduced a new loom carrying three shuttles each holding a different colour of weft which enabled damask cloth to be woven with a coloured ground. This allowed the production of a 'merino coloured cover, very beautiful but expensive' for which the design and Jacquard cards came from London.¹⁴⁴

A further fashionable development was the execution of a piece which came to be known as the 'Crimean Hero Tablecloth' for Messrs. Hodge and Lowman of London.¹⁴⁵ The design and manufacture of the tablecloth took eight months at a cost of £600. The designer was James Balfour, a native of Dunfermline, who carried out work for a number of the manufacturers. A pale grey silk was used for the warp whilst the weft was light brown tinted flax thread and was exhibited in the Music Hall in Dunfermline and seen by over eleven thousand people. The tablecloth had 'beautifully elaborated leafy scroll work' for the borders with 'at proper intervals ... twenty-four faithful

¹⁴³ Habib and Clark, 'The linen weavers of Drumsheugh', p. 543.

¹⁴⁴ Chalmers, *History and Statistical Account*, [Vol. 1], p. 367.

¹⁴⁵ Peter Chalmers, *History and Statistical Account of Dunfermline, Vol. 2* (Edinburgh/London: Wm. Blackwood and Son, 1859), p. 343.

portraits' along with representations of trophies containing the names of the chief battles of the Crimean War.¹⁴⁶

Plate 2.7 Florence Nightingale detail from Crimean Hero Tablecloth



Source: *Lawrence's Auctioneers*, <www.lawrences.co.uk/sales/fine-art-sales/fs220116/view-lot/1848/> [accessed 31 March 2022].

The execution of the tablecloth was complex as is demonstrated in Plates 2.7 and 2.8. It required over fifty thousand cards and seven 600-cord Jacquard machines on each loom. It was recorded that the quality of the cloth 'excels anything of the kind produced in Great Britain, Saxony or any other country and ranks the producers, Messrs. D. Dewar and Son of Dunfermline as the first damask manufacturers in the world'.¹⁴⁷ Shown to Queen Victoria and the Court at Balmoral it was well received as well as being exhibited to Emperor Napoleon of France, Prince Jerome, Prince Napoleon and Princess Mathilde at the Palais Royale as 'another proof of the French people's admiration of original ideas and beauty of design'.¹⁴⁸

A further example of armorial damask was designed by Joseph Noel Paton for James Hay Erskine Wemyss and exhibited at the 1862 International Exhibition in London.¹⁴⁹

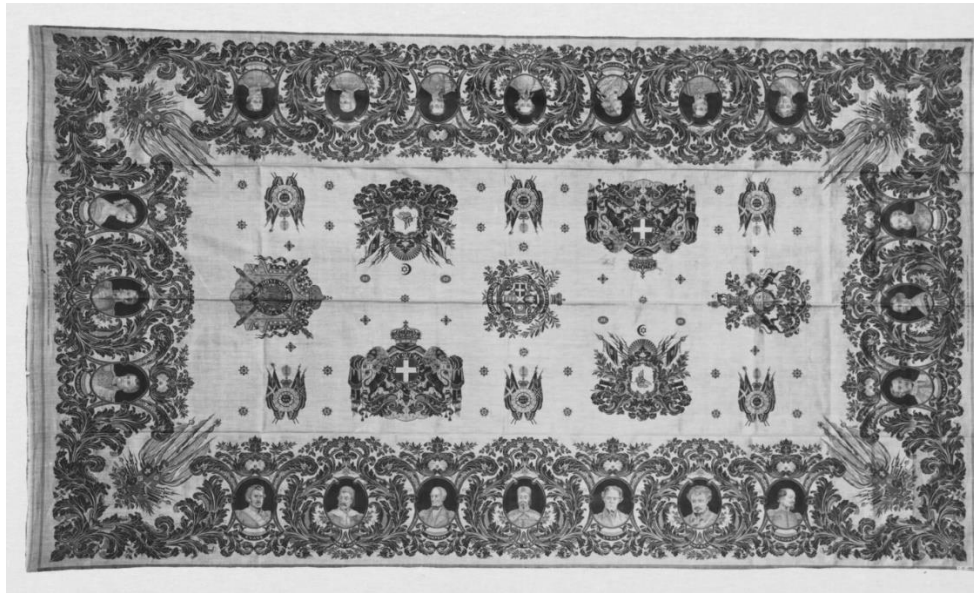
¹⁴⁶ Chalmers, *History and Statistical Account*, Vol. 2, p. 343 – 44.

¹⁴⁷ *Scotsman*, 19 September 1857.

¹⁴⁸ *Nottingham Journal*, 8 January 1858.

¹⁴⁹ Adolph S. Cavallo, 'Joseph Noel Paton, Designer of Damask', *The Connoisseur*, 153 (1964), 59 – 64 (p. 63).

Plate 2.8 Crimean Hero Tablecloth, Dewar and Sons, 1857



Source: Dunfermline Carnegie Library and Galleries.

Marketing and Markets

Until around 1760 merchants came to the town to purchase goods as well as manufacturers taking wares to Edinburgh, Glasgow and Kirkcaldy.¹⁵⁰ Goods were also sold by hawkers throughout the country. Although the quality of the manufactures was the primary concern of the British Linen Company, marketing was also important and the Company worked hard to get a foothold in the key markets of London and Glasgow. In 1745, the Company appointed a linen factor at London, John Goodchild.¹⁵¹ A warehouse was opened in London in 1747 overseen by five London merchants.¹⁵² It was successful and by the following year the Directors were discussing the need for a larger warehouse with access for carriages.¹⁵³ In 1749, a warehouse was opened in Glasgow.¹⁵⁴ However, there were problems to be overcome to obtain a foothold in the markets in London and Glasgow as demand could not always be forecast. Nor could the buyers' shifting desire for cheap products at one time or better linens at another.

¹⁵⁰ Chalmers, *History and Statistical Account* [Vol. 1], p. 373.

¹⁵¹ Durie, *The British Linen Company*, p. 9.

¹⁵² LGBA, BLB 1/4, Minute of discussion of Court of Directors, 10 September 1747.

¹⁵³ LGBA, BLB 1/4 British Linen Company, Minute of discussion of Court of Directors, 8 February 1748.

¹⁵⁴ Durie, *The British Linen Company*, p. 9

In 1766, a Linen Hall was set up in Edinburgh.¹⁵⁵ This was modelled on the Irish Linen Hall in Dublin which English merchants visited. The intention was to try to attract English merchants to Edinburgh to purchase goods thus reducing the need for factors in London to sell on textiles. However, goods were still sent to London. In addition, Dunfermline manufacturers began to visit the large cities in England once or twice a year. Until the early part of the nineteenth century the textiles sold from Dunfermline were mainly of a heavier weave than damask and for utilitarian purposes such as towelling and bed hangings and appealed to middle and lower classes rather than the luxury market.

Dressing the dining table correctly ensured that social capital could be recognised and high quality damask tableware was now within the reach of the middle classes. Rising disposable income created a mass market for stock goods. In 1811, the recently opened Dunfermline Warehouse situated in the High Street in Edinburgh began to advertise their stock. 'A great many of the Damask Tablecloths are a fine Imitation and Improvement on the foreign patterns, having Superb Centre Pieces, with elegant corner designs, and will be sold either with or without napkins'.¹⁵⁶ At this time, the key to selling the goods was to stress the similarities to the foreign patterns which were considered to be high quality, luxury goods bought by nobility and the upper classes and, thus, appealed to the middle class.

In some instances, dedicated linen warehouses were set up in English towns. In 1825, Mackie and Company from Dunfermline advertised to the 'Ladies and respectable Families of Birmingham' that they had tablecloths with matching napkins available at the Scotch Linen Warehouse.¹⁵⁷ The company also offered the addition of mottos and armorials of the nobility and clergy to linen demonstrating that personalised linen remained popular and that it was now within the reach of the middle class rather than a luxury open only to nobility and the rich.

Appealing to the population in Leeds, John Holmes advertised that, 'Fine linen has always formed an internal part of the Riches of Civilised

¹⁵⁵ Durie, *The British Linen Company*, p. 194.

¹⁵⁶ *Edinburgh Evening Courant*, 16 November 1811.

¹⁵⁷ *Birmingham Journal*, 29 October 1825.

People'.¹⁵⁸ Holmes acknowledged that Ireland produced fine specimens of linen whilst 'Dunfermline under that patronage of the Linen Company of Edinbro' generally bore away the annual linen prizes'. An auctioneer, bookseller, owner of the Dunfermline Linen Warehouse and commission agent, Holmes sold his goods in Commercial Street, Leeds.¹⁵⁹ He also invited interest in personalised linen.

Whilst there were permanent outlets for Dunfermline linen in English locations it was also commonplace to set up the premises of other retailers for a short period and manufacturers probably visited towns once or twice a year for a period of a few weeks. W. Bowie & Company's products were available in Bath, at Mr Fisher's Confectioner, for a period of twelve to fourteen days from 16 November 1820.¹⁶⁰ As well as purchasing at Mr Fisher's premises, potential customers were invited to contact Bowie & Company in order to be shown goods at their own homes. The linen was considered to be equal if not superior in strength of fabric and elegance to foreign tableware and available at 'one half less in price'. Bowie's advertisement also indicates that Dunfermline diaper and damask was favoured by the hotel trade, an area developed in coming years. Bowie's business was one of forty-two table linen manufacturers in Dunfermline in 1825.¹⁶¹

In newspaper advertisements Dunfermline linen was marketed as a good quality, reliable product often using quality words such as 'richest, newest, most beautiful patterns'.¹⁶² Newspaper adverts of the time were often part of a column of news and did not stand out. It is unclear of the extent to which these advertisements attracted trade. However, for a manufacturer (or his representative) to visit a town around four hundred miles away with goods at a time of relatively poor travel indicated that there was profit in the venture.

¹⁵⁸ *Leeds Intelligencer*, 10 February 1831.

¹⁵⁹ *Directory of the Borough of Leeds*, (Leeds: Mercury Office, 1826), p. 70.

¹⁶⁰ *Bath Chronicle and Weekly Gazette*, 16 November 1820.

¹⁶¹ *Pigot & Co.'s National Commercial Directory of the Whole of Scotland and the Isle of Man* (London: J. Pigot & Co., 1837), p. 352.

¹⁶² *Bury and Norwich Post*, 3 April 1811.

In 1836, linen produced in Dunfermline worth £150,000 was sent to America.¹⁶³ This was about half of overall production and included 'whitey browns' which were unbleached fabrics of a white weft on brown warp, bleached diaper, damask and other table linens and counterpanes, bed-clothes and hangings. The Americans were considered to be good customers.¹⁶⁴ Citing the Pacha of Egypt now 'dining on a mahogany table covered with a handsome Dunfermline table-cloth' Chalmers, the contemporary historian and author suggests that by 1840 Dunfermline table linen was being exported to all parts of the world.¹⁶⁵

An Exhibition of Arts, Manufactures and Practical Science was held at the Assembly Rooms in Edinburgh in 1839 with damasks woven by Dunfermline manufacturers Messrs. E. and R. Beveridge and Robert and George Birrel exhibited.¹⁶⁶ The pioneering work of the Edinburgh Drumsheugh weavers creating high quality bespoke damask goods had given way to mass produced table linen located in Dunfermline. Similarly, there were six manufacturers of Dunfermline damask exhibiting at the Great Exhibition in London in 1851 demonstrating the quality of the goods produced in the town.¹⁶⁷ 'The damasks shown by Dunfermline manufacturers attracted much attention and helped to extend their fame.'¹⁶⁸ Erskine Beveridge & Co. took the opportunity to display nearly one hundred Dunfermline damasks bound for the 1851 Great Exhibition in their newly built power-loom factory with nearly five thousand people visiting the factory.¹⁶⁹

At the time of the Great Exhibition in 1851, one half of goods produced in Dunfermline was manufactured for the home market and the remainder was principally for the United States of America where the whitey browns were used to 'cover the pine-board tables of some of the American backs woodmen'.¹⁷⁰ Export markets fluctuated according to the state of colonial trades and in bad years sales were depressed and payments

¹⁶³ Chalmers, *History and Statistical Account*, [Vol. 1], p. 373.

¹⁶⁴ Bremner, *The Industries of Scotland*, p. 242.

¹⁶⁵ Chalmers, *History and Statistical Account*, [Vol. 1], p. 374.

¹⁶⁶ Habib and Clark, 'The linen weavers of Drumsheugh', p. 548.

¹⁶⁷ Henderson, *Annals of Dunfermline*, p. 665.

¹⁶⁸ Bremner, *The Industries of Scotland*, p. 239.

¹⁶⁹ *Dunfermline Journal*, 10 April 1851.

¹⁷⁰ *The Art Journal Illustrated Catalogue*, pp. 62 – 63.

delayed. In some instances, this had a profound effect on Dunfermline manufacturers. George Birrel, the largest hand-loom manufacturer in Dunfermline in the 1840s failed in 1857. Having been sequestered in 1848, Birrel then formed a partnership in 1853 with Messrs. Staig and Stuart of Balgonie Mills in Kirkcaldy to provide damask for the United States market.¹⁷¹ However, stock did not reach the prices required and Birrel's firm failed again. Similarly, John Darling of the Glen Factory sent goods to America between 1855 and 1858 prior to his sequestration in 1860 but because of the state of the market lost £2,361.¹⁷² In 1871, whitey browns were still being woven on hand-loom and trade that year was 'dull'.¹⁷³

In the latter part on the nineteenth century Dunfermline began to produce crested linen tableware for hotels, steamships and railways. However, there was still considerable trade with the United States of America. A summary of trade in *The Dunfermline Journal* recorded that between 1878 and 1882 the value of Dunfermline linen trade to America more than doubled from £225,243 to £494,099 although in the following year this reduced to £439,636.¹⁷⁴ Trade with Canada remained steady as did that with the colonies although it was 'a mere bagatelle'. The home market remained steady with products being sent to London and Manchester.

Conclusion

This chapter has examined the rise of consumption of Dunfermline damask linen tableware during the eighteenth and nineteenth centuries. Firstly, consumerism in the eighteenth century was examined and the theories of a number of historians considered. Whilst some suggested that conspicuous consumerism occurred in the eighteenth century because the middle classes wished to emulate higher ranks, another view suggested differentiation to be the key. However, whilst theories may differ it is clear that a rapidly growing middling class avid for fashion, modernity, individuality, variety and choice sought out new products and took delight in their

¹⁷¹ NRS, CS 18/6/15, Sequestration of George Birrell, 1857.

¹⁷² NRS, CS 318/11/61, Sequestration of John Darling, 1860.

¹⁷³ *Dunfermline and West Fife Annual Register and Almanac, 1871* (Dunfermline: Andrew Ker, 1871).

¹⁷⁴ *Dunfermline Journal*, 5 January 1884.

consumer experience. One aspect of this consumer experience was the purchase and display of goods related to the dining experience whether every day or for special occasions and this allowed the middle ranks to project a genteel standing.

Initially, production of linen in Dunfermline was concentrated on utilitarian products rather than fine table linen but the introduction of damask products in the late eighteenth century began the growth of a town committed to high quality products. At first, design and weaving of products did not meet the standards of the continental goods favoured by nobles and those rich enough to purchase bespoke goods. However, interventions by the Board of Trustees in setting up a design school in Dunfermline and offering premiums for high quality designs led to work which could compete with continental sources.

As designs and quality of cloth improved the market widened and whilst around half was for the home market, Dunfermline table linen was popular in the United States of America. Some pieces were designed to celebrate specific occasions such as the Crimean Tablecloth woven by David Dewar & Co. However, the main success of Dunfermline tableware was in stock patterns which appealed to the middle classes and, towards the end of the nineteenth century, to businesses such as hotels, steamboat and rail companies with crested tableware.

Whilst damask production in Scotland was concentrated in Edinburgh in the eighteenth century by the beginning of the nineteenth century the centre had switched to Dunfermline. By the 1820s the standard of design had improved. This complemented the interest which middle class families were now taking in act of dining with a more elaborate table settings and decoration of the room. Table linen in the style of the Low Countries which was favoured by consumers was now available to a wider audience at lower prices. In the early part of the nineteenth century many manufacturers sold their products throughout England by renting rooms from shopkeepers and highlighting in their marketing the quality of Dunfermline goods. The importance of the dining room and the goods therein gave the middle class the opportunity to display their social and economic capital. Whilst napery

was a small part of the dining experience it was an integral part of families communicating their social position in a non-verbal way.

Chapter 3 The Mechanical Age: Technology and Industrialisation

So up wi' the steam, lads, we're ready to rin,
 To warp or to weave, to win' or to spin;
 For come wind or come weet, come sleet or come sna',
 When the whistle cries, 'Ready', we'll come at its ca'.¹

Introduction

Joel Mokyr has described technology as: 'The application of information to the production process in a way which increases efficiency and leads to production with fewer resources or which results in better products.'² Separately, he suggests that: 'Inventions do not rain down like manna from heaven. They emerge in the minds of some people and are communicated, adapted, refined, implemented and imitated.'³ This chapter examines the role of technology in improving the quality of Dunfermline damask and explores the extent to which advances in technology were driven nationally and or locally focussed. The contemporary historian, Peter Chalmers, described these local inventions and recorded who was responsible for them. The chapter shows how technology assisted with important aspects of improved production of Dunfermline damask particularly in portraying accurate patterns. An examination of developments in the introduction of spinning mills is conducted. Although Dunfermline was never a major producer of spun flax as the locally grown flax was of poor quality, Mark Stark, a local manufacturer, opened a spinning mill in 1792 which was possibly the second steam operated mill in Scotland. Using Parliamentary Papers the location of spinning mills is explored along with an examination focussed on Fife mills which also investigates the split between male and female operatives. Mokyr's concept of adaption, refinement and imitation is also investigated with particular reference to the way in which inventions were developed in Dunfermline. Although major inventions such as the Jacquard machine were important nationally, Dunfermline men played an

¹ 'Song of the Contented Factory Girl', *Dunfermline Press*, 24 August 1860. The verse highlights the importance of steam in running the factory.

² Joel Mokyr, *The Lever of Riches: Technological Creativity and Economic Progress* (Oxford: Oxford University Press, 1992), p. 6.

³ Joel Mokyr, 'Editor's Introduction: The New Economic History and the Industrial Revolution', in *The British Industrial Revolution: An Economic Perspective*, ed. by Joel Mokyr (Boulder/Oxford: Westview Press, 1993), pp. 1 – 131 (p. 16).

important part in a series of minor inventions which cumulatively ensured a more accurate pattern replication and increased productivity rates. The aim of this chapter is to highlight the importance of technology and to illustrate that whilst inventions and new machines were important they were part of a resource system of power, raw materials and labour.

Background

Although textile production in Dunfermline and throughout Britain experienced technological change during the latter part of the eighteenth century, in 1800 the hand-loom damask weavers of Dunfermline still experienced slow production of finished goods. The weaver and cord drawer were required to take great care in forming the pattern to ensure a high-quality product. Further technological change took place in the textile industry in Dunfermline during the early nineteenth century with the introduction of faster and more accurate weaving processes resulting in an improved quality of linen and better-defined patterns. By 1849 in the town, technology improvements led to use of power-looms enabling, in due course, mass production of table linens in stock patterns at lower prices. The improvements, however, led to the deskilling of the work of the weavers and attending a power-loom became the work of an operative rather than a craftsman.

Advances in technology, particularly the mechanisation of work previously done by hand, occurred not only in textile production but in other areas including agriculture, transport, manufacture and finance. Some innovations had a major impact. Two inventions which assisted Dunfermline weavers economically and with quality products were introduction of the Jacquard machine which mechanised weaving patterns on the hand-loom and, later, the introduction of the power-loom. The former enabled the weaving of complicated patterns using instructions which were embedded in an endless chain of punched cards so that the loom continuously fed itself with information.⁴ This invention was transformational in that it led to the use

⁴ James Essinger, *Jacquard's Web; How a Hand-Loom Led to the Birth of the Information Age* (Oxford: Oxford University Press, 2007), p. 37.

of binary coding of information with major use for the future in other areas. However, at the time it was used in textiles such as silks, damasks and high quality worsteds and, whilst it did not result in new products, it led to economic efficiency and better pattern replication.

The power-loom was an invention by someone who had no personal experience of weaving. Most of the inventors and engineers were dexterous merchants or enterprising craftsmen whose technical ideas were often the result of luck, serendipity or inspiration even if the successful completion of the innovative process required patience, determination and confidence.⁵ However, during both the eighteenth and nineteenth centuries small incremental improvements were also made to known technologies described by Mokyr as 'gap-filling'.⁶ In the Dunfermline weaving trade this was, most often but not exclusively, the result of weavers finding new ways of carrying out the weaving and associated processes operating in the town rather than improvements introduced by others external to the craft.

During the mid-eighteenth to mid-nineteenth centuries Scotland achieved industrial prosperity through an expanding world market as well as increased technology of power and production. Over time, technology replaced some human power and, in due course, led to a reduction in the need for craft skills. It did, however, also lead to increased production and the ability to produce stock items. An important shift took place from human, animal, wind and water power to the use of coal powered steam engines.⁷ Scotland had rich resources of water power and was, therefore, slower to change to steam power than areas such as the north of England.

Early Industrialisation of Spinning

Mokyr also suggests that the driving force in the industrial revolution was the 'clustering' of a relatively small number of macro-inventions in a relatively small corner of north-west Europe.⁸ These macro-inventions raised

⁵ Mokyr, 'Editor's Introduction', p. 35.

⁶ Mokyr, 'Editor's Introduction', p. 18.

⁷ Christopher A. Whatley, *The Industrial Revolution in Scotland* (Cambridge: Cambridge University Press, 1997), p. 51.

⁸ Joel Mokyr, 'Technological Change, 1700 – 1830', in *The Economic History of Britain since 1700, Volume 1, 1700 – 1860*, ed. by R. Floud and D. McCloskey, 2nd edn (Cambridge: Cambridge University Press, 1994) pp. 12 – 43 (p. 41).

the rate of return on further improvements and developments which unleashed micro-inventions and a 'learning by doing phenomena' jointly providing the technological basis of the industrial revolution. By 'macro' inventions Mokyr meant major breakthroughs in an industrial process such as the inventions of Hargreaves, Arkwright, Compton and Cartwright in spinning and weaving.⁹ 'Micro' inventions were defined as on-going developments and improvements in technology following major breakthroughs where there was a willingness, combined with ability, to recognise and then adopt inventions made elsewhere.

Mid-eighteenth century Scotland was, technologically, a long way behind its nearest rivals in best practices of production. The sectors which attempted to compete with England or elsewhere were confronted with problems of high production costs due to inefficient organisation and methods and poor quality of output.¹⁰ Early phases of Scottish industrialisation were based on borrowed technology and expertise with ideas imported from Holland, France and Ireland although England was also a major source of 'technology transfer'.¹¹ Technological spinning inventions through Arkwright's water frame, Hargreaves' spinning jenny and Crompton's hybrid of the two, the mule, ensured that yarn was produced at a cost which was a small fraction compared to that spun using earlier techniques and at a higher quality than anything that had gone before.¹² Timing of the adoption of these inventions accounted for the technological basis of the Scottish industrial revolution as industry successfully applied these new methods of working with the mule 'transforming' the supply position of the fine weavers of Glasgow and Paisley.¹³ Plate 3.1 illustrates the type of spinning wheel in use to spin flax in the eighteenth century

⁹ Anthony Cooke, *The Rise and Fall of the Scottish Cotton Industry, 1778 – 1914: The Secret Spring* (Manchester: Manchester University Press, 2010), p. 100.

¹⁰ Whatley, *The Industrial Revolution in Scotland*, p. 21.

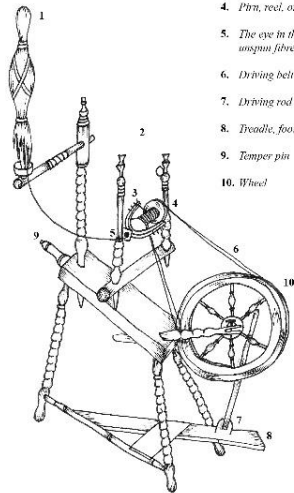
¹¹ T. M. Devine, 'Industrialisation', in *The Transformation of Scotland, The Economy since 1700*, ed. by T. M. Devine, C. H. Lee and G. C. Peden (Edinburgh: Edinburgh University Press, 2005), pp. 34 – 70 (p. 48).

¹² Devine, 'Industrialisation', p. 41.

¹³ Whatley, *The Industrial Revolution in Scotland*, p. 47.

Plate 3.1 Eighteenth Century Flax Spinning Wheel

*Diagram of flax spinning wheel
with definition of separate parts.*



1. *Distaff shown with a bundle of flax in position*
2. *Maidens, the upright supports for the flyer and bobbin*
3. *Flyer*
4. *Pin, reel, or bobbin*
5. *The eye in the spindle through which unspun fibre passes*
6. *Driving belt*
7. *Driving rod*
8. *Treadle, foot-plate, foot-board*
9. *Temper pin*
10. *Wheel*

Source: Drawn by Sarah Neville with information taken from various contemporary illustrations.

In order to keep abreast with new technology flax spinners and linen manufacturers from the east of Scotland regularly visited English linen districts to study the operations of mills and factories and, when appropriate, adopted or adapted new technology.¹⁴ Whilst in the early and middle years of the eighteenth century Scotland was a country of imitators in the next few decades it became an enterprising society in its own right.¹⁵

Manufacturing growth was at the centre of the Scottish economic system although, even in cotton, the most advanced textile industry, only spinning was fully mechanised by 1830. The mule required a skilled operator but Richard Roberts' 'self-acting' mule patented in 1825 made the operator unnecessary and ushered in the first truly automated machine.¹⁶ Although this might be considered as a micro-invention, the elements of mechanisation collectively ensured that the process of cotton manufacture

¹⁴ Whatley, *The Industrial Revolution in Scotland*, p. 61.

¹⁵ Christopher A. Whatley, *Scottish Society 1707 – 1830: Beyond Jacobitism, towards industrialisation* (Manchester/New York: Manchester University Press, 2000), p. 116.

¹⁶ Emma Griffin, *A Short History of the British Industrial Revolution* (Basingstoke: Palgrave Macmillan, 2010), p. 91.

which had traditionally been performed by hand was now performed by machine improving productivity as well as the quality of the goods.

Fundamental to technical changes in methods of production was power. The invention in 1769 of Scotsman James Watt's separate condenser in the steam engine, although limited in its earliest application, had long-term and radical consequences as it evolved with a wide range of mechanical uses.¹⁷ Through time, the steam engine became the principal motive power in the textile industries as well as the basis of a transportation revolution in railway development and marine propulsion.¹⁸ Spinning factories no longer needed to be near water sources and could be built on a much larger scale and located in towns and cities where flowing water was less readily available.

The first physical signs of industrialisation were seen in the setting up of spinning mills in Scotland from 1778.¹⁹ Flax did not lend itself to mill spinning as easily as cotton and setting up flax spinning mills initially proved unsuccessful. However, a significant development in flax spinning was the invention of dry flax-spinning machinery by John Kendrew, a glass-grinder, and Thomas Porterhouse, a watchmaker, of Darlington in 1787 and, in the same year, the first flax spinning mill in Scotland was set up in Kincardineshire.²⁰ The early spinning mills were dependant on natural resources such as water power and most often were set up in rural locations. In Dunfermline, there were lades running throughout the town but sources of water power to drive machinery were not significant. Thus, in Fife, the main initial water power developments took place in the east along the Eden and Leven rivers.

Dunfermline was never a major producer of spun flax. However, for a short time and in a somewhat minor way, Dunfermline produced spun yarn. Brucefield Spinning Mill owned by Mark Stark who was already a linen manufacturer, opened in 1792, and was possibly the second steam powered

¹⁷ R. H. Campbell, *The Rise and Fall of Scottish Industry* (Edinburgh: John Donald Publishers, 1980), p. 15.

¹⁸ Devine, 'Industrialisation', p. 41.

¹⁹ Enid Gauldie, *Spinning and Weaving* (Edinburgh: National Museums of Scotland, 1995), p. 28.

²⁰ Alex. J. Warden, *The Linen Trade, Ancient and Modern* (London: Longman, Green, Longman, Roberts and Green, 1864), p. 690.

spinning mill in Scotland, initially spinning flax, hemp, tow and wool.²¹ By 1836, there were seven spinning mills in Dunfermline with ninety males and 332 females employed.²² This was a relatively small source of employment in the town, but it was an early example of the factory environment and, in particular, the industrial employment of children. The yarn spun was not solely for local use as linen-thread, as shoe-thread and twist were also produced for a general market.²³

After initial difficulties in setting up mechanised spinning by the 1820s, steam power flax spinning had transformed linen manufacture. Scotland saw tremendous increases in output with linen production increasing by almost ten-fold between 1731 and 1822.²⁴ Although the spinning industry ultimately flourished in Kirkcaldy where stronger yarns for coarser fabrics were manufactured it did not in Dunfermline and all the spinning mills had closed by 1859.²⁵ This was because the dry spun yarns of the town mills were not suitable for fine damask weaving and Yorkshire, Irish or continental wet spun yarns were increasingly used.²⁶

By 1838, there were over five hundred spinning mills recorded in Scotland of which 492 were occupied. As Table 3.1 shows, there was a recognisable trend towards regional specialisation. Cotton was spun predominantly in Lanarkshire and Renfrewshire, wool in the Border Counties, Clackmannanshire and Ayrshire and flax in Fife and Forfarshire. Although Perthshire produced a mix of fabrics the main production was of cotton at Stanley Mills and Deanston Mill near Doune.²⁷ Whilst the number of factories in Fife was about half that of Forfarshire, with 9,395 persons employed

²¹ Peter Chalmers, *Historical and Statistical Account of Dunfermline*, [Vol. 1] (London/Edinburgh: Wm. Blackwood & Son, 1844), p. 382.

²² BPP, *Factories Inquiry Commission. Second report of the Central Board of His Majesty's commissioners appointed to collect information ... and reports by the Medical Commissioners*, A 3, 519 (1833), pp. 3 – 6.

²³ John Ramsay McCulloch, *McCulloch's Universal Gazetteer, A Dictionary, Geographical, Statistical and Historical of the Various Countries and Places and Principal Natural Objects of the World*, Vol. 1 (New York: Harper & Brothers, 1843), p. 788.

²⁴ Devine, *The Scottish Nation*, p. 109.

²⁵ Peter Chalmers, *History and Statistical Account of Dunfermline*, Vol. 2 (London/Edinburgh: Blackwood, 1859) p. 345.

²⁶ W. H. K. Turner, 'The textile industries of Dunfermline and Kirkcaldy: 1700 – 1900', *Scottish Geographical Magazine*, 73:3 (1957), 129 – 45 (p. 136).

²⁷ BPP, *A Return of all Mills and Factories 1837 – 1838: Number of Persons employed in the Cotton, Woollen, Worsted, Flax and Silk Factories of the United Kingdom*, 41 (1839), pp. 318 – 19.

factories were larger.²⁸ In one of his many estimates, Sir John Sinclair who supervised the compilation of the *Statistical Account of Scotland 1791-1799*, suggested in 1826 that a quarter of a million people worked in cotton, linen and wool of which sixty per cent were engaged in the making of cotton.²⁹ In comparison, thirteen thousand were employed in the iron trade and nineteen thousand in other manufactures.

Because the mills operated such long hours artificial lighting was needed, especially in winter, and candles and oil lamps were used which in a textile atmosphere could be dangerous. The Brucefield Spinning Mill was extensively damaged by fire caused by a lighted candle falling on to tow in 1825 with damage assessed at £700 to £800.³⁰ The town's fire engines were summoned but 'owing to their defective state from being seldom in requisition' and the lack of skills of the operators they were of little use.³¹

In 1814, a new mill where the machinery was driven by hand was opened by McIntosh and Inglis at the old Poor's House in Dunfermline and distinguished by being lit by gas, the first in the town to be lit in this way. Many turned out to see the 'new-fangled light' but the mill remained in use for only a short time.³²

²⁸ BPP, *A Return of all Mills and Factories 1837 – 1838*, 41 (1839), p. 303.

²⁹ T. M. Devine, *The Scottish Nation 1700 – 2007* (London: Penguin Books, 2006), p. 109.

³⁰ *Star*, 3 November 1825.

³¹ *Fife Herald*, 3 November 1825.

³² Ebenezer Henderson, *The Annals of Dunfermline and Vicinity from the Earliest Authentic Period to the Present Time A. D. 1069 – 1878* (Glasgow: John Tweed, 1879), p. 586.

Table 3.1 Location of Mills in Scotland in 1838

Location	Cotton	Wool	Flax	Silk	Total	Unoccupied	Total
Lanarkshire	107	3	2	3	115	4	119
Renfrewshire	58	2	3	1	64	2	66
Ayrshire	4	18	3		25		25
Wigtonshire		1			1		1
Kirkcudbrightshire	1	2			3		3
Dumfriesshire	1	3			4		4
Linlithgowshire	1	1	1		3		3
Stirlingshire	3	7			10		10
Dunbartonshire	4				4		4
Bute	2				2		2
Clackmannanshire		24			24	2	26
Berwickshire		1			1		1
Roxburghshire		17			17		17
Selkirkshire		15			15	2	17
Edinburghshire		1	7	1	9		9
Fifeshire		1	46		47	3	50
Perthshire	7	7	13		27	2	29
Forfarshire		1	96		97	2	99
Kincardineshire		1	8		9	1	10
Aberdeenshire	4	7	4		15		15
Total	192	112	183	5	492	18	510

Source: BPP, *A Return of all Mills and Factories 1837 – 1838: Number of Persons employed in the Cotton, Woollen, Worsted, Flax and Silk Factories of the United Kingdom*, 41 (1839), pp. 301 – 22.

Table 3.2 shows the location of the mills in Fife. Apart from Dunfermline, Kirkcaldy and Kinghorn, mills were based in north-east Fife and many were established on rivers. In the three towns mentioned, machinery was either driven by steam alone as in the case of Kirkcaldy or was predominantly driven by steam. In the rest of Fife, machinery was either water driven alone or predominantly. Working in the flax mills was not a pleasant experience, especially the ones which used the wet spinning technique. Mill working is examined in more detail in Chapter 5. The success of the early mills was low with badly made machinery and the ability only to produce heavy yarns for coarse cloth. However, despite being productive for a relatively short period the spinning mills in Dunfermline were not only

significant in the introduction of factory working they were also important as at the beginning of the nineteenth century they stimulated hand-loom weaving through the production of a greater amount of yarn. However, it was a step into new technology and different methods of working.

Table 3.2 Location of Fife Spinning Mills in 1838

Location	Flax Mill	Woollen Mill	Total	Steam	Water	Male	Female	Total
Dunfermline	4		4	X	X	79	268	347
Kirkcaldy	10		10	X		83	408	491
Kinghorn	3		3	X	X	188	62	250
Dysart	1		1		X	10	48	58
Leslie	5		5	X	X	48	337	385
Edenbank	1		1	X	X	4	34	38
Falkland	2		2		X	5	29	34
Kettle	1		1		X	3	11	14
Markinch	3	1	4		X	197	250	447
Leven	6		6	X	X	93	420	513
Largo	1		1	X	X	33	45	78
Cupar	5		5	X	X	63	160	223
Dairsie	2		2		X	6	32	38
Pitscottie	1		1	X	X	15	53	68
Blebo	1		1	X	X	11	28	39
Total	46	1	47			838	2185	3023

Source: BPP, *A Return of all Mills and Factories 1837 – 1838: Number of Persons employed in the Cotton, Woollen, Worsted, Flax and Silk Factories of the United Kingdom*, 41 (1839), pp. 301 – 22.

The Process of Weaving

Weaving means interlacing the two threads of the warp and the weft (sometimes known as woof) to form a fabric. The longitudinal threads of the warp are held stationary in the shaft-loom whilst the weft threads are passed over and under the warp threads. The shaft is the frame of the loom. Plate 3.2 illustrates a shaft-loom. Initially, the weaver passed the shuttle containing a bobbin of thread in and out of the warp threads using hand movements. However, in due course, heddle beams were suspended from the top of the loom. By moving the first heddle using his foot on a treadle the weaver separated the odd and even warp threads thus enabling him to pass the shuttle through in one quick movement.³³ Then moving the second heddle, the shuttle could be moved back between the alternating threads. The space where the shuttle moves is called the shed. The art of moving the shuttle through the shed is called picking or making a pick. Plain fabric is produced in this way. During the first part of the eighteenth century if a loom was narrow, one weaver could attend to the whole process but if it was wide, as it was for Dunfermline tablecloths, the weaver required an assistant to catch the shuttle and throw it back.

Weaving cloth on a loom can be dated to at least the fourth millennium BC through the discovery during excavations in Lower Egypt of a pottery bowl with a representation of a loom painted on it.³⁴ Damasks were woven on a draw-loom which enabled the completion of large-scale patterns. However, the draw-loom was heavier and more complicated than a shaft-loom and required skill and strength to operate because of the lead weights, cords and harnesses within the loom.³⁵ On the draw-loom the warp threads passed through harnesses held in place by the heddle. The more the number of harnesses the more complex the pattern that could be woven. Warp threads could be lifted individually but, in practice, were grouped by being connected to leashes attached to another set of cords down the side of the loom called the simple. The simple was operated by the draw-boy, who knew which order to draw cords by a tagging or numbering system. On a draw-

³³ Gauldie, *Spinning and Weaving*, p. 43.

