

THE KNITTER'S TALE:

A PRACTICE-LED APPROACH TO FRAMEWORK KNITTING THROUGH A CONTEMPORARY EXPLORATION OF TRADITIONAL PRACTICES, PATTERNS, SKILLS AND STORIES

VOLUME 1 of 2

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Volume 1 contains the written thesis and the Bibliography

Volume 2 contains the Appendices.

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This thesis is dedicated to the memory of:

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Hon. Curator of Ruddington Framework Knitters Museum

JEREMY FARRELL (1947 – 2008)

Keeper of Artefacts at the Nottingham Costume and Textile Museum

PROFESSOR DAVID ELSON (1940-2010)

Chairman of Trustees at Ruddington Framework Knitters' Museum

Abstract

This thesis presents the findings of the practice-led investigation which documented the processes of learning the skills of framework knitting, using traditional techniques to establish creative dialogues between Academic, Industrial and Heritage institutions. The investigation was conducted using active researcher participation to determine the contribution that personal experience can make to 'experiential knowing'.

This research was supported by a Collaborative Doctoral Award from the Arts and Humanities Research Council (AHRC) which set the parameters of the inquiry to include creative interaction with locations where framework knitting still takes place. The study supported the preservation of technical skill by establishing a new way to value expert craft knowledge which was used to inspire contemporary creative practice.

Through a process of creative learning and reflection, this study used naturalistic observations to identify evidence of creative decision-making and technical skill, which was further supported by the analysis of knitted artefacts and previously unseen workman's notebooks which were used to identify pattern inspirations, stitch counts and construction methods.

Semi-structured interviews were conducted with existing hand frame practitioners, to record their personal experiences of framework knitting. The shortage of knowledgeable experts was a significant limitation to this investigation and therefore the interview testimonies were a vital contribution of primary evidence of practitioner knowledge which enabled creative narratives to develop. The narratives explored themes of Inspiration, Exploration, Communication and Implementation, as well as Creative application.

As the first study of its kind to investigate framework knitting beyond a historical or industrial context, this thesis contributes to a new field of creative knowledge which uses practitioner interaction and personal reflection to inform creative practice on the hand frame. This thesis highlights a contemporary direction for future practice-led inquiry using traditional craft skills and practices as a method of inspiring creative investigation.

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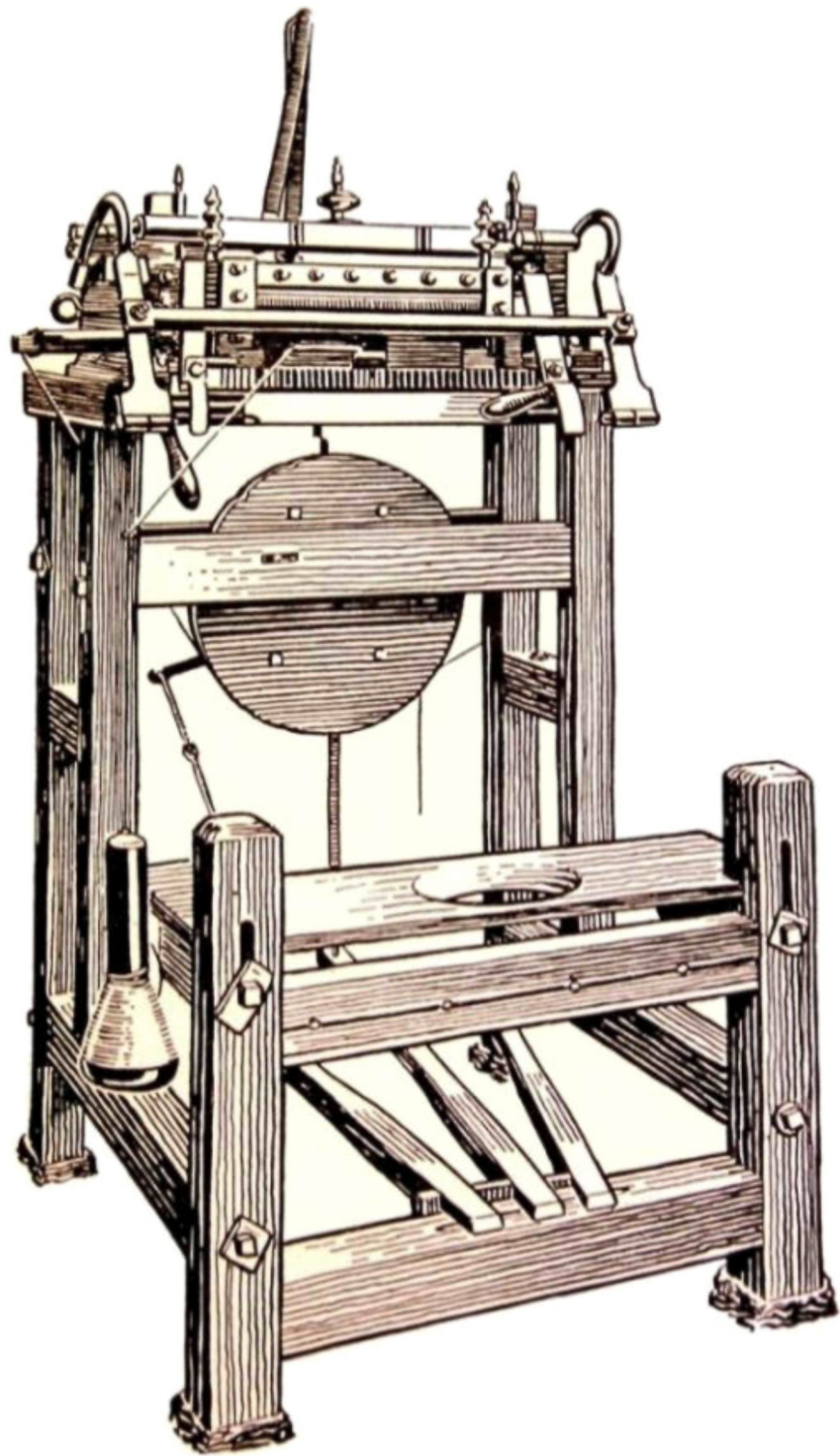
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Chapter One

Introduction: A new approach to framework knitting

1.0. Research origins

This inquiry was initially designed to address a significant problem that is currently facing the field of framework knitting; the loss of expert knowledge. Despite framework knitting being a long-established form of practice dating back to 1589, its decline as a form of commercial production has resulted in a dramatic loss of technical and creative practitioners, meaning that the skills of this craft are at serious risk of being lost entirely.

The use of the hand frame as a tool for creative practice represents a significant period of social and technological innovation, and exemplifies a time when the British Knitwear Industry was successful and profitable. This thesis therefore argues that the technical heritage of the hand frame is worthy of preservation due to its widespread influence on the practices of the past that have since influenced our current understanding of knitted textiles.

The research explores the craft of framework knitting from a contemporary perspective, using a practice-led approach to underpin analysis of remaining knitted artefacts and other documentary evidence of past creative practices. It also uses the interview testimonies of existing hand frame experts to examine how personal experience can inform creative dialogues.

The investigation was conducted with the support of a Collaborative Doctoral Award from the Arts and Humanities Research Council (AHRC) which specified interaction with the Ruddington Framework Knitters' Museum and knitwear company G.H.Hurt & Son to explore how the practical process of learning to use the Lee hand frame can be used to inspire contemporary creative practice. These institutions were considered 'custodians of knowledge' and the original AHRC application sought to strengthening links with these collaborative partners by bringing together academic discourse and the analysis of contemporary creative practice on the hand frame, supported by the unique resources and specialist knowledge offered by Ruddington Framework Knitters' Museum and the commercial and technical expertise of G.H.Hurt and Son.

1.1. Research Rationale

As the first machine to mechanise the production of knitted textiles, the hand frame is representative of over 400 years of technical ingenuity and innovation. The framework knitting industry in Britain was once a thriving hub of creative manufacture, but was superseded by power-driven machinery and eventually work was outsourced to international producers who could supply knitted products at a cheaper cost. This resulted in the complete collapse in trade and the loss of one of Britain's most influential industries.

Whilst the mechanical heritage of the hand frame is currently being preserved in museum environments such as the Ruddington Framework Knitters' Museum; the loss of technical knowledge and skills of framework knitting practitioners has now become a serious concern. The collapse of the British Knitwear Industry affected the social frameworks which once supported the transfer of technical knowledge between craftsmen and their apprentices, meaning that the practice of framework knitting is now at serious risk of being permanently lost.

There are now so few experts who retain knowledge of these working practices that there is a sense of urgency in the need to preserve what little information remains. This practice-led research addresses this issue through recording the experiences of existing hand frame practitioners and through documenting the researcher's creative journey whilst learning to become a framework knitter.

This research is the first of its kind to explore the hand frame from a creative perspective, which is partly due to the recent availability of resources, and partly related to the increased support for creative inquiries within academic research in recent years. In the past, research in this field focused on the industrial history or the technological impact of the hand frame.

Creative approaches to research have only been accepted within higher academic institutions for little over two decades. Frayling outlined the changes that have occurred to allow this to happen:

'There are two major developments within the Higher Education sector in the United Kingdom, which have focused attention on the role of practice in art and design research. The first are the changes to research degree regulations over recent years to allow submissions for the award to contain a practical element and the second is the Research Assessment Exercise 1992, prior to which art and design had been ineligible for research funding under its own categorisation.'

(Frayling 1993; In Niedderer and Roworth-Stokes 2007 p 5)

Before 1992, practice was not an eligible form of enquiry within academic study, and the change of attitude towards research in Art and Design was hugely affected by the funding opportunities granted by the RAE in 1992. Rust, Mottram & Till suggest that the development of new universities (Post-1992) from the old polytechnic system has significantly increased and now supports a greater proportion of the Art and Design sector than Universities established before 1992 (2007 pp. 17-18).

Since the changes to research focus and funding in 1992, there have not been any doctoral studies conducted that have captured the practical skills or expertise of framework knitters. The importance of the preservation of heritage is now an important focus within academic research, and the timing of this study is important; The work of Nimkulrat (2007, 2009), Mäkelä and Latva-Somppi (2011) and Niedderer and Townsend (2011) all support a renewed vision for the use of craft skills to inform contemporary practice-led studies, and it is through this process that the knowledge of framework knitting will be explored.