³⁴ Patricia Baines, *Flax and Linen* (Oxford: Shire Publications, 1993), p. 17.

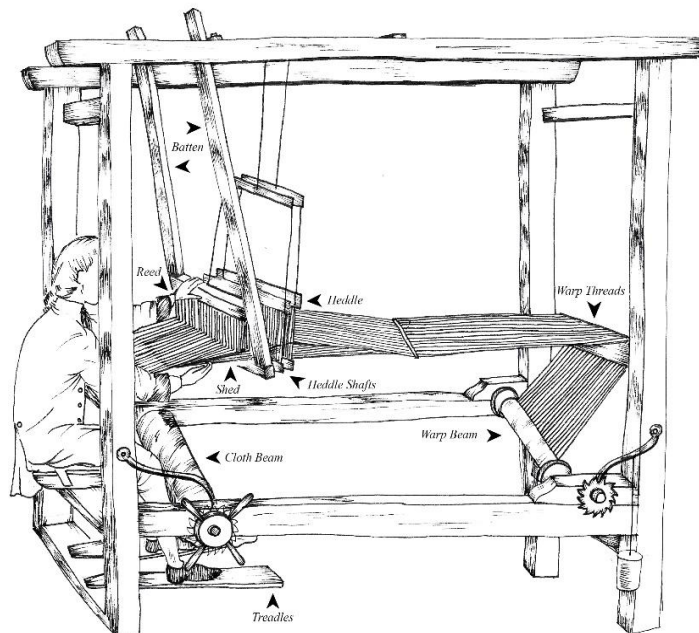
³⁵ Gauldie, *Spinning and Weaving*, p. 64.

loom the weaver and his assistants could achieve two picks a minute so that weaving was a slow process.

Instead of lifting every alternate thread the heddle could be set to lift every two or three or more threads in order to create striped and checked effects. A thread not woven into the material is referred to as flushed.³⁶ A weft thread passing over more than one warp thread is known as leaves of heddles. For example, where every third leaf is woven this is known as a three leaves heddle pattern. This type of fabric is a tweel (twill) weave and normally produces a diagonal pattern. Dornick was a tweel originally woven in Tournai in Belgium, the town's Flemish name being Doornick. It was used on hangings and carpets. Diaper was a five leafed linen cloth.

Plate 3.2 Drawing of a Hand-loom with uses of various parts

*Drawing of handloom, showing the uses of the various parts.
Note how the shed is raised by the heddle to allow the shuttle to be passed between warp and weft.*



Source: Enid Gauldie, *Spinning and Weaving* (Edinburgh: National Museums of Scotland, 1995), p. 45.

Damask was also five leafed and double diaper, a richer looking fabric, was eight leafed. Double diaper made a more prominent pattern. Diaper and damask linen produced patterns without the need of colour

³⁶ John Duncan, *Practical and Descriptive Essays on the Art of Weaving* (Glasgow: James and Andrew Duncan, 1808), pp. 85 – 86.

because the threads were woven unbound as described above and caught the light. However, whilst dornick and diaper were usually woven on a shaft-loom, damask was woven on a draw-loom with two or more harnesses. Damask provided a ground or satin binding over which other more intricate patterns could be woven.³⁷ The harness nearest to the weaver produced the binding and the other harness, operated in part by the draw-boy, produced the pattern.³⁸

A Wave of Gadgets

According to T. S. Ashton's imagined schoolboy, 'about 1760, a wave of gadgets swept over England'.³⁹ Whilst 'gadgets' were introduced throughout the textile manufacturing process, progress on improvement in the technology of looms was slow and gradual. Damask linen weaving was introduced to Dunfermline by James Blake in the early eighteenth century.⁴⁰ Blake was not alone in copying ideas covertly as at the end of the eighteenth and into the nineteenth century widespread dissemination of industrial techniques took place through industrial espionage, or more innocently, industrial tourism.⁴¹

Until the late eighteenth century three people were required to operate a diaper or damask loom because of the breadth width of the apparatus. 'The shuttle was thrown by one man, caught by the other and the weaver performed his part.'⁴² Not only was the process labour intensive but it was also tedious and slow as the weaver had to make decisions on the pattern process on individual rows. On occasion, one man and a cord-drawer operated a broad loom. If this was the case, the man ran from one side of the machine to the other, throwing the shuttle and then catching it. It was

³⁷ John Murphy, *A Treatise on the Art of Weaving and Calculations and Tables for the Use of Manufacturers* (Glasgow: Blackie & Son, 1842), p. 22.

³⁸ David M. Mitchell, 'Linen Damask Production: Technology Transfer and Design, 1580 – 1760', in *The European Linen Industry in Historical Perspective*, ed. by Brenda Collins and Philip Ollernshaw (Oxford: Oxford University Press, 2003), pp. 61 – 97 (p. 61).

³⁹ T. S. Ashton, *The Industrial Revolution 1760 – 1830* (Oxford: Oxford University Press, 1948), p. 42.

⁴⁰ Chalmers, *Historical and Statistical Account*, [Vol. 1], p. 354.

⁴¹ Campbell, *The Rise and Fall of Scottish Industry*, p. 40.

⁴² Andrew Mercer, *The History of Dunfermline from the Earliest Records Down to the Present Time*, (Dunfermline: John Miller, 1828), p. 164.

laborious but saved the expense of an additional workman.⁴³ Back harness machines enabled patterns which were more extensive than those woven on shaft-looms but the weaver had to commit the pattern to memory before starting to weave and this could take up to four days.⁴⁴

In 1727, the Board of Trustees for Manufactures and Fisheries had been set up with a mandate to improve the Scottish economy.⁴⁵ £6,000 per annum was to be devoted to the improvement of linen, wool and fisheries. The Board encouraged improved technical performance and, amongst other initiatives, brought Dutch bleachers and French cambric weavers to Scotland to teach new techniques and also sent Scots to Europe to study scutching and heckling.⁴⁶

In weaving, the amount of cloth produced depended on how many times in a minute the shuttle moved across the loom when weaving was underway so in order improve productivity the number of picks per minute needed to be increased. Dunfermline weavers had a key role in innovation and five weavers were commended by the Board of Trustees for adaptations to weaving machinery in the period 1778 to 1819.⁴⁷ The most significant of these inventions was the use of the fly-shuttle on harness looms and, as a result of the adoption of this in 1778, John Wilson of Dunfermline received an award of £20 from the Board of Trustees and was made a freeman of the burgh.⁴⁸ Wilson's fly-shuttle may have been an adaption of John Kay's invention of 1733 and was possibly introduced by way of previous use in Perth. However, nineteenth century local histories indicate that Wilson's invention was his own and the award from the Board of Trustees suggests an important addition to weaving technology. Whether a Dunfermline invention or a copy from elsewhere the fly-shuttle made a huge impact on reducing weaving time and the human resource needed.

Amongst linen weavers in Scotland, Wilson was not alone in attempting to make broadcloth weaving less resource intensive. In the

⁴³ Chalmers, *Historical and Statistical Account*, [Vol. 1], p. 355.

⁴⁴ Chalmers, *Historical and Statistical Account*, [Vol. 1], p. 356.

⁴⁵ Devine, *The Scottish Nation*, p. 22.

⁴⁶ Campbell, *The Rise and Fall of Scottish Industry*, p. 8.

⁴⁷ DCLG, *Incorporation of Dunfermline Weavers Minutes 1793 – 1835*, 5 November 1799; 3 February 1803; 15 October 1819.

⁴⁸ Chalmers, *Historical and Statistical Account* [Vol. 1], pp. 355 – 356.

1740s, John Johnstone, a table linen weaver from Arbroath, claimed to have invented a type of fly-shuttle.⁴⁹ Johnstone was given a grant to train apprentices in his ways of working.

Kay trained as a hand-loom reed maker and initially travelled England making and fitting wire reeds. He then settled in Bury and designed improvements to textile machinery. A typical innovator of these times was one who was dextrous and mechanically minded, who became aware of a problem and guessed approximately how to go about solving it.⁵⁰ This describes Kay who spent most of his life on inventions. However, as weavers, Wilson and Johnston had knowledge of the weaving process and may have independently found a way of solving the need to have two men throw the shuttle to each other rather than simply introducing Kay's fly-shuttle. Wilson's introduction of the flying shuttle to Dunfermline, whether copied, adapted or invented, ensured that 'a new epoch commenced in the trade'.⁵¹ One man with a draw-boy could now operate the loom making the process quicker and more economic. A further benefit of the fly-shuttle was its adaptability to automatic weaving in due course. Use of the fly-shuttle was not widely diffused in Scotland until the early nineteenth century.⁵² Thus, as a provider of broadcloth, the Dunfermline linen trade, as an early adopter of this method of working, enjoyed the resource advantages it provided whilst other locations were slower to make use of this changing technology.

In some locations, such as East Anglia and Lancashire, the introduction of inventions such as the fly-shuttle was met with resistance.⁵³ However, it was well received in Yorkshire which was an area specialising in broadcloth. There is no evidence of resistance in Dunfermline at this time. Since this was also a location which manufactured broadcloth, albeit in a finer fabric, productivity gains were immense. However, as the trade continued to expand in the town there were plenty of opportunities for

⁴⁹ Vanessa Habib, 'Linen diaper weaving in 18th-century Scotland', *History Scotland*, 21:1 (2021), 43 – 45 (p. 45).

⁵⁰ Mokyr, *The Lever of Riches*, p. 84.

⁵¹ Mercer, *The History of Dunfermline* p. 164.

⁵² Jane Grey, 'The Irish, Scottish and Flemish Industries during the Long Eighteenth Century', in *The European Linen Industry in Historical Perspective*, ed. by Collins and Ollernshaw, pp. 159 – 86 (p. 175).

⁵³ Maxine Berg, *The Age of Manufactures 1700 – 1820, Industry, Innovation and Work in Britain* (London/New York: Routledge, 1994), p. 244.

weavers so it is likely that these inventions were welcomed. Certainly, nineteenth century Dunfermline writers acknowledged the introduction of the fly-shuttle with enthusiasm.⁵⁴

Minor adaptations took place all the time as weavers found ways of making their task easier and the product of better quality. Mokyr has described the period between 1750 and 1830 as 'The Years of Miracles' and that the 'destabilising agent in this dizzying tale was technology'.⁵⁵ Certainly, the start of the nineteenth century brought a number of Dunfermline inventions where the inventor may have learned new ideas through his everyday work described by Mokyr as 'learning by doing'.⁵⁶ In 1803, David Bonnar's newly invented comb draw-loom used combs, or levers, to catch the harness or upright cords of the loom which initially enabled better weaving of small patterns.⁵⁷ This was further improved by a local weaver, John Philp, who introduced the use of one comb instead of many.⁵⁸ Bonnar's invention was significant and the Town Council purchased the patent from him for £600.

The invention of the holey-board by John Cooke in the first decade of the nineteenth century refined the use of back-harness by better application of wire cleeks to raise the harness, making the finished product more even and yarn raised with more ease and regularity.⁵⁹ This also facilitated the thread arrangement so that patterns did not need to be committed to memory as a series of pegs presented the pattern to the eye. Simple patterns could now be undertaken by one weaver alone although complex damask patterns still required a draw-boy and memorising patterns. At the beginning of the nineteenth century the cumulative effect of these local inventions which built on one another ensured a better standard of weaving and a reduction in the human resource needed. These inventions were the work of Dunfermline weavers who had experience in techniques which they saw could be

⁵⁴ Chalmers, *Historical and Statistical Account*, [Vol. 1], p. 356.

⁵⁵ Mokyr, *The Lever of Riches*, p. 81.

⁵⁶ Mokyr, 'Technological Change', p. 41.

⁵⁷ Chalmers, *Historical and Statistical Account*, [Vol. 1], p. 357.

⁵⁸ Chalmers, *Historical and Statistical Account*, [Vol. 1], p. 357.

⁵⁹ Chalmers, *Historical and Statistical Account*, [Vol. 1], p. 357.

improved. Although there was no direct link, to some extent these latest inventions, were forerunners of the Jacquard machine.

Micro-inventions in Dunfermline continued with damask patterns now put on a symbolt, commonly pronounced 'simple' which were twined threads placed horizontally above the head of the weaver who used these threads to raise the cord to make the shed.⁶⁰ Previously, the simple had been to the side of the loom. This reduced expense as the weaver could lift threads without the assistance of a draw-boy.

The Jacquard Machine

One of the most sophisticated technological inventions of the early 1800s, the Jacquard machine, was invented by Joseph-Marie Jacquard born in Lyon in 1752 and the son of a master-weaver of silk brocades.⁶¹ He recognised that weaving was a repetitive process and, in 1800, took out a patent for a machine 'designed to replace the draw-boy in the manufacture of figured fabrics'.⁶² Following a century where French inventors, including Basile Bouchon and Jean Baptiste Falcon, had tried to perfect a loom where patterns could automatically be woven into fabric Jacquard now built on the work of Jacques de Vaucanson who had developed a system of a chain of paper cards on a square cylinder operated by treadle but which had never been put into use.⁶³

Working on this design Jacquard started to use punch cards which pressed against the back of an array of small, narrow circular metal rods. Each rod governed one weighted string which, in turn, governed one individual warp thread.⁶⁴ If the rod encountered solid cardboard the rod would not move and the warp thread would stay where it was. However, if the rod encountered a hole in the card then the tip of the rod would pass through the hole and the individual warp thread controlled by that rod was raised. The array of rods could be different for each row of weaving. At the

⁶⁰ Murphy, *A Treatise on the Art of Weaving*, p. 389.

⁶¹ Essinger, *Jacquard's Web*, pp. 23 – 24.

⁶² Essinger, *Jacquard's Web*, p. 31.

⁶³ Anna Benson and Neil Warburton, *Looms and Weaving* (Oxford: Shire Publications, 2012), p. 14.

⁶⁴ Essinger, *Jacquard's Web*, p. 34.

time it was patented in 1804, it was, arguably, the most complex mechanism in the world.⁶⁵

The number of cards required for commercial woven fabric was around four thousand as the loom continuously fed itself with information on the next row of weaving. The weaver operated the machine with his left foot on a treadle making it more adaptable for the eventual application of power. A further significant saving was that the draw-boy whom the weaver paid for his services was no longer required. This had already been achieved to some extent in Dunfermline with the improvements which had previously been introduced. In addition, frequent and costly errors in the pattern were eliminated. Before, if the weaver or draw-boy misjudged the cords to lift for the pattern the mistake was not evident immediately. This would result in flaws in the pattern being identified only when further fabric had been woven resulting in time lost through re-working the cloth.

The first Jacquard machines in Lyons were publicly destroyed and accepted only through economic necessity some years later.⁶⁶ However, a decade after the invention ten thousand looms were operating in France.⁶⁷ The Jacquard loom was a significant French invention during a period when British inventors were leading technological change.

Patented in London in 1820, the Jacquard machine was brought to Dunfermline by the manufacturers Alexander Robertson and R. and J. Kerr in 1825.⁶⁸ Use of the machine resulted in 'a prettier design and a better quality of table linen at reduced cost ... [and] generally increased consumption to the vast benefit of Dunfermline'.⁶⁹ In addition to greater productivity, as time was no longer needed to memorise the design, the elaborate and distinctive Dunfermline flower designs could be manufactured more speedily.⁷⁰ If a design needed to be changed the cards were simply replaced by a new set of cards. The cards could be stored for future use. In addition to better reproduction of designs it was claimed that the invention

⁶⁵ Essinger, *Jacquard's Web*, p. 37.

⁶⁶ Benson and Warburton, *Looms and Weaving*, p. 15.

⁶⁷ Mokyr, *The Lever of Riches*, p. 102.

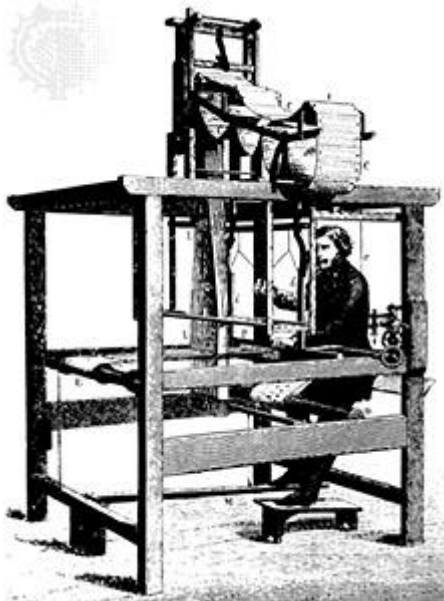
⁶⁸ Chalmers, *Historical and Statistical Account of Dunfermline*, [Vol. 1], p. 361.

⁶⁹ Warden, *The Linen Trade*, p. 446.

⁷⁰ Gauldie, *Spinning and Weaving*, p. 57.

contributed to the ease and health of weaver by relieving him of the constant labour of moving his hands above his head.⁷¹ The card machine which was placed on top of the loom was operated entirely by a treadle which the weaver operated with his left foot. Cards were cut by machine and a copying machine was also used to replace worn cards or replicate a pattern in full.⁷² Plate 3.3 illustrates a Jacquard loom. The Jacquard machine on top of the loom increased the height of the machine.

Plate 3.3 Jacquard Loom, Engraving, 1874



Source: *Encyclopaedia Britannica*, <<https://www.britannica.com/technology/Jacquard-loom>> [accessed 31 March 2022].

However, general use of the machine did not occur in Dunfermline until around 1830. Machines were initially imported from London but, in due course, manufacture commenced in Dunfermline and machines were built for use there as well as in Glasgow and Paisley and, occasionally, Ireland.⁷³ New technology was often expensive to purchase, prone to failure and required workers who were trained in its use and thus adoption was sometimes slow.⁷⁴ The cost of a Jacquard machine was between £12 and £15 in 1825 when, usually, weavers earned less than £1 per week and, thus, the cost may have prohibited early introduction to many looms. It might also

⁷¹ Chalmers, *Historical and Statistical Account*, [Vol. 1], p. 359.

⁷² Chalmers, *Historical and Statistical Account*, [Vol. 1], p. 361.

⁷³ Chalmers, *Historical and Statistical Account*, [Vol. 1], p. 361.

⁷⁴ Griffin, *A Short History of the British Industrial Revolution*, p. 82.

have been the case that with the improvements already introduced on the looms in Dunfermline in the early nineteenth century that there was not such a drive to adopt the Jacquard machine.

The cost of the machines had fallen to between £2 5s. and £3 5s. by 1843.⁷⁵ Initially, manufacturers supplied the jacquard machine to weavers and deducted the cost at intervals from payments for work but this proved inconvenient and as the price of the machine dropped weavers purchased their own. It was usually the case that the cards were the property of the manufacturers. George Birrel, a prominent manufacturer, whose business was for sale in 1849 included patterns and cards (about nine hundred in number) along with looms and buildings.⁷⁶

Since the Jacquard machine was an attachment to the loom, some weavers had a number of the machines which could be interchanged on the one loom depending upon the type of pattern and thickness of the cloth. In some instances, more than one Jacquard machine would be used on a loom. A correspondent to *The Globe* visiting Perth, Fife and Stirling in 1841, recorded of work in Dunfermline: 'A table-cloth in the loom 15 qrs. wide ... intended for Her Majesty's household; five Jacquard machines were employed on it'.⁷⁷

The use of the Jacquard machine also enabled some individuals to set up businesses manufacturing or repairing the machines. John Morris had a business in North Inglis Street but became bankrupt in 1838. He returned from Glasgow in 1854 and set up business in St. Margaret Street.⁷⁸ In 1854, James Bullions commenced business as a Jacquard machine maker and repairer in 'that shop in the Newrow three doors north of Canmore Street'.⁷⁹ John Swan who died in 1838 had been a Jacquard machine maker and his widow carried on the business with the help of her son in a 'shop immediately opposite Queen Anne Street Church'.⁸⁰

⁷⁵ Chalmers, *Historical and Statistical Account*, [Vol. 1], p. 362.

⁷⁶ *Fife Herald*, 22 February 1849.

⁷⁷ *Globe*, 29 October 1841.

⁷⁸ DCLG, *Manufacturers of Dunfermline*, Unpublished manuscript, [n.d.], p. 118.

⁷⁹ *Dunfermline Monthly Advertiser*, 12 December 1854.

⁸⁰ *Dunfermline Monthly Advertiser*, 4 September 1838.

Plate 3.4 Meldrum Loom, Dunfermline



Source: DCLG.

Within Dunfermline Carnegie Library and Galleries a fine example of a locally constructed hand-loom is displayed (Plate 3.4). Built in 1835 by Dunfermline joiner, Robert Hay for weaver, James Meldrum the size and complexity of a harness loom is seen.⁸¹ The Jacquard machine placed on the top is a later addition. The loom was probably used by the family until around 1900. A further hand-loom is displayed at the Andrew Carnegie Birthplace Museum in the town but these are the only two looms which remain. Both are in working order and, when in use, enable onlookers to understand the weaving process. In comparison, Paisley researcher Daniel C. Coughlan found that whilst aesthetic and cultural aspects of shawl making had been examined in detail little was understood of the technical production of shawls on looms.⁸² Supporting the findings of the research, Coughlan built a fully operational Paisley shawl loom which was put on display in Paisley Museum.

⁸¹ DCLG, Information Board for the Meldrum Loom.

⁸² Daniel C. Coughlan, 'The Paisley Shawl Loom: A study of the draw loom as adapted and developed for the weaving of Paisley shawls during the first half of the nineteenth century' (unpublished doctoral thesis, University of the West of Scotland, 2014).

The introduction of the Jacquard loom can be considered to be a macro-invention as defined by Mokyr.⁸³ It was a radical new idea and although the various components had already been invented in different forms, as evidenced from Dunfermline and developments in France, it was Jacquard who invented a way in which to bring them together. Although slow to be adopted in Dunfermline, the use of the Jacquard machine had a considerable impact on the economy and the people working on looms. Apart from making the process more comfortable for weavers the Jacquard machine meant that damask could now be sold to consumers at a lower rate than previously as productivity had increased and manpower reduced. It has been suggested that the use of the Jacquard machine increased productivity twenty-four times.⁸⁴ Without a Jacquard machine a weaver, on average, made two picks a minute. This accounted for the time to consider which weft threads should be lifted and the lifting of those threads. With the Jacquard machine in place, an average of forty-eight picks could be made in a minute. There is no local information to confirm these figures. However, after the introduction in Dunfermline the contemporary historian, Peter Chalmers noted that the finest damask could be purchased at much less cost per yard than had been the case previously.⁸⁵ In addition, far more intricate designs could be manufactured. Since the pattern was predetermined expensive mistakes no longer occurred. In Chapter 2 it was explained that fashion and, thus, design was an important attribute in damask linen table ware. The introduction also allowed the possibility of stock patterns being used in order to provide a consistent product. Therefore, the Jacquard machine was a major technological invention in relation to Dunfermline damask design. Although Jacquard's original intention in inventing the machine was to do away with the services of the draw-boy, it did much more than this when design aspects are also considered. Plate 3.5 illustrates the complexity of the punched holes on the cards.

⁸³ Mokyr, *The Lever of Riches*, p. 13.

⁸⁴ Essinger, *Jacquard's Web*, p. 38.

⁸⁵ Chalmers, *Historical and Statistical Account*, [Vol. 1], p. 362

Plate 3.5 Jacquard Cards



Source: National Museum of Scotland.

Although the Jacquard machine meant that the production of goods became more time efficient putting yarn on the loom still remained a long drawn out task. Beaming the web, as it was known locally, required the weaver to seek the assistance of others and the task ‘occupied ten, twelve and even at times sixteen or seventeen men for two hours’.⁸⁶ It was important that the web was made to the correct width. If the beam was too narrow ‘the selvages... stand oblique and break reed, heddles and yarn’.⁸⁷ ‘Beaming soft is a great evil.’ as it meant that the yarn would sink whilst ‘beaming too hard is equally pernicious’ as the yarn might become stretched or break.⁸⁸ In order to save this time and labour the Operative Weavers’ Committee in Dunfermline offered in July 1840 a premium of £10 to anyone who could construct a piece of machinery for facilitating beaming of webs. Of nine men who competed two, one a weaver and one a wright, provided similar proposals and were chosen to share the prize. The technique involved the use of cylinders which enabled the services of two to four men to be dispensed with in the beaming process. Later another mechanic from Dunfermline put forward a proposal which enabled beaming to be carried out

⁸⁶ Chalmers, *Historical and Statistical Account*, [Vol. 1], pp. 368-69.

⁸⁷ Alexander Peddie, *The Linen Manufacturer, Weaver and Warper's Assistant* (Glasgow; Khull, Blackie, 1822), p. 97.

⁸⁸ Peddie, *The Linen Manufacturer*, p. 97.

by one man.⁸⁹ Although this was not a major technological change it again enabled a task to be carried out in a more efficient way and involved innovation by local men.

Technological changes in the weaving industry in the early part of the nineteenth century provide one route to understanding industrial growth and change.⁹⁰ Innovation was not necessarily mechanisation but had started earlier through the development of hand and intermediate techniques. Industrialisation was about work organisation with decentralisation, extended workshops and sweating which were new departures.

At this stage, after many types of enhancements to the loom, the full weaving process had been improved but it was still all hand and foot technology rather than power technology. Benson and Warburton suggest that the extra height of the Jacquard machine prompted movement from home working towards loom-shop and factory use as further space was needed.⁹¹ In 1838, 80% of looms in Aberdeen and 25% of Arbroath looms were in factories.⁹² By comparison, there was only one factory operating in Dunfermline at that time owned by Messrs. Dewar and Kinnis. However, the number had risen to six by 1844.⁹³ George Birrel, who was the owner of the largest hand-loom factory in Dunfermline was recorded in the 1851 census as employing 107 men in his Abbey Gardens Factory and 258 weavers out of the factory along with fifty-three female yarn winders.⁹⁴ The preference in Dunfermline for the location of hand-loom weaving remained the use of loom-shops and looms in the weavers' houses and it was not until power-loom weaving was introduced that factory locations became more extensive.

In due course in many other locations, the factory system developed and superseded the healthier but less convenient scattering of loom-shops around a town or city. To reach the highest forms of control and the best execution of orders many manufacturers wanted their workmen and looms within easy reach so that supervision could take place. The factory system

⁸⁹ Chalmers, *Historical and Statistical Account*, [Vol. 1], p. 370.

⁹⁰ Berg, *The Age of Manufactures 1700 – 1820*, p. 189.

⁹¹ Benson and Warburton, *Looms and Weaving*, p. 16.

⁹² W. H. K. Turner, 'Flax weaving in Scotland in the early 19th century', *Scottish Geographical Magazine*, 99:1 (1983), 16 – 30 (p. 19)

⁹³ Chalmers, *History and Statistical Account*, [Vol. 1], p. 367.

⁹⁴ NRS, Census Enumerators Books, Dunfermline, 424/27/5, George Birrel (1851).

was a vital pillar of an industrial revolution but there no agreement about what a 'factory' was.⁹⁵ 'Factories were often seen as textile mills which centralised previously dispersed processes. The role of manufacturers and factory working is discussed in detail in Chapter 4.

Power-loom Technology

Mokyr has observed that: 'There are two competing views and apparently incompatible views of the role of labour in the industrial revolution'.⁹⁶ One view was that technological innovation was more likely to occur when labour costs were high. Cheap labour acted as a disincentive to capital investment. On the other hand, industrialisation occurred faster and earlier in low-wage countries. This formed the basis of Mokyr's argument regarding the difference in regions and countries in the speed and provision of capital for the linen industry. Robert Allen argued that the reason the power-loom was invented around 1800 was that the high wages of the weavers reduced the pick rate that a power-loom needed to run at and, therefore, reduced the costs of research and development of such a loom.⁹⁷ Nevertheless, considerable funds were expended by some individuals in attempting to develop an effective power-loom.

Although there were precursors it is generally considered that the history of the power-loom started with Reverend Edmund Cartwright, who filed his first patent in England in 1785.⁹⁸ He never succeeded in making his invention commercially viable and it was the engineer Richard Roberts, inventor of the self-acting spinning mule, who transformed Cartwright's power-loom from 'a curiosum invented by a well-meaning eccentric into the backbone of the British cotton industry'.⁹⁹ Cartwright's childhood, education and early career was in contrast to perceptions of the mechanical engineers whose inventions became of paramount importance as Britain

⁹⁵ Berg, *The Age of Manufactures*, p. 189.

⁹⁶ Mokyr, 'Editor's Introduction', p. 85.

⁹⁷ Robert C. Allen, 'The hand-loom weaver and the power loom: A Schumpeterian Perspective', *European Review of Economic History*, 22 (2016), 381 – 402 (p. 387).

⁹⁸ Roger N. Holden, 'The Origins of the Power Loom Revisited', *The International Journal for the History of Engineering & Technology*, 84:2 (2014), 135 – 59 (p. 136).

⁹⁹ Mokyr, *The Lever of Riches*, p. 104.

industrialised.¹⁰⁰ Born into the gentry, Cartwright attended Oxford University from the age of fourteen with a view to entering the clergy which he did at the age of thirty. He remained a country clergyman until his first wife died in 1785 when an inheritance from her aunt enabled him to leave the church and move to Doncaster which was one of the most rapidly growing urban centres in England.

On one occasion, Cartwright dined with 'some gentlemen from Manchester' who proposed that weaving could be mechanised as spinning had been.¹⁰¹ He embarked upon ten years of research and development related to textile machinery. Between summer of 1784 and spring of 1785 he worked on constructing a working model of a steam powered loom along with a wool combing machine and a version of a steam engine. The loom was crude, vertical rather than horizontal in an attempt to weave multiple webs at one time and had to be strengthened by yarns normally used to weave sail cloth.¹⁰² It required two men to work it, at a slow speed and only for a short time. Cartwright abandoned this type of loom and concentrated on mechanising the existing horizontal loom which he used in a mill in Doncaster but, ultimately, this enterprise failed.¹⁰³ At the same time Cartwright was working on a machine which combed wool and, in 1788, established a factory to spin and weave wool in Nottinghamshire but progress was impeded by his lack of knowledge of industry and commerce. Invention meant expenditure of money and other resources and by 1790, Cartwright had invested about £30,000 on the invention of a power-loom and ceased his experiments.¹⁰⁴

Other inventors also worked on power-looms in the 1790s. A key breakthrough was made by William Horrocks in Stockport. He started working with power-looms in 1795 and had about fifty in operation in 1800.¹⁰⁵ He used a crank to drive the parts of the loom rather than the earlier models

¹⁰⁰ Patrick O'Brien, 'The Micro Foundations of Macro Invention: The Case of the Reverend Edmund Cartwright', *Textile History*, 28:2 (1997), 201 – 33 (p. 202).

¹⁰¹ Allen, 'The hand-loom weaver and the power loom' p. 388.

¹⁰² O'Brien, 'The Micro Foundations of Macro Invention', p. 208.

¹⁰³ Holden, 'The Origins of the Power Loom Revisited', p. 136.

¹⁰⁴ Allen, 'The hand-loom weaver and the power loom', p. 389.

¹⁰⁵ Allen, 'The hand-loom weaver and the power loom', p. 389.

which used cams. Horrocks was the first to make the transition from the research stage to commercial use.¹⁰⁶

Despite the length of time taken from first steps to invention, the power-loom was not the product of a number of improvements along some chain of artefacts but secured almost immediate recognition as a breakthrough which determined the subsequent developments in weaving and combing.¹⁰⁷ The power-loom was a macro-invention as the main prototypes were sufficiently developed to do the job expected but did, in due course, require refinement.

Cartwright and Horrocks were not alone in looking for inventive ways of powering looms. In 1790, Messrs. Grimshaw of Gorton attempted to set up a weaving factory near Manchester but it failed.¹⁰⁸ In 1793, James Lewis Paterson of Glasgow purchased two looms previously used in hulks in London to employ convicts and brought them to Glasgow where he 'employed a large Newfoundland dog walking on a drum or cylinder to drive the looms'.¹⁰⁹ Three further attempts were made in Glasgow before John Monteith was able to set up a factory with two hundred looms which 'took several years before the business was made to answer'.¹¹⁰

Machines powered by humans offered a degree of dexterity with which steam-powered machinery could not compete.¹¹¹ However, by around 1820, the power-loom was effective on heavy textiles but was not yet suitable for finer threads as the movement of the machine broke the yarn. Whilst the hand-loom required precise hand and eye co-ordinated movements from the weaver the power-loom had a series of gears, levers and springs to ensure a smooth weaving operation with less human judgement and intervention.

¹⁰⁶ Geoffrey Timmins, 'Technological Change', in *The Lancashire Cotton Industry: A History since 1700*, ed. by Mary B. Rose (Preston: Lancashire County Books, 1996), pp. 29 – 62 (p. 46).

¹⁰⁷ O'Brien, 'The Micro Foundations of Macro Invention', p. 223.

¹⁰⁸ Edward Baines, *History of the Cotton Manufacture in Great Britain* (London: H. Fisher, R. Fisher and P. Jackson, 1835), p. 231.

¹⁰⁹ *The New Statistical Account of Scotland, Volume VI*, City of Glasgow (Edinburgh/London: Wm. Blackwood and Sons, 1845), p. 152.

¹¹⁰ Baines, *History of the Cotton Manufacture in Great Britain*, p. 231.

¹¹¹ Griffin, *A Short History of the British Industrial Revolution*, p. 99.

Although a hand-loom owned by an individual might be considered expensive, power-loom weaving was more capital intensive requiring a large, often multi-storeyed building, a steam plant for power and many looms since operations had to be on a large scale.¹¹² It was, therefore, important that any design of power-loom had an effective pick rate. However, one of the problems with the introduction of the power-loom for cotton production was that it had to be stopped from time to time in order to dress the warp as it unrolled from the beam. This meant that each loom had to be attended by an operative and thus there was no saving of human resource. In his development work Cartwright had experienced this problem. Thomas Johnson who worked for Radcliffe and Ross in Stockport resolved this by taking out patents in 1803 and 1804 for a dressing machine which was used before the yarn was put on the loom.¹¹³ Johnson also developed a new design for taking up cloth by motion of the lathe. Johnson's work was related to the dressing of cotton but this was further developed for use in flax. Once power-loom factories were in operation in Dunfermline the warp threads were dressed with a starch solution to give them strength in the weaving process. Whilst hand-loom weavers had dressed each part of the warp as it was unwound from the warp beam and waited for the solution to dry in the factory system the whole warp beam was dressed in a single operation before being fitted to the power-loom thus reducing wasted time.¹¹⁴ The yarn was less susceptible to breakage which meant that more than one machine could be attended to by one person which increased productivity.

In Scotland, Archibald Buchanan of Catrine opened the first complete works in Britain in 1807 where warping, dressing and weaving by power-loom were uniformly carried out. Contemporary commentators suggested that: 'It may be said that from this establishment emanated the power-loom weaving of Britain.'¹¹⁵ Although this may have been the case, power-loom weaving was being introduced in other parts of the country. In Aberdeen in

¹¹² Allen, 'The hand-loom weaver and the power loom', p. 389.

¹¹³ Baines, *History of the Cotton Manufacture in Great Britain*, p. 231 - 33.

¹¹⁴ Hugh Walker, *The History of Hay & Robertson Ltd. and the Robertson Family of Dunfermline* (Dunfermline: Carnegie Dunfermline Trust, 1996), p. 11.

¹¹⁵ NSA, *Volume VI*, City of Glasgow, p. 153.

1812, sixteen power-looms were operating weaving wool, linen and cotton.¹¹⁶ At Blaikiemuir near Laurencekirk, also in 1812, there were six looms operated by water-power which wove linens.¹¹⁷ In Bute Wynd, Kirkcaldy in 1821 twenty-four power-looms were operating in a factory which used steam-power, had places for forty looms and was 'perhaps the first power-loom factory ever erected for Linen'.¹¹⁸ An estimate of expenses and costs of the production of dowlas at this time suggested that a one hundred and twenty yard dowlas cost £18 when made on a hand-loom and £12 when made in the power-loom factory in Kirkcaldy which might be considered an incentive for others to enter the trade on an extensive scale.¹¹⁹

In the early nineteenth century it was the ease with which cotton could be woven, as opposed to the difficulties with some other yarns, which spread the use of the power-loom. In 1835, there were 17,721 power-looms in Scotland of which 17,531 were on cotton, 168 on flax and twenty-two on wool.¹²⁰ The fancy trade which included damask was set up later because the early power-looms broke warp threads as they were worked as the flax was inelastic.

Writing in 1835, Edward Baines suggested that after more than three decades of refinement the use of power-loom led to considerable gains in productivity to the extent that by 1833 'a steam loom weaver, 15 to 20 years of age assisted by a girl of around 12 years of age attending four looms' could produce eighteen to twenty pieces of cloth a week where a hand-loom weaver could produce two.¹²¹ Describing the change from hand-loom weaving to the power-loom, Baines wrote that: 'It is by iron fingers, teeth and wheels moving with exhaustless energy and devouring speed that the cotton is opened, cleaned, spread, carded, drawn, moved, spun, wound, warped, dressed and woven ... [and] the mighty engine toils through the day with the strength of perhaps a hundred horse'.¹²² Baines was of the view that each factory workman superintended as much work as two or three hundred men

¹¹⁶ Turner, 'Flax weaving in Scotland', p. 20.

¹¹⁷ *Caledonian Mercury*, 10 September 1812.

¹¹⁸ Warden, *The Linen Trade*, p. 565.

¹¹⁹ Warden, *The Linen Trade*, p. 566.