With the British knitwear industry in steady decline, many company archives have already been lost. As knitwear manufacturers have closed, and the tradition of older expert practitioner training younger apprentices ceased, valuable expertise and source material is lost. Recognition of these losses has prompted G. H. Hurt, as one of the few surviving manufacturers of traditional lace shawls, to open up their personal archives to scrutiny for the benefit of increasing awareness of past creative practices.

Ideally, this study should have been conducted 20 years ago, when there were a greater number of remaining hand frame experts, and the strength of the industry had not fully dissipated. Unfortunately that did not occur, so this study is a vital opportunity to preserve important perishable knowledge to enable future generations to understand the working practices of the framework knitters, whilst there is at least some remaining evidence left to collect.

We have now reached a pivotal stage in the lifecycle of the hand frame. It no longer serves a commercial function, and the factors put in place to preserve the heritage of the craft are reliant upon the ability to safeguard technical skills as well as creative knowledge. It was necessary to conduct this research in order to provide a new way of looking at the practice of framework knitting which used historical and technical knowledge to examine contemporary approaches to creative practice on the hand frame.

1.2. Research Questions

My experience of learning to use the hand frame came at a time when the lack of experienced mentors meant that much of my creative practice was developed through 'trial and error' rather than under technical supervision. This led me to establish a pattern of practice where I could reflect on my creative exploration to examine how my own experiences differed from the experiences of other framework knitters. As a result of this reflective interpretation I was able to raise questions about how the hand frame can be used in a contemporary context.

The research questions that are provided below focus on establishing how this academic inquiry can communicate the creative process of past hand frame practitioners. It was the development of these creative narratives that allowed this study to provide a unique contribution to knowledge in the field of framework knitting.

The research questions:

- How can the analysis of existing machinery and weft-knitted artefacts inspire creative dialogues between the manufacturing processes of the past and the future creative potential of framework knitting?
- How can the analysis of practitioner testimonies contribute to the existing creative narratives of framework knitting?
- How can practice-led inquiry facilitate the acquisition of new knowledge in relation to contemporary creative practice on the hand frame?

1.3. Research Design

This project was focussed into three areas: The identification and analysis of existing weft knitted lace made on the hand frame; the interpretation of creative narratives derived from interviews with existing hand frame practitioners; and the evaluation of these processes as a means of

informing a practice-led approach to the exploration of contemporary creative practice on the hand frame.

To identify historical factors that have influenced the practice of framework knitting, this project has involved a thorough examination of knitted lace artefacts to identify historical trends and pattern developments. This included the analysis of workmen's personal notebooks which provided evidence of the creative process of past knitters. This investigation provided evidence of the location and quality of existing knitted lace samples and assessed ways that archived lace collections can be combined with practical experimentation on the hand frame to identify creative narratives between man and machine.

There were five research interviews conducted as part of the qualitative data collection. The interviews were designed to interact with existing hand frame experts through semi-structured questioning. These interactions aimed to capture the stories of framework knitters, and in particular highlight their everyday working practices on the hand frame. The narratives that were derived from these interviews were used to examine the creative identities that are formed through an individual's personal experience, in this case in relation to the practice of framework knitting. Bruner (2004, p. 692) argues that 'we seem to have no other way of describing "lived time" save in the form of a narrative', and it is this fact that has enhanced the importance of collecting these personal stories about fading craft practices.

The creative element of this study was integrated within the research methodology to provide a practice-led approach that explored the use of traditional hand frame skills as a means of inspiring contemporary practice. The main creative contribution of this research was to the understanding of the skills and learning processes that are required in order to become a framework knitter. The defining characteristics of this approach are discussed in greater detail within the Methodology chapter of this thesis.

This thesis also contributes to the preservation of technical expertise by providing a contemporary analysis of the craft of framework knitting through establishing new ways of recording practical knowledge, and through developing an academic discourse about the use of creative dialogues in the transfer and application of creative skill.

1.4. Research Arguments

The thesis communicates the findings of an extensive qualitative inquiry, and in doing so, puts forward the following research arguments:

This thesis argues that the examination of textile artefacts and personal notebooks offers a way of examining the working practices of framework knitters that has not been achieved in any earlier studies. This process allows the 'voice' of the knitter to be identified and used to inform all other aspects of data collection within the study.

This thesis argues that interaction with existing hand frame experts allows creative narratives to develop which then act as a point of reference for examining researcher-centred creative experiences on the hand frame.

This thesis strongly argues that the process of learning to use the hand frame is of paramount importance in a practice-led exploration of technical skill and knowledge. This process also relies on the researcher's ability to contextualise their creative practice through extensive self-reflection.

1.5. Contributions to Knowledge

This research provides a significant contribution to the field of framework knitting through establishing a contextual understanding of previously undocumented hand frame practices through the analysis of past practitioner testimonies, to inform contemporary understanding of creative practice on the hand frame.

In the past the hand frame has been viewed as a commercial tool or as a piece of the heritage of the knitwear industry but it has not previously been used as a tool for creative exploration. This research therefore establishes a new perspective through which to explore the craft and skills of framework knitting.

This study provides one of the last opportunities to interact with living hand frame practitioners and therefore represents a timely account of the final days of the expert craftsman.

Previously, the stories of former knitters have only been recorded within the context of commercial activity or within a wider inquiry into the working conditions of Victorian knitters. As a result there are virtually no recorded accounts which chronicle the everyday life of framework

knitters and what inspired them creatively. This research addresses this issue through conducting interviews that have been structured to specifically ask questions about the creative and everyday experiences of hand frame practitioners.

In addition, this research has contributed to the existing knowledge of framework knitting practice by documenting the experience of learning to operate the hand frame through journals and self-reflective study. This was done in order to strengthen my own evolving creative narratives and to address how personal experience has the ability to challenge our thinking about the creative uses of the hand frame.

1.6. Thesis Structure

This thesis is made up of nice chapter plus appendices and is structured as follows:

Chapter 2 provides a contextual analysis of key texts and practice that have influenced the creative developments in this study. It introduces the historical, technical and creative themes that have supported the investigation and looks specifically at the creative discourses that have been identified through examining the practice of existing conceptual knitwear practitioners. This chapter establishes the focus for the research; establishing ways of using the Lee hand frame through contemporary creative practice.

Chapter 3 addresses the methodological approach that this study has taken, placing particular emphasis on the importance of personal experience within self-reflexive practice. It establishes the qualitative context of the research, focusing on how experiential and interpretive approaches support a practice-led study. It presents a review of the research methods used, starting with an examination of the observations made, leading on to a reflection of how this has affect the implementation of creative practice and concludes with a discussion about the interviews that were conducted with existing hand frame practitioners. These semi-structured interviews are examined in further detail in Chapter 6.

Chapter 4 is the first of the analysis chapters reporting on the specific observations that were made during this study and presenting a review of the condition of the remaining hand frames and an examination of the different types of work spaces where these frames are still found.

Chapter 5 presents the observational analysis of textile artefacts and creative documents that were examined as part of this research. It takes into account the problems faced in locating sources and the critical issues raised over the condition of remaining artefacts. It highlights

documents that have not previously been examined and addresses how analysing patterns and practices of the past can contribute to contemporary creative narratives.

Chapter 6 analyses the role of the framework knitter, discussing the types of creative practitioner that have been identified during this study and examining how these roles can be interpreted in a contemporary context. This chapter also discusses the relationship between maker and machine and introduces a detailed overview of the practitioners that were selected for interview, examining how their creative role and specialist knowledge have made them experts in this field.

Chapter 7 presents the findings of the interviews that were conducted with existing hand frame practitioners. It introduces the key themes that were uncovered as part of the analysis of these interviews and considers how the personal creative experiences of former knitters have been able to inspire a contemporary understanding of framework knitting. The analysis also looks at perceived notions of value within framework knitting and highlights why the transfer and preservation of knowledge is important to existing practitioners.

Chapter 8 is a reflection of the research themes, and how they have influenced the researcher's own design practice. Its particular focus is the development of personal design narratives that showcase the way that design work can be derived from work environments, prior knowledge and interaction with other practitioners.

Chapter 9 concludes the thesis and reflects on the research process through examining the importance of practical knowledge; dialogue and interaction and applying creative skill. It summarises the main contributions made by this study and provides recommendations for the future.

There are an additional 14 appendices which include historical and technical details about the working actions of the hand frame and the construction methods involved with the manufacture of weft knitted lace. The appendices include research interview transcripts, visual analysis of textile artefacts and a glossary of terms.

Chapter Two

Establishing the context of creative design on the hand frame

2.0. Introduction

The hand frame has a long and varied history across the last 400 years, yet comparatively there has been little written about it. Few written sources have managed to define how the hand frame was used to explore creative innovation and as a result there are a great number of accounts that cannot be fully substantiated that may or may not form an accurate history of the hand frame or the motives of William Lee as its inventor.

This study analysed the source material available to distinguish which provided useful and authentic accounts of framework knitting, and which were reconstituted versions of previously inaccurate histories. Historically, framework knitting has been documented from a mechanical, technical or industrial perspective, with little or no regard for the social or creative input of the craftsmen who operated the hand frame. This research was designed to examine past evidence of creative development, particularly in knitted lace design, whilst developing a contemporary analysis of the factors that have impacted on changing practices for the individual knitter.

Using previously un-reviewed material, this study identified how hand frames have been used historically within both commercial and museum settings. Analysis of these materials substantiated the research argument that this evidence can enable the 'voice' of the knitter to be identified. This in turn was used as a contextual reference point for my own creative practice on the hand frame.

This chapter has been divided into three main parts, the first of which examines key literature relating to the practice of framework knitting and the second of which examines evidence of practice that has been identified through the analysis of previously unseen workmen's notebooks. The final section discusses creative discourses through the examination of contemporary uses of knit as a method for creating artistic works.

2.1. Supporting the Practice: Establishing the historical context of framework knitting

It was necessary to identify the historical context of framework knitting to underpin the research questions that were being asked as part of this study. The available resources that chronicle the development of the hand frame are rare, and as a result, there is a limited scope for examining how the hand frame has been used in the past, and existing texts are often repeatedly sourced by contemporary writers.

Felkin suggested that the limited knowledge of the origins of the hand frame is due to the lack of affective record keeping in relation to Lee's connection with the invention of the hand frame, he stated:

'The course which the invention of the stocking-frame took, from its first inception in the mind of Lee to its completion, was not left on record by himself, or any of his contemporaries.' (Felkin 1867, reprinted 1967, p 44)

Without authentic accounts of the early development of the hand frame it was not possible to definitively establish how the first creative practices evolved, and through examining later technical literature this study was able to identify that creative practice in general has been a widely neglected topic.

This chapter establishes an historical foundation for this study to addresses what information remains about the origins and development of framework knitting. It also provides a broad cross-section of the social, cultural and mechanical changes that have affected framework knitting practice in order to support a contemporary understanding of the hand frame.

2.1.2. Early historical documentation

To identify the past creative uses of the hand frame and underpin the contemporary applications used in this inquiry it was necessary for this study to identify factors that have affected the changing function of the hand frame over time. Historical representations of the hand frame were often in diagrammatic form rather than text, and in lieu of other accurate historical documentation, this study has relied on these diagrams to provide evidence of the structure and technical capabilities of early versions of the hand frame.

Deering's 'History of Nottingham' was first published in 1751 and is of particular value due to its detailed descriptions of the town and its local industries at that time and stated that outside of London there were ten towns in England where framework knitting was a principal industry, Nottingham being the most prominent. (Deering 1751, p.100-101)

This publication contained two detailed diagrams of the stocking frame; images which are now iconic representation of the machine. [Figure 2&3] This was the first time diagrams of the hand frame had been published in England and further to this, in his appendices Deering provided a more detailed diagram of the working mechanisms of the hand frame and gave a lengthy description of how these parts allow the machine to function. This account of the working actions of hand frame is so precise that it is possible to deduce that the hand frames of 1751 operated in exactly the same manner as the hand frames that are still available today. This has been an important factor in establishing a contextual provenance to the creative exploration that has been conducted during this study.

In the same year as Deering's work was published, Denis Diderot also published his 'Encyclopédie ou Dictionnaire raisonné des sciences des arts et des metiers' (Diderot, 1751) which featured twenty four mechanical drawings of the hand frame [Figure 4 & Figure 5] which had been made by Frenchman Jean Hindret over a hundred years earlier in 1656 but had not been published. Diderot's encyclopaedia was a product of the French philosophical thinking, and was one of the great works of the Enlightenment featuring the input of philosophers such as Montesquieu and Voltaire, among others, so the inclusion of the hand frame in this text was symbolic of its prominence in a rapidly expanding industry.

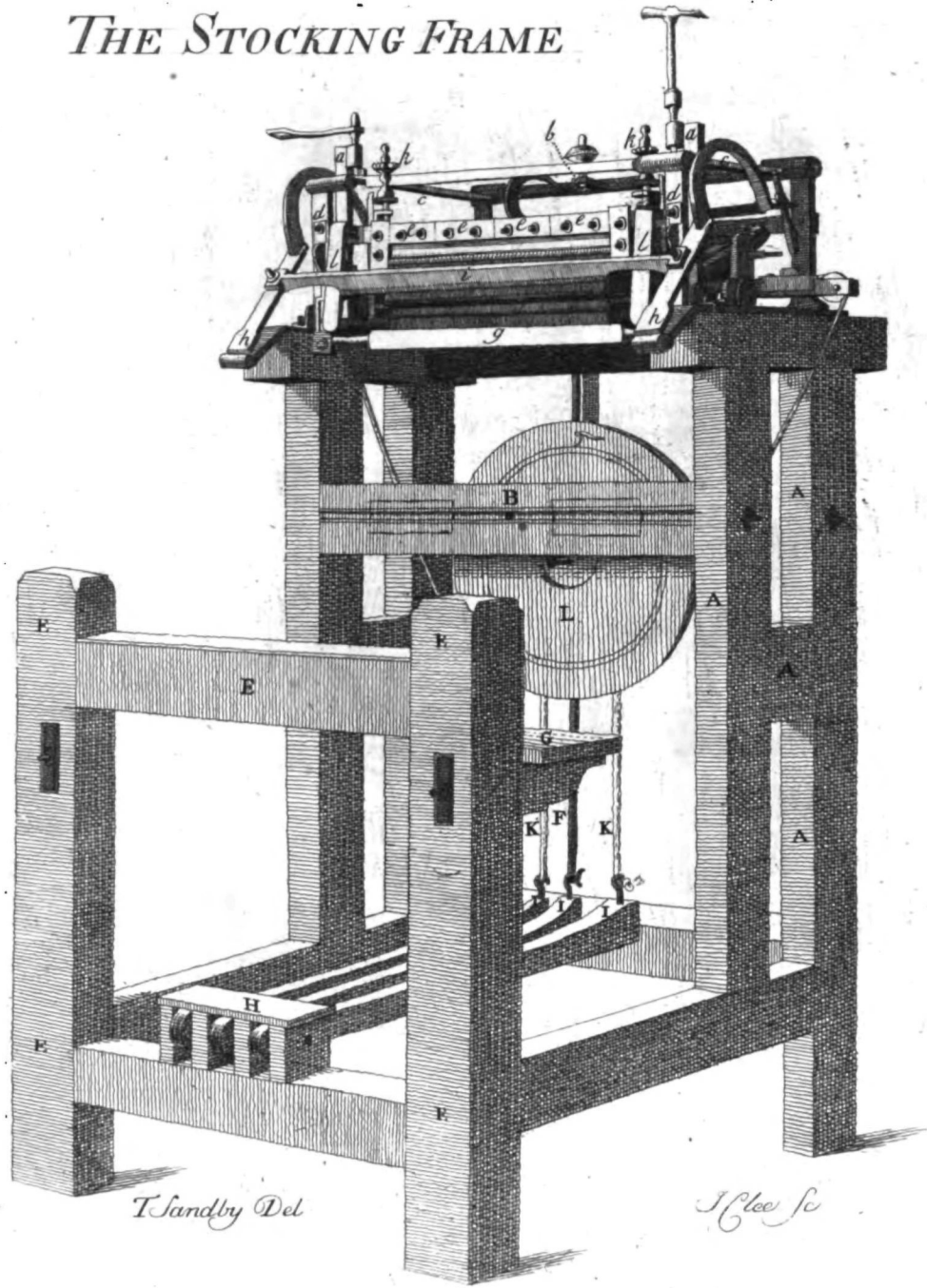
This publication showcased the hand frame in an academic context and provided an insight into how the frame industry had been established at that time. Hindret was later discovered to be an industrial spy who had created the drawings in England with the intention of returning to France and revolutionising their own hand frame industry. More recent academic authors such as Lewis describe the drawings as; 'the most accurately datable source available on the construction of the hand frame' (Lewis, 1986 p 129) as the mechanical drawings provide a distinct representation of the machine components, and document how the technology had developed during its first hundred years.

In particular, Hindret's drawings show that by 1656 the hand frame had already been adapted from Lee's earliest machine through the addition of an extra set of fixed sinkers. This allowed the frame to produce a finer gauge fabric than had been achieved by Lee and indicates that the

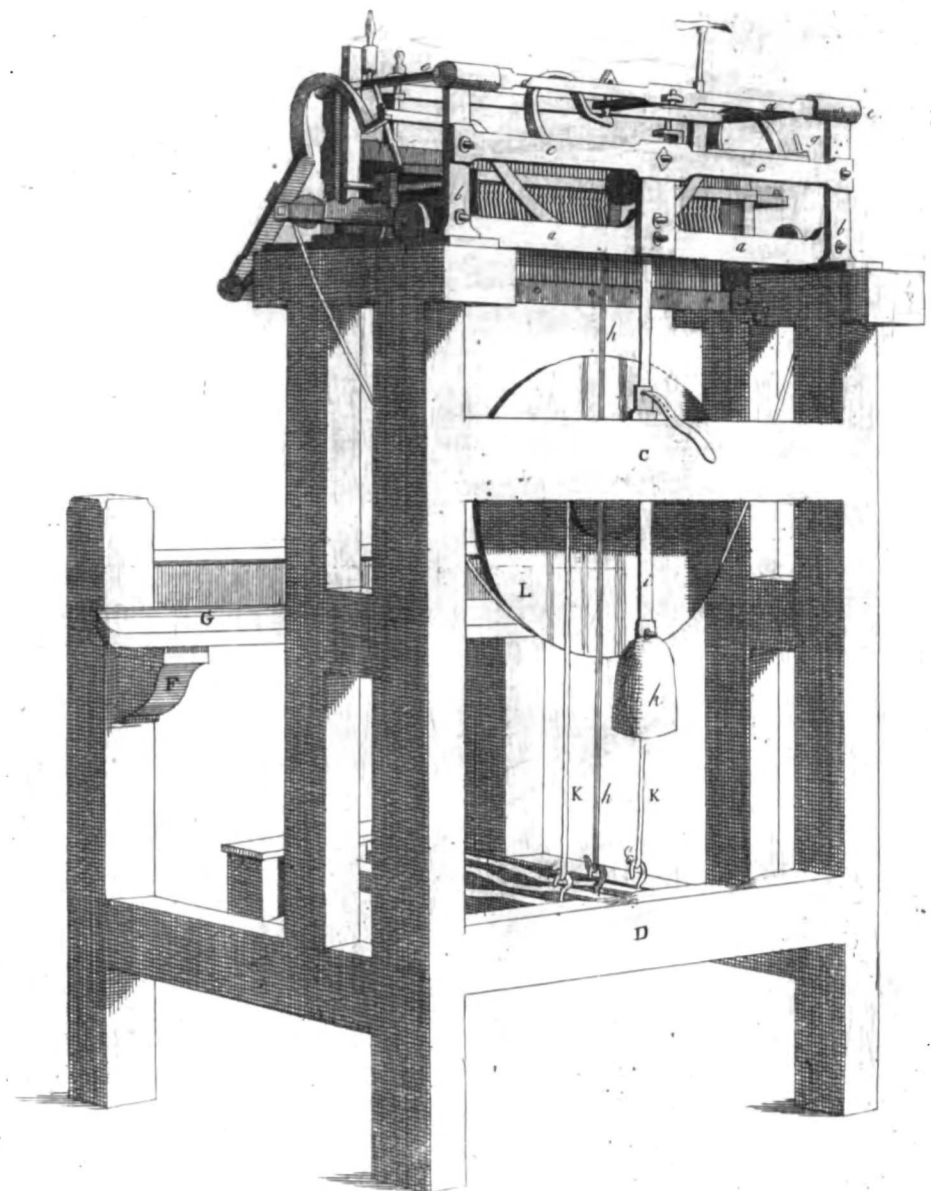
workmen of that era would have been progressively competent in technical awareness of their machines and would have been able to produce increasingly complex work.