¹²⁰ Turner, 'Flax weaving in Scotland', p. 20.

¹²¹ Baines, *History of the Cotton Manufacture in Great Britain*, p. 240.

¹²² Baines, *History of the Cotton Manufacture in Great Britain*, p. 243.

had achieved in the same timescale, sixty years previously.¹²³ This would be around 1775. Although Baines' comments refer to the cotton industry, the linen industry also experienced similar technological advancements.

The early first attempt at setting up a power-loom in Dunfermline was carried out by David Inglis who set up one up in his house in 1834.¹²⁴ Power was provided by hand although it is not clear how this was carried out and it may have been the hand-winding of gears. The loom was then transferred to Meldrum's Mill where the power was provided by a watermill. The watermill sometimes went so slow that movement was imperceptible and at other times moved with a heavy swing to the detriment of the web.¹²⁵ Although this attempt at power weaving was not successful Inglis had already shown his inventiveness by introducing full harness weaving to Dunfermline.

The first successful power-loom factory in Dunfermline commenced work in 1849.¹²⁶ This factory was on the same site as the one used by Mr. Scott in 1847 when he attempted to set up the Dunfermline Steam-Power Weaving Factory which was unsuccessful.¹²⁷ Once the first successful power-loom factory was set up others followed in quick succession. By 1869, seven of the factories had opened and there were 2,670 power-looms giving employment to six thousand persons with an annual production of thirty million square yards of textiles to the value of £1,000,000 of which it was estimated that £443,879 was exported to America.¹²⁸ As more factories opened the number of power-looms in the town increased to around four thousand giving employment to over five thousand people in 1880.¹²⁹ The numbers of employees reduced because of improved technology on looms needing fewer employees. Jacquard machines were in common use on the power-looms of Dunfermline. 'Each loom seems to be producing a different

¹²³ Baines, *History of the Cotton Manufacture in Great Britain*, p. 243.

¹²⁴ *Fife Herald*, 11 June 1868.

¹²⁵ *Northern Warder and General Advertiser for the Counties of Fife, Perth and Forfar*, 12 June 1868.

¹²⁶ E. Patricia Dennison and Simon Stronach, *Historic Dunfermline* (Perth: Farquhar and Son, 2007), p. 61.

¹²⁷ Henderson, *Annals of Dunfermline*, p. 657.

¹²⁸ A. J. G. Mackay, *A History of Fife & Kinross* (Edinburgh: Blackwood & Sons, 1896), p. 215.

¹²⁹ Dennison and Stronach, *Historic Dunfermline* p .62.

pattern from all the others, and yet the beauty and elegance of the designs are nearly all equal.¹³⁰

The switch between power-looms and hand-looms was not instant in Dunfermline and a small number of hand-loom weavers were still working in their own homes and loom-shops in the 1870s. In addition, firms such as Erskine Beveridge & Co. utilised both hand and power-looms in the early stages of the business with the hand-loom area in the factory in 1855 as big as the power-loom area.¹³¹

Conclusion

Technological development was transformative in Dunfermline and had a profound effect on production. Although inventions in spinning were significant throughout Britain, in Dunfermline they had less impact through the spinning mills set up there as spinning was not a major activity in the town. However, they had an impact in that the organised way of work introduced factory working to the town.

It is a subject of debate whether John Wilson's fly-shuttle was an invention in his own right or copied from John Kay. However, regardless of who owned the invention it made a major difference and introduced a more productive way of working which meant that the loom could be manned by one weaver rather than two. Encouraged by various bodies other weavers gradually improved loom working in Dunfermline whilst making production simpler and more effective.

David Bonar and John Cooke in Dunfermline invented a method of securing a more accurate pattern on the web. Tablecloths and napkins had become key fashion item in the household and a more accurate reproduction of the pattern ensured that the goods reached a high standard of quality.

However, in all the technological change the most significant was the introduction of the Jacquard machine. The quality of the pattern was refined to make it more distinguishable from the base material. The pick rate

¹³⁰ David Bremner, *The Industries of Scotland, Their Rise Progress and Present Condition* (Edinburgh: Adam and Charles Black, 1869), p. 245.

¹³¹ Hugh Walker, *Dunfermline Linen. The Story of Erskine Beveridge and St. Leonard's Works 1833 – 1939* (Dunfermline: Carnegie Dunfermline Trust, 1991), p. 16.

increased considerably. Not only did it give a better finish to the designs which was important in Dunfermline linen, it made production more profitable as a draw-boy was no longer needed.

The use of the power-loom in Dunfermline transformed many aspects of the town. Although, initially, the power-loom was not suitable for weaving fine fabrics by the middle of the nineteenth century it was sufficiently refined to be of use in weaving damask. With a much faster pick rate damask was now more economically produced.

The period from the middle of the eighteenth century was a period of great innovation involving both some ground breaking inventions along with a greater number of incremental technological improvements. In the linen industry this speeded up the process of manufacture which led to increased output, better and consistent quality goods and a reduction in production costs.

Chapter 4 Manufacturers and Entrepreneurs

Now Manufactrers, half a score
Dunfermline doth contain
the weaving trade in less or more
is caired on by them¹

Introduction

This chapter examines the role of the men who established the damask linen industry in Dunfermline as manufacturers and entrepreneurs. A relatively small number of manufacturers controlled hand-loom production in Dunfermline and, in due course, a smaller number of entrepreneurial power-loom factory owners employed a large part of the population of the town as well as some who lived outside the boundaries. Two of the major businesses, both of which moved from hand-loom to power-loom production have previously been examined by a local historian.² However, documented research has not been carried out on other businesses. Therefore for this thesis, extensive primary sources have been researched to build a picture of manufacturers both in the hand-loom era and in the power-loom age. Resources include valuation rolls, wills and testaments contemporary newspapers, statutory records from 1855 and old parish registers before this date. The later power-loom factory owners often figured in newspaper reports either because of incidences in their factories or in obituaries. Records of the power-loom businesses are no longer extant so an understanding of ownership and partners has been built up from the valuation rolls of factories. This information has then been used to examine census records develop a greater understanding of households. Initially, the chapter examines the ways in which the hand-loom trade was carried out by those men who set up as manufacturers. Finance was an important part of both hand-loom and power-loom weaving. Manufacturers often relied on

¹ David Patton, *The History of Dunfermline gather'd from Good Authority, personal knowledge and hear-say* (Dunfermline: Patton, 1813), p. 29. By 1825 there were forty-two manufacturers in Dunfermline, so it is likely that in 1813 there were more than 'half a score'.

² Hugh Walker, *The Story of Erskine Beveridge and St Leonard's Works: 1833 -1989* (Dunfermline: Carnegie Dunfermline Trust, 1991); Hugh Walker, *The History of Hay & Robertson and the Robertson Family of Dunfermline* (Kelso: Kelso Graphics, 1995).

credit and so sequestration among manufacturers was not uncommon and co-partnery often meant that if one partner failed so did the others. Records of sequestration also show how some manufacturers recovered from failed business ventures, often with the financial help of relatives. The development of the Dunfermline power-loom factories is then examined. The success of the factories depended upon a number of Dunfermline entrepreneurs who came from a variety of backgrounds and census records have been examined to learn more of the careers of the entrepreneurs. Census records are snapshots so the full career of individuals is not always available, The chapter also examines ways in which employers used both incentives to motivate the workforce and the extent to which paternalism was important in factory working in Dunfermline. The intention of the chapter is to establish an understanding of the ways in which the manufacturers, both hand-loom and power-loom developed their businesses in order to make Dunfermline such a successful damask linen producer and also to recognise that from time to time manufacturers faced difficulties with production and workforce issues. The period from the eighteenth century until the mid-nineteenth century was dominated by hand-loom processes and from then until the end of the period examined by power-loom practices.

Background

In the early eighteenth century, hand-loom weavers often worked alone or with a journeyman on customer-work but as the industry developed manufacturers began to employ weavers on a putting out system. Weavers still worked in their houses or in loom-shops with stances for two or more looms and, in the mid-nineteenth century, a few manufacturers also brought together workers in a factory environment. From 1849, power-loom factory chimneys began to dominate the skyline in Dunfermline and by around 1885 more than four thousand people were employed in these works.

In the first half of the eighteenth century, linen was the major industry in Scotland. However, during the second half of the century cotton manufacture replaced linen in many parts of the country with merchants and manufacturers who had organised and financed the linen industry

transferring their skills to cotton.³ However, in common with a number of other locations in Fife, Perthshire and Angus, Dunfermline continued to produce linen. In the 1830s and 1840s, the predominance of the textile industries in Scotland was challenged by the rise of the iron industry along with coal mining and engineering so that the central belt of Scotland became one of the most intensively industrialised regions in the world.⁴ Whilst coal mining remained important in and around Dunfermline and iron foundry work gained momentum, damask linen manufacture still provided the main opportunity for remunerative employment.

By the 1850s, the dynamics of earning a living in textiles and family life were changing. The economy of textile production was no longer mainly based upon family endeavours working together but on individual family members in employment in a factory-based environment. The skills required within the factory differed from those of the hand-loom weaver working in his home or loom-shop. A damask hand-loom weaver was a skilled worker who had served an apprenticeship but, in the factory, women were the main machine operatives who looked after looms and whose jobs were considered to be unskilled with little training required. Working in a factory called for obedience from employees but it also provided factory owners with benevolent opportunities. Dennis Smith suggests that larger employers were served by a model of consensus, regulation and democracy so that the paternal employer was a benevolent provider repaying his workers' steady effort and obedience.⁵ Reciprocity, therefore, was vertical between employer and employee rather than horizontal as it had been among the craft weavers when they worked together to set up a web, for example, or debated politics while newly dressed webs were drying.⁶

A key change in the move to factory work was the employment of women outside the home environment. Women had always worked whether it was for pay outside the home, often in agriculture, or within the home

³ Anthony Cooke, *The Rise and Fall of the Scottish Cotton Industry, 1778 – 1914: The Secret Spring* (Manchester/New York: Manchester University Press, 2010), p. 3.

⁴ T. C. Smout, *A Century of the Scottish People 1830 – 1950* (London: Fontana Press, 1997), p. 85.

⁵ Dennis Smith, 'Paternalism, craft and organizational rationality 1830 – 1930: an exploratory model', *Urban History*, 19:2 (1992), 211 – 228 (p. 213).

⁶ Walker, *The History of Hay & Robertson*, p. 11.

environment but the employment of women in factories in such high numbers was new. Factory life which required discipline and attention to duties was different from the ways of working from home and men, in particular, had to adapt to new lifestyles where, for example, they could not take time off to suit themselves as they were expected to attend regularly and on time. Good use of time was such a significant factor that legislation highlighted that time keeping 'shall be regulated by a public clock or some other clock open to public view'.⁷

Manufacturers in the Hand-loom Era

By 1837, which was the most productive time in the town in the hand-loom era, the production of linen in Dunfermline is recorded as being organised by forty-four manufacturers.⁸ Around the same time, it was reported that there were 2,947 looms in the town of which 374 were owned by manufacturers or warehousemen with the rest owned by 974 weavers who, as well as weaving on their own looms, provided looms for the 993 journeymen and 598 apprentices in the town.⁹ Therefore, although the manufacturers played an important part in linen production, the vast majority of weavers either worked on their own looms or those of a master-weaver rather than directly for a manufacturer.

In the early part of the eighteenth century most weavers had taken on customer work so that: 'Many of the better weavers wrought only for private use, as servants rather than manufacturers.'¹⁰ This work was not particularly well paid but as the customer supplied the yarn it solved the problem of obtaining fibre for the next piece of work which some weavers could not afford. Membership of the Incorporation of Weavers in any town was required in order to practise the trade. A weaver would normally spend an apprenticeship of five years, serve as a journeyman for two years or more

⁷ BPP, *Bill to Amend the Law Relating to Labour in Factories*, 160 (1844), p. 10.

⁸ *Pigot and Co.'s National Commercial Directory of the Whole of Scotland and the Isle of Man* (London: Pigot & Co., 1837), p. 393.

⁹ Ebenezer Henderson, *The Annals of Dunfermline and Vicinity from the Earliest Authentic Period to the Present Time, A. D. 1069 – 1878* (Glasgow: John Tweed, 1879), p. 643.

¹⁰ Patrick Lindsay, *The interest of Scotland considered, with regard to its police in employing of the poor, its agriculture, its trade, its manufactures, and fisheries* (Edinburgh: R. Fleming, 1733), p. 82.

and then graduate to master-weaver able to set up on his own account.¹¹ The aim of this system was to control the number of weavers and to ensure that master-weavers received high earnings. The power of the weaver incorporations in the Scottish linen industry was relaxed in 1751 through an Act of Parliament so that those in the trade no longer had to pay entry money to incorporations.¹² On plain linen, this meant that the supply of weavers was increased but for damask, with complex patterns, a long apprenticeship was still required. The lives of weavers are explored in greater detail in Chapter 5.

The importance of the manufacturer in the fine linen sector increased in the mid-eighteenth century. In Dundee, the manufacturers were 'as a rule a very respectable class of men'.¹³ A number of witnesses to the 1834 and 1835 Hand Loom Weavers Select Committees also made reference to the respectability of the larger houses in the trade in all parts of Scotland.¹⁴ In general, this appears to apply in Dunfermline too and many of the manufacturers both during the hand-loom era and later had positions on the Town Council and were predominant in their church lives. In Glasgow, some manufacturers were less respectable. Known as Small Corks they paid the workmen at a lower rate and sold goods to Cash Houses.¹⁵ There is no evidence of Small Corks working in Dunfermline.

A manufacturer differed from a master-weaver in that he did not work on the loom himself but organised the supply of yarn, supervised the weaving production and handled the sale of finished goods. Yarn would be woven by weavers in their own homes at their own looms and a price agreed for the finished article with the manufacturer. This method of working was considered inefficient by some as schedules and work specifications could

¹¹ Alistair J. Durie, *The Scottish Linen Industry in the Eighteenth Century* (Edinburgh: John Donald Publishers, 1979), p. 44.

¹² Durie, *The Scottish Linen Industry*, p. 79.

¹³ Enid Gaudie, *The Dundee Textile Industry 1790 – 1885: From Papers of Peter Carmichael and Arthur Stone* (Edinburgh: Scottish History Society, 1969), p. 21.

¹⁴ BPP, *Select Committee on Petitions of Hand Loom Weavers, Report, Minutes of Evidence, Index*, 556 (1834), p. 23; p. 45; p. 63; BPP, *Select Committee on Petitions of Hand Loom Weavers, Report, Minutes of Evidence, Index*, 341 (1835), p.112; p. 149; BPP, *Select Committee on Petitions of Hand Loom Weavers, Analysis of Evidence*, 492 (1835), p. 81.

¹⁵ BPP, *Select Committee on Petitions of Hand Loom Weavers, Analysis of Evidence*, 492 (1835), pp. 83 – 4.

not be enforced, nor was there any effective curb on weft embezzlement.¹⁶ Because of this, structural reorganisation occurred and loom shops and factories evolved with each holding a varying number of hand-loom. In Dunfermline, with the exception of a carpet factory, there were no weaving manufactories until the mid-nineteenth century although two or more loom stances frequently operated in the same location. Typically, then, a manufacturer received finished work from an out-worker, supplied him with a new web and paid for the one just woven.

In 1749, the British Linen Company sent an agent to Dunfermline to employ as many looms as could be procured to work on the production of table linen.¹⁷ However, it can be seen from the British Linen Letter Books that the British Linen Company was in touch with manufacturers prior to this date. At that time, there were around four hundred looms in the town. It seems likely that the agent engaged weavers through manufacturers or master-weavers rather than directly as correspondence relating to Dunfermline is addressed to a variety of individuals providing goods to the British Linen Company.¹⁸ At the outset, the declared objective was to produce and sell 'Scottish Linens' and to break into the export markets in Glasgow and London.¹⁹ In Dunfermline, weavers were working mostly on ticks, checks and diaper as around 1760, there were 'no more than ten or twelve damask looms in Dunfermline of which six or seven belonged to David Bonar and five or six to Sanders Harley'.²⁰ As well as goods for the home market, trade with London opened up around 1770 with 'this extensive market giving impetus to table-linen manufacture here'.²¹ At this time, goods were transported from the harbour of Torryburn on the coast about five miles from Dunfermline to Borrowstounness, a seaport on the south shore of the Firth of Forth and then

¹⁶ Norman Murray, *The Scottish Hand Loom Weavers, 1790 – 1850, A Social History*, (Edinburgh: John Donald Publishers, 1978), p. 13.

¹⁷ John Fernie, *A history of the town and parish of Dunfermline* (Dunfermline: John Miller, 1815), p. 55.

¹⁸ LBG, BLB 1/4, Letter from Ebenezer McCulloch to Mr Adie, 16 May 1745; BLB 1/4 Letter from Ebenezer McCulloch to George Chalmers, 10 October 1746; BLB 1/4 letter from Ebenezer McCulloch to David Stiven, 22 April 1747.

¹⁹ Durie, *The Scottish Linen Industry*, p. 120.

²⁰ Andrew Mercer, *The History of Dunfermline from the Earliest Records down to the Present Time* (Dunfermline: John Miller, 1828), p. 164.

²¹ Mercer, *The History of Dunfermline*, p. 165.

shipped to London. In order to facilitate this the Dunfermline linen manufacturers had a large passage-boat built at their own expense.²² Trade in linen and other goods was sufficiently good to warrant seventy seamen employed from Torryburn.

In August 1757, the British Linen Company wrote to David Campbell, a prominent Dunfermline manufacturer, to enquire 'how many good hands you could now engage for weaving 6, 7 & 8 qrs Table cloths. We think you should pick up all the good weavers possible of these kinds of linen, & you may safely engage them for a twelve month from this date.'²³ This is the first indication in Dunfermline of a manufacturer having a considerable number of men in his employment. Campbell was sufficiently prosperous to live in a house which attracted 'Window Tax' in 1753.²⁴ Window tax, along with a number of other household taxes, was charged between 1747/8 and 1798 on houses with seven or more windows or a rent of at least £5.²⁵ Successful over a relatively short period of time, Campbell left Dunfermline around 1765 'having made a fortune of £7,000 and retired to Edinburgh'.²⁶ However, his success may have relied on making low payments to the weavers he engaged as, in 1755, one of his men had called at the British Linen Company's office in Edinburgh to hand in a petition from weavers in his employment who complained that Campbell was keeping part of the wages they thought due to them. The British Linen Company seemed to lack sympathy with the weavers and suggested that Campbell 'endeavour to make everything as easy as possible'.²⁷

Although there had been some doubt about the sizing of diaper tabling sent for sale by Campbell in 1754 and which buyers had refused, the British Linen Company was much happier with products in 1765 permitting Campbell to send goods direct to merchants rather than through the British

²² Mercer, *History of Dunfermline*, p. 259.

²³ Alistair J. Durie, ed., *The British Linen Company* (Edinburgh: Pillans & Wilson, 1996), pp. 84-85.

²⁴ NRS, Window Tax, Volume 042, E326/142/5, David Campbell, Dunfermline District (1753).

²⁵ NRS, 'Taxation Records', <<https://www.nrscotland.gov.uk/research/guides/taxation-records>> [accessed 31 March 2022].

²⁶ Mercer, *The History of Dunfermline*, p. 164.

²⁷ Durie, *The British Linen Company*, p. 59; p. 70.

Linen Company for sale.²⁸ At this stage the British Linen Company was re-evaluating its strategy and shifting away from selling its own linens and moving into marketing linens for other companies before settling into banking.²⁹

Prior to the introduction of power-loom factories in Dunfermline, some manufacturers had already introduced factory working. The earliest recorded manufactory was of John Mackie who by 1775 had a carpet manufactory with 'a great many looms in Rotten Row and Collierow giving employment to over thirty persons'.³⁰ Woven linen floor carpets were popular at the time, especially in America.³¹ However, covers for crudely built furniture were also called carpets and this may have been Mackie's product. A comparatively small factory was opened in Woodhead Street in 1834 followed by the opening of Baldrige Works in 1839 and the Glen Factory in 1840.³² For the most part, however, hand-loom weavers continued to work at loom-stances or in small loom-shops.

The linen industry was of great importance to the economy of eighteenth and nineteenth century Scotland. In turn, the provision of capital was, therefore, a major aspect of the industry.³³ Throughout the hand-loom era manufacturers, on occasion, joined forces to finance their businesses. Sequestration was not unusual and this could be advantageous to other manufacturers who would buy up stock and utensils. In the textile trade credit was important. Manufacturers depended on credit from suppliers and advances from merchants who bought the cloth. The bulk of manufacturers' capital was invested in raw materials, warehouse and stock and also in looms and utensils when men were working directly for them.³⁴ In addition, at times when manufacturers exported goods through merchants such as those

²⁸ Durie, *The British Linen Company*, p. 187.

²⁹ Durie, *The Scottish Linen Industry*, p. 136.

³⁰ Henderson, *Annals of Dunfermline*, p. 503.

³¹ Vanessa Habib, 'Kilmarnock carpets in the American colonies', in *Making for America*, ed. by Vanessa Habib, Jim Gray and Sheila Forbes (Edinburgh: Society of Antiquaries of Scotland, 2013), pp.151 – 170 (p. 151)

³² Daniel Thomson, *The Weavers' Craft: Being a History of the Weavers' Incorporation of Dunfermline, with Word Pictures of Passing Times* (Paisley: Alexander Gardner, 1903), p. 337.

³³ Durie, *The Scottish Linen Industry*, p. 13.

³⁴ Murray, *The Scottish Hand Loom Weavers*, p. 15

in London, long credit was required, often for twelve to fifteen months.³⁵ Manufacturers needed to obtain credit and keep going even when trade was poor. In the meantime, they had to lay out money for materials and pay workmen for finished webs.

For many of the manufacturers in Dunfermline, and in other locations, an important aspect of success was working in a partnership with others. This took a variety of forms. Both in the hand-loom era and at later times manufacturers worked with others in private, but formal, 'co-partnery' often based round a small number of closely related individuals who were active participants in the firm. This seems to be particularly so with the power-loom entrepreneurs where greater capital was required but early hand-loom manufacturers also formed partnerships. These partnerships were not always permanent and could change dependant on the needs and interests of the partners at the time. In addition, informal partnership often took place through marriages between manufacturing families. David Dewar & Co. and William Kinnis & Co. were brought together through the marriage of Ann Kinnis and David Dewar, the elder.³⁶ John Darling married Elizabeth Bonnar whose father, William Bonnar, was an early manufacturer.³⁷ Robert Donald of Inglis & Co. was a cousin of Elizabeth Bonnar and left legacies to her three unmarried daughters.³⁸

The business assets inventory, at Table 4.1, relating to the Will of David Dewar, the elder, who died in 1852, illustrates the funds which could be tied up in goods waiting to be sold as well as the amount of debt awaited from dealers and manufacturers. The firm had over forty debtors and whilst the average level of debt was around £10 the largest was over £400. Of the assets in the business at David Dewar's death, over seventy per cent comprised stock and debtors. Whilst Dewar had a manufacturing business in Dunfermline, he also had a linen merchant business in London where he sold his own goods and those of other manufacturers both from Dunfermline and from the wider Fife and Forfar areas.³⁹ Although Dunfermline was

³⁵ Durie, *The Scottish Linen Industry*, p. 53.

³⁶ NRS, Old Parish Registers, Marriages, 424/160/189, David Dewar (1827).

³⁷ NRS, Old Parish Registers, Marriages, 424/160/320, John Darling (1833).

³⁸ NRS, Wills and Testaments, SC 20/50/64, Robert Donald (1890).

³⁹ *Dunfermline Saturday Press*, 16 November 1867.

famous for damask production, at the time of Dewar's death in 1852 a number of heavier linen products were still being made as the inventory illustrates.

William Kinnis died in 1855 but his inventory is not as detailed in recounting the assets of his company although the fifty looms that he shared with David Dewar are mentioned.⁴⁰ A further five inventories of Dunfermline manufacturers who died between 1845 and 1855 were examined to establish the goods recorded.⁴¹ On business assets none have the level of detail recorded in the Dewar inventory. Some had ceased in the manufacturing business by the time of death. Many had shares in various companies. The Dewar inventory is, therefore, a useful asset in understanding the types of cloth manufactured at this time.

Table 4.1 Business Assets in Relation to David Dewar & Co. in Dunfermline and Messrs D. Dewar, Son and Sons in London at the death of David Dewar, the elder, in 1852⁴²

Item	£	s.	d.
In Dunfermline			
Stock	3824	15	7
In London			
1339 Cotton Covers	349	17	7
7408 Worsted and Cotton Covers	2799	0	0
Crumb cloths and pieces	971	0	0
Huckabacks	909	0	0
Debtors	1088	0	7
Current Account at Bank	3875	7	6
Cash in Hand	152	19	0
Total Assets of Business	13970	0	3

Source: NRS, Wills and Testaments, SC 20/50/24, David Dewar (1852).

Some understanding of early partnership working can be achieved through examining Mark Stark's experiences. When David Campbell retired his business was taken over by Mark Stark. Stark was born in Torryburn about five miles west of Dunfermline and does not seem to have experience of weaving prior to setting up as a manufacturer. In June 1766, Stark

⁴⁰ NRS, Wills and Testaments, SC 20/50/26, William Kinnis (1855).

⁴¹ NRS, Wills and Testaments, SC 20/50/16, James Inglis (1846); SC 20/50/17, John Wilson (1847); SC 20/50/18, Robert Birrell (1847); SC 20/50/19, Alexander Roy (1848); SC20/50/26, John Swan (1855).

⁴² These figures refer only to business assets personally owned by Dewar. Dewar had other household assets, personal funds, investments and part share in other businesses such as the linen merchants in London, David Dewar & Son & Sons.

requested credit from The British Linen Company for Mark Stark & Co. of £1,000 and also £600 for working in partnership with William Craig.⁴³ The credit was probably to increase the size of his manufacturing business as he had entered into contracts with three companies in the north of Scotland to spin yarns for his business. Stark was a respected manufacturer and was one of three men invited to Edinburgh by the Board of Trustees to discuss setting up a Linen Hall there.⁴⁴ It is likely at this point that Stark had a number of men working for him as, in 1771, a dwelling house and garden belonging to him were put up for sale along with a retail shop and linen and flax warehouse as well as a boiling house advertised as 'no situation in the kingdom more proper for carrying out linen manufacture in an extensive way'.⁴⁵ Stark was manufacturing tabling, ticking and checks. The webs would be prepared by the men at their own loom-stance or shop, bought by Stark and sold from the warehouse or sent to London and other towns.

In 1776, Stark set up beetling and waulk mills in Brucefield to the south-east of Dunfermline. Weaving of damask had still not progressed to any great extent and in 1778, 'there were only eighteen damask looms in Dunfermline' and Stark commenced the manufacturing of table linen with three damask looms in operation in an old house near the ruins of St. Leonard's Hospital.⁴⁶ At some point Mark Stark & Co. was in a co-partnership with David Betson & Co. but this was dissolved in 1788.⁴⁷ Working in a different type of partnership, the firm of Stark and Millar acted as agents for Gorgie Printing Field in Edinburgh where linens and cottons for garments and household furniture 'were printed in the following colours, black and white, Reds, China blues and Blue Handkerchiefs'.⁴⁸

John Darling, Manufacturer

The number of manufacturers who faced sequestration demonstrates how precarious the business could be and with manufacturers in partnership

⁴³ LGBA, BLB 1/4, Letter from Court of Directors to Mark Stark, 9 August 1765.

⁴⁴ NRS, BOT, NG 1/1/18, 20 January 1766.

⁴⁵ *Caledonian Mercury*, 3 July 1771.

⁴⁶ Henderson, *Annals of Dunfermline*, pp. 505-6.

⁴⁷ *Caledonian Mercury*, 26 June 1788.

⁴⁸ Durie, *The Scottish Linen Industry*, p. 87.

the failure of one firm could lead to the failure of others. Even apparently successful firms were often only a step away from insolvency and relied upon family and friends for financial help. This was the case with John Darling, a somewhat financially erratic manufacturer who set up his business in 1839 with twenty looms each worth £12 to £15.⁴⁹ The looms were his only asset. By 1840, he had built the Glen Factory and there, and in other locations, he had about sixty looms in operation. However, he was in financial difficulty with liabilities of around £2,000 and with the looms as his only asset as he had no stock in hand.⁵⁰ As was common at the time, Darling compounded with his creditors by making one payment at 2s. 6d. in the pound to be divided on a *pro rata* basis amongst his creditors.⁵¹

Afterwards with a loan of £300 from a friend he was able to resume in business. Darling supplied one wholesaler in particular and, by 1847, he was experiencing heavy losses of around £1,200 with that house. He compounded again with his creditors, the chief ones being banks, and again paid 2s. 6d. in the pound.⁵² He carried on manufacturing as a small business but by 1854, he had debts of £10,131 and assets of £6,000 mainly accounted for by looms. Goods had been sold directly by Darling and in addition some were manufactured on consignment. On the latter, considerable loss was made. For a third time, Darling compounded with his creditors although one wished the full debt to be paid and, in this case, his brother bought the debt so that the composition did not fail. At this point Darling paid 8s. in the pound. He continued in business and paid his creditors in three instalments over the next year.

By 1860, he was again in financial trouble because of the failure of consignments to wholesalers to sell, with assets of around £520 and liabilities of £5,611. On this occasion, he was sequestered.⁵³ Somehow, Darling remained in business although his bankruptcy was not discharged until 1868. In the 1861 census he is shown as employing two hundred hands. By the time of his death in 1880, Darling showed no signs of having any

⁴⁹ *Dunfermline Press*, 5 April 1860.

⁵⁰ *Dunfermline Press*, 5 April 1860.

⁵¹ *Dunfermline Press*, 5 April 1860.

⁵² *Dunfermline Press*, 5 April 1860.

⁵³ *Edinburgh Gazette*, 9 November 1860.

involvement in manufacturing and his main asset was a loan of £300 to his brother.⁵⁴

Tables 4.2 and 4.3 give an indication of the various buildings which Darling owned or rented throughout the town in 1855 and 1865. By 1855, Darling had three factories in the town. There are no records to show how he financed the building of the Glen Factory. The factory rented from James Hunt was the former Millport Spinning Factory. Hunt was a heritor of the town and a major manufacturer who, at one point, owned all the spinning mill buildings in Dunfermline.⁵⁵ Mrs Bonnar who owned the factory in North Chapel Street was Darling's mother-in-law. Although Darling had three factories, which was unique for a manufacturer in Dunfermline at that time, many of his workers used loom stances showing the variety of ways in which people worked for his business.

Table 4.2 Property owned or rented by John Darling, 1855

Location	Type of Building	Owner	Tenant	Rateable Value
Albany Street	Ground	John Darling	William Morton	£1. 5/-
Bruce Street	Factory (Glen)	John Darling	John Darling	£52.10/-
Bruce Street	Garden	John Darling	John Darling	£2
Bruce Street	Loom Shop	Dr. Miller	John Darling	£2.10/-
Bruce Street	House and Shop	John Darling	Alex. Norval	£15
Bruce Street	Factory	James Hunt Esq.	John Darling	£15 (£14 paid)
Bothwell Street	Loom Shop	David Aitken	John Darling	£2. 10/-
Knabbie Street	Factory (partially occupied)	John Darling	John Darling	£168 (£100 paid)
Knabbie Street	Two Loom Stances	Sidney Smith	John Darling	£1. 5/-
Knabbie Street	Two Loom Stances	Henry Shields	John Darling	£1. 10/-
Newrow Street	Loom Stance	John Morris	John Darling	15/-
Newrow Street	Three Loom Stances	John Morris	John Darling	£1. 10/-
North Chapel Street	Factory	Mrs. Bonnar	John Darling	£18
South Chapel Street	House	John Darling	John Lee	£16

Source: NRS, Valuation Roll, VR 0020001, John Darling (1855).

⁵⁴ NRS, Wills and Testaments, SC 20/50/55, John Darling (1880).

⁵⁵ Sue Mowat, 'The Millport Spinning Mill', *Dunfermline Historical Society* (2020) <<https://dunfermlinehistsoc.org.uk/the-millport-spinning-mill/>> [accessed 31 March 2022].

Table 4.3: Property owned or rented by John Darling, 1865

Location	Type of Building	Owner	Tenant	Rateable Value
Albany Street	Ground	John Darling	James Hunter	£1. 5/-
Albany Street	Ground	John Darling	James Hay	£1. 3/-
Bruce Street	Factory - unlet	John Darling		£40
Bruce Street	Garden	John Darling	John Darling	£2
Bruce Street	Room	John Darling	David Miller	£1. 10/-
Bruce Street	House	John Darling	Mary Grey	£5
Bruce Street	Loom Shop	Dr. Miller	John Darling	£1. 10/-
Bruce Street	House and Shop	John Darling	Alex. Norval	£15
Bruce Street	House	John Darling	Henry Dobson	£3. 12/-
Chalmers Street	House	James Campbell	John Darling	£28
Golfdrum Street	House	John Darling	William Coutts	£3
Golfdrum Street	Loom Shop and Park	John Darling	John Darling	£3
Knabbie Street	Factory (partially occupied)	John Darling	John Darling	£168 (£140 paid)
Knabbie Street	Ground	Henry Shields' heirs	John Darling	15/-
Knabbie Street	House and Ground	David Wardlaw	John Darling	£4. 10/-
Knabbie Street	Stable	John McDonald	John Darling	£3
North Chapel Street	Loom Stances	Mrs. Bonnar	John Darling	£13
Pittencrieff Street	Loom Shop	Henry Donaldson	John Darling	£2. 10/-

Source: NRS, Valuation Roll, VR 0020010, John Darling (1865).

Darling's business provides a good example of recovery after losses in business and demonstrates the extent of a hand-loom business continuing after the introduction of power-looms. Darling appears to have held no positions in the Town Council or in a church, possibly because of his dubious financial dealings which, at times, may have detrimentally affected those with whom he did business.

Many of the under-capitalised hand-loom manufacturers could not compete with the new power-loom factories on price, nor could they afford to build and kit out power-loom factories. As the hand-loom became obsolescent some factories were simply abandoned with looms being left to rot or roused for little money. In the case of Bryce and Ferguson, twenty-seven looms along with their Jacquard cards were roused for £79 on their sequestration in 1858 which was far less than their worth.⁵⁶

⁵⁶ NRS, CS 318/6/16, Sequestration of Bryce and Ferguson (1858).

Plate 4.1 Baldrige Works, built 1839



Source: The Royal Commission on Ancient and Historical Monuments of Scotland, H 68/498/2C, John R. Hume Collection (1968).

Another example of mismanagement of funds was that of Baldrige Works. Plate 4.1 shows the tenement type of building which was built to house a flax mill around 1830. It was taken over by Robert Robertson, a London merchant around 1838. Robertson hoped to manufacture linen using power-looms, but, separately, both the builder and Robertson were sequestered and the building was taken over by Robert Cuthbertson, a Dunfermline merchant.⁵⁷ Power-loom weaving did not succeed and it seems that the building was not used as a factory but sold to the government for military purposes in 1855.⁵⁸ It is unlikely that it would have flourished as a power-loom factory as it was less sophisticated than its successors and would probably have not been able to house heavier looms. However, it does give some idea of the type of buildings used for mills the architecture of which copied domestic tenement patterns.

⁵⁷ Henderson, *Annals of Dunfermline*, p. 644; *Economist*, Volume V – Part 1 (London, 1847), p. 430.

⁵⁸ Henderson, *Annals of Dunfermline*, p. 644.

Bleaching

An important part of linen production was the bleaching and finishing which, also, could require more substantial financing. During the early eighteenth century Dunfermline lacked a decent bleachfield. In 1731, Thomas Cousine, the deacon of weavers, addressed the Town Council to the effect that: 'The manufacturers of linnen cloath in this town were under a great disadvantage by reason of the want of a bleaching field'.⁵⁹ The Town Council agreed the initiative conscious that it would be of benefit of getting its staple products bleached cheaply and well. The location suggested was Abbey Park but the area to be used was already in the hands of a miller and maltster who would not give it up. The weavers boycotted his ale whereupon the miller 'softened down and offered terms'.⁶⁰

In order to promote a new, more efficient method of bleaching in Scotland, The Board of Trustees had set aside £2,000 to establish fields in various weaving districts.⁶¹ Preparing the Dunfermline bleachfield was a costly process as the ground had to be levelled, buildings erected and the Heuch Mill Lade diverted through culverts to bring water to the area.⁶² Work was completed in 1735 with an allowance from the Board of Trustees of £200 towards the total cost of £838.⁶³ The Trustees also arranged for an experienced bleacher from Ormiston Bleachfield in East Lothian, pioneers in the Dutch method of bleaching, to visit the town and give instruction. Dutch bleaching for finer cloth required more labour and was more expensive than the Irish method which was for coarser cloth.⁶⁴

However, in 1759, the Town Council decided to relinquish their agreement on the bleaching field, mainly because Dunfermline was handicapped by the 'lack of suitably soft, pure water supplies upon which the character and beauty of fine linens rested along with skilled bleaching techniques'.⁶⁵ The majority of cloth was sent to 'distant bleachfields' including

⁵⁹ Thomson, *The Weavers' Craft*, p. 200.

⁶⁰ Thomson, *The Weavers' Craft*, p. 203.

⁶¹ Thomson, *The Weavers' Craft*, p. 220.

⁶² Thomson, *The Weavers' Craft*, pp. 203 – 04.

⁶³ Durie, *The Scottish Linen Industry*, p. 58.