The accuracy of Hindret's drawings was useful for two reasons; Firstly it helped to track the mechanical changes that had taken place in framework knitting in the early Seventeenth century, and it also helped to demonstrate the type of hand frame technology that was then widely replicated and used throughout Europe.

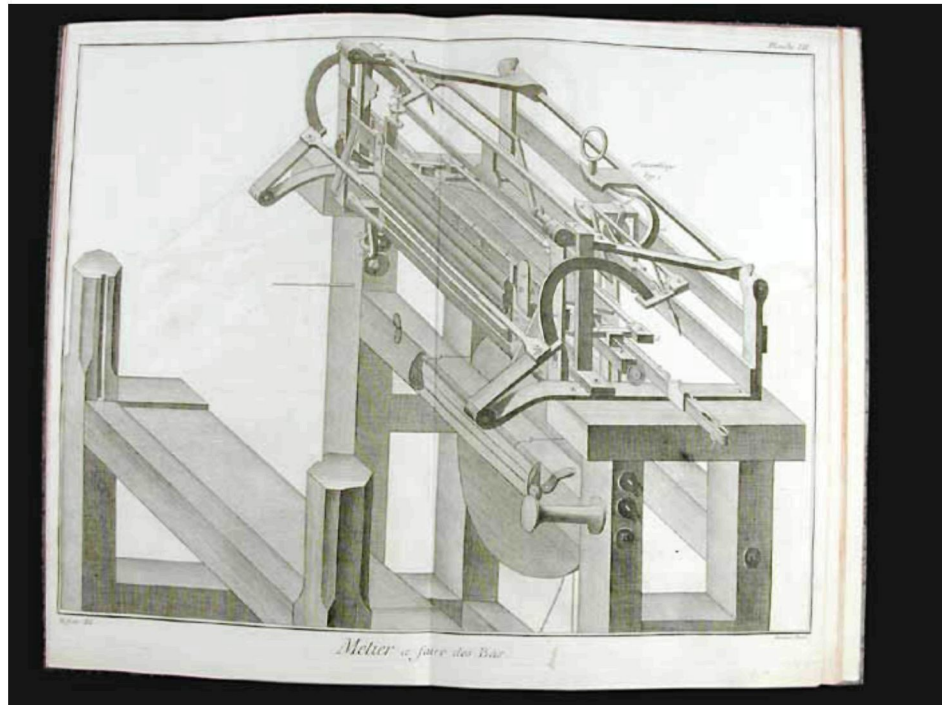
THE STOCKING FRAME



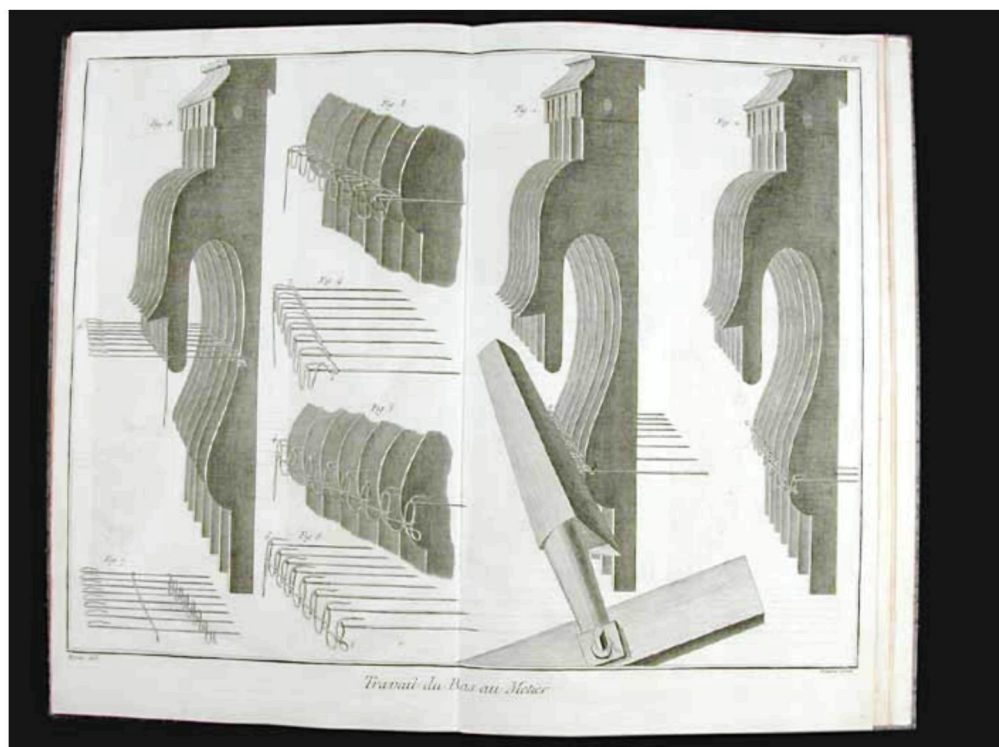
[Figure 2] Diagram of the Stocking Frame (Deering, 1751)



[Figure 3] Diagram of the Stocking Frame (reverse view) (Deering, 1751)



[Figure 4] Mechanical drawing of the hand frame smuggled from England to France by Jean Hindret around 1656. These diagrams were not published until a century later when they appeared in Denis Diderot's Encyclopédie. (Diderot, 1751)



[Figure 5] Mechanical drawing of the Sinkers and Presser bar by Jean Hindret (c.1656.)

Further examples of local historical evidence, given by John Blackner (1815) in his 'History of Nottingham', indicated that by the early nineteenth century textile trade in the area had come to rely upon the hand frame:

'Indeed, so much is this town dependant upon the engine, known by the name of the stocking frame, and it appendant machines, that, if it stood still, all other businesses must stand still also. This town may in fact be compared to one vast engine, whose every part is kept in motion by this masterpiece in the mechanic arts.' (Blackner 1815 p. 213)

This analogy of the hand frame as an intrinsic part of the working industry of Nottingham gives a good indication of the importance of its influence on trade and commerce at that time.

Blackner's account does not however, provide the same illustrative detail as Hindret or Deering, and has come under fire from later historians who suggest that the book is marred by Blackner's violent political expressions and his disregard for his predecessors in the field of local history. (Holland Walker, 1926 p 8). But as Blackner died before this book was fully completed, it cannot be determined if the version published posthumously was a complete article.

William Felkin, one of the most well respected author on the history of the hand frame, commented on Blackner's choice to omit certain historical references to mechanical alteration, but he suggests that this is due to there being an overwhelming number of different adaptations: *'The alterations and new constructions in hosiery and lace machinery had become before 1815 so numerous that Blackner, in his History, altogether declined the description of the then later important ones.'* (Felkin, 1867 reprinted 1967, p. 86)

Whilst Deering provided a specific technical account of the hand frame, Blacker did not, and instead used his text to provide examples of local history written for mainly political purposes. His work was focused more on capturing a general account of the industry in Nottingham during that time and there is therefore little evidence contained within this publication of the working practices of hand frame knitters.

One of the more significant contributions to the documented history of the hand frame can be found in Gravenor Henson's 'History of the Framework Knitters', published in 1831. Whilst it holds no illustrative descriptions of the frame itself, it does present his version of the invention of the hand frame based on testimonies of old framework knitters. One report of Lee's obsessive pursuit to create a knitting machine comes from Mr Hardy, a former hand frame apprentice in London, who died in 1790 aged 90, and from Mr Woods a former framework knitter in Nottingham who died aged 92, giving a similar account. (Henson, 1831 reprinted 1970 p. 39) The personal

testimony of knowledgeable experts was used throughout the history of the hand frame, to provide an overview of past events not recorded elsewhere and resulted in the varied historical accounts that now exist.

In 1836, the Select Committee of Arts and Manufactures published a paper stating their concern about the state of British Design (Select Committee of Arts and Manufactories, 1836). Within the framework knitting trade, French goods were gaining a reputation as being superior, and English workmen had been knitting the word 'PARIS' in the welts of their work in attempt to pass them off as French since the late eighteenth century. (Felkin, 1867, reprinted 1967 p82)

As a result the first design schools were opened, most prominently The Government School of Design at Somerset House in London in 1837, which went on to become the Royal College of Art, followed in 1843 by the Design School in Nottingham. This caused a dramatic change in public attitude towards design, and much of the literature published after this focused far more on teaching design skills through improving technical ability. The work of Felkin (1867), Willkomm (1885), Quilter (1908) and Quilter and Chamberlain (1911) were all designed for teaching purposes, to improve technical ability within educational environments. This also demonstrates that the changing focus of knitting practice was towards technical capability and awareness and indeed at this stage the notion of 'design' on the hand frame was first introduced. Before this time the hand frame knitters had no formal qualifications and honed their 'craft' through on-the-job training rather than through education.

As interest in design education was increasing, the long established hosiery and knitwear industry was facing increasing hardships. The declining condition of the working class was under extreme public scrutiny and this resulted in a number of enquiries taking place in the mid 1840's. In 1845 two seminal publications were presented, firstly 'The Conditions of the Working Class in England' by Freidrich Engles, and then a large scale 'Report from the Commissioner appointed to inquire into the condition of the Framework-Knitters'. The latter was a summary of interviews conducted with working knitters between 4th Feb and 9th August 1845. Both of these publications provided a damning view of the treatment of workers and suggested that significant changes to the industry were required in order to prevent economic collapse. These reports influenced attempts that were made to rectify the industry in favour of better working conditions for the framework knitters, chiefly in the form of an application to the Commons to appoint a committee to regulate working hours and wages and to facilitate ongoing support for future industry.