⁶⁴ Durie, *The Scottish Linen Industry*, p. 55.

⁶⁵ W. H. K. Turner, 'The Textile Industries of Dunfermline and Kirkcaldy', *Scottish Geographical Magazine*, 73:3 (1957), 129 – 45 (p. 137 – 38).

Glorat Bleachfield north of Glasgow.⁶⁶ There, cloth was bleached both in the Dutch and Irish way. Cloth could be taken direct to bleachfields or sent through local agents. John Mackie, the carpet manufacturer in Dunfermline, as well as Robert Ross, a weaver in Torryburn, acted as agents for John and David Muir who ran the bleachfield in 1759.⁶⁷ Even with the introduction of chlorine bleaching linens still had to lie on the grass for some weeks meaning that whilst the process took place the manufacturer's capital was tied up in the cloth.⁶⁸

There still remained some bleaching of yarn and cloth in Dunfermline but it was a minor part of the textile business. From 1769, Mark Stark was advertising regularly in newspapers regarding his bleachfield and had agents throughout West Fife, Kinross and at Borrowstounness.⁶⁹ In 1771, the Board of Trustees granted £60 to Stark 'for part expense of beetling engine and rubbing boards'.⁷⁰ By 1776, John Knox was operating the bleachfield on Stark's behalf and bleached both in the Irish and Dutch manner.⁷¹ The catchment area for customers had widened to include Edinburgh, Leith and Kirkcaldy. Despite the Town Council considering that bleaching in Dunfermline was not successful there was still a market for cloth bleached locally, possibly because without the addition of the time it took to transport goods to and from the bleachfield, manufacturers were able to realise payment for their products more quickly and cash flow was more successful.

Bleaching could be carried out either on the yarn or in the piece. Dunfermline goods were usually bleached in the piece although Touch Bleachfield was formed by Ralph Walker and David Wilson in 1843 to bleach yarn. The partnership was dissolved in 1851 when Walker set up Elgin Bleachfield for the boiling and bleaching of yarn and by 1877 was employing around fifty people.⁷² The firm remained in business as yarn bleachers and in the 1880s also began to bleach and finish woven goods both for local firms

⁶⁶ Henderson, *Annals of Dunfermline*, p. 473; p. 487.

⁶⁷ *Caledonian Mercury*, 1 March 1759.

⁶⁸ Durie, *The Scottish Linen Industry*, p. 103.

⁶⁹ *Caledonian Mercury*, 26 June 1788.

⁷⁰ NRS, BOT, NG 1/42/1, *Premiums for Bleaching and fitting up of Bleachfields 1729 – 1772* p. 38.

⁷¹ *Caledonian Mercury*, 27 March 1776.

⁷² Henderson, *Annals of Dunfermline*, p. 666.

and for Irish companies.⁷³ Touch Bleachfield also remained prosperous and in 1886, it was leased to Robert Black who had come from Newburgh as manager in 1885. He later purchased the property.⁷⁴ The continuation of these bleaching companies and the fact that cloth was sent from Ireland demonstrates the progress that was made in the bleaching and finishing processes in Dunfermline.

George Birrel, Manufacturer

George Birrel was one of the major damask linen manufacturers in the nineteenth century hand-loom trade. Robert and George Birrel appear in *Pigot's Directory for Scotland* in 1820 – 1821 as one of forty-nine manufacturers in the town.⁷⁵ Birrel's warehouse was based in St. Margaret Street and by the 1840s he was the largest manufacturer in Dunfermline but, as with other manufacturers, was subject to the fluctuations of trade, particularly in America necessitating short-time working at times.⁷⁶ In July 1848, his company trading as Birrel, Giraud and Dickson was sequestered. This prompted the sale of their factory in the centre of Dunfermline. Plate 4.2 shows the situation of the factory on the corner of Monastery Street and St Margaret's Street. The biggest hand-loom factory in Dunfermline, it held 114 looms, each with either one, two or three Jacquard machines. Other buildings included a bleaching house, callendering house, lapping house and a two-storey warehouse as well as dwelling houses.⁷⁷ Plate 4.3 shows Birrel's main eight-roomed residence at Abbey Gardens Cottage which was also included. Edinburgh and Glasgow Bank purchased the factory and associated buildings.

⁷³ George Beattie, 'Scottish Central Rubber Works', *Dunfermline Historical Society* (2020) <<https://dunfermlinehistosoc.org.uk/scottish-central-rubber-works/>> [accessed 31 March 2022].

⁷⁴ George Beattie, 'Touch Bleachfield', *Dunfermline Historical Society* (2020) <<https://dunfermlinehistosoc.org.uk/touch-bleachfield/>> [accessed 31 March 2022].

⁷⁵ NRS, CS 318/6/15, Sequestration of George Birrel, 1857.

⁷⁶ *Fife Herald*, 10 November 1842.

⁷⁷ *Fife Herald*, 22 February 1849.

Plate 4.2 Map of Abbey Gardens Manufactory, 1854



Source: NLS, OS Town Plan of Dunfermline (1854).

Plate 4.3 Abbey Gardens Cottage, c. 1884⁷⁸



Source: *Friends of Dunfermline* <<https://friendsdunfermline.wordpress.com/tag/george-birrel/>> [accessed 31 March 2022].

Birrell was discharged in May 1850, resumed business and purchased part of the factory estate back from the Bank in 1853. According to census records in 1851, he employed over one hundred people in the factory of whom sixty were journeymen and twenty-seven were apprentices. None are recorded as weavers. Those recorded as journeymen were most likely skilled at weaving but it was the tradition in Dunfermline to refer to those who did

⁷⁸ Later known as St Margaret's House. George Birrell's home from c. 1841 to c. 1869. After he was sequestered in 1848, he appears to have rented the house back from Edinburgh and Glasgow Bank.

not own their own looms as journeymen. A further 258 weavers working in their own loom shops or homes were shown to be 'employed' by him. In turn, they employed their own weft winders. Additionally, fifty-three women worked as warp winders. At the 1851 Great Exhibition, he displayed table linen with designs furnished by Joseph Neil Paton and wove goods 'from the finest Flemish flax'.⁷⁹ His brother, David, won a medal for work displayed at the Exhibition and a celebratory soiree was held in the large school room at the factory in celebration.⁸⁰

Working on commission, Birrel then wove damask for the American market for Messrs. J. G. Stuart & Co. based at Balgonie Mills situated on the River Leven. He continued to trade in this way for around two years requiring little capital as Stuart provided all materials, advances for payment of weavers and paid Birrel master's profit.⁸¹ When work from Stuart fell away, he wove for other parties. In November 1854, Birrel entered into a 'joint-adventure' with a new firm, Messrs. Staig and Stuart, having two main agreements with them. Firstly, to weave damask goods for the American market and secondly, to ship goods to bleachfields at Huntingtower and Tulloch-field in Perthshire on their behalf. On the latter, Birrel was to receive the goods back to sell to the home market and was to replace those items received with goods of the same value to send to the bleachfields. However, accounts were not kept up to date as Birrel admitted at a Sequestration Court in 1858.⁸² It is likely that Birrel used the opportunity of lack of accounts to defraud Staig and Stuart with incorrect recording of goods moved. Before his sequestration Birrel had consigned a shipment to America worth around £7,614 of which £5,732 had been advanced and where sales were likely to realise little income.⁸³

Lack of capital and trading in overseas markets which were subject to considerable fluctuation contributed to Birrel's sequestration. In turn, this played a part in the sequestration of George Thomson of Strathmiglo who

⁷⁹ *Lady's Own Paper*, 14 June 1851.

⁸⁰ *Fife Herald*, 6 November 1851.

⁸¹ *Fife Herald*, 31 December 1857.

⁸² *Fife Herald*, 7 January 1858.

⁸³ NRS, CS 318/6/15, Sequestration of George Birrel (1857).

had considerable dealings with Birrel.⁸⁴ Birrel's sequestration also affected the business of Staig and Stuart and it was the biggest textile firm in Fife to fail having debts of £82,000 and assets of £34,000 in 1861.⁸⁵ In addition to the issues regarding Birrel's sequestration, Staig and Stuart had entered into arrangements to act as agents for shipments of various types of goods to Australia and these also contributed to heavy losses.⁸⁶ Birrel returned to manufacturing as the 1871 census shows him as employing thirty people.⁸⁷ The factory premises were sold at some point before 1860 to the newly set up firm of Henry Reid & Son who began power-loom weaving there.

Birrel was Provost of Dunfermline from 1836 to 1838 during which time his 'sagacious management relieved the debt of the town'.⁸⁸ Although he was originally a Seceder he was later an office bearer in the Free Abbey Church.⁸⁹ He was a supporter of education and the Abbey Gardens Factory School had fifty to sixty young people of both sexes attending to learn English, writing and arithmetic.⁹⁰ In his Will he left funds to be spent 'on a manner useful to the youth of Dunfermline' and suggested that bursaries be awarded to boys and girls in order that they might attend the High School of the Burgh of Dunfermline to obtain an education not otherwise available to them.⁹¹ He was also a supporter of the Design School set up in Dunfermline and had, in 1808, along with two other Dunfermline weavers entered the Edinburgh Drawing Academy for a period of training.⁹² Birrel died on 6 July 1881 at the age of 90, one newspaper obituary describing him as Dunfermline's 'oldest, best and most honoured citizen'.⁹³

⁸⁴ NRS, CS 318/5/344, Sequestration of George Thomson, (1857).

⁸⁵ NRS, CS 318/7/311, Sequestration of Messrs. Staig and Stuart, (1861).

⁸⁶ *Dunfermline Saturday Press*, 13 April 1861; NRS, CS 318/7/311, Sequestration of Messrs. Staig and Stuart (1861).

⁸⁷ NRS, Census Enumerators Books, Dunfermline, 424/7/12, George Birrel (1871).

⁸⁸ *Dundee Evening Telegraph*, 6 July 1881.

⁸⁹ Ralph Erskine of Dunfermline was influential in the formation of Secession Church in 1733. The initial seceders were mostly located in Fife, Stirling and Perth although there was also a powerful influx of old covenanting societies in central and south-western counties. Later, Thomas Gillespie who formed the Relief Church in 1751 was also based in Dunfermline. In 1847 the Secession Church and the Relief Church merged to form the United Presbyterian Church of Scotland.

⁹⁰ *Fife Herald*, 19 January 1843.

⁹¹ NRS, Wills and Testaments, SC 20/50/54, George Birrel, (1881).

⁹² Vanessa Habib and Helen Clark, 'The linen weavers of Drumsheugh and the linen damask tablecloth woven to commemorate the visit of George IV to Scotland in 1822', *The Proceedings of the Society of Antiquaries in Scotland*, 132 (2002), 529 – 550 (p. 540).

⁹³ *Daily Renew*, 7 July 1881.

Birrel was a significant citizen of Dunfermline and his business experiences were similar to many others in that the role of hand-loom manufacturer could be precarious. Many manufacturers lacked capital and would seek advances for their goods and, if the market was not buoyant, financial difficulties could ensue.

Power-loom Entrepreneurs

Although workers had previously been gathered together in one workplace such as the spinning mills and hand-loom factories, new attitudes to work had to be learned in the large power-loom factories. Employers had to consider industrial strategies to address the wage/effort bargain and to enhance their control over the workforce.⁹⁴ For the employee, work and leisure times were much more differentiated and working time required a consistent productive approach to the tasks in hand. Far greater store was placed on the clock and closer attention paid by employers to how the labour time they hired was used.⁹⁵ The day to day lives of the workforce of the factories is examined in Chapter 5.

The first successful power-loom factory in Dunfermline commenced work in 1849.⁹⁶ Others followed in quick succession. By 1869, seven of the factories had opened and there were 2,670 power-looms giving employment to around six thousand people with an annual production of thirty million square yards of textiles to the value of £1,000,000 of which, it was estimated, £443,879 was exported to America.⁹⁷ As more factories opened the number of power-looms in the town increased to around four thousand giving employment to over five thousand people in 1880.⁹⁸ Although the number of looms increased, improved machinery reduced the need for the number of operatives. Most employees in the factories were women and girls.

⁹⁴ W. W. Knox, *Industrial Nation, Work, Culture and Society in Scotland 1800 – Present* (Edinburgh: Edinburgh University Press, 1999), p. 106.

⁹⁵ Christopher A. Whatley, 'The Experience of Work', in *People and Society in Scotland, Volume 1, 1760 – 1830*, ed. by T. M. Devine and Rosalind Mitchison (Edinburgh: John Donald Publishers, 1988), pp. 227 – 251 (p. 235).

⁹⁶ E. Patricia Dennison and Simon Stronach, *Historic Dunfermline* (Perth: Farquhar and Son, 2007), p. 61.

⁹⁷ A. J. G. Mackay, *A History of Fife & Kinross* (Edinburgh: Blackwood & Sons, 1896), p. 215.

⁹⁸ Dennison and Stronach, *Historic Dunfermline*, p. 62.

Initially, some of the factories employed both power and hand-loom as some of the fine designs were better executed on hand-loom at that time. In 1870, John Darling's handloom factory was still in production and Erskine Beveridge had hand-loom in operation at his St. Leonard's Works which, with hand-loom throughout Dunfermline and the suburbs, probably accounted for around one thousand looms still used by hand.⁹⁹ Over the next ten years numbers declined rapidly so that by 1880, there were around one hundred and twenty hand-loom in the town.¹⁰⁰ The eleventh and final power-loom factory was opened in 1876. Appendix 1 shows a map of the location of the factories. Most of the factories were set up north of the High Street and were in the central part of the town which made walking to factory relatively easy for those living in this area where much of the domestic housing of the town was located.

Appendix 2 shows the factories, the timetable of opening, the partners, the estimated number of employees and the value of the property in 1875. The following paragraphs explore more in relation to some of the businesses, the way they were set up and the key partners.

The first successful factory, St Margaret's Works, owned by A. & H. Reid & Co., demonstrated the experimental nature of this attempt at power-loom weaving as the weaving shed was an adjunct to an old building in the underflat of a house which had previously contained twenty hand-loom.¹⁰¹ Further factories were newly built, often on two or more storeys where the upper floors would be used for lapping which included the examination of finished fabric and preparation for sale. Location in the centre of town, where possible, made access easy for workers. Generally, factories had horizontal engines but where the factory was large and required supplementary power vertical engines were installed.¹⁰² The warehouse was a distinct feature of damask factories serving as an advertisement but also housing support functions such as pattern cutting and sewing. Office space was integrated into the building or part of the separate warehouse. St. Leonard's Works as

⁹⁹ David Bremner, *The Industries of Scotland: Their Rise, Progress and Present Condition* (Edinburgh: Adam and Charles Black, 1869), p. 246.

¹⁰⁰ Mackay, *A History of Fife and Kinross*, p. 215.

¹⁰¹ Hugh Walker, *The History of Hay & Robertson*, p. 46.

¹⁰² Dennison and Stronach, *Historic Dunfermline* p. 90.

the biggest factory had separate areas in 1855 for power-loom and hand-loom weaving as well as a lapping room, warping and winding room and manager's house as indicated in Plate 4.4. In 1860, an Italianate warehouse and office building was constructed alongside the factory.¹⁰³ The warehouse was lavishly detailed and decorated and had a permanent display of Erskine Beveridge products. Factory buildings which were essentially functional were turned into displays of success.

Plate 4.4 Map of St Leonard's Factory, 1854



Source: NLS, OS Town Plan of Dunfermline (1854).

In 1875, there were nine separate businesses with around twenty men as partners or sole owners. All were all initially close or extended family businesses though by the end of the century in order to gain legal financial protection many were formed into limited companies. All the entrepreneurs, except those at Steel & Co., had some background in textiles although this differed and over the period studied there was some movement of principals from one company to another. Most of those who initially set up the factories were already established hand-loom manufacturers although only Erskine Beveridge & Co. and David Dewar & Co. had experience of factory working so that for others their method of production on hand-looms was through putting out. When the manufacturers commenced production by power-loom most already had a good market base and, therefore, they sought to expand business through backward integration by manufacturing the products rather than having this done by others.

¹⁰³ Hugh Walker, *The Story of Erskine Beveridge*, p. 11.

At first, Hay & Robertson made arrangements to market goods manufactured in a power-loom factory in Perth under contract. This was not successful and, in 1867, the firm acquired the power-loom business set up by Andrew Boag. It was one of the smaller factories in the town and was reported to have only forty-seven looms and sixty staff in 1875.¹⁰⁴

Caledonia Works was founded by Robert Steel and his father in 1874 by acquiring an old hand-loom factory, previously run by John Darling, which was expanded and adapted for steam-power. Steel and his father were unusual as neither had any manufacturing or weaving experience. Robert Steel Snr. was a farmer with an extensive holding of land at South Fod just outside Dunfermline. The Steels had three partners. James Mungall and Henry Mungall were both Coal Masters in Cowdenbeath and John Drummond was a damask pattern designer. Since the former two had many financial interests along with their occupations it is likely that their involvement, at least at the outset, was to provide capital.

In some cases, the manufacturers also had, or were associated with, merchant companies. These included David Dewar & Co., Inglis & Co. and later James Mathewson & Son. Two of the partners in Inglis & Co., Robert Donald and Peter Donald spent much of their time working in America though Robert Donald returned to Dunfermline and served a term as Provost.¹⁰⁵ J. and T. Alexander had a long association with linen weaving possibly dating back to the seventeenth century.¹⁰⁶ In 1825, they were the first company to deal directly with the United States of America appointing agents in New York and Boston. In due course, other firms added extensive outlets both in the Britain and abroad.¹⁰⁷

The factories varied in size and were, on occasion, extended. St. Leonard's Works remained the biggest linen factory in Dunfermline and by the 1860s was reported to be the most extensive of its kind in Britain described as 'colossal'.¹⁰⁸ The last power-loom factory to be built was the second factory of Inglis & Co. opened in 1876. It had around four hundred

¹⁰⁴ *Dundee Courier*, 30 April 1875.

¹⁰⁵ *Dundee Courier*, 28 February 1890.

¹⁰⁶ Walker, *The History of Hay and Robertson*, p. 22.

¹⁰⁷ Walker, *The Story of Erskine Beveridge*, p. 20.

¹⁰⁸ Bremner, *The Industries of Scotland*, p. 242; *Dunfermline Press*, 14 October 1863.

looms and typical of many of the factories had Italianate styling as illustrated at Plate 4.5. Whilst this added tasteful architecture to the town the factory chimneys, of which an example is shown at Plate 4.6, were less attractive. Inglis & Co. went into voluntary liquidation in 1926 when the factory was bought by Wilson and Wightman as an embroidery factory.¹⁰⁹ In 2020, the building was converted into domestic flatted accommodation.

Plate 4.5 An External View of Victoria Works Administration Block owned by Inglis & Co. Designed in an Italianate style



Source: RCAHMS, SC 454887, John R. Hume Collection (1975).

Plate 4.6 Victoria Works Chimney



<https://canmore.org.uk/collection/454880>

Source: RCAHMS, SC 454880, John R. Hume Collection (1975).

Most of the factory entrepreneurs had built up a reputation and had experience of the markets. Into the early twentieth century, the fortunes of

¹⁰⁹ 'Victoria Works', *Canmore* <<https://canmore.org.uk/site/49417/dunfermline-70-pilmuir-street-victoria-works>> [accessed 31 March 2022].

the manufacturers were good so that those setting up the factories generally benefitted well financially. An examination of the wills and probate inventories of many of the founders suggests that all had in their background some type of advantage whether it be previous experience of the business or available finance. In an examination of Scottish cotton masters Cooke identified that many had highly diversified interests.¹¹⁰ The wills of the first-generation power-loom factory owners demonstrate this too. This often involved ownership of property which covered both commercial and domestic property. In addition, some had interests in local organisations such as the building of St Margaret's Hall. A number of the power-loom manufacturers lived in Comely Park Place. Laid out in the grand style it was a broad tree-lined street quite different to the other streets in the town.¹¹¹ These sandstone mansions proclaimed wealth and were a favoured living area for those who wanted to impress others with their success. The inventory of James Alexander, of J. & T. Alexander, at Appendix 3 demonstrates the various investments held in banks and other enterprises. The change in assets of an eighteenth century manufacturer, such as that of John Harley (see Table 2.1), to one of a nineteenth century manufacturer is quite considerable not only demonstrating a change in household assets but also the investment in banks and utilities. Whilst Harley's assets are listed individually by the time James Alexander died it was the practice for a valuer to put a price in total on household assets which in Alexander's case included a carriage and horses.

David Dewar and Co., James Mathewson & Son and Bothwell Factory

David Dewar & Co. were prominent manufacturers of fine and ornate tablecloths and altar cloths at their factory in Woodhead Street built in 1834, the first hand-loom factory in Dunfermline.¹¹² David Dewar, the elder, who commenced weaving in Pittencrieff in the 1790s had married, secondly, Ann

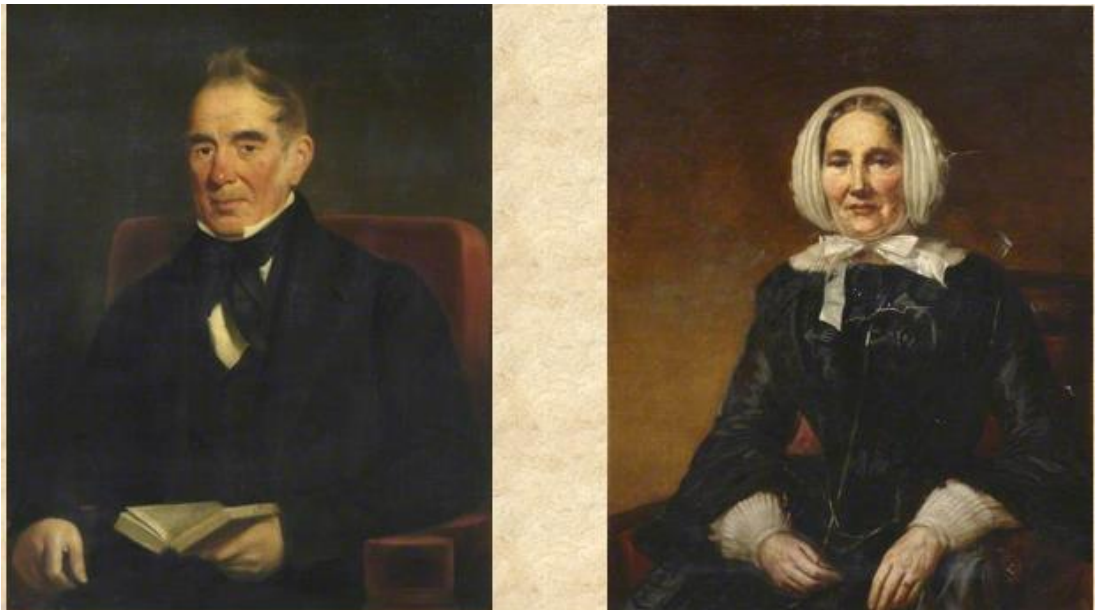
¹¹⁰ Cooke, *The Rise and Fall of the Scottish Cotton Industry*, p. 175.

¹¹¹ Sheila Pitcairn, *A History of the Old 'Fitpaths' and Streets of Dunfermline: Then and Now* (Dunfermline: Pitcairn Publications, 2007), p. 108.

¹¹² Thomson, *The Weavers' Craft*, p. 337.

Kinnis thus bringing two key Dunfermline manufacturing families together.¹¹³ Portraits reproduced at Plate 4.7 show the rather formal demeanour of the couple. At one point, Ann's brother William Kinnis and Dewar were in business partnership and introduced a new weaving process which led to three colours being used in the fabric.¹¹⁴ When Kinnis died in 1855, David Dewar & Co. continued to operate W. Kinnis & Co. In London, they traded as textile merchants as Messrs. D. Dewar, Son and Sons (reflecting the generational aspect of the firm) selling their own goods and those of other manufacturers from Dunfermline and a wider radius of Fife and Forfar.¹¹⁵ David Dewar & Co. were also involved in co-partnership with George Inglis and Son in Dunfermline and in London with the same partners as Dewar, Inglis & Co. This was wound up by mutual consent in 1828.¹¹⁶ Working together partner firms could support each other in developing techniques and in mitigating risks as well as giving or receiving financial support.

Plate 4.7 David Dewar and his wife Ann Kinnis, c. 1827. Unknown artist and dimensions



Source: Fife Collections Centre, Glenrothes

¹¹³ Dewar and Son Damask, *Artisans and the Craft Economy in Scotland*, <https://artisansinscotland.wordpress.com/2015/12/01/december-dewar-son-damask-1857/#_ftn9> [accessed 31 March 2022].

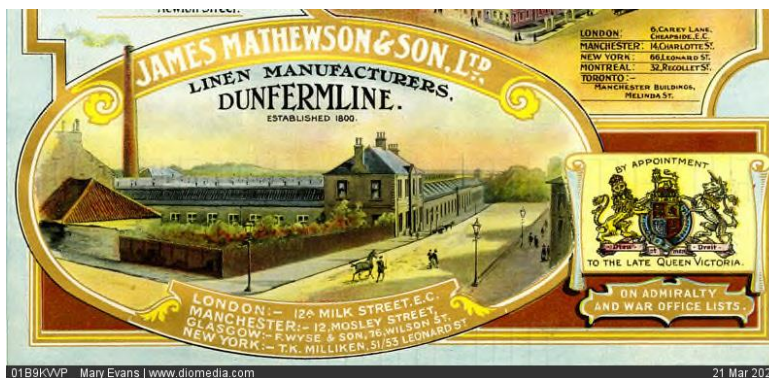
¹¹⁴ Sue Mowat, 'The Millport Spinning Mill'.

¹¹⁵ *Dunfermline Saturday Press*, 16 November 1867.

¹¹⁶ *London Gazette*, 1828, p. 1,791.

David Dewar, the elder, managed the business in Dunfermline whilst his son, also David, and grandson, James, lived in England and managed the merchant business in London. David Dewar, the elder, died in 1852 and his son in 1855, and James Dewar became the sole partner. In 1859, in order to develop and extend the business a lease was taken on the factory at Prinlaws which had belonged to John Fergus & Co. which was in financial difficulty.¹¹⁷ However, the premises at Prinlaws were insufficient and hand-loom production could not keep pace with the requirements of the business and so David Dewar & Co. commenced building the Bothwell power-loom factory in 1863, opening in 1865. James Dewar died in 1867 and despite being one of seven sons and six daughters of David Dewar, the younger, there was no-one in the family to carry on the business.

Plate 4.8 Early Twentieth Century Advertisement for James Mathewson & Son



Source: *Mary Evans Picture Library*, < <https://www.maryevans.com/search.php> > [accessed 31 March 2022].

The building and business at Bothwell Works were purchased by William Mathewson on behalf of James Mathewson & Son. There is little information on the firm prior to their involvement in Bothwell Works although it is known from an early twentieth century advertisement shown at Plate 4.8 that they had been in business since 1800. At the time of his marriage in 1820, James Mathewson (father of William Mathewson) is shown as clerk to William Hunt.¹¹⁸ William Hunt was a heritor of Dunfermline who owned considerable property and land in and around Dunfermline as well as being a manufacturer so it is possible that James Mathewson was involved in the

¹¹⁷ *Dundee Advertiser*, 18 November 1867.

¹¹⁸ NRS, Old Parish Registers, Marriage, James Mathewson (1810).

business. James Hunt took over the business of William Hunt & Co. in 1807 when his father died.¹¹⁹

James Mathewson, shown in portrait with his wife and a son at Plate 4.9, had four sons and four daughters. His eldest son was a merchant in London and Calcutta, William, his second, was initially a factor for James Hunt (son of William Hunt), Adam was at one time Treasurer to the Dunfermline Gas Light Company but removed to Karachi and John was Secretary to The Oriental Steam Company.¹²⁰ James Hunt died in 1858 and either then or when James Mathewson died in 1860, William Mathewson became the senior partner in the family business. Bothwell Works was the second largest factory in Dunfermline and William Mathewson enjoyed a lavish lifestyle. As well as the home he owned in Comely Park Place, along with the one he purchased for his son, James, he lived in rented houses from time to time including a period when he rented Sands House in Tulliallan where his extended family lived along with five servants and a groom.¹²¹

¹¹⁹ BPP, *Royal Commission into Administration and Practical Operation of Poor Laws in Scotland*, Appendix, Part III, 565 (1844), p. 359.

¹²⁰ NRS, *Wills and Testaments*, 20/50/32, James Mathewson (1860).

¹²¹ NRS, *Census Enumerators Books*, Tulliallan, 397/5/4, William Mathewson (1881).

Plate: 4.9 James Mathewson and his wife and son, c. 1832 – c.1836. Unknown artist and dimensions¹²²



Source: Fife Collections Centre, Glenrothes.

In 1877, William Mathewson owned nearly fifty domestic properties in Bothwell Street, New Row and Nethertown Broad Street.¹²³ Whilst the building of new homes to house factory workers had been encouraged by Dunfermline Town Council the move by manufacturers to build and own property seems to be materialistic rather than paternalistic as the housing was generally not occupied by persons who could be identified as factory workers. Mathewson died in 1894 at Pitliver House in Dunfermline. As well as considerable deposits in a number of banks he owned shares in a variety of companies including a Steam Navigation Company and Dunfermline Gas Light company.¹²⁴ His sons George and William were by then partners in the firm and there was provision in his will for his grandsons, sons of his late son, James, to learn the business if they wished. All three sons of James became

¹²² The name of the son is not recorded but it is mostly likely Adam who would have been around the age of four at this time.

¹²³ NRS, Valuation Roll, Nethertown Broad Street, VR002600014-/84; Bothwell Street, VR002600014-/80; New Row, VR002600014-/84 (1877).

¹²⁴ NRS, Wills and Testaments, 20/50/71, William Mathewson (1894).

medical practitioners.¹²⁵ At that time the damask linen industry of Dunfermline was at its height. James Mathewson & Son was one of the longer standing linen businesses in Dunfermline and remained in business until 1932. The buildings were demolished in 1950 with the exception of the office block which remained until 2020. The description of the Mathewson family demonstrates the prosperity of those running the power-loom businesses.

In many ways the entrepreneurs of Dunfermline led similar lives to those of the Vale of Leven where Turkey red printed cotton firms were established to take advantage of the plentiful supply of fresh water, good bleachfields and cheap labour.¹²⁶ The first of the large firms, William Stirling & Sons, had third and fourth generations of the family involved in the business in the same way as there was considerable family involvement from the Dewar and then the Mathewson family.¹²⁷ Dunfermline entrepreneurs often used manufacturing wealth to expand interests outside the business as can be seen from the inventory of James Alexander of J. & T. Alexander. Similarly Archibald Orr Ewing of Archibald Orr Ewing & Co. used his accumulated manufacturing wealth to expand his interests beyond the Vale of Leven.¹²⁸

A Paternalistic Approach by Dunfermline Manufacturers?

The introduction of power-loom factories and centralised production brought into perspective a relationship between employers and employees in the textile industry which had not existed previously. Although workers had in the past been gathered together in one workplace such as the spinning mills and hand-loom factories, new attitudes to work had to be learned in the large power-loom factories both by employers and employees. Employers had to consider industrial strategies to address the wage/effort bargain and to enhance their control over the workforce.¹²⁹ For the employee, work and

¹²⁵ NRS, Census Enumerators Books, Edinburgh, 685/5 81/17, James W. Mathewson, George D. Mathewson, John Mathewson (1901).

¹²⁶ Stan Nenadic and Sally Tuckett, *Colouring the Nation: The Turkey Red Printed Cotton Industry in Scotland c. 1840 -1940* (Edinburgh: NMS Enterprises, 2013), p.4.

¹²⁷ Nenadic and Tuckett, *Colouring the Nation*, p. 5.

¹²⁸ Nenadic and Tuckett, *Colouring the Nation*, p. 12.

¹²⁹ Knox, *Industrial Nation, Work, Culture and Society*, p. 106.

leisure times were much more differentiated and working time required a consistent productive approach to the tasks in hand. Far greater store was placed on the clock and closer attention paid by employers to how the labour time they hired was used.¹³⁰ This posed a threat to the artisan workshop with its spirit of participatory democracy in a fraternal culture dominated by loyalty to the 'shop'.¹³¹

The answer to a successful large business lay in the way in which the employer controlled the workforce and paternalism was perhaps the most sophisticated way of establishing direct control. Previously, it had been used as a traditional way of managing the huge inequalities in landed society with both parties recognising the reciprocal rights and duties involved in the paternal relationship.¹³² As well as conveying a relationship that ranged from personal contact and involvement to management policies Melling suggests there may be confusion over paternalism as a welfare relationship.¹³³ Whilst the word might be used to suggest a fatherly concern for employees in the textiles and other areas such as mining, railways and shipbuilding, welfare decisions were often reached after deliberate calculation of costs and benefits or with an overtly strategic purpose.

Paternalism as a relationship between labour and capital could involve the transfer of non-cash benefits and, in some cases, cash benefits outside the formal wage bargain. These could include the ownership of employee housing, provision of dinners, teas and treats for factory workers, sponsorship of friendly societies and adult education along with financing factory and community schools.¹³⁴ However, factory workers may not have identified their interests with their masters and the independency of the working-class posed a challenge to their employers.¹³⁵ For the workers in the textile industry in Lancashire, stability of employment and earnings was the

¹³⁰ Whatley, 'The Experience of Work', p. 235.

¹³¹ Smith, 'Paternalism, craft and organizational rationality 1830 – 1930, p. 213.

¹³² Knox, *Industrial Nation, Work, Culture and Society*, p. 106.

¹³³ Joseph Melling, 'Scottish Industrialists and the Changing Character of Class Relations in the Clyde Region c. 1880 – 1918', in *Capital and Class in Scotland*, ed. by Tony Dickson (Glasgow: Bell & Bain Ltd, 1962), p. 101.

¹³⁴ Patrick Joyce, *Work, Society and Politics, The Culture of the Factory in Later Victorian England* (London: Methven & Co. Ltd., 1982), p. xx.

¹³⁵ H. I. Dutton and J. E. King, 'The Limits of Paternalism: the cotton tyrants of North Lancashire 1836-1854' *Social History*, 7:1 (1982), 59 – 74.

first priority without which no amount of school building and offering treats could be expected to produce cordial feelings between employer and employee.¹³⁶ Most manufacturers in the textile industry, however, could not guarantee stability given the fluctuations in market conditions.

Owners of large firms often contributed to the community structure by donating schools, libraries, churches, recreational facilities and monumental buildings.¹³⁷ Whilst housing and other forms of infrastructure like retail shops were important in attracting workers to the early Scottish rural mill settlements such as New Lanark, Catrine and Stanley, this was less important in larger towns where housing was more readily available either for families or as lodgers.

Paternalism, therefore, worked best in small towns and isolated industrial villages rather than in large towns and cities where the population and occupational structure was continually changing. In the thread factories of Paisley where the workforce was more cohesive and stable and where dependency on a specific employer was evident a paternalistic approach was successful.¹³⁸ The two major thread firms in Paisley were J. and P. Coats and Company and J. and J. Clark with the thread industry heavily reliant on exports to the USA. Both families had strong religious convictions and their philanthropy was bound up in this along with a strong desire to create a 'company culture'.¹³⁹ The 'threadocracy' provided a comprehensive system of welfare for their employees which included pensions, schooling and housing and they also donated hospitals, churches, schools and other civic amenities to the town in an effort to stabilise industrial relations. Despite their philanthropic standpoint they were, nevertheless, highly competitive.

In an examination of two case-studies in Fife, John Fergus & Co., flax-spinners and bleachers in Prinlaws near Leslie, and Michael Nairn & Co., linoleum manufacturers in Kirkcaldy, Morris and Smyth identified paternal strategies.¹⁴⁰ Whilst Nairn & Co. was based in an urban environment, the

¹³⁶ Dutton and King, 'The Limits of Paternalism', p. 73.

¹³⁷ Bob Morris and Jim Smyth, 'Paternalism as an Employer Strategy, 1800 – 1960', in *Employer Strategy and the Labour Market*, ed. by Jill Rubery and Frank Wilkinson (Oxford: Oxford University Press, 1994), pp. 195 – 225 (p. 196).

¹³⁸ Knox, *Industrial Nation, Work, Culture and Society*, p. 109.

¹³⁹ Cooke, *The Rise and Fall of the Scottish Cotton Industry*, pp. 88 – 89.

¹⁴⁰ Morris and Smyth, 'Paternalism as an Employer Strategy, 1800 – 1960', pp. 204 – 06.

Fergus Mill was based on the River Leven near to the old burgh of Leslie and the village of Prinlaws grew up alongside the mill. Housing was provided by both with the supply in Prinlaws used to create and recreate the mainly female labour force allowing Fergus & Co. to dominate its workforce and community. Although Nairn & Co. provided some housing the location of their first factory was in an area which had a variety of housing readily available.

The school and reading room in Prinlaws were built by the company which also took care of the collection of waste, the water supply and street lighting. Nairn & Co.'s provision of amenities tended to be public through gifts such as the provision of a cottage hospital in 1874. Both firms made efforts to get their employees to identify with the firm. Nairn & Co. celebrated events in their own family such as births and marriage by inviting workers to garden parties. The extent to which paternalism existed in Prinlaws illustrates how in industrial villages where an employer had a near monopoly on the labour market control of housing and acts of public benevolence extended the workplace beyond the factory and into society.

Prior to the introduction of power-loom factories there is some evidence that the manufacturers had paternalistic ideas. Certainly, George Birrel, who in 1843 had a school attached to his factory at Abbey Gardens educating fifty to sixty boys and girls, had an interest in the advancement of young people.¹⁴¹ Dunfermline factory owners did not donate public buildings and, in general, they did not provide housing for employees other than in some instances a manager's house next to the factory. However, some manufacturers feued their lands in order that weavers might build houses. In the 1820s 'good houses, mostly dedicated to the loom, were built on pleasant feus at Brucefield' where houses had been built some years previously mostly occupied by table linen weavers.¹⁴² James Inglis, a hand-loom manufacturer, feued grounds on the northern outskirts of Dunfermline creating a new street, Inglis Street, where the houses were chiefly owned by weavers.¹⁴³ There was a proposal that an area would be called Inglistown but this was not fulfilled. William Hunt feued a considerable area of

¹⁴¹ *Fife Herald*, 19 January 1843

¹⁴² Mercer, *History of Dunfermline*, p. 185.

¹⁴³ Mercer, *History of Dunfermline*, p. 183.

Pittencrieff and these were occupied by weavers.¹⁴⁴ However, there is no indication that the houses were provided to workers as part of a paternalistic package.

As the population increased the town expanded in consequence with old roads developed and new roads such as the New Row and Campbell Street being built. A number of power-loom factory owners including James Mathewson & Son and Erskine Beveridge & Co. invested in housing property although, again, this was not rented to their factory workers at a reduced rent.

At St. Leonard's Works in 1855, two hundred or so pupils at the school were children of workers in the factory and received schooling at a reduced price.¹⁴⁵ The school had two apartments, a long room with a gallery and a smaller room where the female teacher taught sewing and knitting.¹⁴⁶ Although 'public works' schools were opened by local collieries other power-loom factories did not follow the St. Leonard's Works' example.

A popular but relatively minor way of offering incentives to workers was tea parties and outings. In August 1854, between six and seven hundred employees from St. Leonard's Works enjoyed an outing to Bridge of Allan arranged by the works' manager Mr Dobbie. They marched with bands from the factory to Mr Beveridge's gardens where he greeted them and 'complimented them on their appearance and wished them well for the day's excursion'.¹⁴⁷ On arrival in Bridge of Allan they 'marched in procession, colours flying' to Keir House where they took refreshments and danced. It is not clear whether the crowd was mostly female, but the reported view was that 'St Leonard's girls most assuredly bear the bell for their tidy, neat and healthy appearance'.¹⁴⁸

The factory manager is frequently reported as being the organiser of an excursion. On 26 May 1882, Mr Davidson, the respected manager at Caledonia Works organised an excursion to Alloa by train for around three

¹⁴⁴ Fernie, *A history of the town and parish*, p. 52.

¹⁴⁵ Eric Simpson, *The Auld Grey Toun: Dunfermline in the Time of Andrew Carnegie, 1835–1919* (Dunfermline: Carnegie Dunfermline Trust, 1987), p. 64.

¹⁴⁶ Chalmers, *History and Statistical Account of Dunfermline*, Vol. 2, p. 336.

¹⁴⁷ *Stirling Observer*, 17 August 1854.

¹⁴⁸ *Stirling Observer*, 17 August 1854.

hundred workers and their families. The event was held in a public park and the participants appreciated tea, coffee, beer and lemonade as well as a 'sweetie stall'.¹⁴⁹ The younger girls enjoyed skipping. There was football for the men and dancing for all.

Over several years the excursions took the same format. The workers would gather at the factory and then march to the railway station accompanied by a number of bands and often carrying banners with slogans such as 'The Shuttle's Speed Supplies Our Need'.¹⁵⁰ On occasion they would pause in the grounds of the owner's house which often boasted a large garden. The destination would be a public park or grounds of a fine house opened to the workers for the day. At some point gratefully expressed thanks would be given to the owners for a good day out. Press reporting often talked about the generosity of the owners of the factory and how 'their presence and co-operation added greatly to the pleasure of the day'.¹⁵¹ Through reporting these outings in this way the benevolence of the proprietors of the factories was emphasised. These outings also reinforced the identification of employees with their workplaces in the way in which they marched together and carried banners.

One practical way of helping employees was used by Robert Donald who was Provost at the time of his death and a partner in Inglis & Co. He left each of the workers in the Castleblair and Victoria Works £10 with larger sums for managers and pattern cutters. In a later codicil, he gave permission for his Trustees to retain the £10 for up to three years 'as some of them will be young or improvident'.¹⁵² Robert Donald also paid for a fountain made from Aberdeen and Peterhead granite to be erected in the Public Park.¹⁵³ Dunfermline had a history of problems with provision of water as is illustrated in Chapter 5. Although these were resolved by the time of the introduction of the fountain such a town facility recognised the importance not only of a decorative piece but of water to the community.

¹⁴⁹ *Alloa Advertiser*, 3 June 1882.

¹⁵⁰ *Dunfermline Saturday Press*, 14 June 1884.

¹⁵¹ *Dunfermline Saturday Press*, 14 June 1884.

¹⁵² NRS, Wills and Testaments, SC 20/50/64, Robert Donald (1890).

¹⁵³ *Dunfermline Saturday Press*, 22 October 1887.

Both hand-loom manufacturers and power-loom manufacturers were prominent in the civic life of the town. A number including George Birrel, Erskine Beveridge and Henry Reid served as Provost. James Mathewson was involved in policing the burgh and his son William was a prominent member of the Baptist Church.

In other towns many of the prominent businessmen donated buildings to the public such as libraries and townhalls. A library had been set up in Dunfermline in 1789 and a Tradesmen's Library was formed in 1808 with weavers predominant in the organisation of it.¹⁵⁴ However, it was not until 1883 that Andrew Carnegie presented his home town with the first of his funded libraries.

Although the benefits from manufacturers in Dunfermline may not have been as great as other locations, all the factories and, particularly, St. Leonard's Works indicate involvement between the owners and their employees. Erskine Beveridge, father and son, were considered good employers but some of the additional support they gave, such as the school, might be interpreted as a form of controlling their workers.

Conclusion

The manufacturers of Dunfermline were an important asset to the town ensuring that the linen trade flourished at difficult times. Whilst some of the manufacturers had relatively small businesses others such as John Darling and George Birrel built up large businesses with a high number of people producing goods for them. Ultimately, they opened manufactories and changed working patterns. Hand-loom weaving firms such as David Dewar & Co not only operated merchant businesses but moved smoothly into the power-loom era.

By 1875, just over twenty men controlled ten factories with a workforce of around four thousand people, a large proportion of the population. Almost all had some background in the weaving trade but for some it was their capital investment which helped the progress of the trade. All the founders were rich men at their deaths.

¹⁵⁴ Henderson, *Annals of Dunfermline*, p. 563

By 1880, when all the power-loom factories had opened there was one hundred times more linen produced in eleven factory locations than in many homes in 1836.¹⁵⁵ The Dunfermline damask trade continued to be important well into the twentieth century. In a relatively short time, the textile workforce moved from male dominated home-based weaving with the support of family members in a family enterprise to one which was based in factories mainly staffed by women. Whilst an emigrant returning to his hometown of Dunfermline in 1874 might 'not know his home town' because of the tall stalks and clanking engines he would undoubtedly also see a change in the lifestyles of those around him amid many women rushing to the factory for a day's paid labour.¹⁵⁶

¹⁵⁵ Thomson, *The Weavers' Craft*, p. 95.

¹⁵⁶ *Campbell's Dunfermline and West of Fife Family Almanac* (Dunfermline: Campbell, 1875), (pages not numbered).

Chapter 5 The World of Work

The general intelligence of the community is increasing – that their manner and habits have become more refined, and, consequently, that steadiness of character, and sobriety of demeanour in all relations of society, are proportionately more studied.¹

Introduction

Andrew Mercer's publication from which the above quotation is taken was one of three histories of Dunfermline published locally in the early nineteenth century and 'symptomatic of a new dynamism and confidence in Scottish urban life in the early nineteenth century'.² This chapter looks at weavers and operatives both in a putting out scenario and those directly employed in the later power-loom factories. Chapter 4 highlighted the importance of development of the power-loom factories from the point of view of employers. This chapter examines the way in which employees reacted to these changes along with the ways in which work was carried out before this time.

Census information has been utilised to highlight increases in population and in the number of people working in textiles in Dunfermline. A later history of Dunfermline has proven useful providing information on wages and workforce taken from evidence prepared by the Dunfermline weavers for a written paper delivered to the Hand-Loom Commissioners in July 1838.³ Census records have been useful in establishing the composition of households and using this information along with valuation rolls a case study has been completed of Moodie Street comparing household size, gender of the head of the household and the average size to demonstrate changing occupations and heads of household between 1851 and 1881.

¹ Andrew Mercer, *The History of Dunfermline from the Earliest Records Down to the Present Time* (Dunfermline: John Miller, 1828), p. 191.

² Bob Harris, 'Cultural Change in Provincial Scottish Towns, c. 1700 – 1820', *The Historical Journal*, 54:1 (2011), 105 – 41 (p. 105). The other histories were David Patton [also spelled Paton], *The history of Dunfermline: gather'd from good authority, personal knowledge and hear-say* (Dunfermline: David Patton, 1813); John Fernie, *A history of the town and parish of Dunfermline* (Dunfermline: John Miller, 1815).

³ Peter Chalmers, *History and Statistical Account of Dunfermline*, [Vol. 1] (London/Edinburgh: Wm. Blackwood & Son, 1844).

Valuation rolls show that few working class families owned their homes and an understanding of the size of homes can be gained from census information recording the number of rooms in a dwelling. The voices of working people are not strong in the period studied and accounts of life from contemporary historians are few. Contemporary newspapers recount some activities of working people, particularly the soirees often held by the factory owners. From the mid-nineteenth century newspapers had a wider audience and contributions were encouraged from the working class. Evidence has been gained from these publications on lives lived along with the few publications of working people in Dunfermline thus creating a greater understanding of the way in which 'ordinary' people contributed to the success of the damask industry.

Background

Edward Thompson has argued that the period between 1780 and 1832 saw the 'making of the English working class'.⁴ Thompson's study excluded Scotland from his analysis. However, later historians have examined the experience of industrialisation from many perspectives which have suggested that rather than a composite experience, workers could be divided by gender, race, religion and other factors so that people in the workforce had different experiences.

Hand-loom weavers often worked alone, although some worked in loom-shops and, increasingly in the mid-nineteenth century small manufactories were introduced. The putting out system ensured that, in good times, there was work for all. However, in less good times this system enabled the manufacturers to set prices amongst themselves which often lowered the amount paid for webs and led to hardship for the weavers and their families.

The use of power-looms was developed later in Dunfermline than in other textile manufacturing towns because the fine threads needed for damask broke on early power-looms making that method of manufacture unsuitable. However, by 1876, there were eleven power-loom factories

⁴ E. P. Thomson, *The Making of the English Working Class* (London: Penguin, 1980).

dominating the town with a workforce of around four thousand people – mostly women. Working in a factory was different to the experience of those who kept their own hours. Smout suggests that there was so little experience in Scotland that called for mass toil under an overseer outside the house that people initially saw factory work as ‘semi-servile’ and on a par with charity workhouses where paupers were driven from dawn to dusk to make them industrious and moral.⁵

An indication of the number of people working in textiles in Dunfermline in the years 1871 and 1881 is shown at Table 5.1. Taken from census data this includes all workers in that Order and not just those working in power-loom factories. Nearly 85% of females aged under twenty were engaged in flax and cotton work in 1871 and nearly 75% in 1881. Although the figures are lower for women aged twenty and over, the majority of recorded employed women worked in flax and cotton which were the main textiles produced in Dunfermline.

Table 5.1 Population of Dunfermline Working in Flax and Cotton in 1871 and 1881⁶

	Male under 20	Male 20 and over	Female under 20	Female 20 and over	Total
Working population in 1871	884	3430	1211	1787	7302
In flax and cotton	208	1201	1026	985	3420
% of working population	23.5	35	84.7	55.1	46.8
Working population in 1881	816	7391	1330	2009	11546
In flax and cotton	178	819	982	1262	3241
% of working population	21.8	11.1	73.8	62.8	28.1

Source: BPP, *Eighth Decennial Census of the Population of Scotland taken 3rd April 1871 with Report, Volume II*, C. 841 (1873), pp.500 – 501; BPP, *Ninth Decennial Census of the Population of Scotland taken 4th April 1881, Volume II*, C. 3657 (1883) pp.656 – 659.

Henry Syme who lived for most of his life in Dunfermline worked initially as a damask weaver although later he was a merchant and grocer. Syme achieved some fame through poetry circulated in newspapers which probably encouraged him to publish a volume when he was aged over

⁵ T. C. Smout, *A History of the Scottish People 1560 – 1830* (London: Fontana Press, 1998), p. 380.

⁶ Workers also travelled from outside the Dunfermline census area to work in the factories.

seventy.⁷ The book gives an insight into various aspects of life in Dunfermline in the nineteenth century. Similarly, Alexander Macansh recounted his experiences in a spinning mill as well as aspects of his personal life.⁸

As the separation of the workplace from home to the factory environment evolved and workers became more accustomed to a division between 'factory discipline' and leisure, holidays and pastimes increased.

Working Practices, Hand-loom Weaving

In Dunfermline, it was men who built the hand-loom weaving trade both as semi-capitalist manufacturers who distributed the yarn and sold the products and weavers who wove them. Daniel Thomson's extensive history of the trade and the Dunfermline Incorporation of Weavers does not mention any female weaver.⁹ In Dunfermline the men, effectively, worked in a closed male shop for 'no female will be admitted to the trade, but under the tuition of her father'.¹⁰ However, women certainly worked at spinning and pirn filling, thus supporting the weavers.¹¹ The Dunfermline Incorporation of Weavers' male stature paralleled the male life cycle validating manhood and citizenship. Guilds such as this protected skilled labour and drew distinctions between the workshop and home, linking males with the former and females with the latter.¹² In the Dunfermline damask trade, the concept of the artisan weaver, rather than simply labourer, was maintained using apprenticeships ensuring that weaving was considered an elite occupation. Undoubtedly women wove but the dominant narrative on weaving was that the men were the weavers. Men were 'workers' and women were 'working women'.¹³

⁷ Henry Syme, *Local Musings* (Dunfermline: A. Romanes, 1876).

⁸ Alexander Macansh, *A Working Man's Bye-Hours* (Dunfermline: William Clark, 1866).

⁹ Daniel Thomson, *The Weavers' Craft: Being a History of the Weavers' Incorporation of Dunfermline, with Word Pictures of the Passing Times* (Paisley: Alexander Gardner, 1903).

¹⁰ DCLG, *Apprentice Regulations as agreed by the Weavers of Dunfermline*, 2 October 1838.

¹¹ Chalmers, *History and Statistical Account of Dunfermline*, [Vol. 1], p. 377.

¹² Deborah Simonton, 'Work, Trade and Commerce', in *Gender in Scottish History since 1700*, ed. by Lynn Abrams and others (Edinburgh: Edinburgh University Press, 2006), pp. 199 – 234 (p. 207).

¹³ Simonton, 'Work, Trade and Commerce', p. 199.

An attempt at an estimate of the number of individuals involved in the weaving trade in Dunfermline, or indeed Scotland, before the parliamentary enquiries in the 1830s is compromised by the lack and unreliability of data. However, a local mid-nineteenth century historian suggested that between 1749 and 1838 the number of looms in Dunfermline grew from around four hundred to nearly three thousand.¹⁴ In times of hardship not all looms were in operation and in the early part of the period more than one individual would operate the loom as the broad width of the cloth meant the need to throw the shuttle between two men with a draw-boy attending the weft so the number of looms did not always indicate a similar number of workers. As new working practices emerged which reduced the number of men required to work the loom, weavers were available to work further looms.

Table 5.2 Number of Looms serving Dunfermline Trade 1749 – 1838

Year	Looms in the Parish	Looms outside the Parish	Total
1749	c. 400		400
1788			900
1792	820	380	1200
1813	930	70	1000
1818	1500	150	1650
1822			1800
1831	2070	450	3120
1836	2794	723	3517
1837	2983	717	3700
1838	2947	570	3517

Source: Peter Chalmers, *History and Statistical Account of Dunfermline*, [Vol. 1] (London/Edinburgh: Wm. Blackwood & Son, 1844), p. 376.

Table 5.2 shows the growth in the number of hand-loom serving the Dunfermline trade. Between 1818 and 1831 the number of looms doubled. This includes the years of greatest population increase which is illustrated at Tables 5.4 and 5.5 below. Not all looms were in use all the time. When work was slack a number were idle and weavers were unemployed. For example, on 31 July 1838 there were 617 looms not in use and 175 weavers unemployed.¹⁵

¹⁴ Chalmers, *History and Statistical Account*, [Vol. 1], p. 376.

¹⁵ Chalmers, *History and Statistical Account*, [Vol. 1], p. 377.

Around 20% of the looms recorded in 1838 were outside the parish. These included looms in the villages close to Dunfermline such as Torryburn, Carnock and Culross as well as the neighbouring town of Inverkeithing.¹⁶ Further afield weavers were employed in Kinross, Strathmiglo, Auchtermuchty and Leslie. In 1845, five to six hundred people out of a population of 2,187 in these villages were employed in the textile trade.¹⁷ Work was performed for the manufacturers of Dundee, Kirkcaldy and Dunfermline through intermediaries although by 1845 some manufacturers were based in Strathmiglo. A small amount of work was carried out in Kinross with fourteen out of nearly four hundred weavers preparing damask for Dunfermline manufacturers.¹⁸

Tables 5.3 and 5.4 summarise population growth in Dunfermline in comparison to Scotland overall. Towns grew at inconsistent rates often dependent on occupations available and often directly related to the rise of textile industries, particularly cotton but also linen.¹⁹ Between 1822 and 1831 the number of looms grew from 1,800 to 3,120, an increase of almost 75% and coinciding with the highest increase in population in Dunfermline during a ten year span between the years of 1801 to 1881.²⁰ This was significantly higher than Scottish growth in the same decade.

Table 5.3 Comparison of Growth of Population in Scotland and Dunfermline between 1801 and 1881²¹

Location/Year	1801	1811	1821	1831	1841
Dunfermline	9980	11649	13681	17068	20217
Scotland	1608420	1805864	2091521	2364386	2620184

Location/Year	1851	1861	1871	1881
Dunfermline	21687	21187	23313	26508
Scotland	2888742	3062294	3360018	3735573

Source: BPP, *Ninth Decennial Census of Scotland taken 4th April 1881, Volume I, C. 3320* (1882).

¹⁶ Chalmers, *History and Statistical Account*, [Vol. 1], p. 376.

¹⁷ *The New Statistical Account of Scotland, Volume IX, Parish of Dunfermline* (Edinburgh and London: Wm. Blackwood and Sons, 1845), p. 779.

¹⁸ NSA, *Volume IX, Parish of Kinross*, p. 18.

¹⁹ Bob Harris and Charles McKean, *The Scottish Town in the Age of the Enlightenment 1740 – 1820* (Edinburgh: Edinburgh University Press, 2014), p. 22.

²⁰ See Table 5.2.

²¹ The figures may overstate the urban population. Part of the increase in 1841 is accounted for by the addition of North Queensferry which was previously enumerated as Inverkeithing.

Table 5.4 Percentage Year on Year Population Growth Comparison between 1801 and 1881

Town/Year	1801- 1811 %+	1811- 1821 %+	1821- 1831 %+	1831- 1841 %+	1841- 1851 %+	1851- 1861 %+	1861- 1871 %+	1871- 1881 %+
Dunfermline	16.7	17.4	24.7	18.4	7.3	-2.3	10.3	15.0
Scotland	12.2	15.8	10.8	10.2	10.2	6.0	9.7	11.1

Source: Calculated from data at Table 5.3.

In the 1790s, in Dunfermline the annual earnings of a weaver and his draw-boy were about £30 per annum.²² This seems to have been reflected in other Scottish linen weaving centres in the 1790s which had similar earnings.²³ Table 5.5 shows the extent to which the people of Dunfermline and surrounding areas participated in the business of weaving in 1838 along with the average wage of each specialism. Wives and daughters of weavers, and, perhaps, sisters and other female relatives engaged in contributing to the family income through preparing the pirns. In addition, men and women were involved in bleaching work at the bleachfields located at Touch and in the Nethertown. Others, mostly women and children, were employed at the spinning mills.

Table 5.5 Persons employed on Textile Work serving Dunfermline Trade with Average Weekly Wage – July 1838

Task	Number	Average Wage
Weavers (men and boys)	3517	10s.
Warpers, warehousemen and lappers (men)	150	15s.
Winders and pirn-fillers (women and girls)	1100	4s.
Yarn boilers (women)	29	7s.
Bleachers of yarn	35	7s.
Bleachers of cloth (men and women)	150	8s. 6d.
Lappers in public lapping rooms (men)	29	9s. 6d.
Designers and pattern drawers (men)	12	No wage entered
Pattern cutters (men and women)	12	10s.
Dyers	10	18s.
Total employed	5044	

Source: Peter Chalmers, *History and Statistical Account of Dunfermline, [Vol. 1]* (London/Edinburgh: Wm. Blackwood & Son, 1844), p. 375.

²² Mercer, *History of Dunfermline*, p. 165.

²³ Norman Murray, *The Scottish Hand Loom Weavers* (Edinburgh: John Donald Publishers, 1978), p. 29.

Pirn-fillers earned much less on average than other workers probably because the work was carried out part-time. Weekly earnings in 1838, in Dunfermline ranged from 6s. 11d. for coarse work to 15s. 4d. for the finest work.²⁴ The average weekly wage for a weaver who owned his own loom was 10s. 6d. whilst a journeyman earned around 7s. 6d. as payment was deducted by the loom-owner for rent of the loom as well as for lighting and twisting and the master's remuneration for providing and superintending the work.²⁵ As a comparison, in the town at this time, masons were earning on average a weekly wage of 18s., quarriers, 13s. and millwrights, 19s.²⁶

Henry Syme describes the work of the weavers.

The weaver's wife sits at the fire
And ca's the pirn wheel
She likes tae hear her ain good man
Drive on the shuttle weel.

Chorus

The shuttle rins, the shuttle rins,
The shuttle rins wi speed
O sweetly may the shuttle rin
That wins the bairns' breid.²⁷

Syme's *The Shuttle Rins* was published in 1849 as a contribution towards his poems and songs to encourage the working classes and tells the day to day story of a hand-loom weaver and his family. The book comprised forty-eight poems and twenty-three songs.²⁸ This song gives one of the few insights into the life of weavers which Syme and others experienced in Dunfermline. According to Syme, the weaver in his own home or loom-stance, or in a larger loom-shed, with the support of his wife, works hard to make a living to provide for his family. Neighbours help each other and the weaver works to give his children, education (lair). The way in which the weaver earns his living is through 'ells of keels'.²⁹ He is not paid by an hourly

²⁴ BPP, *Hand-Loom Weavers*, 159 (1839), p. 202.

²⁵ NSA, *Volume IX*, Parish of Dunfermline, p. 889.

²⁶ BPP, *Hand-Loom Weavers*, 159 (1839), p. 200.

²⁷ Henry Syme, 'The Shuttle Rins', *Poems and Songs, Chiefly for the Encouragement of the Working Classes* (Dunfermline: Wm. Clark, 1849).

²⁸ Ebenezer Henderson, *The Annals of Dunfermline from the Earliest Authentic Period to the Present Time, A. D. 1069 – 1878* (Glasgow: John Tweed, 1877), p. 662.

²⁹ An ell was about a yard in Scotland. A keel was a mark made on the web to demonstrate it was the correct length.

or daily rate but by the length of woven yarn returned to the manufacturer, thus the number of 'ells'. This contrasts with the way in which 'state cormorants' – state officials – earn their living. The poem tells of dignity and rights along with fellowship and humanity. The last verse acknowledges the difficulties within the hand-loom textile industry from the 1820s when payment for 'ells of keels' had begun to drop. Syme highlights the importance of the weavers to all classes of people and the need to react to restrictive laws. Syme is not clear on what he means by restrictive laws but he may refer to Corn Laws which with 'duties imposed on importation of foodstuffs were, with one exception, made more and more severe'.³⁰ He may also have been referring to disappointment that the Reform Act of 1832 had not introduced social improvement and was supporting the early actions of the Chartist movement.

Then cheer your hearts ye workin' men
An' a' like brithers be
Rouse up against restrictive laws
And set industry free.

The Shuttle Rins is reproduced in full at Appendix 6.

Independence was an important aspect of the domestic hand-loom weaver's life and the autonomy that each man enjoyed was seen as an agreeable part of the work allowing him to be 'master of my own time' and free to exchange work time for leisure or to work long hours when payment for webs was high.³¹ Weavers and spinners in the domestic environment controlled their pace, timing and conduct at work and decided on which days they would work. 'Saturday afternoon, Sunday, Monday and Tuesday are considered holiday, or rather idle days, during which little, if any, work is done'.³² Saint Monday became known as a day when there was a tradition of absenteeism. Working long hours on Thursday and Friday to catch up was often the norm. However, Saint Monday was a minority tradition in many

³⁰ Thomson, *The Weavers' Craft*, p. 302.

³¹ Emma Griffin, *Liberty's Dawn, A People's History of the Industrial Revolution* (New Haven/London: Yale University Press, 2013), p. 38.

³² BPP, *Hand-Loom Weavers, Reports from the Assistant Hand-Loom Weavers' Commissioners*, 159 (1839), p. 187.

places.³³ There is no evidence to show that it was prevalent in Dunfermline although many weavers may have preferred leisure over financial gain. As piece workers, weavers worked at the pace which they wanted and so determined their own income. Therefore, the prospect of working in the manufactory of David Dewar which opened in 1834 caused the weavers 'to hope that a kindly Providence might send a wind strong enough to swing it over into the back burn'.³⁴

Table 5.6 records the number of looms owned by individuals and by warehousemen and manufacturers and gives an indication of the extent to which families worked together at weaving. It is likely that the number 'at the loom' in each family also included unmarried male members of the family working either their own looms or as journeymen. In addition, as illustrated by the account of John Macpherson below, men owned looms which were operated by people outside the family. In 1837, there were forty-four table linen manufacturers recorded in Dunfermline.³⁵ This most likely included those referred to as warehousemen. However, only a small proportion of looms in Dunfermline were owned by them. On average individual manufacturers/ warehousemen owned around eight looms. Individual weavers owned the vast majority of looms which were operated by owners, journeymen and apprentices.

³³ Douglas A. Reid, 'Weddings, Weekdays, Work and Leisure in Urban England 1791 - 1911: The Decline of St. Monday Revisited', *Past and Present*, 153 (1996), 135 – 63 (p. 163).

³⁴ Thomson, *The Weavers' Craft*, p. 337.

³⁵ *Pigot & Co.'s National Commercial Directory of the Whole of Scotland and the Isle of Man* (London: J. Pigot & Co., 1837), p. 393.

Table 5.6: Loom Ownership and Occupation in the Parish of Dunfermline - July 1838³⁶

Occupation (and marriage state for men)	Number	%
Looms belonging to single men	475	16.1
Looms belonging to married men	2098	71.2
Looms belonging to warehousemen	156	5.3
Looms belonging to manufacturers	218	7.4
Total	2947	
Unmarried weavers	279	10.9
Married weavers	695	27.1
Unmarried journeymen	762	29.7
Married journeymen	231	9
Apprentices bound	44	1.7
Apprentices unbound	554	21.6
Total	2565	
Total of married weavers	926	
Amount of families married	4422	
Of which at the loom	1394	
Of which winding pirns	1155	
Of which not of age	1873	

Source: Peter Chalmers, *History and Statistical Account of Dunfermline [Vol. 1]* (London/Edinburgh: Wm. Blackwood & Son, 1844), p. 377.

The industrial hierarchy within the labour force was not wholly determined by the traditional lines of master, journeyman and apprentice because of the differing methods of organisation throughout Scotland. In some areas the divisions were irrelevant but in others they existed and were acknowledged.³⁷ In Glasgow and Airdrie in 1838, journeymen comprised 20% of weavers whilst in Eaglesham, where the domestic system was closely linked to the weaver's family, it was as low as 8%.³⁸ Dunfermline was nearer to 38%. Overall, in Scotland the figure was around 8% accounted for by the continued number of rural weavers who still retained the domestic form of production and worked alone. The number of loom owners in Dunfermline was lower than these other locations.

³⁶ Members of families who had left for other trades are not counted in the 'amount of families married'.

³⁷ Murray, *The Scottish Hand Loom Weavers*, p. 29.

³⁸ Murray, *The Scottish Hand Loom Weavers*, p. 29.

Of the forty-four bound apprentices, twenty worked in a factory in the town.³⁹ The source of information for Chalmers was prepared by a Dunfermline committee of weavers to present to the Hand-Loom Commissioners in 1838. Although there was no record of him in the 1841 census for Dunfermline, William Finlay, a linen manufacturer, was recorded in the 1851 census living in Priory Lane with his wife, Rhoda, three children, two servants, twelve male boarders and nineteen female boarders all between the ages of eleven and fourteen and all hand-loom factory weavers.⁴⁰ Almost all the boarders were born in Dunfermline but a number came from Midlothian and two from Caithness. Finlay rented a factory in Bothwell Street in 1855.⁴¹ The factory would have operated with hand-loom as power-loom were not yet in use in Dunfermline. There are no records to show if these apprentices included those bound. The ones noted for 1838 would no longer be apprentices but may have been replaced with some of these young people.

Finlay does not appear in the 1861 Census but a newspaper entry in October 1856 suggests that he had been taken to court for a breach of trust, embezzlement and theft and was fugitaged (declared a fugitive from justice) for non-appearance.⁴² He and his family then appear to have emigrated to America.⁴³ It is unclear why the apprentices lived with Finlay though it might be the payment of 'meat and fee' as part of the apprenticeship.⁴⁴

There were few bound apprentices in Dunfermline in 1838 because of the high stamp duty of one guinea and the cost of writing the apprenticeship agreement which involved seeking legal help. Dr Harding, the Assistant Commissioner who examined hand-loom weaving in the East of Scotland suggested that a reduction in indenture fees to 5s. or 2s. 6d. might secure more apprentices who would stay longer in the employment of the master thus earning him a greater profit from their services.⁴⁵ In Aberdeen they were

³⁹ Chalmers, *History and Statistical Account*, [Vol. 1], p. 377.

⁴⁰ NRS, Census Enumerators Books, Dunfermline, 424/5/8 (1851).

⁴¹ NRS, Valuation Roll, VR 00200001, William Finlay (1855).

⁴² *The Fife Herald*, 2 October 1856.

⁴³ *The Dunfermline Saturday Press*, 14 January 1860.

⁴⁴ See Chapter 1, p. 20.

⁴⁵ BPP, *Hand-Loom Weavers*, 159 (1839), p. 196.

taken on verbally for three years but 'often ran away before their time expires'.⁴⁶

A factor which possibly influenced the high number of journeymen in Dunfermline was the frequent use of the Jacquard loom. A diaper loom cost around £3 and a fine damask loom around £10.⁴⁷ Jacquard looms, therefore, were expensive to purchase and were often rented out by manufacturers and weavers who could afford to buy more than one loom. Although the journeyman dealt with the manufacturer through the master weaver he was often working as a free and independent craftsman.⁴⁸ In 1849, a Dunfermline journeyman weaver with four children reported that: 'I find that my earnings of last year amounted to £23 4s. 6d. and my wife from pirns etc. £4 1s. making a good earning of £27 5s. 6d.'⁴⁹ At that point his own earnings were about 9s. a week.

An insight into a different type of weaving enterprise can be found in the short account written by the grandson of John Macpherson of Appin Crescent. He recorded that 'one end of the house was called the loom shop and the other end was used as living quarters'.⁵⁰ Macpherson, who also worked as a lapper with Hay & Robertson, employed two weavers and his wife and daughter wound yarns on to pirns and bobbins and beetled (pounding the linen to give a flat lustrous effect) on the front door step as they had no mangle. The timing of this is likely to be the late 1850s. Macpherson and his wife, Catherine, went on to have ten children. In 1871, the oldest three sons were in work as a commercial clerk, a mechanic, a lapper and the oldest daughter as a card lacer. Card lacing was an important task of joining the Jacquard cards which formed the pattern. Macpherson had close links with William Robertson, a partner in Hay & Robertson, and it is possible that all three sons and their sister worked in the firm's factory. The oldest son, Graham, became principal salesman for Hay & Robertson and in

⁴⁶ BPP, *Hand-Loom Weavers*, 159 (1839), p. 208.

⁴⁷ Chalmers, *History and Statistical Account*, [Vol. 1], p. 375.

⁴⁸ Murray, *The Scottish Hand Loom Weavers*, p. 29.

⁴⁹ *Dunfermline Monthly News*, 18 May 1849.

⁵⁰ DCLG, *The Macpherson Family of Dunfermline – Edited Memoir of Alec Macpherson Adair by Helen Johnson nee Macpherson* (Unpublished manuscript, 2012). The spelling in all contemporary official documents such as the census is McPherson. It might be that the spelling was changed by those who emigrated to America and Australia.

turn two of his sons, Graham and Robert, worked for the firm in America as agents and salesmen.⁵¹ John Macpherson was probably an untypical employer in that there is no record of him working as a weaver but he provided work for others and involved his wife and eldest daughter in this enterprise.

Most weavers rented housing but Macpherson owned his own house from around 1865 in a part of the town not populated by large numbers of weavers. He and his extended family maintained a working association with Hay & Robertson well into the twentieth century. So, whilst Macpherson may not have been a typical weaver employing journeymen, the account of the loom-shop in part of the building and family members taking part in the work is typical of the life recounted by Syme. As so many of the population in the town worked in the weaving industry the association with one employer and a number of the generations of the family may be indicative of the same type of relationship, particularly amongst salesmen and agents, in other companies.

Table 5.7 Own County, English and Irish Birthplace in 1861

Town	Population	Own county	%	English Birthplace	%	Irish Birthplace	%
Dunfermline	13506	11156	82.6	103	.76	316	2.34
Scotland	3062294	2401138	78.41	54920	1.79	204083	6.64

Source: BPP, *Census of Scotland 1861, Population Tables, Birthplaces of the Inhabitants of the 20 Principal Parliamentary Burghs of Scotland*, 3275 (1864), p. 330, Table I; p. 332, Table III.

Table 5.7 uses census data from 1861 to compare birth places. Irish migrant labour seeking textile work in the west kept wages down and costs low in the Scottish cotton industry.⁵² However, Irish immigrants do not appear to be attracted to weaving work in Dunfermline with just over two per cent of the population originating from Ireland. Amongst the men in Dunfermline from Ireland, a local examination of the census returns suggests that they were attracted by the location or moved through necessity of getting work as

⁵¹ DCLG, *The Macpherson Family of Dunfermline*, p. 1.

⁵² Anthony Cooke, *The Rise and Fall of the Scottish Cotton Industry 1778 – 1914: The Secret Spring* (Manchester: Manchester University Press, 2010), p. 142.

most were occupied in unskilled work such as labouring.⁵³ The small number of single women from Ireland recorded as power-loom weavers suggests that Dunfermline was not a location attracting female Irish immigrants for textile work.

In contrast, of the women working at the Turkey red firm of William Stirling & Sons in the Vale of Leven many were from an Irish background.⁵⁴ Irish women were also employed in other Vale of Leven firms as a result of efforts to attract 'strong girls willing to work' from southern Ireland.⁵⁵

Weavers wages fell from the beginning of the nineteenth century although possibly not as rapidly as those of the cotton weavers. Dr. Harding and J. C. Symons who were the Assistant Commissioners in the east and south of Scotland appointed to enquire into the situation of hand-loom weavers from 1837, submitted evidence to substantiate falling earnings but considered it not to be as much as reported.⁵⁶ However, it might be the case that weavers, generally, did not enjoy the rates suggested by Harding and Symons as true rates could be hidden by arbitrary web lengthening.⁵⁷ Locations with specialisms such as damask in Dunfermline were not as badly hit as others with the lowering of prices paid. A Fixed Table of Prices had been drawn up in 1807 by some Dunfermline manufacturers and by 1822 all manufacturers were working together to regulate payments to weavers.⁵⁸

The Parliamentary enquiry from 1837 into diminishing trade found that the collapse was likely to have been caused by extensive use of machinery, oppressive taxation and competition amongst manufacturers.⁵⁹ Dunfermline weavers demanded an increase in weaving rates in 1836. This was refused and the weavers agreed to 'beam no further webs'.⁶⁰ As manufacturers were unable to sell goods, they no longer required the same level of work from the

⁵³ NRS, Census Enumerators Books, Dunfermline, 424/1; 424/2, (1861).

⁵⁴ Stana Nenadic and Sally Tuckett, *Colouring the Nation: The Turkey Red Printed Cotton Industry in Scotland c. 1840 – 1940* (Edinburgh: National Museums Scotland, 2013) p. 5.

⁵⁵ Nenadic and Tuckett, *Colouring the Nation*, p. 5.

⁵⁶ BPP, *Hand-Loom Weavers*, 159 (1839), pp. 35, 43 – 44, pp. 187 – 88.

⁵⁷ Murray, *The Scottish Hand Loom Weavers*, p. 91.

⁵⁸ Gordon Jenkins, 'Establishment and Dissent in the Dunfermline Area' (unpublished doctoral thesis: University of Edinburgh, 1988), p.368.

⁵⁹ BPP, *Report from the Select Committee on Hand-loom Weavers Petitions: with minutes of evidence, and index*, 55 (1834), p.iii.