On 29 March 1848, the pursuant Sir Henry Halford put forward the motion for:

'The appointment of a Select Committee to take into consideration the Report and Evidence laid before Parliament in 1844 by Her Majesty's Commissioner for inquiry into the condition of the Framework Knitters, and to make such further inquiries as may appear necessary, in order to ascertain whether any, and, if any, what legislative measures can be devised for the relief of their long-continued distress'

(Hansard, 1848 p.1)

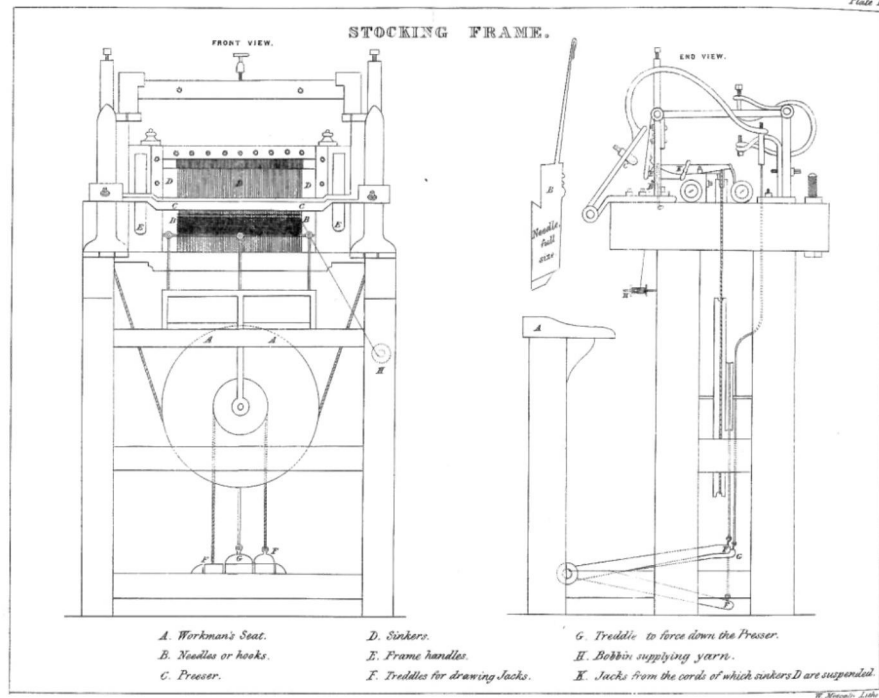
Unfortunately this motion was defeated by a majority of 34 and rejuvenation of the industry was never fully supported. However, in an attempt to rectify this industrial slump and to showcase the new design work that was emerging from the recently established design schools, it was decided that a celebration of British technology and innovation was needed to reinvigorate public pride. The Great Exhibition was staged in 1851 to fulfil this need and to demonstrate that Victorian Britain was at the forefront of design ingenuity.

By the time Felkin published his 'History of the Machine-wrought and Hosiery and Lace Manufactures' in 1867, he had the benefit of being able to review the earlier historical chronicles and also include a substantial amount of additional information about the period between 1830 and 1860. Felkin had been the Lord Mayor of Nottingham between 1850 and 1852 and had also been a successful tradesman in hosiery and lace. Despite his textile manufacturing company collapsing in 1864, he still held significant sway in the industry and as a result his 'History' has become one of the most recognised and celebrated works that focus of the framework knitting industry.

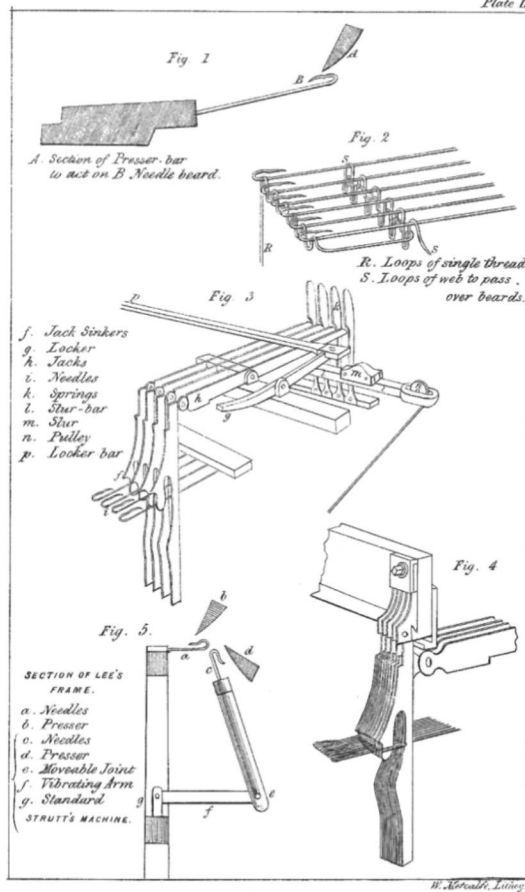
Although the mechanical diagrams provided by Felkin were basic illustrations of the hand frame and its parts, their simplicity and clarity meant that they demonstrated the structure of the frame in a more coherent way than prior diagrammatic representations. Figure 6 shows a technically detailed account of the component parts of the frame's structure whereas Figure 7 shows how these parts fitted into the working mechanism of the frame.

A substantial contribution made to the technical understanding of the hand frame was later made by Professor Gustav Willkomm, a German professor and Director of the Hosiery School at Limbach in Saxony. Willkomm's 'Technology of Framework Knitting' was translated into English by William Rowlett and first published in England in 1885. This text identified the technological processes required in order to learn to operate and maintain hand frames and provided a specifically educational perspective to being both a framework knitter and a mechanic.

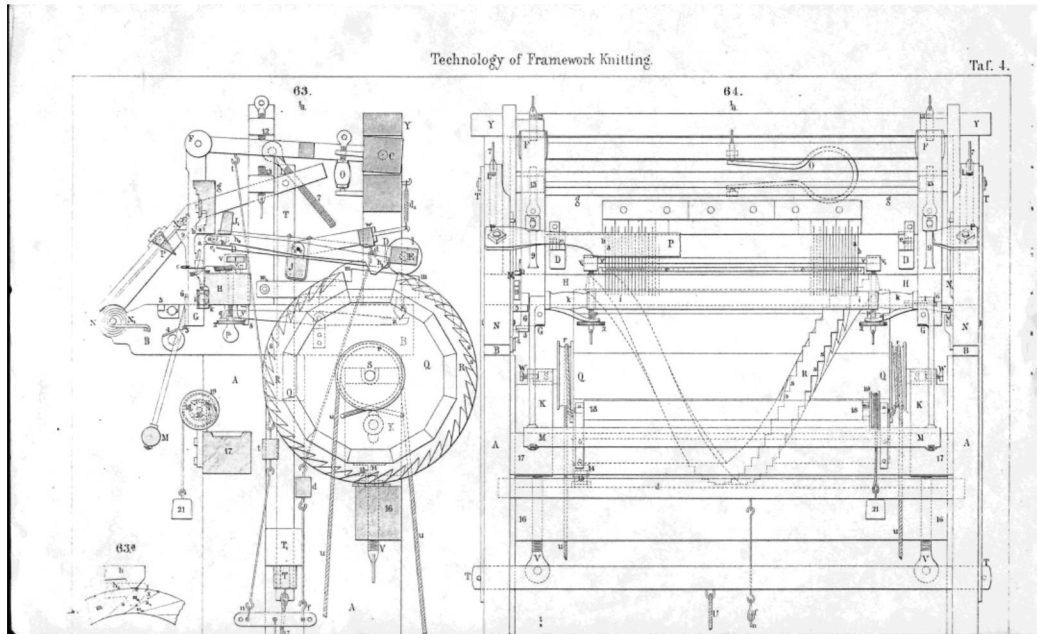
Willkomm's attention to detail in his technical diagrams provided an unparalleled account of the structure and mechanical specifications of the hand frame [Figure 8]. This precision was also



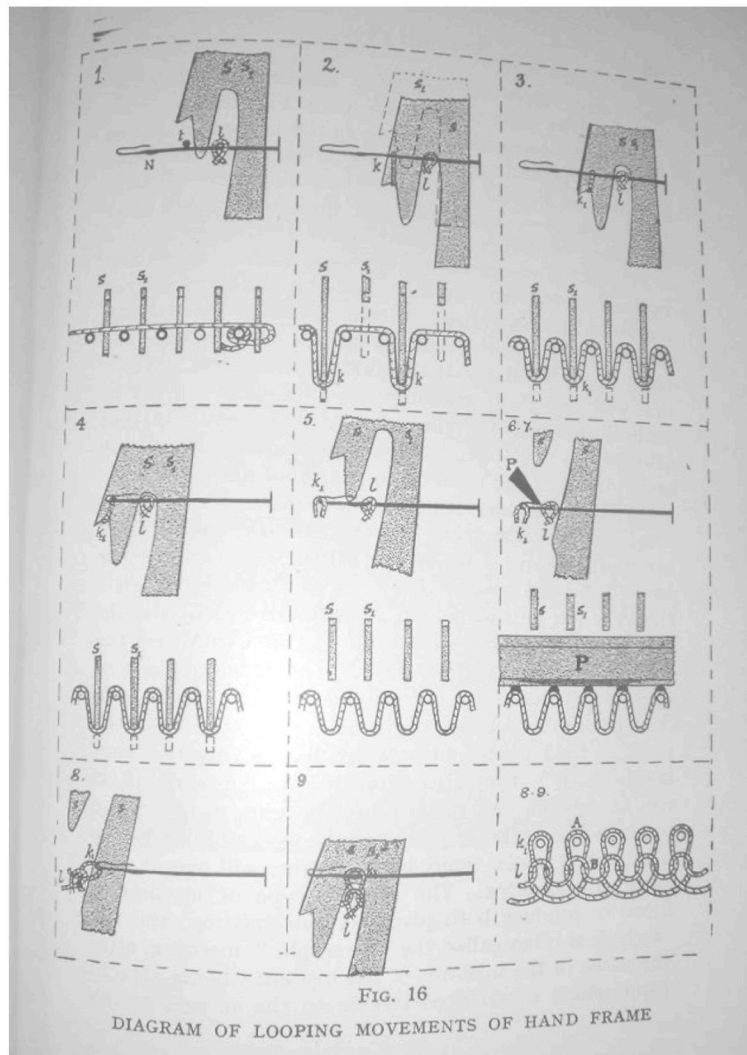
[Figure 6] Mechanical Diagram of the stocking frame (Found in Felkin, 1867)



[Figure 7] Diagrams of the needle bed and sinker function of a Lee hand frame with an additional representation of Strutt's Derby Rib attachment (Found in Felkin, 1867)



[Figure 8] Diagram of the hand frame (Willkomm, 1885)



[Figure 9] Working actions of the hand frame (Quilter and Chamberlain 1914)

demonstrated in his descriptions of the manufacturing process of machine parts such as the spring beard needle and the sinkers. As a technical expert and also a teacher, Willkomm's writing strongly advocated the importance of being an able technician as well as being a craftsman:

'As every mechanic ought to know not only how to use his tools but also how to judge their quality, and to repair them, so is the knowledge of the manner of making the elementary parts of his machine necessary to the framework knitter.'

(Willkomm, 1885, p 5)

The increased technical capability of designers in the late nineteenth century required a change to the types of literature being produced. Whilst the early literature was created to capture the heritage of the industry, few authors successfully documented detailed accounts of the knitting practices at the time. It was only Willkomm whose focus moved on from the historical, to discuss the creative design process on the hand frame in detail in a way that could correspond to contemporary design practice.

In terms of technical educational guides, Quilter produced a textbook of 'Questions and Answers' for the Ordinary grade Framework Knitting and Hosiery Manufacture examinations set by the City and Guilds of London Institute. This text was important as it documented the teaching topics that were being taught as part of technical design education at that time. The syllabus for Framework Knitting and Hosiery manufacture covered topics such as Fibres, Textile fabrics, Knitting, Framework Knitting, and Frame gauges (Quilter, 1904).

Quilter also worked alongside Chamberlain to produce a series of text books that looked at the practical aspects of all branches of the Knitting Industry. They produced educational literature on framework knitting and hosiery manufacture (Quilter and Chamberlain, 1911), which was also divided into categories and published as small text books. Text book No.5 (Quilter and Chamberlain 1914) looked specifically at designing on bearded needle straight-bar frames, and provided essential diagrams and approaches to lace pattern design. [Figure 9]

2.2. Contemporary Interpretations

This section introduces the more contemporary writings that have explored issues relating to framework knitting particularly those that have been the result of academic research or concise social histories.

2.2.1. Referenced to the hand frame in Academic Research

A detailed bibliography of the key literature relating specifically to the knitting industry was compiled by Ginsburg (1968, p 39-45) was published in the Journal of the Costume Society in 1968 and was a comprehensive list of the significant literature up until that time. This list now requires expanding to explore the additional material that has been produced over the last 40 years that has also dealt with the subject of framework knitting.

The older literature which established the most comprehensive accounts of the history of framework knitting was extensively drawn upon during the twentieth century. More recent writers continued to follow the pattern of historic documentation of their predecessors, and as a result very few examples of meaningful additions to the knowledge were made, other than those already demonstrated by the earlier authors.

Framework knitting in general terms has largely been ignored by academics. There have only been a few notable examples of hand frame research conducted within the last forty years. Rapley's (1975a) study of the history of hand frame knitting included a special reference to the development of patterning and garment shape, and reviewed the changes in knitting technology that impacted fashion trends. Whilst not a hand frame practitioner herself, Rapley also valued the skills of the workmen, and was mindful of how these skills affected the development of fashion the eighteenth century:

'There was a tremendous amount of ingenuity, skill and excitement in the trade and the eighteenth century was marked by expansion and invention, with the versatile frame being stretched almost to its limits of technical possibility, firstly with the use of cotton, and then in the second half of the century with the production of new meshes and garments.' (Rapley 1975b. p 22)

In contrast to Rapley, Lewis (1985[a]) was both a researcher and a hand frame practitioner, and therefore her academic work was highly influenced by her abilities as a creative technician. Lewis's analysis of the evolution of the hand stocking frame from 1750-1815 was far less focused on fashions, and instead looked at the actions of the machine and how mechanical alterations to the frame affected the different types of knitted fabric that could be produced. It seems a pity that Lewis's work was conducted at a time that pre-dates the use of creative practice as a method of inquiry for academic research. Lewis's technical knowledge combined with her expertise of hand frame practice was developed during her time as technical director at Ruddington Framework Knitters' Museum during the 1980s and it is entirely possible to assume that her creative skill would have enabled her to expand her technical thesis dramatically.

Additional analysis of the industrial and commercial uses of the hand frame was discussed by Nutting in his review of 'The History of the British Machine Building Industry 1850-1990' (Nutting, 1994), and Rudd in his doctoral study of the Hosiery and Knitwear industry, with emphasis placed on the merger and decline of the major knitwear company Courtalds (Rudd, 2005).

Nutting's work provided a contextual review of the technological changes that affected hand frame practitioners as the industry grew and Rudd captured the other end of the spectrum by discussing the impact of the declining industry on hand frame practice.

2.2.2. Condensed historical representations

There was a renewed interest in the hand frame during the 1980's as 1989 marked the 400 year anniversary of the invention of the hand frame. As a result there were a number of small histories published that were condensed versions of previous more expansive histories.

Palmer produced an accurate but condensed account of the history of Framework knitting (Palmer, 1984) for the Shire publication series, which was designed as an affordable way of introducing non-academics to a broad range of general interest topics. Additionally, Palmer also published a number of academic papers that looked at factors affecting framework knitters such as wages and housing. Palmer suggested that the lack of reliable literature on the working life of the framework knitters was the result of historical elitism where the everyday life of the workmen was frequently overlooked and an Archaeological approach was now required to review the workspaces of the knitters to provide clues as to their work habits.

Palmer argued that:

'Most historical accounts of late eighteenth-century industrialisation are based on documentary sources which tend to concentrate on what was new and spectacular, like Arkwright's water-powered factory of 1771 in Cromford or the Robinsons' first steam-powered cotton mill at Papplewick in Nottinghamshire in 1789. Archaeology of any period is generally concerned with the everyday, the mundane, and so can demonstrate continuity as well as change. The long survival of hosiery workshops is an example of this continuity, and helps counteract the emphasis on change which total concentration on documentary sources may bring out.' Palmer (2000)

Palmer recognised the importance of recording the everyday life of the knitters, and this became a key influence to this study through changing the perception of framework knitting to include an understanding of the everyday influences on the knitter and his practice. This investigation used

analysis of remaining workshops and creative spaces, to identify how the everyday practices of the framework knitters impacted upon their approaches to creative practice.

Later work such as 'Poor as a Stockinger' (Weir, 1998) was commissioned by Nottinghamshire County Council community Services to bring together the history of the hand frame with photographic images, census information, period maps and diagrams collated from previous literature on framework knitting. Comprising of only 25 pages, this publication described the early development of the hand frame, as well as the technical manoeuvres required to operate it. It also advertised local companies and museums that maintain connections to framework knitting.

Similarly, Lowe and Richards published a short historical review of lace-making in Nottingham, starting with its origins on the hand frame (Lowe and Richards, 2002). Each of the condensed histories provided a manageable amount of information on framework knitting that made them accessible to the general public which helped to increase the appeal of framework knitting within the wider community.

2.2.3. Local history interpretations

Further accounts of the use of the hand frame within the knitting industry provided more specific insights into the working of particular manufacturers. A short history of the Shawlmakers of Nottinghamshire (Calladine, No Date) was written by Harold Calladine, former owner of the Hucknall Manufacturing Co. which began producing lace shawls in 1856. This booklet was written at some point during the 1980's to commemorate the remaining companies producing weft knitted lace including, G.H.Hurt & Son, and J Buck & Son. Since this booklet was published, all the lace manufacturers have closed apart from G.H.Hurt & Son indicating that they are now the sole custodians of local industrial knowledge in relation to framework knitting.

Attempts to record fading local history were also evident in Newton's review of the textile Industry in Hucknall, which provided transcripts of interviews with remaining hand frame practitioners and factory owners (Newton, 2002 pp. 14-19). Notable interviewees included, Mr Calladine, (mentioned above) and Mr Arthur Hesketh, former framework knitter, who was also interviewed as part of this project. The testimonies of former industry experts provided a localised view of the hand frame trade in Hucknall and demonstrated the power of an individual's ability to recall detailed facts about their past.

Rapley set a precedent for conducting interviews with hand frame practitioners (Rapley, 1975a) The interview with Mr Walker of Sherwood conducted on 22nd February 1969, discussed the overwhelming poverty of the knitters, of which the current generation were unaware as well as the cruelty of a factory life working with hand frames.

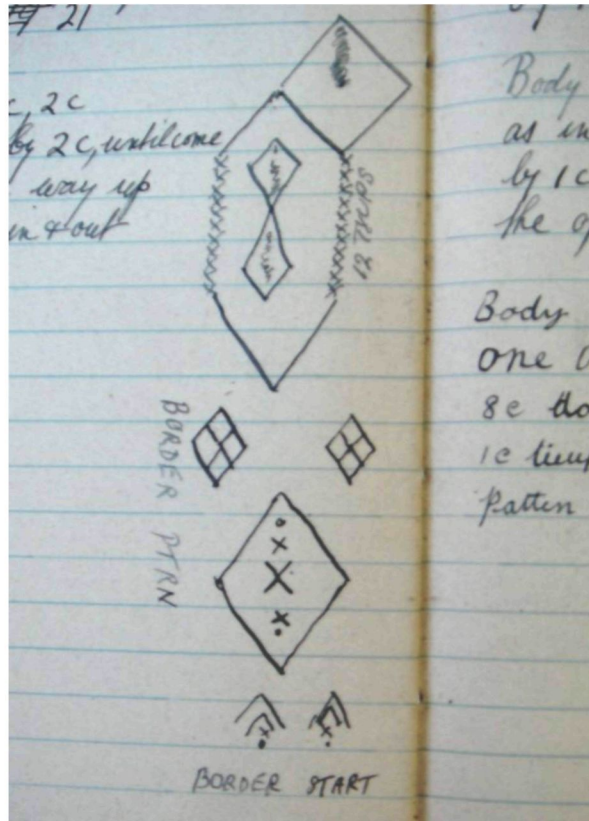
An additional joint interview conducted with Mr and Mrs Binch of Calverton on the 26th February 1969 focused more closely on the positive aspects of framework knitting, including changes in the knitting trade, bringing a wider range of yarns.

Rapley's conversational approach to these interviews worked well with the workmen chosen. By asking specific questions about their expertise, it enabled them to elaborate on details of their everyday working life, hence providing rich data for Rapley. This interview format was replicated within this study when interacting with current hand frame practitioners.