⁶⁰ Thomson, *The Weavers' Craft*, p. 329.

hand-loom weavers. Significantly, on 15 July 1836, members of The Incorporation of Weavers in Dunfermline voted for dissolution of this long-standing association.⁶¹ What had set out in the eighteenth century as a prosperous and well-respected craft was now on the verge of collapse. From 1837 onwards, Dunfermline weavers suffered difficult times with work being scarce, an epidemic of influenza, typhus fever and measles along with very bad harvests in 1837 and 1838.

During the 1840s work for weavers was very variable. Relationships between manufacturers and weavers could be volatile. In August 1842, rioting occurred with the necessity of seeking military support from the Enniskillen Dragoons based in Piershill near Edinburgh.⁶² The Dragoons remained in Dunfermline until late July 1845.⁶³ Further rioting took place in late August 1845 directed at the firm of J. and T. Alexander and described as a 'deliberate vengeance of the working-people against a local firm which had refused to comply with its demands'.⁶⁴ Newspaper accounts of the causes vary and it is suggested that J. and T. Alexander had been the only manufacturers not to sign a Fixed Table of Prices in 1842 which guaranteed the weavers a set price for a web.⁶⁵ In addition, they had discharged some of the weavers who worked for them and for the remaining ones paid single tweel rates for double tweel. Local weavers avoided working for the company unless absolutely necessary to make a wage. A crowd of around two thousand men gathered in the town and caused damage to the Alexanders' warehouse by breaking windows. Thereafter, some headed to James Alexander's home at Balmule about three miles outside Dunfermline. In trying to break up the riot the Provost and one of the Bailies was injured.⁶⁶ At Balmule an unsuccessful attempt was made to set parts of the house on fire. The Dragoons were recalled to Dunfermline. Three of the rioters, all weavers, were brought to trial in the High Court, their sentences being transportation and imprisonment.⁶⁷

⁶¹ Thomson, *The Weavers' Craft*, p. 325.

⁶² *Fife Herald*, 18 August 1842.

⁶³ *Aberdeen Press and Journal*, 27 August 1845.

⁶⁴ *Glasgow Citizen*, 23 August 1845.

⁶⁵ *Fife Herald*, 11 September 1845.

⁶⁶ *Freeman's Journal*, 26 August 1845.

⁶⁷ Thomson, *The Weavers' Craft*, p. 336.

In 1846, the Corn Laws were repealed ensuring that cheap foreign grain was more readily available reducing the price of bread, a staple diet of the working class. However, the winter of 1847 to 48 was harsh with weavers unemployed and destitute. It was reported that seven hundred and ninety looms were idle in the police boundaries of the town in 1848 with another seven hundred idle in Pittencrieff, Golfdrum and Baldridgeburn with 'an amount of destitution lamentable to think of'.⁶⁸ With availability of work decreasing craftsmen had to consider other possibilities for work such as navvying on the railways, working in the collieries, entering one of the new linen factories or struggling on in the hope that work would pick up.⁶⁹ With the opening of the new power-loom mills, work did not pick up for the majority of hand-loom weavers although some were able to stay in work.

Spinning Mills

Some understanding of factory working practices can be gained from an examination of early spinning mills. At the end of the eighteenth century the speed at which the workforce was increasing was unprecedented with an explosive increase in the number of jobs available for women and adolescents.⁷⁰ The female labour market was an important aspect of the industrialised Dunfermline textile production given the high numbers eventually employed. In textiles the first jobs available for women outside the home were in the spinning mills. Small scale flax spinning mills provided yarn for the local weavers as well as further yarns which were imported. By 1828, there were six spinning mills in the Dunfermline.⁷¹ Whilst the spinning industry ultimately flourished in Kirkcaldy where stronger yarns for coarser fabrics were manufactured it did not in Dunfermline and all the spinning mills had closed by 1859.⁷² Early attempts at mechanising flax spinning were not successful, the long fibres making it difficult. However, with the invention by

⁶⁸ *Fife Herald*, 22 June 1848.

⁶⁹ Eric Simpson, *The Auld Grey Town: Dunfermline in the time of Andrew Carnegie 1835 – 1919* (Dunfermline: Carnegie Dunfermline Trust, 1987), pp. 31 – 32.

⁷⁰ Smout, *A History of the Scottish People*, p. 367.

⁷¹ Mercer, *History of Dunfermline*, pp. 161-62.

⁷² Peter Chalmers, *History and Statistical Account of Dunfermline, Vol. 2*, (London/Edinburgh: Blackwood, 1859,) p. 345.

James Kay of passing the fibre through hot water to soften the gummy matter in the flax, finer yarns could be produced.⁷³

The dry spun yarns of the town mills were not suitable for fine damask weaving and Yorkshire, Irish or continental wet spin yarns were increasingly used.⁷⁴ Nevertheless, the spinning mills in Dunfermline were not only significant in the development of an industrialised way of working they were also important because at the beginning of the nineteenth century they increased hand-loom weaving capacity through the production of a greater amount of yarn.

In the spinning mills, the flax needed to be kept wet and the spinning frame fed fibre through troughs heated by steam pipes which reached up to 180°. It was an effective way of spinning, but it drenched and scalded the workers with spray and steam. In Kirkland's Flax Wet Spinning Mill in Knably (Knabbie) Street, the factory inspector noted that the children were 'wet, filthy, draggled and miserable'.⁷⁵ Annie Anderson, a twelve-year old orphan, reported that her feet were generally wet and cold and that the front of her gown was often wet. Kirkland had sixty-four workers of whom forty-three were under eighteen years of age. Three other mills visited by the Factories Inquiry Commission employed the dry spinning method where water was not used with children as young as nine working from 6.00am. to 8.00pm. with two half hour breaks and pay of around 10d. per day. Commenting on two thirteen-year-old girls working in Millport Mill, Sir David Barry, the medical expert to the Commission, noted that one earning 11d. a day attended to sixty spindles and another earning 10d. a day attended fifty spindles.⁷⁶ To do this, each had to keep moving in a space of around twenty-two feet and thus were standing or running all day apart from meal breaks. Girls working in wet-spinning mills usually earned 1d. extra each day.⁷⁷

⁷³ Patricia Baines, *Flax and Linen* (Oxford: Shire Publications, 1985), p. 14.

⁷⁴ W. H. K. Turner, 'Flax weaving in Scotland in the early 19th century', *Scottish Geographical Magazine*, 99:1 (1983), 16 – 30 (p. 28).

⁷⁵ BPP, *Factories Inquiry Commission. First report of the Central Board of His Majesty's commissioners appointed to collect information... and reports by the district commissioners*, 450 (1833), p. 3.

⁷⁶ BPP, *Factories Inquiry Commission. Second report of the Central Board of His Majesty's commissioners appointed to collect information... and reports by the Medical Commissioners*, A 3, 519 (1833), p. 3.

⁷⁷ BPP, *Factories Inquiry Commission. First report*, 450 (1833) p. 3.

The scale of employment in the mills was relatively small with ninety males and 332 females in work in 1833.⁷⁸ Women, girls and boys performed the task of attending to the spindles, repairing yarn breakages and cleaning the short fibres which were thrown into the air and landed on the carriage behind the spindles. The few adult male workers in the Dunfermline mills worked as flax dressers (hecklers) preparing the fibre for spinning or as overseers and managers. In the heckling shop the atmosphere was unpleasant. 'In the winter months, November and December especially, this dust, the exhalation of a decayed vegetation, hung over our heads in a cloud so dense that one of my shop mates used to say, playfully, that he could write his name on it.'⁷⁹ Although the mill worker numbers were small in number compared to the population this was the beginning of industrial change in Dunfermline. Some of the experiences in the spinning mills were not pleasant for young workers but children's occupational health experiences were diverse and a wide range of exogeneous factors such as urban disease, environment, household poverty, pre-existing disability might have proved more harmful to their health and welfare than discrete workplace factors.⁸⁰

Power-loom Factories – The Role of Women

Before moving on to examine the power-loom factories and, in particular, women's work it worth contrasting Dunfermline weaving with Ayrshire whitework. Whitework, the embroidering of white thread on white fabric with drawn and pulled thread patterns and surface stitches, produced a cheaper and popular alternative to lace.⁸¹ In many ways the industry was similar to the Dunfermline damask industry in that it was built on incentives offered for the linen trade by the Board of Trustees, there was an established network of manufacturers, production was generally through a putting out system and ancillary skills such as bleaching and dyeing were supported.⁸² In the location, skills had been acquired through a history of tambouring

⁷⁸ BPP, *Factories Inquiry Commission. Second report* A 3, 519 (1833), pp. 3 – 6.

⁷⁹ Macansh, *A Working Man's Bye-Hours*, p. 95.

⁸⁰ Peter Kirby, *Child Workers and Industrial Health in Britain 1780 – 1850* (Woodbridge: Boydell Press, 2013), p. 151.

⁸¹ Sally Tuckett, 'Needle Crusaders': The nineteenth-century Ayrshire Whitework Industry', *Journal of Scottish Historical Studies*, 36:1 (2016), 60 – 80 (p. 61).

⁸² Tuckett, 'Needle Crusaders', p. 62.

which involved embroidery representing delicate floral designs and trailing leaves. Design was an important part of whitework with the design printed on the fabric for the sewer to execute.⁸³ This aspect was sufficiently important for some of the designers to be trained at the Glasgow School of Design. As with damask, whitework was linked to fashionable trends.

Many of those working in the whitework industry were girls and young women in the age range of eleven to twenty. This is similar to those working in Dunfermline spinning mills. Although the organisation of Dunfermline weaving was similar to Ayrshire whitework, a major difference was that weaving in Dunfermline was carried out almost exclusively by males and whitework was the job of females.

By 1876, Dunfermline was dominated by the steam-powered damask linen factories, the employees of which became accustomed to a new way of making a living. In Chapter 4 the role of paternalism of factory owners was explored. Of considerable importance, however, was the way in which the factory operated which was not, necessarily, paternalistic. 'Factory discipline' ensured that the employer dictated when employees worked, their conduct at work and that they steadily attended to their assigned tasks.⁸⁴ Under factory discipline workers were dismissed, fined heavily or locked out for a day for a variety of reasons. Hours of attendance and adherence to rules might be loosely linked to outputs. However, in a textile factory output from workers was easily measured and yet the behaviour of the workers was often used as an assessment of performance.

By 1881, textiles provided jobs for 74.2% of working women in Dunfermline and 26.4% of working men.⁸⁵ Whilst not all worked in damask, as there was a small amount of cotton manufacture in Dunfermline at the time, mainly still on hand-loom, the vast majority did. At the peak of the hand-loom trade more men than women were involved in full time work in the textile production but this was now reversed. A hand-loom weaver working on his own loom could spend all day weaving and, if necessary, work into the

⁸³ Tuckett, 'Needle Crusaders', p. 65.

⁸⁴ Gregory Clark, 'Factory Discipline', *The Journal of Economic History*, 54:1 (1994), 128 – 63 (p. 128).

⁸⁵ BPP, *Ninth Decennial Census of the Population of Scotland taken 4th April 1881*, C. 3657 (1883), p. 666.

night but he could also take time to converse with neighbours or read the paper if he wished. Even with improvements in loom technology which increased productivity and quality, hand-loom weaving required a degree of skill. Factory work was less skilled but could provide opportunities for good, regular wages especially for men who worked in those jobs considered to require skill. Nevertheless, many hand-loom weavers did not have the inclination to move into factory based production with rigid systems of time management and work discipline and remained as hand-loom weavers. Work rules, formalised, impersonal and printed were symbolic of new industrial relationships.⁸⁶

However, females and young women in particular viewed the factory as an opportunity to work independently although their wages would often be used as part of the household income. Employers saw good reasons to build up the textile work force from women as they could carry out most tasks and would do so for less pay. Women and children were used as substitutes for more expensive and less malleable adult male labour.⁸⁷ In the factory environment, work was divided into a series of tasks or specialisations. Weaving, which essentially had become the task of machine minding, was an almost exclusively female occupation although some women undertook winding tasks in getting the warp ready. Men's work was confined to a small number of 'skilled' jobs which included tenters who oversaw the female workers, lappers who prepared the fabric for market along with clerical and managerial posts. The role of the male tenters was to set up looms, tune them and tend them when they went wrong. They were effectively sub-foremen who exercised a degree of authority over the weavers and controlled the pace at which they worked.⁸⁸ Tenters in Dundee commonly would oversee twenty looms.⁸⁹ In Dunfermline factories, tenters had forty looms to supervise if a woman was working two looms.⁹⁰ This suggests that

⁸⁶ Sidney Pollard, 'Factory Discipline in the Industrial Revolution', *Economic History Review*, New Series, 16:2 (1963), 254 – 271 (p. 258).

⁸⁷ Christopher A. Whatley, 'The Experience of Work', in *People and Society in Scotland, Volume 1, 1760 – 1830*, ed. by T. M. Devine and Rosalind Mitchison (Edinburgh: John Donald Publishers, 1988), p. 242.

⁸⁸ Eleanor Gordon, *Women and the Labour Movement in Scotland 1850 – 1914* (Oxford: Clarendon Press, 1991), p. 147.

⁸⁹ Gordon, *Women and the Labour Movement in Scotland*, p. 147.

⁹⁰ Chalmers, *History and Statistical Account*, Vol. 2, p. 341.

whilst the tenter attended to the looms his main task was to supervise the women operatives as in each location they oversaw around twenty women.

Peter Chalmers, noted on visiting the newly opened factory of A. and H. Reid & Co. in 1849 that: 'The woman attends two looms if narrow and one loom if broad ... and has nothing to do but to attend to a few minor adjuncts.'⁹¹ These 'adjuncts' were adjustments to the running of the looms such as mending broken thread and removing empty shuttles as well as keeping the looms running. The women produced about fourteen to sixteen yards of fabric on a daily basis.⁹² In using the term 'a few minor adjuncts' Chalmers seems to suggest that the women's roles in the factories lacked skill and were inferior and, perhaps, also hinting at disapproval of women working. Conversely, he describes the manager, James Thomson, who showed him round the factory as 'a very obliging and intelligent gentleman'.⁹³ Plate 5.1 shows an engraving of the loom shed of Erskine Beveridge & Co. around 1855. Chalmers described the scene of the factory floor in A. and H. Reid's building as an 'extraordinary scene and deafening noise ... [which] are calculated to bewilder a stranger'.⁹⁴ The engraving shows close proximity of looms and high Jacquard machines which would all add to the noise.

Whilst separate spheres was a notion associated with the middle class, this concept coupled with the significance of the machine and hard physical labour which was connected to industrialisation meant that work was generally defined as something which men did.⁹⁵ Thus, when women began to work in greater numbers outside the home, and particularly in large factories, the division of work appeared gendered. Gender operated as a determining feature in definitions of skill and work-place control in the thread mills of Paisley where in the mid-nineteenth century a new equilibrium in the labour market was established as women replaced men as the majority of employees of the textile mills.⁹⁶ Such change was met with little resistance from male workers as there was plenty of work available elsewhere in the

⁹¹ Chalmers, *History and Statistical Account*, Vol. 2, p. 341.

⁹² *Dunfermline Press*, 24 November 1859.

⁹³ Chalmers, *History and Statistical Account*, Vol. 2, p. 338.

⁹⁴ Chalmers, *History and Statistical Account*, Vol. 2, p. 338

⁹⁵ Gordon, *Women and the Labour Movement in Scotland*, p. 3.

⁹⁶ Catriona M. M. Macdonald, *The Radical Thread: Political Change in Scotland, Paisley Politics, 1885 – 1924* (East Linton: Tuckwell Press, 2000), pp. 149 – 50.

engineering trades and industries with these employments considered to be skilled and thus attracted higher pay.

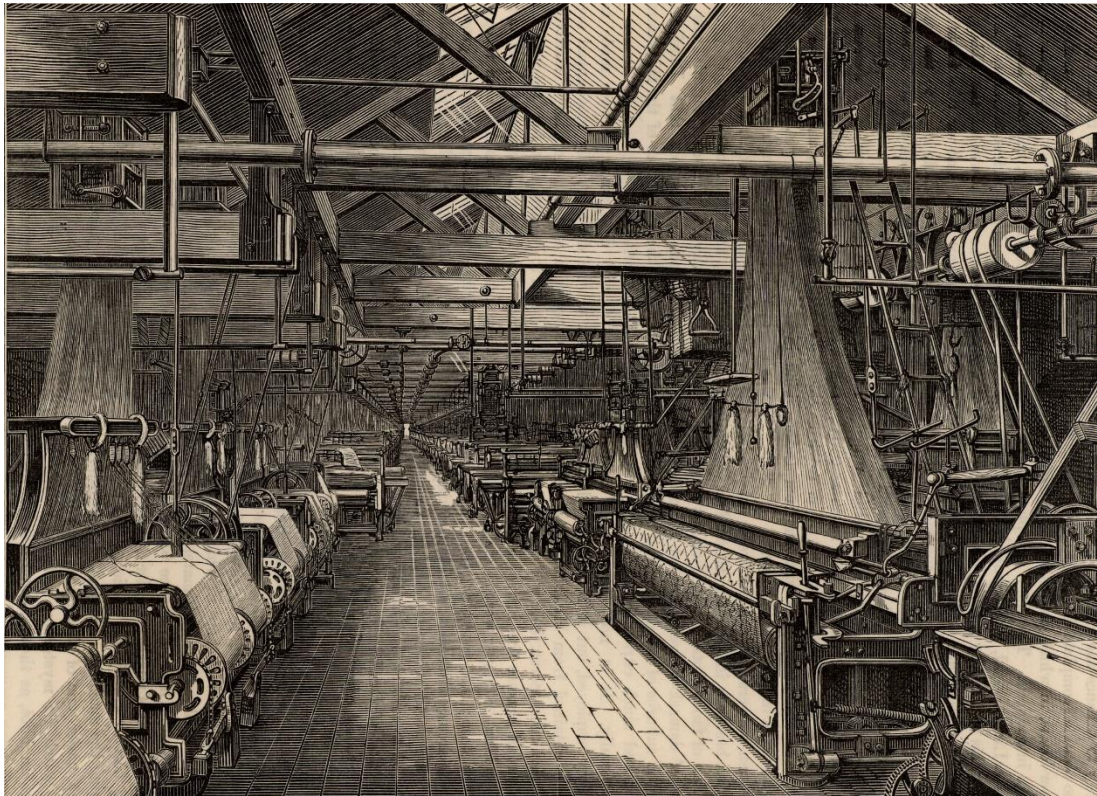
The experience of moving to factory work in Dunfermline was not similar to that of Paisley. Whilst the move in Paisley was swift, some of the manufacturers and weavers in Dunfermline considered that the quality of the cloth woven on power-looms was not as good as that of hand-looms.⁹⁷ That being the case, manufacture on hand-looms continued and as was noted in Chapter 4 that the St Leonard's Works had a large space devoted to hand-loom weaving when the factory was first set up. In the time that it took for all damask factories to be opened in Dunfermline, from 1849 to 1876, there was a relatively slow decline in the number of hand-looms with nearly one thousand still in use in 1860 reducing to around one hundred by 1880 from a peak of nearly four thousand in 1838.⁹⁸ Many older weavers remained at their looms rather than seeking other work. Some younger men recorded as weavers in the 1851 census were noted as lappers or tenters in a later census having moved from home or loom-shop work to the factory environment.⁹⁹

⁹⁷ *Dunfermline Saturday Press*, 26 November 1859.

⁹⁸ Chalmers, *History and Statistical Account*, Vol. 2, p. 376; Hugh Walker, *The History of Hay & Robertson Ltd. and the Robertson Family of Dunfermline* (Dunfermline: Carnegie Dunfermline Trust, 1996), p. 44.

⁹⁹ NRS, *Census Enumerators Handbooks*, Dunfermline, 424, (1851; 1861; 1871).

Plate 5.1 Loom Shed at Erskine Beveridge & Co., c. 1855¹⁰⁰



Source: *Great Industries of Great Britain* (London: Cassell & Co., 1886), p.25.

'Gender dimension' reinforced the transference of concepts of male authority between the home and work which also restricted the political role of women.¹⁰¹ The foreman in the factory was not only the physical manifestation of the sexual hierarchy of that workplace but a parallel father/husband whose role reconstructed family authority within the factory gates. Constructs of appropriate 'men's' and 'women's' work coincided with concepts of those jobs which were 'skilled' or 'unskilled'. In factories, the foreman or tenter played a pivotal role 'caught between the demands for maximum output and the need to maintain social relations with those under him'.¹⁰² In Dunfermline, these roles seem to be accepted as the tenters were well respected by the women loom operatives. There are many newspaper reports of women presenting tenters with gifts. John Henderson, a tenter at

¹⁰⁰ This shed contained nearly one thousand Jacquard power looms for weaving linen damask. The belt and shaft drive transmitting power to the looms from a distant steam engine is clearly visible.

¹⁰¹ Macdonald, *The Radical Thread*, pp.151 – 152.

¹⁰² Joseph Melling, 'Non-Commissioned Officers: British Employers and their Supervisory Workers, 1880 – 1920', *Social History*, 5:2 (1980), 183 – 221 (p. 191).

St. Leonard's Works met with 'a deputation of young women under his tentership' in January 1860 one of whom addressed him 'in appropriate terms' when he left to take up another situation.¹⁰³ He was presented with a barometer, ink stand and silver pencil case. It is likely that he was moving to another factory rather than different employment as later censuses continue to record him as a tenter.¹⁰⁴

Middle-class disapproval of working women had become commonplace by the middle of the nineteenth century and was rooted in the notion of separate spheres along with the development of stereotypes of immoral working girls. This was assisted by the failure of the middle class to understand the economics of working class life.¹⁰⁵ Victorian ideology placed the woman as the 'angel of the house' with a role which primarily related to the home and the family.

In her examination of the early silk industry in England, and, in particular the emergence of the firm of Courtauld, Judy Lown describes the place of women in relation to men in a society undergoing rapid economic transformations as the 'Woman Question'.¹⁰⁶ Women had worked for centuries but now their employment was becoming a major contested issue and new power hierarchies were emerging. Deborah Valenze suggests that whilst all women were not factory workers, factory work influenced all women because of the importance of public opinion during the emerging factory age in shaping the future of women workers. Although factory employment involved only a small proportion of the working population through contemporary discussions the public forged definitions of masculine and feminine work, skilled and unskilled work and even definitions of right and wrong.¹⁰⁷ Women were praised for their industriousness in the eighteenth

¹⁰³ *Dunfermline Saturday Press*, 14, January 1860.

¹⁰⁴ NRS, Census Enumerators Books, Dunfermline, John Henderson, 424/1 2/15 (1861); 424/2/23 (1871).

¹⁰⁵ Nigel Goose, 'Working Women in Industrial England', in *Women's Work in Industrial England Regional and Local Perspectives*, ed. by Nigel Goose (Hatfield: Local Population Studies, 2007), pp. 1 – 28 (p. 2).

¹⁰⁶ Judy Lown, *Women and Industrialisation, Gender at Work in Nineteenth Century England* (Cambridge: Polity Press, 1990), pp. 2 – 3.

¹⁰⁷ Deborah Valenze, *The First Industrial Woman* (Oxford: Oxford University Press, 1995), p. 98.

century but one hundred years later were damned or pitied.¹⁰⁸ Whilst the woman at her spinning wheel or the farmer's wife in her dairy were symbols of productivity and plenty in the eighteenth century, Victorians were ashamed of the factory girl seeing her not as an achievement of the industrial age but as a casualty of the new system. Lord Shaftsbury, in 1844, lamented that female factory workers were becoming like the roughest and worst kind of men. 'They meet together to drink sing and smoke; they use ... the lowest, most brutal and most disgusting language imaginable ...'.¹⁰⁹

There is little written contemporary evidence of the lives of the female factory workers in Dunfermline and extensive research in newspapers local to Dunfermline in the second half of the nineteenth century has not revealed any reports of poor behaviour amongst female factory workers. On the contrary, the Dunfermline Almanac of 1872 describes the factory girls returning home after a shift lasting from 6am. to 6pm. as 'pictures of health and happiness'.¹¹⁰ The workforce was boosted by girls travelling on foot from three miles away as well as those from colliery communities in Lochgelly and Cowdenbeath in special trains. Those on foot captivated the beholder 'as sprightly and choice specimens of the fresh young life favoured by Aurora'.¹¹¹

Women in Dunfermline attending the power-looms were generally paid piece work rates rather than a weekly wage.¹¹² Simply rewarding high output through piece rates might have been a sufficient way of rewarding workers other than imposing penalties. However, the competitive advantage of factory discipline in the new machine powered technologies of the nineteenth century was its ability to make a given set of workers work harder than they would do under incentive systems.¹¹³ At St. Leonard's Works rules and regulations were displayed and workers were disciplined for, amongst other things, being absent from work without leave, absent through sickness without sending notice to the manager and introducing a stranger to the

¹⁰⁸ Valenze, *The First Industrial Woman*, p. 2.

¹⁰⁹ Elizabeth Roberts, *Women's Work, 1840 – 1940* (Cambridge: Cambridge University Press, 1995), p. 3.

¹¹⁰ *Campbell's Dunfermline and West Fife Family Almanac* (1872), p. 4.

¹¹¹ *Campbell's Dunfermline and West Fife Family Almanac*, pp. 4 – 5.

¹¹² *Dunfermline Press*, 24 November 1859; Hugh Walker, *The Story of Erskine Beveridge and St. Leonard's Works, 1833 – 1989* (Dunfermline: Carnegie Dunfermline Trust, 1991), p. 21.

¹¹³ Clark, 'Factory Discipline', p. 160.

works.¹¹⁴ Punishment was carried out through retention of two days' wages or in the case of piece workers the value of two days' work. At Walker & Reid's Albany Factory a strict code of discipline was applied including offences and defaults such as being fined a shilling if attempting to leave the factory during working hours or entering or leaving work by any access other than the west door which generated a sixpence fine.¹¹⁵ Discipline of workers was preferred to offering incentives for good work.

Although domestic and agricultural work for women was still prevalent, factory work was attractive for women and for those who employed them. There were good reasons to build up the work force from women as they could do most of the factory work men did, for less pay, and in the domestic situation as traditional dependents, according to Smout, they were used to doing what they were told at home and thus more amenable to discipline at work.¹¹⁶ Echoing this theme, Gordon suggests that standard histories of the jute industry in Dundee portray women as low-paid because they failed to organise and lacked assertiveness.¹¹⁷ Women might be considered to be of a more passive nature with a lack of interest in matters unrelated to the domestic sphere and thus their relative quiescence. Whether women were as docile as some historians suggest is debatable as there is evidence of rebellion against employers in Dunfermline and other towns through withdrawal of labour which will be explored later in this chapter. From a capitalist point of view there was a lot of sense in employing women who appeared to accept lower wages but there were still people who considered that women working outside the home was inappropriate. Thus, the female factory worker was 'caught in the crossfire of those who purposefully sought cheap labour and those who were offended and frightened by the prospect of women working outside the home'.¹¹⁸

Changing census classifications suggested that as the nineteenth century progressed work was increasingly defined as an activity which

¹¹⁴ 'Regulations and Condition of the Contract of Service between Erskine Beveridge & Son and all Persons working in St. Leonard's Power Loom Factory, Dunfermline' quoted in *Dunfermline Saturday Press*, 26 November 1859.

¹¹⁵ Simpson, *The Auld Grey Toun*, p. 87.

¹¹⁶ Smout, *A History of the Scottish People*, p. 381.

¹¹⁷ Gordon, *Women and the Labour Movement in Scotland*, pp. 137 – 38.

¹¹⁸ Lown, *Women and Industrialisation*, p. 21.

occurred outside the home, for a wage and was governed by market relations.¹¹⁹ These changes in classification may be interpreted to reflect a recognition of the decline of the household as a productive economic unit.¹²⁰ However, the changes also show how working women were marginalised in official statistics and how the separate spheres ideology pervaded census information gathering. The 1881 Scotland census report contained a comment that '61.003 per cent. of the Male Sex were earning their bread ... and 27.925 per cent. of the gentler Sex were engaged in some kind or other of Occupation'.¹²¹ Using the words 'earning their bread' and 'gentler sex' re-emphasises the ideology of male breadwinner and dependent woman. In Dunfermline, whilst 60.3 per cent of males were working the figure for women was higher than the Scotland figure at 34.9 per cent.¹²² However, where there was a demand for cheap female labour, as in Dunfermline, or restricted employment for men, as in Dundee, there was no shortage of women willing to work.

In the weaving factories of Dundee there were limited opportunities for promotion for men and for women there were none.¹²³ The experience at Courtauld in East Anglia was similar. There, the power-looms were operated by women although some worked in the preparatory process of winding.¹²⁴ Any mobility for women was horizontal between these two work areas. It was the same experience in Dunfermline where women remained attending to looms or undertook the task of winding. Male jobs were in overseeing, clerical work and in maintaining and repairing machinery. Vertical mobility was much more likely for men who became overseers, clerks, mechanics, engine operators and salesmen, in jobs which were considered to be a type

¹¹⁹ Eleanor Gordon, 'Women's Spheres', in *People and Society in Scotland Volume II*, ed. by W. Hamish Fraser and R. J. Morris (Edinburgh: John Donald Publishers, 1990), pp. 206 – 35 (p. 208).

¹²⁰ Edward Higgs, 'Women, Occupations and Work in the Nineteenth Century Censuses', *History Workshop*, 23 (1987), 59 – 80 (p. 70).

¹²¹ BPP, *Ninth Decennial Census of the Population of Scotland taken 4th April 1881, Volume II*, C. 3657 (1883), p. xxvii.

¹²² BPP, *Ninth Decennial Census*, C. 3657 (1883), p. 656.

¹²³ Gordon, *Women and the Labour Movement in Scotland*, p. 148.

¹²⁴ Lown, *Women and Industrialisation*, p. 49.

of promotion. Thus, women were often segregated to lower-level jobs and rarely, if ever, took on the work of supervisors.¹²⁵

Pay for women and girls who operated the looms in Dunfermline in the latter part of the nineteenth century was between 5s. and 20s. each week whereas male tenters and lappers earned between 18s. and 40s.¹²⁶ Disparities in pay amongst men and women were quite striking and, in this instance, there was a large variation within the pay rates for either gender. Even on the best rates women earned half the pay of men. This emphasised the deep-seated view among employers and male workers that female labour was worth less than male labour.¹²⁷ As women were often paid piece rates their earnings were more vulnerable than the flat rates enjoyed by men. In some locations women weavers explained the absence of women overseers by the fact that women were not strong enough to lift the beam of fabric out of the loom.¹²⁸ This might be seen as the women, themselves, supporting the understanding that women were not appropriate overseers of the work of others. Gender was important in the work women were able to find, the pay they received and their prospects for advancement.

There are examples of women not being as malleable as employers might have hoped. As highlighted previously, factories had conditions of service. In St Leonard's Works deductions for faulty work were made, up to the value of the materials or faulty cloth. Employees were entitled to fourteen days' notice of dismissal except when the owners were consulted, and dismissal could then be instant. In 1859, Catherine Manclark, a power-loom weaver, lodged an action in the Dunfermline Sheriff Small Debt Court against her previous employers, Erskine Beveridge and Son, to recover damages for balance of wages and loss of work.¹²⁹ Manclark claimed that she was discharged without notice for insubordination by the factory manager, James Houston, and that 2s. 6d. was deducted from wages for defective work by creating 'felters'. Felters were unevenness and thickening in part of the cloth

¹²⁵ Valenze, *The First Industrial Woman*, p. 91.

¹²⁶ A. J. G. Mackay, *A History of Fife & Kinross* (Edinburgh: Blackwood & Sons, 1896), p. 216.

¹²⁷ Cooke, *The Rise and Fall of the Scottish Cotton Industry*, p. 149.

¹²⁸ Roberts, *Women's Work*, p. 14.

¹²⁹ *Dunfermline Press*, 24 November 1859.

usually caused by a break of the thread and when the loom had run on. They often needed to be repaired by hand sewing. Manclark claimed that she had been unaware of regulations until they were pointed out to her after she was dismissed. The sheriff challenged owner Erskine Beveridge in court suggesting that the rules were not evident enough and wages were not clearly known and thus accusing the employers of 'entrapping young girls'.¹³⁰ Despite this comment the sheriff found in favour of the employer.¹³¹ Most of the evidence given in the case was by male employees and whilst the sheriff seemed sympathetic to Manclark he supported an employer who had broken its own rules.

Although it was not explicit in instructions power-loom weavers were expected to operate the machine by observing it in motion and attending to broken threads and other problems. In some instances, however, according to Houston, girls stood with their backs to the loom or knitted or sewed whilst work was in progress.¹³² Felters were the bane of the factory girls because they either had deductions made from wages or lost time as they hand repaired the fabric, thus losing wages as they were mostly paid by the piece.

Tho' our webs and our tempers are brittle alike,
And felters come swarming like bees on a byke.¹³³

Ellen Johnston who published her poems as the 'Factory Girl' recounted being discharged from Verdant Works, Dundee 'by the foreman without any reason assigned or notice given, in accordance with the rules of the work'.¹³⁴ Johnston's outcome was different as she 'gained the case' but both she and Manclark were willing to challenge their employers. For young women working in a large factory it took courage to challenge the authority of managers and masters.

As the number of factories increased there was anxiety amongst owners that the stock of labour had been exhausted. In Dunfermline, women

¹³⁰ *Dunfermline Press*, 24 November 1859.

¹³¹ *Dunfermline Saturday Press*, 26 November 1859.

¹³² *Dunfermline Saturday Press*, 26 November 1859.

¹³³ 'Song of the Contented Factory Girl', *Dunfermline Saturday Press*, 25 August 1860.

¹³⁴ Ellen Johnston, *Autobiography, Poems and Songs of Ellen Johnston*, (Glasgow: William Love, 1867), p. 14.

employees were preferred as 'the power-loom owners here have an aversion to the employment of male labour except for supervision owing to the tendency of the men to strike'.¹³⁵ Generally women went on strike less frequently than men because of different orientations to work and working conditions.¹³⁶ Women often remained in a job for a shorter period. There was more turnover amongst women workers making it more difficult for them to form into co-operative societies which, in any event, might have taken up too much of the household fund in the form of subscriptions to a society.

However, whilst The Dunfermline Incorporation of Weavers was exclusively male, women were involved in other organisations and in Dunfermline one of the twenty-three female Chartist Associations in Scotland was formed.¹³⁷ Although Chartism declined in the 1850s it was a powerful tool for women to challenge the dominant ideology of female domesticity with women taking a public role. The Dunfermline Female Political Union was chaired by a man, William Carnegie (father of Andrew Carnegie), and the Union declared that 'until woman becomes an independent creature, not the subservient slave of man, but a fit companion and assistant in all his undertakings, reform was not possible'.¹³⁸

In fact, the women in the Dunfermline power-loom factories went on strike on several occasions. On 2 December 1871, over eight hundred female workers from the St. Leonard's Works held a soirée to thank Mr Clark the proprietor of the Music Hall for the use of the building when a strike was held regarding an advance of wages for the workers.¹³⁹ As well as enjoying food and entertainment the women listened to Miss Whitelaw, one of the factory workers, who spoke on self-improvement and advocated spending part of their spare time on the reading of books. In January 1880, nearly one thousand women employed in St Leonard's Works went on strike demanding a 10% rise in their wages.¹⁴⁰ Had the strike continued, over fifteen hundred

¹³⁵ *Stirling Observer*, 12 July 1860.

¹³⁶ Louise A. Tilly and Joan W. Scott, *Women, Work & Family* (London: Routledge, 1989), p. 188.

¹³⁷ Sue Innes and Jane Rendall, 'Women, Gender and Politics', in *Gender in Scottish History since 1700*, ed. by Lynn Adams and others, pp. 43 – 83 (p. 57).

¹³⁸ W. Hamish Fraser, *Chartism in Scotland* (Pontypool: The Merlin Press, 2010), p. 195.

¹³⁹ *Paisley Herald and Renfrewshire Advertiser*, 9 December 1871.

¹⁴⁰ *Dundee Courier*, 23 January 1880.

people would have been thrown idle. In 1881, the five hundred female workers at the Albany Linen Works who had 'struck work' on Thursday 12 May held a meeting on Monday 16 May and agreed to go back to work.¹⁴¹ The strike had occurred because the women felt that the deductions for 'felters' were too heavy. The newspaper referred to it as 'merely some trifling disagreements as to felters'. The women also carried power in other ways. In 1877, Messrs. Steel & Co. of the Caledonia Works 'intimated to the girls in their employment that in consideration of the approach of the New Year full time work was offered'.¹⁴² The women declined.

Housing

Most weavers' families, and later factory workers, lived in modest and often over-crowded housing. Tenement buildings were common-place in Scotland unlike England which tended towards smaller cottage-type units with towns spread over a greater surface whereas in Scotland houses were built over each other to form flats. Dunfermline had some flatted accommodation although never to the extent of Edinburgh which seemed 'tall, high-built, narrow and crowded rather than spacious or sprawling'.¹⁴³ The Scottish feuing system lent itself to the building of several storeys on one footprint, to maximise feuing income and increase rentals. This also made assessments for rateable values and local taxes more palatable to tenants as charges were less than for individual buildings.¹⁴⁴

Most dwelling houses in Dunfermline in the 1820s and 1830s were of 'one storey with red tiled roofs. Streets were quaint and old-fashioned'.¹⁴⁵ Although tall tenements were not common, some Dunfermline dwellings had a number of flats and rooms in one building over two or three storeys. Outside stairs were customary, extending into the street and making the roadways narrow. Inadequate and overcrowded housing was a problem in Dunfermline as it was in many towns and cities. Streets were packed with

¹⁴¹ *Dundee Advertiser*, 17 May 1881.