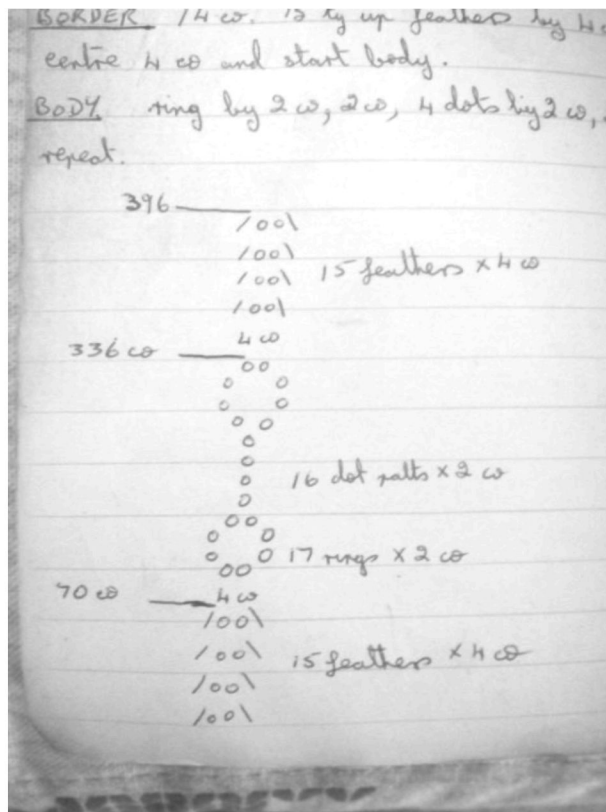
Other oral testimonies were found in the East Midlands Oral History archive (2002) which has an extensive catalogue of recorded interviews with local people talking about their everyday lives and the things they remember about the past. One interview with Peter Clowes provided detailed information about another former framework knitters' workshop which is now Wigston Framework Knitters' Museum. The rich evidence available through these oral recordings highlighted the importance of preserving the experiences of individuals and provided a way to examine the past when no literary sources had captured it. Similar recordings were also found within the Nottinghamshire Oral History Collection at the Local Studies Library, Nottingham.

Whilst the sources mentioned above provide useful and varied information relating to the hand frame, the most significant contribution to preserving this field of knowledge has been achieved by the Knitting Together project. In June 2001 Leicester City Museums Service were awarded funding by the New Opportunities Fund to establish a website that explored the heritage of the Knitwear and Hosiery Industry of the East Midlands. It formed a collaborative project between Leicester City Museums Service, Derby City Council, Leicestershire County Council, Nottingham City Council, The Friends of Leicester & Leicestershire Museums, The Pasold Research Fund, Belper North Mill Trust, and Ruddington Framework Knitters Museum.

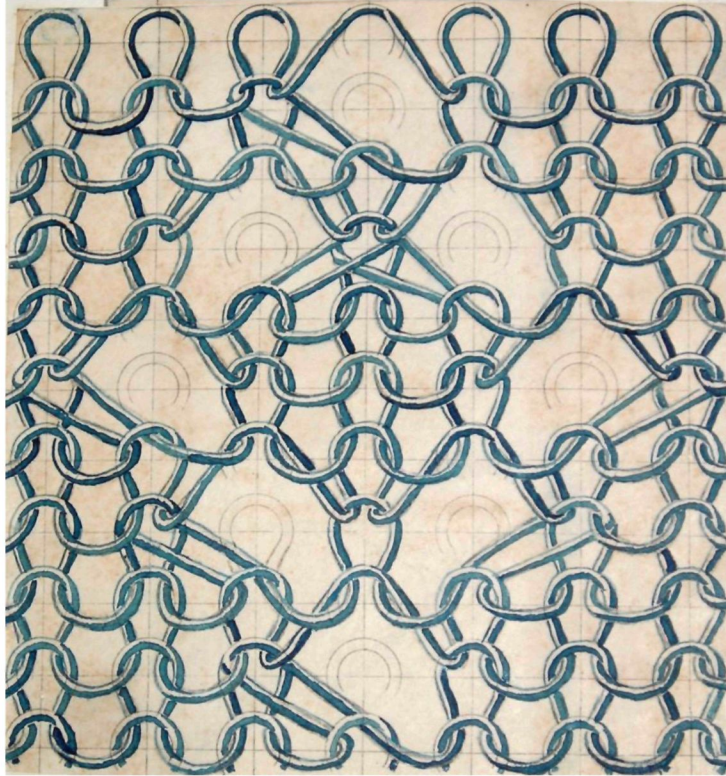
This extensive research project demonstrated the benefit of local communities working together to facilitate knowledge transfer and preservation. The website that was produced contained a vast archive of sounds and video clips, and high resolution images of textile artefacts that are held in the collections of the collaborating institutions (Knitting Together, 2002)



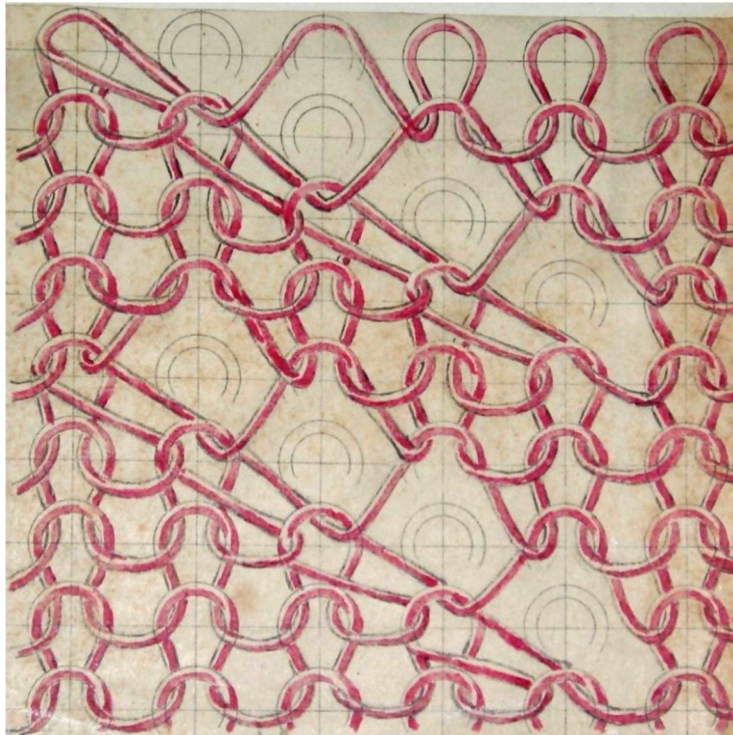
[Figure 10] Framework Knitter's notebook [detail] (c.1920) possibly belonging to George Henry Hurt. From the private collection of Mr Henry Hurt.



[Figure 11] Page from Framework knitter's notebook, possibly George Henry Hurt c.1920.



[Figure 12] Lace Pattern diagram. (c.1880) F.A. Felkin
Part of a specialist collection at Ruddington Framework Knitters' Museum.



[Figure 13] Lace Pattern diagram. (c.1880) F.A. Felkin
Part of a specialist collection at Ruddington Framework Knitters' Museum

2.3. Evidence of Practice

Whilst the evolution of the hand frame and its technical structure and were all common themes within the writings of Hindret, Deering, Henson and Blackner, a good level of mechanical understanding is required to decipher the complex technical language they use. With regards to the authors of previous histories, Lewis argues that: 'The machine was already complex when they came to it, so that to benefit from their diagrams and writings requires working familiarity with the frame; without this understanding their diagrams can be baffling and their texts so much gobble-de-gook.' (Lewis 1986, p 135)

This statement was a fundamental factor in encouraging this research to combine the necessary practical expertise of the hand frame with technical and mechanical understanding. Becoming a hand frame practitioner was an essential component in enabling a true representation of the daily lives of framework knitters as well as being able to effectively comprehend the technical 'jargon' associated with framework knitting.

This study included technical analysis of weft knitted fabric which provided a detailed account of how lace stitches were formed, but few accounts demonstrated how these structures were then used creatively to form decorative lace patterns. Therefore, less traditional forms of literature were explored to establish a technical precedent for weft knitted lace design that could be used to inspire contemporary approaches to practice. This study identified five notebooks that belonged to former framework knitters which provided evidence of personal documentation relating to pattern design and working habits. [Figure 10 & Figure 11] As these notebooks rarely survive, the lace patterns diagrams that they contained had not previously been explored as part of an academic enquiry, and as such, they provide a way of exploring creative approaches to weft knitted lace design using traditional construction methods.

The importance of pattern notebooks was also discussed by Rapley:

'Like folk knitting the patterns were based upon a vague basic vocabulary, with which each man created his own personal variations which he jealously guarded from all others. The book in which he wrote his patterns in his own personal hieroglyphics, might be handed on to his son, or just destroyed. Or – what was far more likely- the patterns were just carried round in the man's head, to be tapped at will and to die with him.' (Rapley 1975 p. 28)

The most significant example of pattern notation was found in a large technical file held in the Smirfitt Library at Ruddington Framework Knitters' Museum. Dating from the end of the nineteenth century this documentation of pattern diagrams and knitted samples was known as a

Musterbuch (German for pattern book) which was most probably constructed as part of a taught program of learning at one of the Technical Knitwear Schools in Germany (Felkin, 1880)

The diagrams contained in this Musterbuch are hand drawn and highly detailed [Figure 12 & Figure 13] showing directional stitch transfer as well as complex stitch combinations forming creative lace patterns. This pattern book identified a number of traditional lace patterns, and documented the processes required to make them. This resource was the most important account of weft lace pattern diagrams that was identified throughout this study.

The analysis of these pattern notebooks and other personal artefacts left behind by framework knitters highlighted the importance of 'the workman's voice' which was explored throughout this study as a way of preserving the skills of framework knitting.

These notebooks will be discussed in more detail within Chapter 5 of this thesis.

2.4. Creative discourses

Through reinterpreting old information to generate new knowledge about the creative applications of the hand frame a dialogue has developed between the disciplines of craft, design and art which has explored how traditional approaches to the craft of framework knitting can be used in a contemporary context.

By using traditional skills to inspire textile based artwork, this study established that the main difference between textile craftsmen and textile artists using the hand frame was actually the length of time they had been practitioners. The older craftsmen were frequently more skilled than those who used the hand frame for a contemporary purpose but this suggested that with similar dedication, contemporary practitioners may eventually hold the necessary expertise to use the hand frame to its full creative potential, like the current craft practitioners.