¹⁴² *Dundee Evening Telegraph*, 30 November 1877.

¹⁴³ Smout, *A History of the Scottish People*, p. 343.

¹⁴⁴ E. Patricia Dennison, *The Evolution of Scotland's Towns, Creation, Growth and Fragmentation* (Edinburgh: Edinburgh University Press, 2018), pp. 232 – 33.

¹⁴⁵ Alexander Stewart, *Reminiscences of Dunfermline and Neighbourhood* (Edinburgh, Scott and Ferguson, 1889), p. 7.

buildings and, as great landowners such as the Earl of Elgin were reluctant to feu land, expansion was difficult.¹⁴⁶ Few people owned their own homes and most lived in rented accommodation. A house or dwelling might mean anything from one room to a mansion with several public rooms, bedrooms, servants' rooms, kitchen, bathroom and other offices.¹⁴⁷ The first census to deal with the problem of the poor standard of working-class houses was that of 1861. It showed that 34% of families in Scotland lived in one room and a further 37% in two rooms.¹⁴⁸ Around 1% of families lived in a room with no windows. Figures for Fife were broadly similar with those for Dunfermline with one room dwellings at 38% and in two rooms at 41%. Windowless rooms were recorded at less than 1%. A house with one room (or two) made domestic life as it was known to the middle class impossible.¹⁴⁹ There was no privacy, no play space, no work space and no space to get away from the tensions of family life. If there was a sink, it was often shared by several families.

Although weavers lived throughout Dunfermline there were some streets which were particularly popular. Plate 5.2 depicts these streets. North of the High Street many weavers lived and worked in Woodhead Street and Golfdrum Street. South of the High Street weavers congregated in an area around Moodie Street, Nethertown Broad Street and Rolland Street. Where weavers lived together, they might share tasks. Before the process was streamlined as explained in Chapter 3, beaming a web required about eight to ten helpers so other weavers in part of a street 'were obliged to turn out and into the shop to lend a hand to the doin o't'.¹⁵⁰ These were often social occasions where the weaving community met together, both men and women, and exchanged news. To spread the beam evenly and to the

¹⁴⁶ Simpson, *The Auld Grey Toun*, p. 48.

¹⁴⁷ Sue Mowat, 'Shopping for the Home in Victorian Dunfermline', *Dunfermline Historical Society*, (2018) < <https://dunfermlinehistsoc.org.uk/shopping-for-the-home-in-victorian-dunfermline/> > [accessed 31 March 2022].

¹⁴⁸ BPP, *Census of Scotland 1861: Population Tables and Report Volume II: Number of Inhabitants and Houses in Scotland*, Table VII, Number of Families in Houses of Different Sizes, 3013 (1862), p. xlix.

¹⁴⁹ T. C. Smout, *A Century of the Scottish People 1830 – 1950* (London: Fontana Press, 1997), p. 34.

¹⁵⁰ Thomson, *The Weavers' Craft*, p. 364.

required width an evener or 'niffler' was required.¹⁵¹ Nifflers were simply rough, wood reeds, through which the 'pins' of the web were passed. Several nifflers of different sizes were required and an individual weaver or a loom-shop would not have the necessary stock to support different varieties of beaming. Thus, weavers combined together to purchase the stock and formed 'niffler societies'. In Dunfermline one was located in Nethertown Broad Street, another in Woodhead Street and a third in Queen Anne Street in the north-west of the town. In Nethertown Broad Street, Campbell Erskine kept the stock-room and after his death his widow, Rachel Preston, looked after the nifflers where the premises were the 'howff of all enquiring and talking weavers and gossips of the quarter'.¹⁵²

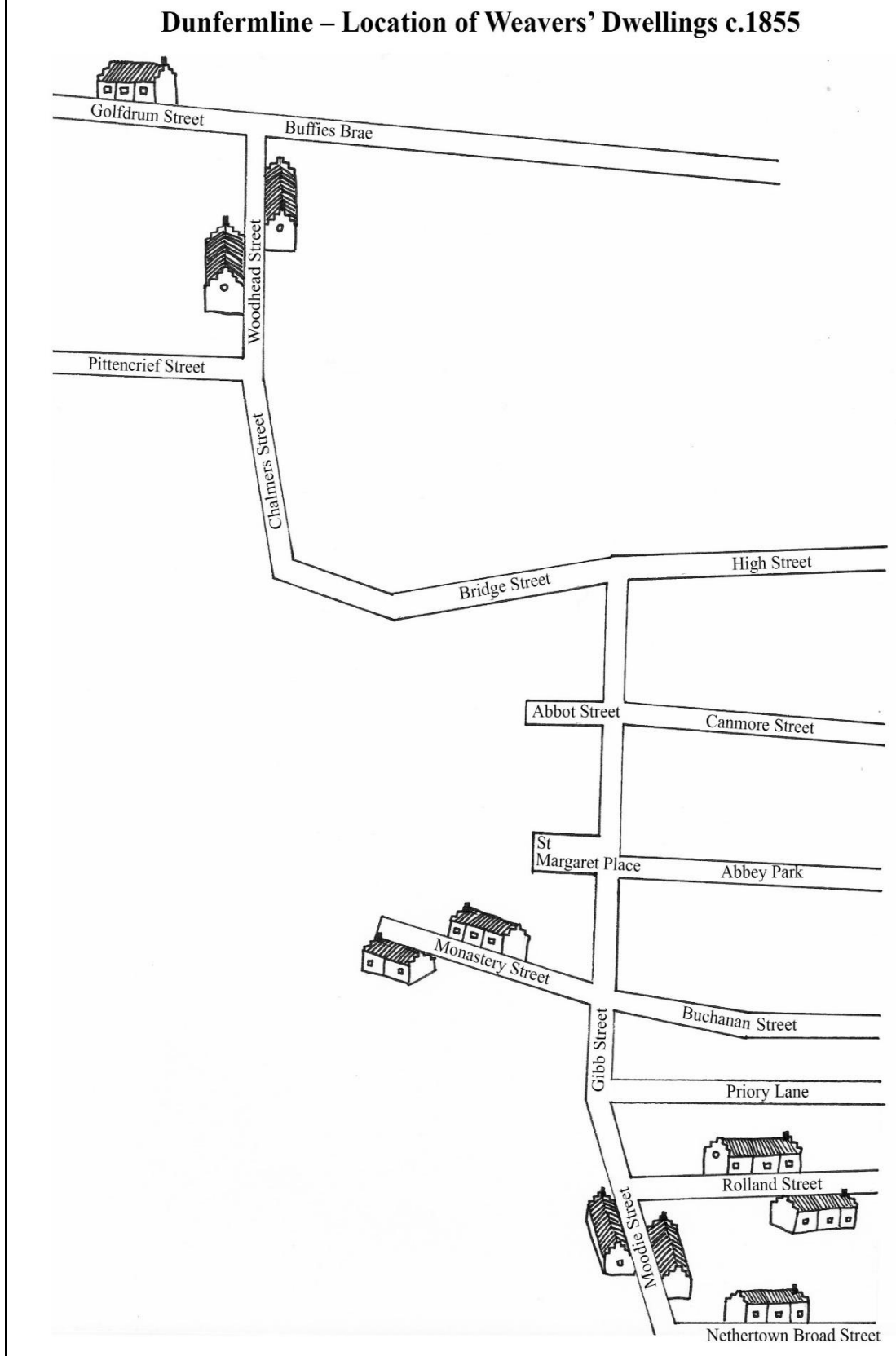
Moodie Street is famous as the birthplace of the Scottish-American philanthropist, Andrew Carnegie. In 1781, Moodie Street was created to impose something of a grid pattern on the town as it expanded outwards from its cramped historic footprint.¹⁵³ A new road was opened up between Gibb Street and the Nethertown and houses comprising mainly two-storey weavers' cottages were built from the summer of 1781. Known, initially, as The New Road it was renamed Moodie Street in 1809 after James Moodie, Provost of Dunfermline between 1792 and 1807.

¹⁵¹ Thomson, *The Weavers' Craft*, p. 362.

¹⁵² Thomson, *The Weavers' Craft*, p. 364.

¹⁵³ Harris and McKean, *The Scottish Town*, p. 226.

Plate 5.2 - Location of Weavers' Dwellings c.1855. Cottages denote popular streets



Source: NRS Valuation Roll, VR002600001, Dunfermline (1855). Drawn by Sarah Neville, 2020.

Table 5.8 Comparison of Ownership of Buildings and Head of Household 1851/1855 and 1881/1885, Moodie Street, Dunfermline

	1851/1855	1881/1885
Male Owners of Buildings	22	19
Female Owners of Buildings	4	4
Households	85	112
Male Head of Household	85%	65%
Female Head of Household	15%	35%
Hand-loom weavers as Male Head of Household	65%	18%

Source: NRS, Census Enumerators Books, Dunfermline, 424/5/8 (1851), Dunfermline, 424/20/16 (1881); NRS, Valuation Rolls, Dunfermline VR002600001-/43 (1855-56); Dunfermline VR0026000017-/79 (1885-1886).

In 1855, the eight-five dwellings (or loom-shops, shops or ground) were owned by twenty-six different proprietors.¹⁵⁴ By 1885, this was reduced to twenty-three owners, many the same as in 1855 or owned by their heirs with an increase to 112 dwellings, caused by sub-division of buildings and loom-shops now refurbished to be used as rooms, rather than by new building. With no typical size of ownership some proprietors owned only one building whilst a very few owned as many as fourteen. The dwellings mainly comprised one and two rooms and in 1861 the households living in this type of accommodation in Moodie Street accounted for 36% and 46% respectively of the total number of households.¹⁵⁵ This figure is not unexpected as there were few larger houses in this working class area.

Plate 5.3 shows an illustration of a typical cottage which housed two households and had a room which would have been let out. The looms were situated on the ground floor. A common stair led to the upper rooms. To the right and left were two further large rooms where the family lived with places for bed recesses, a fire on which cooking was carried out and some hard chairs and a table. The wife would wind pirns in this room for her husband to use on the loom. In some cases these would be passed to the weaver through a hole in the floor.

Well I remember all her homely ways
 Her cup of tea at early morning tide.
 When, creeping from our curtained sleeping place
 I nestled down, half naked, at her side.¹⁵⁶

¹⁵⁴ NRS, Valuation Roll, Moodie Street, Dunfermline, VR002600001-/43 (1855).

¹⁵⁵ NRS, Census Enumerators Books, Moodie Street, Dunfermline, 424/1 (1861).

¹⁵⁶ Macansh, *A Working Man's Bye-Hours*, p. 37.

This is written by Dunfermline poet, Alexander Macansh, about his grandmother who brought him up during his early years and demonstrates the proximity in which people lived.

In 1851, Moodie Street was still a hand-loom weaving area with the majority of male heads of household employed as weavers along with sons and, very occasionally, daughters. Hand-loom weavers accounted 65% of the male householders. By 1885, this was considerably reduced to 18% with an equal number of men working in the factories as tenters, lappers or engineers. New jobs such as railway engineers were emerging and where a son of a weaver often followed him into the craft, sons of weavers were now working in factories or as joiners and wrights. Women rarely owned property at this time. However, information from the later date showed that it was more common for women to be head of a household. In Moodie Street this included single women and widows with family. Appendix 4 and Appendix 5 show the occupations of the heads of household from the censuses of 1851 and 1881. This information is summarised at Table 5.8 which also shows the number of households in total and the proportion led by males and females. The average size of a household was almost the same with 3.9 people in 1851 and 4.2 people in 1881. The smallest household was a single person and largest in 1851 that of a farm labourer who lived with his wife, five sons, four daughters and an eight year old lodger. In 1881, the largest household was ten comprising the town calenderer, his wife, three sons, four daughters and a female lodger.

Other concentrations of single-room occupation were in the areas of Pittencrieff, Woodhead, Golfdrum and William Streets.¹⁵⁷ Often they were occupied by single women and widows, but they also housed families. Crowding was exacerbated by the practice of taking in lodgers and boarders. As late as 1881, William Wellwood who lived with his wife in a one-roomed dwelling in Moodie Street also had three female boarders, two aged fourteen

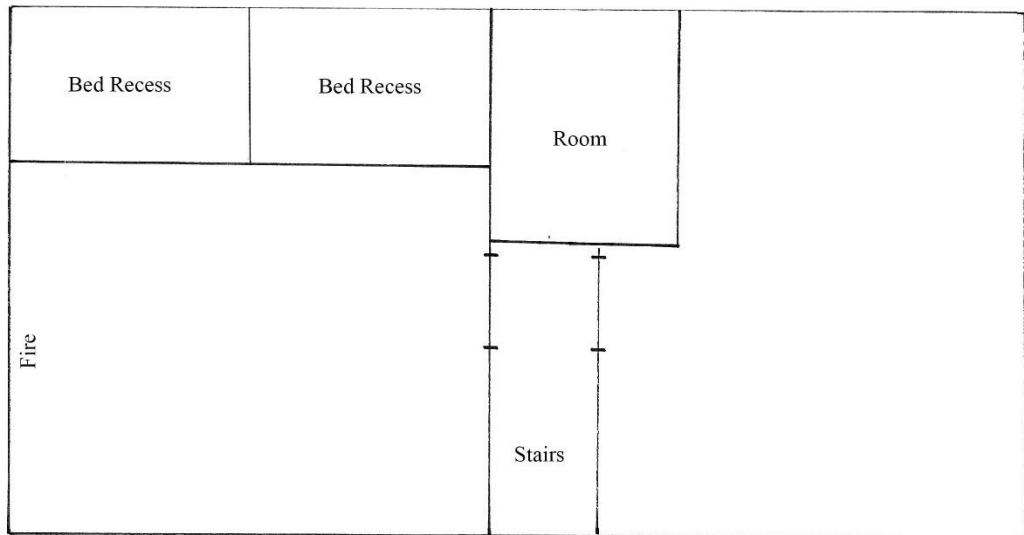
¹⁵⁷ NRS, Census Enumerators Books, Dunfermline, 424/1 (1861).

and another aged sixteen who worked as factory girls.¹⁵⁸ At this time another fourteen households in the street had lodgers or boarders.

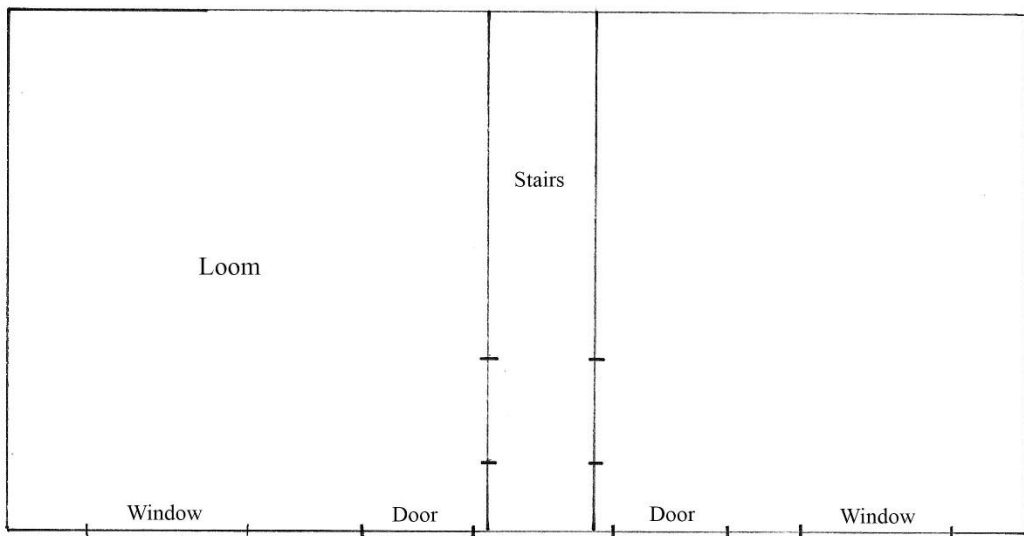
¹⁵⁸ NRS, Census Enumerators Books, Dunfermline, 424/ 11/ 8 William Wellwood (1881). The boarders were Ann Duncan aged 14 from Beath, Helen McDonald aged 14 from Balmerino and Ann Paterson aged 16 from Lochgelly.

Plate 5.3 Moodie Street – Plan of a Weaver’s Cottage

Moodie Street Weaver’s Cottage



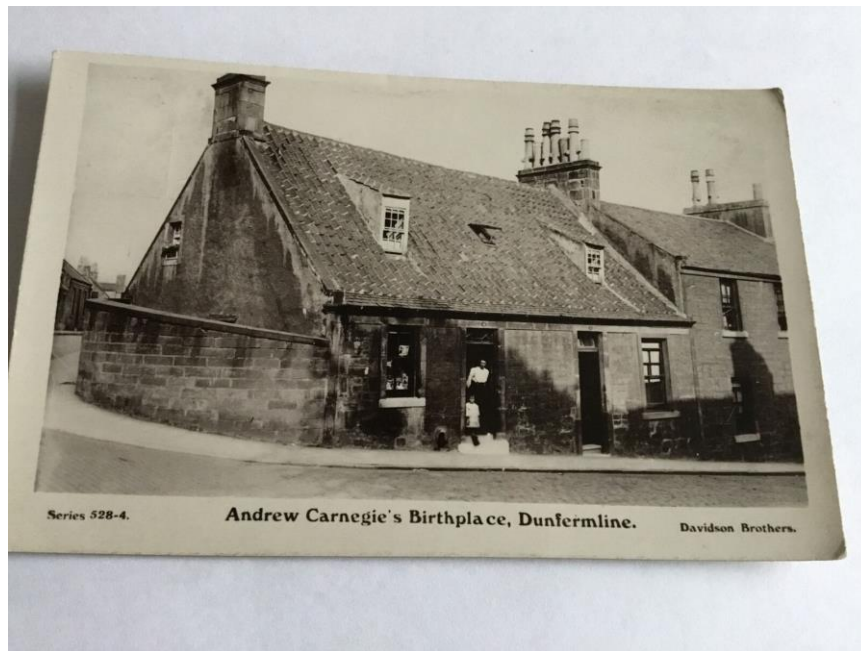
Upper Floor



Lower Floor

Source: 2 Moodie Street, Dunfermline. *Andrew Carnegie Birthplace Museum*. Drawn by Sarah Neville, 2020.

Plate 5.4 Postcard of Andrew Carnegie's Birthplace, c.1909



Source: Postcard owned by author.

Plate 5.5 Postcard of Replication of Weaver's Cottage Room



Source: Andrew Carnegie Birthplace Museum.

The cottage in Moodie Street where Andrew Carnegie was born is the last remaining weaver's cottage in Dunfermline. The building is designed as shown in Plate 5.3. Two households shared the cottage. Although each had a separate front door the stairway in the middle of the building was shared by the families. The loom took up the lower floor of each household. The upper room was used for sitting and sleeping along with cooking over an open fire.

Plate 5.5 shows the room as it would be in the 1840s with some original furniture and some replicas.

A challenge for Dunfermline's governors was water supply.¹⁵⁹ A scheme for piped water was inaugurated in 1754 and attempts continued to try to solve the problem of poor supply. Although, residents were permitted from 1805 to have a private supply piped to their houses only a few could enjoy this luxury. In 1809, the lead pipes which brought water from the Head Well to the town reservoir were replaced in cast iron and repairing of wells and conduits were attended to by the Council.¹⁶⁰ In 1846, a private water company was set up to meet the demands of a growing population and the new industries. The supply came from reservoirs built at Craiguscar and was completed in 1850.¹⁶¹ With further demands for a greater supply the Glensherup Burn was chosen as the source. This Devon Water Scheme meant that the practice of using public wells or 'the pipes' where water was intermittent could now be discontinued and there was no need to queue with wooden stoups (buckets) until the water supply was turned on.¹⁶² A further improvement was a new system to convey sewage to Charlestown on the River Forth completed in 1877 at a cost of £10,000.¹⁶³

Leisure, Holidays and Excursions

Writing in 1828, Mercer suggested of the people of Dunfermline that 'their manner and habits have become more refined'.¹⁶⁴ At the end of the next decade, it was reported that there was a 'striking superiority of internal appearance and furniture of weavers' cottages' in Dunfermline.¹⁶⁵ Further insights were given in the same report into the 'keen intelligence, decency and order of appearance' of the weavers. Some concern was expressed that the spirit shops remained open on Sundays. Mercer showed disquiet on the lack of public amusements suggesting there was a 'prejudice against any

¹⁵⁹ Harris and McKean, *The Scottish Town*, p. 229.

¹⁶⁰ E. Patricia Dennison and Simon Stronach, *Historic Dunfermline: Archaeology and Development* (Dunfermline: Dunfermline Heritage Community Project, 2007), p. 56.

¹⁶¹ Henderson, *Annals of Dunfermline*, p. 655.

¹⁶² Stewart, *Reminiscences*, p. 39.

¹⁶³ Henderson, *Annals of Dunfermline*, p. 701.

¹⁶⁴ Mercer, *History of Dunfermline*, p. 191.

¹⁶⁵ BPP, *Hand-Loom Weavers*, 159 (1839), p. 186.

species of diversion'.¹⁶⁶ Over a period of time entertainments in various forms emerged in Dunfermline ranging from clubs and libraries to excursions.

In the first part of the nineteenth century holidays were for the rich as apart from financial considerations people did not have the time for holidays. The main Dunfermline break from working routine was the celebration of Handsel (or Hansel) Monday which was a time of rejoicing with visits to friends and neighbours and the giving of 'handsels' or presents to children and employees. Celebrated in the middle of January it was a time to visit neighbours and friends.

There was an open door, that friends may dander in,
An' taste the kebbuck, an' tell the news.¹⁶⁷

However, from the middle of the nineteenth century excursionism grew. As early as 1834, the Glasgow & Garnkirk railway ran what was probably the first British excursion train from Glasgow to Coatbridge.¹⁶⁸ The introduction of the railway between Edinburgh, Perth and Dundee completed in 1849 and the Stirling to Dunfermline line the next year opened up travel to the mass market. Dunfermline now had a rail link with Edinburgh, although it involved a sea crossing between Burntisland and Granton and the journey to the capital took two and a half hours. In 1850, it was agreed for the first time that 'the town folk ... shut up shop on Friday 30th August'.¹⁶⁹ Manufacturers paid their men on Thursday and the railway company laid on a special train with 'most especial prices for cheapness'. That year the favoured destination was Edinburgh to see Prince Albert lay the foundation stone of the National Gallery. Thereafter, three holiday days a year were established. Excursions became important business for the railway and steamship companies.¹⁷⁰ The excursions were run by temperance societies, clubs, Sunday schools and churches as well as works outings and newspaper reports often remarked

¹⁶⁶ Mercer, *History of Dunfermline*, p. 193.

¹⁶⁷ Sheila Pitcairn, *Halloween, Hogmanay, Handsel and Auld Hansel Monday* (Dunfermline: Pitcairn Publications, 2003), p. 17.

¹⁶⁸ Alastair J. Durie, *Scotland for the Holidays, Tourism in Scotland* (East Linton: Tuckwell Press, 2003), p. 61.

¹⁶⁹ *Fife Herald*, 29 August 1850.

¹⁷⁰ Alastair Durie, 'Movement, Transport and Tourism', in *A History of Everyday Life in Scotland 1800 to 1900*, ed. by Trevor Griffiths and Graeme Morton (Edinburgh: Edinburgh University Press, 2010) pp. 147 – 69 (p. 157).

about the way in which the excursionists conducted themselves in a seemly manner which would be expected given the organisers of the outings. In August 1860 over twelve hundred people travelled by rail from Dunfermline to a variety of places including Glasgow and Perth and the east of Fife, 'all clean and trim in holiday attire and with gladness beaming on their faces'.¹⁷¹ The concept of an excursion was now well established.

Although factory hands worked hard, they enjoyed annual days out, most often at the expense of their employers. In 1860, the number on the annual outing from St Leonard's Works had risen to upwards of thirteen hundred and included compositors of *The Dunfermline Press* (which Erskine Beveridge founded in 1859) as well as workers from the factory and children at St. Leonard's School. The outing was to Bridge of Allan as well as Stirling. The excursionists met at Brucefield at 7.00am. and 'led by four Queenly Amazons, rank after rank of buxom lasses marched to Dunfermline Station'.¹⁷² Along the way thousands of spectators observed the marchers who boarded a giant train of forty carriages and left promptly at 8.00am. At Keir House they enjoyed 'substantial and plentiful repast'.

Sometimes these outings were segregated based on gender. On 23 August 1879, there were several pleasure parties. The male workers from Abbey Gardens Works went to Alva Glen, male workers from Canmore Works to Tillicoultry and males from Victoria Works to Langtoon (Kirkcaldy). However, 'not to be outdone by the hardier sex, the female winders of St. Leonard's Works took rail to Queensferry'.¹⁷³ Chapter 4 dealt with the paternalistic aspect of some of these outings.

The Intellectual Weaver

Most of the channels of cultural activity in the eighteenth and nineteenth centuries were principally the domain of the middle classes.¹⁷⁴ However, written materials in the form of newspapers, pamphlets and books and, especially in the 1830s and 1840s periodical publications, began to

¹⁷¹ *Dunfermline Saturday Press*, 11 August 1860.

¹⁷² *Dunfermline Press*, 12 July 1860.

¹⁷³ *Fife Herald*, 28 August 1879.

¹⁷⁴ Murray, *The Scottish Hand Loom Weavers* p.168.

reach a wider public. In addition, new techniques in graphic representation, including photography, led to illustrated copy.

Plate 5.6 Leisure Moments



"Leisure Moments"—Hand-loom Weavers, Dunfermline.

Source: Daniel Thomson, *The Weaver's Craft, being a History of the Weavers' Incorporation of Dunfermline with Word Pictures of the Passing Times* (Paisley: Alexander Gardner, 1903), p.317.

This drawing from *The Weavers' Craft* has been reproduced in many other texts to show the way in which the hand-loom weavers passed their leisure time. Drawn by a relative of the author to reflect the Dunfermline weavers, one is seated reading a broadsheet newspaper whilst the other smokes a pipe. The date for the representation it is not clear but is likely to be in the first part of the nineteenth century. Growth of the number of newspapers in Scotland was considerably slower than in England in the eighteenth century and was mainly confined to Edinburgh and Glasgow.¹⁷⁵ However, by 1845 there were about eighty newspapers in Scotland with twenty-five burghs having their own newspaper.¹⁷⁶ Until 1855, weekly newspapers were outside the reach of many as the cost was high at around 7d., of which 4d. was a tax of stamp duty, at a time when weekly wages were between 10s. and £1 per week.¹⁷⁷ Newspapers may have been out of reach financially for many hand-loom weavers but, where possible, they retained an interest in their literary tastes, especially in the East of Scotland.¹⁷⁸ In some instances, one copy of the newspaper would be purchased and read by many.

From 1851, *The Dunfermline Journal* was available as a monthly newspaper which was: 'Extensively circulated in every part of the Town and surrounding District and several sent to distant parts by Post &c.'¹⁷⁹ A weekly newsheet, *The Dunfermline Register*, introduced in December 1851 selling on Mondays at 1d. remained in print only until the end of 1852.¹⁸⁰ A weekly paper specifically for the Dunfermline area was then not available until *The Dunfermline Press* priced at 2d. was launched on 21 April 1859 by Erskine Beveridge possibly to expound his Liberal ideas for political reform. Marketed as 'An Advocate of Moral, Social and Political Progress' the intention was to supply the people of Dunfermline with a good newspaper as it was considered that the large population of the town and its environs merited a

¹⁷⁵ Christopher A. Whatley, *Scottish Society 1707 – 1830, Beyond Jacobitism, towards industrialisation* (Manchester: Manchester University Press, 2000), p. 170.

¹⁷⁶ William Donaldson, *Popular Literature in Victorian Scotland, language, fiction and the press* (Aberdeen: Aberdeen University Press, 1986), pp. 1, 3.

¹⁷⁷ Donaldson, *Popular Literature in Victorian Scotland*, p. 2.

¹⁷⁸ Murray, *The Scottish Hand Loom Weavers*, p. 162.

¹⁷⁹ *Dunfermline Journal*, 31 January 1851.

¹⁸⁰ Henderson, *Annals of Dunfermline*, p. 666.

separate journal.¹⁸¹ Stamp duty had first been introduced in the reign of Queen Anne when ‘newspapers ceased to be chronicles of events and assumed the character commentators and critics’.¹⁸² Repeal of the stamp duty on newspapers in 1855 halved the cost of newspapers already in existence and permitted new ones to be introduced at a cost which made purchase more accessible. As a result, by the late 1850s, Scotland had an extensive network of papers serving local communities. This new wave of post-repeal papers created their own patterns. Some owed their existence to individual entrepreneurs but often they were founded by groups.¹⁸³

The new press aimed itself at the upper working-class, ‘the decent respectable working men and women with a little disposable cash in their pockets’ along with the expanding lower-middle class.¹⁸⁴ In common with other newspapers, the columns of *The Dunfermline Press* were open to all readers and correspondence was welcome from all. Similarly, in common with many other newspapers it contained a considerable amount of political news. Of the twenty-four columns in the four pages of the first edition over half are taken up with this subject. *The Dunfermline Saturday Press*, priced at 1d., was introduced at the same time with its purpose as a ‘Family Journal of Politics, Literature and General News’. Again, the first edition was concerned with political news although there was also a serialised story.¹⁸⁵

In the late eighteenth and early nineteenth centuries the Scottish hand-loom weavers were allegedly much better educated than their peers.¹⁸⁶ As early as 1789, a Dunfermline Town Library was set up and by 1825, there were ninety proprietors who had paid two guineas for a share with an annual subscription of 7s. 6d.¹⁸⁷ The rate was similar to other working class libraries which charged around 6s. and were governed democratically and usually free from interference by the middle classes.¹⁸⁸ In 1838, the public and circulating libraries in Dunfermline contained upwards of five thousand

¹⁸¹ *Dunfermline Press*, 21 April 1859.

¹⁸² Hansard (24 May 1855) Vol. 138, Col. 952.

¹⁸³ Donaldson, *Popular Literature in Victorian Scotland*, p. 4.

¹⁸⁴ Donaldson, *Popular Literature in Victorian Scotland*, p. 3.

¹⁸⁵ *Dunfermline Saturday Press*, 23 April 1859.

¹⁸⁶ Murray, *The Scottish Hand Loom Weavers*, p. 161.

¹⁸⁷ Mercer, *History of Dunfermline*, p. 140.

¹⁸⁸ Jonathan Rose, *The Intellectual Life of the British Working Classes*, 2nd edn (New Haven/London: Yale University Press, 2010) p. 59.

volumes. The largest library with seventeen hundred volumes was the 'Tradesmen's Library'. Of its 188 readers, 118 were weavers. Around 450 weavers were regular readers at the various libraries in the town.¹⁸⁹ A number subscribed to newspapers and journals such as *Chambers Edinburgh Journal*, *The Scotsman* and *Tait's Magazine*.¹⁹⁰ A further illustration of the interest in reading was the removal of the Men's Reading and Refreshment Rooms from Music Hall Lane to larger premises in the High Street in May 1859.¹⁹¹

Other types of entertainment were available. 'Fairs were an agreeable institution of popish times.'¹⁹² In Dunfermline, these were usually on a Saint's day and various goods were sold giving those from the country an opportunity to purchase in the town. Until the 1820s, the weavers, having elected a captain held a fair day in June with the captain leading the procession through the town and giving those who had voted for him a small gift. Although an expensive day for an individual, it was repaid by the experience of leading his contemporaries for a day. However, later in the nineteenth century new gatherings took over with indoor soirées a popular form of entertainment and these came to replace the weavers' processions. These included addresses and musical activities from visiting singers and players such as one which took place in 1855 on Auld Handsel Monday.¹⁹³ People attended church services and went out through the town with much merriment. However, in the next fifteen years the celebrations changed as throughout Scotland Ne'er Day became the holiday. Dunfermline along with Kirkcaldy was slow to change but by 1870 the old holiday was abolished in the town.¹⁹⁴

Both males and females from the factories enjoyed socialising. On 11 March 1859, 'about one hundred of the male workers and friends of Mr. James Houston manager of the St Leonard's Factory met in the Mason Hall,

¹⁸⁹ BPP, *Hand-Loom Weavers*, p. 203.

¹⁹⁰ BPP, *Hand-Loom Weavers*, p. 203.

¹⁹¹ *Dunfermline Journal*, 27 May 1859.

¹⁹² Mercer, *History of Dunfermline*, p. 124.

¹⁹³ *Dunfermline Journal*, 5 January 1855.

¹⁹⁴ Simpson, *The Auld Grey Toun*, p. 80.

Maygate to do honour to that gentleman'.¹⁹⁵ Houston was not leaving the firm but the male workers presented him a tablet of embossed glass.

Images of Life - Words and Poetry

Although there were several contemporary historians writing accounts of Dunfermline during the nineteenth century personal memoirs and autobiography 'from below' are relatively few. One way of furthering an understanding of the lifestyles of weavers and other textile workers is through poems and the printed word used as a source of information, pleasure and propaganda.¹⁹⁶ In addition, Scotland possessed a remarkable 'song culture' in which lower and higher ranks of society participated.¹⁹⁷

The 'Golden Age' of the handloom weaving trade was a period of fifteen or so years towards the end of the eighteenth century where there was an 'extraordinary demand for weavers who became aristocrats of labour and whose wages rose to treble and quadruple of any other trade'.¹⁹⁸ This period and into the early nineteenth century witnessed a constant stream of poetical works from Scotland's principal weaving centres and published in the *Weavers' Magazine and Literary Companion* during the period 1818 and 1819 and the *Weavers' Journal* in the 1830s.¹⁹⁹ Initially, the themes which dominated the weavers' verses were religion, nature and love although their day to day work also found expression in verse.

By the 1820s two topics were prevalent. The first was the grinding poverty of the weaver's life and the second was criticism of the government where the use of verse was a way of conveying a radical message. The poetry of Scottish weaving communities ceased to be outward looking as it had been previously and focussed on problems affecting their own trade. Themes of radical thought rather than tales of love or nature possibly emerged for three main reasons.²⁰⁰ Because of the depressed trade,

¹⁹⁵ *Fife Herald*, 17 March 1859.

¹⁹⁶ Martha Vincinus, 'The Study of Nineteenth Century British Working Class Poetry', *College English*, 32:5 (1971), 548 – 62 (p. 549).

¹⁹⁷ Angus Calder, 'The Enlightenment,' in *The Manufacture of Scottish History*, ed. by Ian Donnachie and Christopher Whatley (Edinburgh: Polygon, 1992), pp. 31 – 50 (p. 49).

¹⁹⁸ Henry Hamilton, *The Industrial Revolution in Scotland* (London: Frank Cass & Co., 1966), p. 136.

¹⁹⁹ Murray, *The Scottish Handloom Weavers*, p. 180.

²⁰⁰ Murray, *The Scottish Handloom Weavers*, p. 172.

weavers worked increased hours and had less leisure time to pursue cultural aspects and less time to write. Long-term poverty may have prevented subscription to book clubs and, as weavers now lived almost exclusively in their own weaving communities, new ideas were less prevalent, and creativity was stifled. Finally, social and economic distress gave added impetus to the weavers' taste for radical notions.

The best known domestic poet and song writer of Dunfermline in the nineteenth century is probably Robert Gilfillan (1798 –1834) whose father was a master weaver. Gilfillan did not follow his father into the trade and moved with his family to Leith when he was thirteen. He returned to Dunfermline in 1818 and was distinguished in Dunfermline society although he later became a collector of Police rates in Leith. He published a book of songs in 1831 and added to these in 1835 and 1839.²⁰¹

As a prolific poet and song writer Henry Syme's work gives some insight into life in Dunfermline. Syme published two books of poetry. At his marriage in 1830, Syme is described as a weaver but from 1841 to 1861, he is variously recorded as a merchant, a general grocer and a damask weaver. It seems likely that having fallen on difficult times in the weaving trade, probably in the late 1830s, and having a growing family of six girls and two boys to support he turned to other types of occupation.

The Dundee, Perth and Forfar People's Journal was launched on 2 January 1858 as a new weekly and marketed as 'a Penny Saturday devoted to the interests of the Working Classes containing the latest news ... poetry and anecdotes, fun without scurrility'.²⁰² From the outset the editor and staff of *The Journal* saw the literary productions of Scottish working class men and women as essential to the paper's political mission.²⁰³ In common with other newspapers it invited comments and contributions from readers but it was the newspaper's 'unique openness to its readers, its eagerness to act as a platform for their opinions and experiences, its genuine readiness to enter into dialogue with them' which defined it from other newspapers.²⁰⁴ The

²⁰¹ Robert Gilfillan, *Original Songs* (Edinburgh: William Blackwood and Sons, 1835).

²⁰² *Dundee, Perth and Forfar People's Journal*, 2 January 1858.

²⁰³ Kirstie Blair, ed., *Poets of the People's Journal, Newspaper Poetry in Victorian Scotland* (Glasgow: The Association for Scottish Literary Studies, 2016), p. xii.

²⁰⁴ Donaldson, *Popular Literature in Victorian Scotland*, p. 29.

Journal drew a large number of literary contributors, amongst them Syme, who helped to promote its politics. Whilst a literary career was not within reach, Syme may have been encouraged to publish his collection of poems in old age by the reception his poetry had received when published earlier in newspapers.²⁰⁵

Local Musings was published in 1876 when Henry Syme was seventy-two years of age.²⁰⁶ It has a sense of autobiography as Syme recorded not only aspects of the general world but looked back at the loss of three of his adult children. His verses are sometimes written in the Scots vernacular and at other times in a form using clear English. Whilst he wrote about aspects of work and laws in the earlier part of the century, his later publications concentrate on a variety of subjects mostly away from working life and often in a nostalgic vein. Syme used 'Grandfather' as a pseudonym in the book's dedication. The majority of newspaper verse was either anonymous or pseudonymous with some poets operating under more than one pseudonym which enabled them to adopt multiple personae which might define them in class, gender or generic terms.²⁰⁷

As an independent weaver Syme was able to give expression of the world in the way in which he wished without fear of criticism by an employer. In contrast, Ellen Johnston (1835-c.1873) a power-loom weaver born in Hamilton, Lanarkshire who eventually made her home in Dundee was an employee. Johnston was one of about three dozen Scottish women poets who published books in Victorian times but was the only one known to work in a factory all her life.²⁰⁸

Meagan Timney has suggested that factory women poets did not foreground work in their poems.²⁰⁹ She argues that in these poems physical labour gave way to the representation of literary labour by erasing the degraded world of factory workers and offering a more positive depiction of

²⁰⁵ Blair, *Poets of the People's Journal*, p. xxiii.

²⁰⁶ Henry Syme, *Local Musings* (Dunfermline: A. Romanes, 1876).

²⁰⁷ Kirstie Blair, *Working Verse in Victorian Scotland: Poetry, Press, Community* (Oxford: Oxford University Press, 2019), p. 60.

²⁰⁸ Florence S. Boos, ed., *Working-Class Women Poets in Victorian Britain, An Anthology* (Plymouth: Broadview Press, 2008), p. 195.

²⁰⁹ Meagan Timney, 'Of factory Girls and Serving Maids: The Literacy Labours of the Working-Class Women in Victorian Britain' (unpublished doctoral thesis, Dalhousie University, 2009), pp. 165 – 210.

their role and status. Blair argues that given the need to stay in work and earn money poets workplace poets were unlikely to write anything openly critical which could be read by employers.²¹⁰

Much of Johnston's poetry rejected the Victorian ideal of female domesticity and was instead a celebration of the mills and factories of the industrial age which, to Johnston, represented freedom from the drudgery of home.²¹¹ In 'Lines to Mr. James Dorward, Power-loom foreman, Chapelshade Works, Dundee' she celebrates the assistance he gave her when she arrived in Dundee.

I'm happy as a queen, Jamie, in the bonnie Chapelshade,
And whilst you're pleased to keep me there, wi' you I'll earn my
bread.²¹²

Although there seems to be enthusiastic endorsement of factory work in Johnston's poems in a poem addressed to a middle class supporter called 'Edith' she contrasts the oppressive daily environment with her artistic ambitions.

'Tis not within the fragrant vale I gather summer flowers,
Nor is it in the garden fair I roam through dreamland bowers:
It is within the massive walls of factory dust and din
That I must woo my humble muse, her favour still to win.²¹³

Whilst Johnstone's life is, to an extent, unveiled in her autobiography and her numerous poems nothing is known about X whose poem, 'Song of the Contented Factory Girl' was published in *The Dunfermline Press* in August 1860 (reproduced at Appendix 7).²¹⁴ In common with the editor of *The People's Journal*, the editor of *The Dunfermline Press* encouraged literary contributions from working people and there was usually a poem or a story published each week. In 1860, factories were still relatively new and there were only four open at this time in Dunfermline. A task facing those who wrote about factories was how to represent the sights and sounds of industry. X mixes humour with some of the real problems of factory life,

²¹⁰ Blair, *Working Verse in Victorian Scotland*, p. 138.

²¹¹ Christopher A. Whatley, Johnston, Ellen, *Oxford Dictionary of National Biography* <<https://www.oxforddnb.com/>> [accessed 31 March 2022].

²¹² Johnston, *Autobiography, Poems and Songs*, p. 86.

²¹³ Johnston, *Autobiography, Poems and Songs*, p. 183.

²¹⁴ 'Song of the Contented Factory Girl', *Dunfermline Press*, 24 August 1860.

particularly the felters which were the bane of the girls' working day. Overall, X portrays factory working as enjoyable. Perhaps like Ellen Johnston she found escape from domestic life in the factory. However, it may be that X is not a 'factory girl' at all and is someone representing factory work as enjoyable when in fact it was laborious and strictly controlled as illustrated earlier in this chapter.

Alexander Macansh was a contemporary of Syme, born in 1803 in Doune. In 1814, he moved to Dunfermline with his parents and immediately was apprenticed as a heckler (flax-dresser) in Harriebrae Spinning Mill where he remained until it closed in 1852.²¹⁵ Macansh contributed to newspapers particularly with articles which he called 'The Politics of the Workshop' using the pseudonym 'A Shopman'.²¹⁶ This mainly describes the different lifestyles that produce different political opinions among the aristocrat, the merchant and the workman. 'The poor workman, again, standing at the foot of the social ladder is by position a Radical - a Chartist.' He also gives insights into the workshop routines. 'We had two newspapers and a weekly political pamphlet.' In his own family, it was necessary for him to work at the spinning wheel from the age of nine and in the factory from the age of eleven in order to support younger children in the family. His newspaper contributions were later published as *A Working Man's Bye Hours* (1866) with both poetic and prose contributions.

Working class poets of the nineteenth century, whether male or female, give an insight into their personal struggles and the values of the class and culture in which they lived. Sympathetic response from readers of their work in newspapers possibly gave poets such as Syme, Johnson and Macansh the courage to record their lives in published books.

Conclusion

This chapter has examined the lives of the workers both in hand-loom weaving and in power-loom factories. It has highlighted the number of people involved in the trade, initially in a family setting where the head of the

²¹⁵ *Fifeshire Journal*, 29 November 1866.

²¹⁶ *Northern Warder and General Advertiser for the Counties of Fife, Perth and Forfar*, 3 August 1854.

household would be assisted by male members of the family at the loom and by females, often on a part-time basis on pirn winding. A high proportion of the male population of Dunfermline was involved in weaving in the hand-loom era.

A move to power-loom weaving meant that machines were now 'minded' by women as men were excluded from such work as factory owners thought that women were more malleable and unlikely to strike though they did so on occasion and were not as compliant as masters may have thought. Those men who worked in the factories were considered to be skilled workers and, thus, a division of labour emerged. In the strictly disciplined workplace working life was regulated by the machine and a mainly female workforce was subject to close male supervision. Women made a huge contribution to the high productivity of the linen works because of their availability for work and their willingness to work for relatively low wages. However, workplaces became gender specific being couched in discourses of skill, family economy, status, education, strength or simply masculinity or femininity. The Dunfermline power-loom factories were gendered workplaces with the women carrying out the 'unskilled' work of attending to the power-looms and the men carrying out 'skilled' activities and supervising the women who earned a much smaller wage than they did. It seems that these roles were accepted and that the tenters were well respected by the women.

Although employers may have preferred to employ women because they were seen as malleable, there is evidence to show that both individually and in groups they were willing to challenge the authority of their employers.

In common with many other towns Dunfermline suffered from overcrowding. Weavers and others of working class lived mostly in one and two-roomed dwellings which were rented rather than owned.

Whilst work did not take up all of the week, there were few official holidays but that changed as more formal holidays were taken. With the advent of the railways, excursions became popular and were run by differing groups. Once the power-loom factories were open annual outings of employees were enjoyed along with the exhibitionism of marching from workplace to station and from station to meeting place at the end of the journey.

The hand-loom weavers liked to consider themselves as educated and supported libraries. Newspaper reading became more popular. Both Syme and Macansh contributed to the contemporary literature of Dunfermline and to the historian's understanding of life in the nineteenth century.

Chapter 6 Conclusion - Why Dunfermline?

An enterprising weaver's piratical adventure was the foundation of the reputation Dunfermline enjoys of being the chief seat of linen-damask trade in Great Britain.¹

From the early eighteenth century until the late nineteenth century Dunfermline progressed from a minor centre of linen manufacture of low grade, doubtful quality to sitting at the heart of production of high quality, well designed, damask table linen sold throughout the world. This thesis set out to examine how this transformation came about, to explain why damask was consumed increasingly and in more diverse and complex forms over the period, and to examine the experiences undergone by those at the heart of its production in the town. Rather than there being any single driving cause, this thesis has uncovered that several inter-related factors account for this growth. It has been shown that opportunities were followed by contemporaries during key periods of development in technology, fashion and design, and highlights the role of the hand-loom and, later, the power-loom manufacturers to the ebb and flow of the industry. By examining these themes using different sources of information ranging from statutory data to contemporary observations, situating the results in the historiography of industrialisation and consumption, this thesis has explained why Dunfermline made such a success of damask production and gives an understanding of how the weavers lived and worked.

As the author of the quotation above suggests, James Blake's industrial espionage was important in introducing damask weaving to Dunfermline. But however persuasive that insight might appear, this thesis has shown that it was the combination of technological innovation along with the willingness of hand-loom workers not only to embrace, but to be a part of the workforce who actively brought new inventions to the town, that formed an all-important innovative attitude. Some of these innovations were prevalent and simply adopted by the town weavers, but others were inventions pertinent to damask weaving which were introduced by local men with the encouragement of the Board of Trustees. These technological

¹ *Great Industries of Great Britain* (London: Cassell & Co., 1886), p. 26.

inventions had several consequences of which the most important was increased productivity. The use of the fly-shuttle meant a reduction in manpower at each loom, freeing those men no longer required to catch the shuttle to weave independently. Production was further improved by the introduction of the Jacquard machine in the 1820s. This brought other advantages as the weaver no longer had to rely on memory to weave so that quality was improved from the design being set in the cards. The greatest technological invention, however, was the power-loom which led to larger factories, with clanking machinery and belching smoke, to be built. This technology not only improved productivity and quality but changed the way in which people worked with women workers predominating on the shop floor.

In addition to the importance of technology, I argued in Chapter 3 that in line with increased consumerism, fashion and design were important factors in making the goods competitive in national and international markets. Design, art and craftsmanship came together to give distinctiveness to what Dunfermline produced and to open new markets to the product. Experienced and prolific designers ensured that standards were raised. The Dunfermline Branch School of the Edinburgh Drawing Academy safeguarded and grew the design base which, in turn, ensured that quality designs and competitive goods were produced. Design and technology were closely linked. As the market for damask matured, it was found that many consumers enjoyed and therefore sought out complicated and distinctive designs. This included commemorative designs, such as that for the Crimean Hero Tablecloth, which required, in the hand-loom era, the fusion of excellent technology with the outstanding design that Dunfermline could provide.

This technological mix developed out of the important role which the hand-loom manufacturers had long played in the town. Using a putting out system for hand-loom work developed a relationship between manufacturers and weavers which was found to be of continuing – but changed – importance as technological innovations were adopted. When power-loom factories were introduced, organisational structures changed. Until the first factory was opened hand-loom weavers worked in small groups or alone in their cottage or loom-shop and relied on the manufacturer to provide yarn and collect the finished goods. The early power-loom entrepreneurs who had

been involved in hand-loom manufacture took this basic organisational structure into their managerial ethos for their new factories, with the results being found to support both quality control and efficient working practices. Although Dunfermline power-loom factory owners did not display the paternalism of owners in other locations such as Kirkcaldy they, nevertheless, generally offered reasonable conditions to their employees in the hope of ensuring a continuous flow of production.

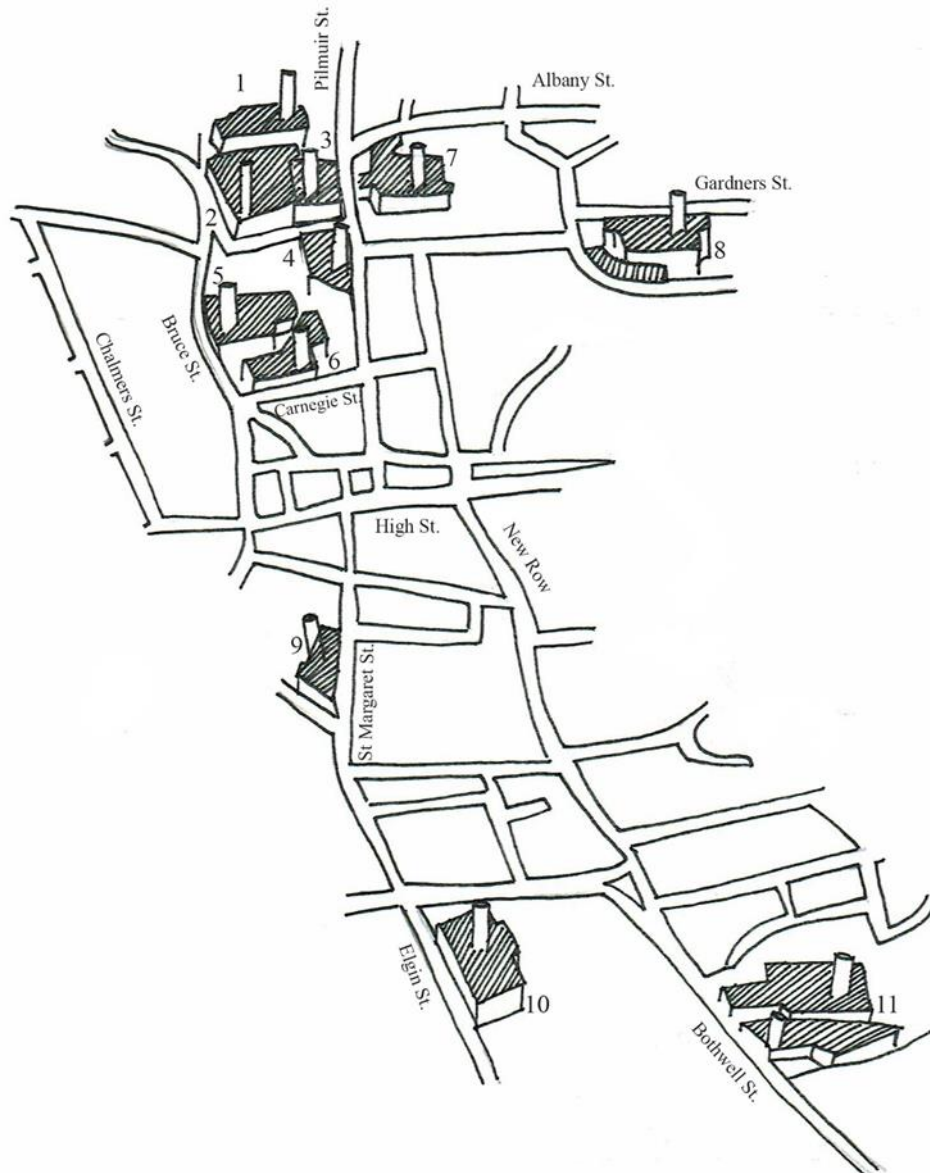
This relationship between workers' conditions and production flow was an important factor in how the industry grew during the latter part of the nineteenth century. In outlining how the workforce developed over time from male dominated hand-loom weavers to a mainly female workforce who minded machinery, it was shown that local management practices had to evolve to meet changing social norms as much as technological practices. Yet gender inequalities were found to persist. The hand-loom weavers were accustomed to working together on an informal basis such as when a weaver required help in beaming a web or through the niffler shops. However, this was a horizontal relationship whereas factory work introduced a vertical relationship or hierarchy. Men who worked in the factories were considered to be skilled workers whereas the women were considered less skilled which led to a clear division of labour. Women were subjected to a close checking of the work they produced. While this did little to advance to the agency of working women in this industry, because very few of the hand-loom weavers moved to the power-loom factories, employers were reliant on women. At a time when more women were available to work outside the home, and despite the close oversight of their working lives, the damask industry in Dunfermline would still rely on a willing workforce able to produce the type of goods sought by consumers.

It was of course no given that this important part of Scotland's textile industry would become dominated by this small Fife town. And this thesis has shown that it was the mix of technology and how it was adopted, developments in and control over fashion and design, and the mix of paternalistic and managerial oversight by the manufacturers which combined to make this happen. On their own, each was a strength, but combined the

result was that Dunfermline became in the nineteenth century and for some time thereafter the leading source of production of damask table linen.

Appendix 1

DUNFERMLINE LINEN FACTORIES 1876



- | | | | |
|------------------------|--------------------|------------------------|------------------------|
| 1. Castleblair Works | 4. Pilmuir Works | 7. Victoria Works | 10. Bothwell Works |
| 2. St Margaret's Works | 5. Canmore Works | 8. Albany Works | 11. St Leonard's Works |
| 3. Inglis Street Works | 6. Caledonia Works | 9. Abbey Gardens Works | |

Source: H. Walker, *The Story of Erskine Beveridge and St Leonard's Works: 1833 - 1989* (Dunfermline: Carnegie Dunfermline Trust, 1991), Appendix.

Drawn by Sarah Neville, December 2016, (not to scale).

DUNFERMLINE POWER-LOOM FACTORIES, OWNERS AND CAPACITY 1875

Appendix 2

Works	Location	Proprietor	Partners	Date Opened	Looms	Employees	Valuation of factory
Pilmuir/ Clayacres	Pilmuir Street	Andrew Reid & Co. (Previously A. & H. Reid)	Andrew Reid	1849	300	350	£620
St. Leonard's	St. Leonard's Street	Erskine Beveridge & Co.	James Anderson Beveridge Erskine Beveridge Jr. Henry Beveridge	1851	900	1400	£1800
Inglis Street	Inglis Street	Hay & Robertson (Previously owned by Andrew Boag, then Kirkland Brothers)	William Robertson	1858	47	60	£50
Abbey Gardens	St Margaret's Street	Henry Reid & Son	Henry Reid Robert Reid	1860	215	261	£410
Bothwell	Elgin Street	James Mathewson & Son (Previously owned by David Dewar and Co.)	James Mathewson William Mathewson	1865	500	650	£1300
Canmore	Bruce Street	J. & T. Alexander	James Alexander Thomas Alexander David Alexander	1867	700	800	£1175
Castleblair	Mill Street	Inglis & Co.	William Inglis Robert Donald Peter Donald	1868	300	300	£580
St. Margaret's	Foundry Street	Hay & Robertson	William Robertson	1870	350	310	£465
Caledonia	Carnegie Street	Steel & Co.	Robert Steel Snr. Robert Steel Jnr. Henry Mungall James Mungall John Drummond	1874	150	186	£260
Albany	Gardeners Street	R. E. Walker, Reid & Co.	Robert Emery Walker William Reid Jnr.	1874	215	261	£420
Victoria	Pilmuir Street	Inglis & Co.	William Inglis Robert Donald Peter Donald	1876	400	Not yet operational	

Source: H. Walker, *The History of Hay and Robertson and the Robertson Family of Dunfermline*, (Kelso: Kelso Graphics, 1995) Appendix One; *The Dundee Courier*, 30 April 1875.

Appendix 3

Inventory at the Death of James Alexander on 21 June 1865

	Item	£.	s.	d.
1	Cash in house	1	3	7
2	Household items, silver plate, carriage, horses and other effects	126	12	6
3	Household effects in house in Lauriston Place, Edinburgh	164	10	6
4	Crop and stock at Balmule	912	11	-
5	Cash in bank			
	Commercial Bank of Scotland on Deposit Receipt	700	-	-
	Interest owing at death	6	2	8
	British Linen Company	205	-	-
	Interest owing at death	1	10	4
6	Debt due on Bill by David Cursor Esq. SSC Edinburgh	150	-	-
	Interest owing at death	6	8	7
7	Share of capital, stock and assets of J. and T. Alexander	8385	-	9
	Interest owing at death	95	6	8
8	Railway Stock			
	North British (Edinburgh & Glasgow Railway)	875	17	6
	North British (Edinburgh & Glasgow Railway) Share of Consolidated Stock in Joint names J. and T. Alexander	329	17	6
	North British (Edinburgh & Glasgow Railway) Share of Preferred Stock in Joint names J. and T. Alexander	31	19	-
	North British (Edinburgh & Glasgow Railway) Shares 133 at £14	1862	-	-
	North British (Edinburgh & Glasgow Railway) Shares 16 at £7	112	-	-
	North British (Edinburgh & Glasgow Railway) Dividend	38	16	3
	Scottish Central Railway Stock	1037	15	
9	Bank Stock			
	Commercial Bank of Scotland Shares	2240	-	-
	Commercial Bank of Scotland Dividend	50	-	-
10	Other Shares			
	Dunfermline Water Company 20 Shares	40	-	-
	Dunfermline Water Company Dividend	2	-	-
	Dunfermline Gas Company 20 Shares	288	-	-
	Dunfermline Gas Company Dividend	18	-	-
11	Funds secured in heritable estate of Robert Balfour in Bond and Disposition	202	12	7
	Total Funds held in United Kingdom	17883	4	5
	Abroad			
	Sum of Bond from Thomas Paton, New York	3742	15	9
	Due by Paton, Stewart & Co., New York	3505	2	10
	Due by Peter Donald & Co., New York	2293	5	
	Total Funds in New York	9541	3	7
	Total Funds	27424	8	-

Source: NRS, Wills and Testaments, SC20/50/37, James Alexander, 1865.

Appendix 4

Moodie Street, Number of Inhabitants in Households and Occupation of Head of Household – 1851

No.	Male Head	Female Head	Occupation	No. of Inhabitants in Household
1	X		Grocer and Spirit Dealer	4
2	X		Hand-loom Weaver	2
3	X		Hand-loom Weaver	6
4	X		Hand-loom Weaver	2
5	X		Letter Carrier	6
6	X		Hand-loom Weaver	7
7	X		Hand-loom Weaver	4
8	X		Hand-loom Weaver	5
9	X		Hand-loom Weaver	5
10	X		Tobacco Spinner	7
11	X		Hand-loom Weaver	5
12		X	Bobbin Winder	2
13	X		Hand-loom Weaver	4
14	X		Hand-loom Weaver	8
15	X		Hand-loom Weaver	2
16	X		Hand-loom Weaver	2
17	X		Hand-loom Weaver	1
18	X		Hand-loom Weaver	1
19	X		Mason	4
20		X	Pirn Winder	2
21	X		Hand-loom Weaver	3
22	X		Hand-loom Weaver	4
23	X		Hand-loom Weaver	3
24	X		Hand-loom Weaver	3
25	X		Hand-loom Weaver	7
26	X		Power-loom Tenter	4
27		X		1
28	X		Labourer, Gas Works	3
29	X		Hand-loom Weaver	8
30		X	Milliner and Straw Hat Maker	2
31	X		Hand-loom Weaver	6
32	X		Hand-loom Weaver	3
33	X		Bleacher, Linen Yarn	5
34	X		Hand-loom Weaver	6
35	X		Hand-loom Weaver	6
36	X		Mason	4
37	X		Hand-loom Weaver	6
38	X		Hand-loom Weaver	8
39	X		Hand-loom Weaver employ 3 men	8
40		X	Pirn Winder	4
41	X		Agricultural Labourer	4
42	X		Broker	6
43	X		Hand-loom Weaver	3
44		X	Pirn Winder	6
45	X		Grocer and Spirit Dealer	3
46	X		Carter	5
47	X		Hand-loom Weaver	4
48	X		Dyer	6
49	X		Cooper	6
50	X		Dyer	5

No.	Male Head	Female Head	Occupation	No. of Inhabitants in household
51	x		Hand-loom Weaver	7
52	X		Hand-loom Weaver	3
53	X		Agricultural Labourer	11
54	X		Hand-loom Weaver	4
55	X		Hand-loom Weaver	3
56	X		Hand-loom Weaver	6
57	X		Pauper	2
58	X		Hand-loom Weaver	5
59	X		Hand-loom Weaver	2
60	X		Hand-loom Weaver	5
61	X		Hand-loom Weaver	2
62		X	Pirn Winder	1
63	X		Hand-loom Weaver	5
64	X		Hand-loom Weaver	6
65		X	Bobbin Winder	4
66	X		Hand-loom Weaver	4
67		X	Bobbin Winder	5
68	X		Hand-loom Weaver employ 3 men	4
69	X		Engineman	2
70		X		2
71	X		Hand-loom Weaver	3
72	X		Hand-loom Weaver	2
73	X		Grocer and Spirit Dealer	1
74	X		Hand-loom Weaver	5
75		X	Parish Relief	4
76	X		Shoemaker	8
77	X		Broker	5
78	X		Hand-loom Weaver	4
79	X		Hand-loom Weaver	5
80		X	Pirn Winder (Pauper)	1
81	X		Broker	2
82		X	Proprietor of Houses	3
83	X		Minister of St. Margaret Chapel	3
84	X		Wright employing 3 men and 2 apprentices	4
85	X		Grocer	3
Total	72	13	Average Size of Household	4.2

Source: NRS, Census Enumerators Books, Dunfermline, 424 (1851); NRS, Dunfermline Valuation Rolls (1855-56).

Appendix 5

Moodie Street, Number of Inhabitants in Households and Occupation of Head of Household – 1881

No.	Male Head	Female Head	Occupation	No. of Inhabitants in household
1	X		Carter	5
2		X	Washerwoman	5
3	X		General Labourer	5
4	X		Lapper	8
5	X		Joiner	2
6	X		Stoker, Gas Works	6
7	X		Calenderer	10
8	X		Damask Pattern Cutter	3
9	X		General Labourer	5
10		X	Factory Worker	2
11	X		Linen Weaver	2
12	X		Stoker Gas Works	5
13	X		Pedlar	3
14		X	Bobbin Winder	2
15	X		Tailor	6
16		X	Housekeeper	3
17		X	Housekeeper	2
18		X	Factory Worker	4
19	X		Draper	3
20		X	Dressmaker	5
21	X		Weaver	3
22		X	Sick Nurse	4
23	X		Tenter	7
24	X		Mechanic	7
25	X		Railway Labourer	3
26	X		Damask Weaver	1
27	X		Shoemaker	2
28	X		Engine Fitter and Turner	3
29	X		Tenter	1
30	X		Weaver	2
31	X		Tenter	3
32		X		3
33	X		Baker	3
34		X	Linen Weaver	3
35	X		Pedlar	2
36	X		Tailor and Clothier	6
37	X		Grocer	3
38	X		Book Deliverer	1
39		X	Housekeeper	3
40	X		Draper	4
41		X		6
42	X		Engineman	5
43		X	Factory Worker	4
44	X		General Labourer	3
45		X	Factory Worker	3
46		X		2
47	X		Carter	4
48		X		4
49	X		Joiner	2
50	X		Retired China Merchant	9

No.	Male Head	Female Head	Occupation	No. of Inhabitants in Household
51	X		Weaver	8
52	X		Shoemaker	9
53		X		2
54	X		Tenter	3
55		X		2
56		X	Dressmaker	2
57	X		China Merchant	5
58		X	Licensed Grocer	1
59	X		House Painter	3
60	X		Cotton Weaver	4
61	X		Tailor	8
62	X		Sheriff Officer	7
63	X		Cutler and Gunsmith	2
64	X		Salesman	4
65		X		4
66	X		Shoemaker	1
67		X		3
68	X		Gardener's Labourer	2
69		X		4
70	X		Grocer and Spirit Merchant	5
71	X		Baker	2
72	X		Tailor	5
73	X		Joiner and Cabinet Maker	9
74		X	Grocer	5
75	X		Weaver	2
76	X		Hand Loom Weaver	2
77		X		4
78	X		Mason's Labourer	4
79	X		Tenter	4
80	X		Labourer	4
81		X		3
82		X	Shopkeeper	1
83		X		3
84		X		4
85	X		Lapper	3
85	X		Mason	2
87		X		4
88	X		Power-loom Dresser	3
89		X	Sick Nurse	3
90	X		Grocer	7
91	X		Dyer's Labourer	9
92		X		4
93		X	School Cleaner	1
94	X		Hardware Merchant	6
95	X		Power-loom Tenter	2
96		X		7
96		X	Cotton Winder	1
98	X		Weaver	1
99	X		Linen Twister	5
100	X		Retired Weaver	3
101		X	Factory Worker	2
102	X		Carter	8
103	X		Hand-loom Weaver	2
104		X		4
105	X		Hand-loom Weaver	5

No.	Male Head	Female Head	Occupation	No. of Inhabitants in Household
106	X		Joiner and Hackney Cab Maker	5
107	X		Labourer	5
108	X		Traction Engine driver	6
109	X		Fireman, Flour Mill	5
110	X		Tenter	4
111		X	Grocer	7
112		X		1
Total	73	39	Average Size of Household	3.9

Source: NRS, Census Enumerators Books, Dunfermline, 424 (1881); NRS, Dunfermline Valuation Rolls (1885-1886).

The Shuttle Rins

The weaver's wife sits at the fire
 And ca's the pirn wheel
 She likes tae hear her ain gude man
 Drive on the shuttle weel

Chorus

The shuttle rins, the shuttle rins
 The shuttle rins wi speed
 O sweetly may the shuttle rin
 That wins the bairns' breid

Threid efter threid maks up the claith
 Until the wage he wins
 And ilka weaver maks the mair
 The mair his shuttle rins

He rises early in the morn
 He toils fu late at night
 He fain wad independent be
 He kens what is his richt

Although he has nae dainty fare
 His wages being sma
 Yet he can wi his thrifty wife
 Keep hungry want awa

He fondly soothes a neebor's grief
 Or shares a neebor's glee
 And fain tae gie his bairns lair
 He gars the shuttle flee

State cormorants may crawl fu crouse
 And haughty be an proud
 But were they paid by 'ells o keels'
 They wadna laugh sae loud

The proudest o the land wad pine
 Wi 'oot the weavers' wark
 The pampered priest, the haughty peer
 Wad gang wi'oot a sark

Then cheer your hearts ye workin men
 An aa like brithers be
 Rise up against restrictive laws
 And set industry free

Song of the Contented Factory Girl

The sun kens the time when awa' he mun be
 To gladden the hearts o' our friends ower the sea;
 And a nod o' his head, though he says nae goodbye,
 Lets us lassies a' ken when its time tae lay by.

Though some say we're slaves, it's a name that we scorn,
 For blythly we welcome the coming o' morn,
 When the whistle cries, 'Lassies, get up tae yer wark,
 Its hours sin' I heard the sweet sang o' the lark.'

Its wi' pride and wi' pleasure we toil the day lang,
 For wha' are sae happy as them that are thrang?
 And aften us lassies, when lazy a wee,
 Says- 'Wae for the sluggard, a sad life has he.'

Tho' our webs and our tempers are brittle alike,
 And felters come swarming as bees on a byke,
 Yet we've tenters to tent them; and truth let me tell
 There's a tenter I'd like weel to tent yet mysel'!

There are folks like the lilies that grow in the field,
 They toil na for bread and they spin na for bield;
 But we work for them baith, and we think it a boon
 To be able to work for a shilling or croon.

We work for our siller, weel ken we that's true
 And whiles we could hint we've but little enow
 But let us be thankfu', though frugal our fare,
 That whiles to the needfu' a plack we can spare.

But I aften ha'e thocht, when the mornings were cauld,
 How the lammies were blest that lay snug i' the fauld,
 When we, barefoot lassies, wi' sleep-like een,
 At the blaw o' the whistle in scores might be seen.

But where is the ane that has naething to dree?
 For he lives nae on earth, and he sails nae the sea:
 E'en the half-wauken rosebud its breast man unfauld
 To the breeze o' the morning, though earie and cauld.

So up wi' the steam, lads, we're ready to rin,
 To warp or to weave, to win' or to spin;
 For come wind or come weat, come sleet or come sna',
 When the whistle cries, 'Ready', we'll come at its ca'.

Dunfermline Press, 24 August 1860.

Glossary of Terms

Beetling	Flattening of the fibres in a finished fabric by beating it with wooden mallets, either manually or mechanically.
Bengal	Woven plain fabric.
Bleach	To make white by exposure to either dampness, light, air, chemical agents or a mixture of both.
Bobbin	A wooden spool on which yarn or thread was wound.
Brown linen	Unbleached linen.
Calendar	A machine and process which presses linen fabrics to make it smooth, even and glossy.
Calico	Unbleached, woven cotton fabric.
Carding	The process of cleaning and aligning wool fibres for spinning.
Check	A textile with a checked design. Checks were woven rather than printed, were typically blue and white in the eighteenth century.
Clout	A cloth.
Cord-drawer	An assistant to a weaver who raised or lowered the cords on a draw-loom according to the weavers instructions to form the shed, usually a young boy or girl known as the draw-boy.
Damask	A fine linen cloth with a self-pattern obtained by the contrast of the warp float and weft float faces of a satin binding. Patterns initially had religious themes but narrative, heroic, allegorical images and coats of arms became popular. The terms <i>double damask</i> and <i>single damask</i> refer to the quality of the cloth in terms of the specifications of yarn fineness and the number of crossings per inch.
Damask diaper	An eighteenth century term for a self-patterned satin weave with a rectilinear pattern, most likely woven on a draw-loom.
Diaper	A fine linen cloth woven with a twill weave, usually on a shaft loom and used for high quality personal towelling. The pattern is of diagonal lines which create small, linked diamond, or lozenge, shaped spaces generally filled with a dot or leaf.

Dornick (Dornoch)	A coarse cloth of damask or diaper type weave. It takes its name from the west Belgian town of Tournai known in Dutch as Doornik.
Dowlas	Coarse linen woven in Brittany, Germany, Scotland and Ireland for household use in sheets, bolsters and pillowcases.
Draw-loom	A hand-loom for self-patterned or figured textiles with a special type of figure harness to control some or all of the warp ends and capable of controlling each warp separately.
Ell	A unit of length, which was measured from the extended hand to the elbow. The measure differed in countries. A Scottish ell is around thirty-seven inches, an English ell is forty-five inches.
Flax	The common name for <i>Linum usitatissimum</i> , an annual plant with characteristic blue flowers. The stems are processed into fibre for spinning.
Fly-shuttle	A sling device invented in England by John Kay in 1733 which propels the shuttle and enables the weaver to handle the shuttle on a wide loom.
Gingham	Plain woven fabric, typically striped or checked.
Hand-loom	A loom operated by human power. The shedding motion was often operated by the weaver's feet.
Harden	A cloth made from the coarse fibres left after the finer ones had been heckled out.
Heckle	The tool used to heckle (or comb) flax fibres. Some were as simple as nails hammered through a piece of wood.
Heckling	To comb flax prior to spinning so that the fibres are separated.
Heddle	A looped cord or shaped wire with an eye in the centre through which a warp yarn is threaded, by means of which the warp yarn is controlled during weaving.
Holland	Typically a higher quality linen.
Huckaback	Coarse fabric with linen threads thrown up alternately so as to form a rough surface suitable for towelling.
Jacquard machine	A mechanical shedding device allowing a large number of warp threads to be individually controlled, thereby enabling large, figured designs to be woven.

Jacquard card	A card punched with holes to select whatever hooks of the jacquard are to be raised for one pick of the weft. Cards are laced together to produce an entire pattern.
Linen	A material made from flax.
Niffler	A rough wood-pin reed used for 'evening' the web.
Osnaburg	Coarse linen fabric mostly made in the East of Scotland. An imitation of popular German fabric.
Plain weave	The most basic weave pattern, over-one, under-one.
Pick	A single passage of the shuttle through the shed.
Picker	The part of the loom mechanism which strikes the shuttle to drive it through the open shed.
Pirn	A reel or bobbin; the spool in a shuttle.
Pullicate	Checked cotton handkerchief.
Reed	A part of the loom like a closed comb, in which the warp threads are separated in weaving by means of a straight row of evenly spaced wooden, reed or metal blades.
Scutching	Dressing of flax in preparation for spinning by beating, combing or scraping.
Selvedge	The finished edge of a piece of cloth. The selvage runs along the length of the loom, therefore if the selvage survives on a textile the direction of warp and weft can be identified.
Shed	The opening in the warp created by raising selected threads for the passage of the shuttle.
Shuttle	An instrument which holds the weft thread (in the pirn) and which is passed or thrown between the threads of the warp and so weaves the cloth.
Simple	A series of cords, descending vertically from the tail cords, and fixed to the floor. These are 'drawn' or pulled by the draw-boy to raise the warp threads during the weaving process.
Tick/Ticking/Tyck	A strong, coarse fabric used for bed sheets and covers.
Tow	The coarsest part of the flax first heckled out.
Warp	The threads stretched in parallel on the loom before weaving is begun.
Web	The woven piece of cloth.

Weft	The threads which cross from side to side, at right angles to the warp thread which they are interlaced.
Wet-spinning	When water or steam is used in the flax spinning process. Wet-spinning allows the production of smoother flaxen yarns and was essential for the mechanised production of fine yarns.
White	Bleached.
Yarn	The product of fibre spinning. Yarn was used for weaving and knitting.

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Andrew Carnegie Birthplace Museum

Postcard of Replication of Weaver's Cottage Room

Author's Own Collection

Postcard of Andrew Carnegie's Birthplace c.1909

Dunfermline Carnegie Library and Galleries

Information Board for Meldrum Loom

Meldrum Loom

Pittencrieff Estate Deed Box, Feu Notebook

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David Dewar and his wife Ann Kinnis, c. 1827. Unknown artist

Portrait of James Mathewson, his wife and son, unknown artist, 1832-1836

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