Gale and Kaur suggested that there is an underlying tension between craft and art practitioners:

'Many textile practitioners define themselves as textile artists but the title belies a friction between the world of fine art and the world of craftspeople. Increasingly there is an intellectual tension within textiles itself as between types of practice premised on traditional technique and material sensibilities and more conceptually led forms of practice.' (Gale and Kaur 2002 p. 78)

Whilst this may be true of certain hand crafts, my experience with exiting hand frame practitioners contradicted this. As framework knitting has now reached a critical point where it is

at serious risk of becoming a forgotten craft, existing practitioners now actively promote the use of the hand frame in both traditional craft and contemporary art.

This study addressed the differences between hand frame practitioners who define themselves as craftsmen and those that define themselves as either textile designers or artists. The researcher who takes an active role as 'designer' within the research uses their own self-reflexive nature to influence the eventual productive outcome. The researcher that takes on the role of 'artist' may also undergo a process of self-reflection, and this often results in a conceptual product.

Lawson differentiated between the creative goals of the designer and the artist; *'Designers must consciously direct their thought processes towards a particular specified end, although they may deliberately use undirected thought at times. Artists, however, are quite at liberty to follow the natural direction of their thinking as they see fit.'* (Lawson, 1997 p. 143).

The ability to consciously direct the creative process is reliant on the practitioner's self-awareness and a contextual knowledge of the design processes.

Cross compared the values of art and design, and also suggested how they differ to scientific values. He suggested that artists and designers hold fundamentally different viewpoints about approaches to practice: *'The values of science are rationality and objectivity, those of art are reflection and subjectivity, and those of design are imagination and practicality.'* (Cross, 1999 p 7).

Though artistic interpretation is notably different from that of design visualisation, the study used a reflexive approach to practice that created a working environment where the practitioner can actively refine and explore their skills as a maker. Though as Cross later stated, *'some of it is knowledge inherent in the activity of designing, gained through engaging in and reflecting on that activity.'* (Cross, 2001 p 54).

Within the disciplines of art, design and also craft, the process of engagement with technique and materials is part of the critical reflection that established the practitioner as a valid authority in their field. A fundamental part of this process is the practitioners understanding of their environment, materials and methods, through which their practical objectives can be met with contextual awareness.

Artist Rebecca Fortnum's research has often focused on documenting the processes undertaken by fine artists to examine the extent to which their experiences impact on their practice. Fortnum

discussed her research findings at the symposium entitled 'On not knowing: how artists think' held in June 2009 at Kettles Yard, London:

'Something that emerged very early on in the research was that the artist's own sense of discovery – or revelation if you will – is a dominant driver for making artwork. While the outside observer may find the results of the artist's process utterly predictable from 'inside' the process a sense of not knowing quite what is being done urges the artist on. In material/visual practices often it is the material processes of making art unfold in unexpected ways.' (Fortnum, 2009 pp. 1-2)

The notion of discovery that Fortnum mentioned has been integral to my own research and practice. In the beginning, the process of learning to operate the hand frame was intertwined with my own prior experience of knitwear design and as the research developed so did my experience, which meant I was better able to articulate the emotional link I had forged with the hand frame.

The articulation of personal experiences became the focus of my creative practice, as I looked for ways to demonstrate the evidence of my newly acquired practical skills. I was inspired by Fortnum's 2008 analysis of Contemporary British women Artists in which she conducted a series of interviews with artists to establish a record of their thoughts surrounding their own approach to art practice. These conversational interviews inspired the structure of my own interviews.

One of Fortnum's interview subjects was artist Tracey Emin who provided an insightful testimony about her own practice, which touched upon the subject of being surprised by her own work as well as her involvement in the labour of making and her use of art as a form of communication (Fortnum, 2008 pp. 55-63).

Emin's artwork was inspiring as it is frequently constructed as a way for her to express her personal experiences and emotions. Unafraid to challenge topics that are socially or culturally sensitive, her approach to controversial subjects such as abortion exposed her vulnerability but also highlighted her ability to use her own experiences as a method for communicating emotion through artistic practice. [Figure 14]

Emin is particularly successful at creating intimate personal narratives that display her own experiences. Her use of language with the work identifies her as the maker and uses words such as 'you' to help create an interaction between the work and the viewer [Figure 15]. Emin has an ability to use traditional textile construction methods, which she subverts, to develop a form of artwork that is self-reflexive and highly emotive. These pieces are not mass produced. They represent the personal interplay between the



[Figure 14] 'Everyone I Have Ever Slept With (1963-1995)' by Tracey Emin (1995)



[Figure 15] Helter Fucking Skelter by Tracey Emin (2001)

artist and her materials, resulting in artwork that literally screams its message at the viewer. She is a master of getting to the point. No procrastination.

In November 2009 the Lehmann Maupin Gallery in New York held an exhibition of Emin's work entitled 'Only God Knows I'm Good' which showcased some of her most provocative works nearly all of which were drawn using freehand embroidery. At the opening of the exhibition, David Maupin described her as a 'visual poet' (Lehmann Maupin, 2009). In addition to this, the gallery's website described her as:

'A consummate storyteller, Emin engages the viewer with her candid exploration of universal emotions. Using experiences from her own life, she often reveals painful situations with brutal honesty and poetic humor [sic]'

(Lehmann Maupin, 2009).

This idea of 'story-telling' became an integral part of my own creative interpretation of knitted lace. The nature of the development of my self-reflexive practice created an environment in which I have been able to use the stories learned about former knitters to inform my own creative interpretation of making lace on the Lee hand frame. As a practitioner I was particularly interested in the use of text within an art piece to create a visual aesthetic that communicates a feeling or an experience.

My own practice has explored my experiences of learning to use the hand frame, as well as those of past framework knitters. It has become a process of analysing historical evidence to formulate an interpretation of past events that can be contextualised through knitted pieces made on traditional machinery. The idea of storytelling within an art piece can be real or imagined, but often creates a more dramatic impact when there is an element of truth that connects it to the maker.

Tracey Emin displays an approach to history and a personal emotion that is manifested within her finished artwork to provide a commentary on the things that have shaped her understanding of the world and her place within it. In this way, her work acts as a way for her to communicate with the world and create a commentary on events and experiences. This type of organised self-annotation is common throughout the art world, where an artist will attempt to expose situation and events to influence the understanding of the art viewers.

Knitwear artist Lisa Anne Auerbach similarly uses her worldview to inspire her work in which she maintains a link to traditional garment manufacturing techniques through her work producing politically motivated sweaters. [Figure 16a & 16b]

Much of Auerbach's work contains literal references to political movements in America, and provided a social commentary on the state of US politics in relation to the Iraq war and the counter terrorism policies enforced. Her work acts as a form of propaganda in which she aims to influence general attitudes towards war and politics. [Figure 17, 18a & 18b]

Her strength lies in her ability to create work that is artistic but also functions as wearable garments. This allows her to take her message outside of a gallery space and reach a wider audience. Auerbach can frequently be seen wearing her own work to public events and exhibitions, which creates an opportunity for her knitwear to be used as a marker for historical or political discourse.

The inclusion of controversial words is becoming more frequent within the art world, to the point that they are often used for effect and to create a pseudo-anarchic response to cultural or political situations. Whilst the world at large appears to be gradually becoming desensitised to expletives, their use can nonetheless still be used to evoke certain emotional responses, in situations where less litigious language simply doesn't suffice.

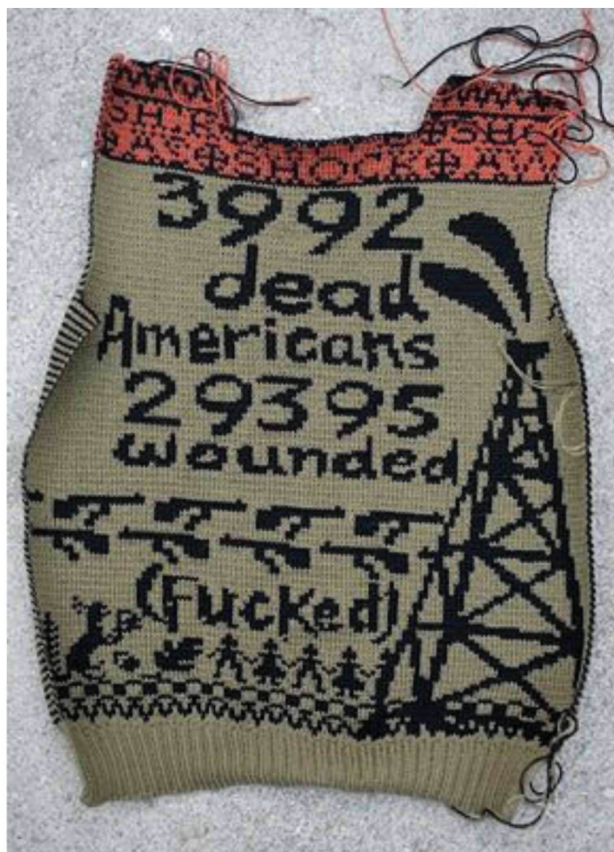
In previous design projects, my own work has been of a similar controversial nature, using emotive language to portray the between myself as designer and the fabric being created. [Figure 19 & 20] This did not seem appropriate for this project. As both researcher and practitioner, I felt responsible for the continuation of the craft of framework knitting, and this was strongly inspired by the testimony of existing experts that I interacted with during this process. Using controversial language within a knitted pattern made on the hand frame would have trivialised the work of the knitters who dedicated their lives to it, and those that have helped throughout this project to ensure that the skills of framework knitting are passed on.



[Figure 16a & 16b] When There's Nothing Left To Burn, You've Got To Set Yourself on Fire by Lisa Anne Auerbach (2007/2009)



[Figure 17] Body Count Mittens' by Lisa Anne Auerbach (2005)



[Figure 18a & 18b] 'Commemorative Sweater' [Under Construction] by Lisa Anne Auerbach (2008)



[Figure 19] Text Sampling for 'Lost Loves' Masters project by Rebekah Wood (2007)



[Figure 20] 'Wanker' from the collection 'Lost Loves' by Rebekah Wood (2007)

Undertaking this project has revealed a general diminishing respect for craft and craftsmanship. As a result, this research required a more subtle approach to the language used with the final

design ideas, one that showed respect for the heritage and culture of framework knitting, and enabled the remaining experts in the field to have a significant input and connection to the knitwear produced.

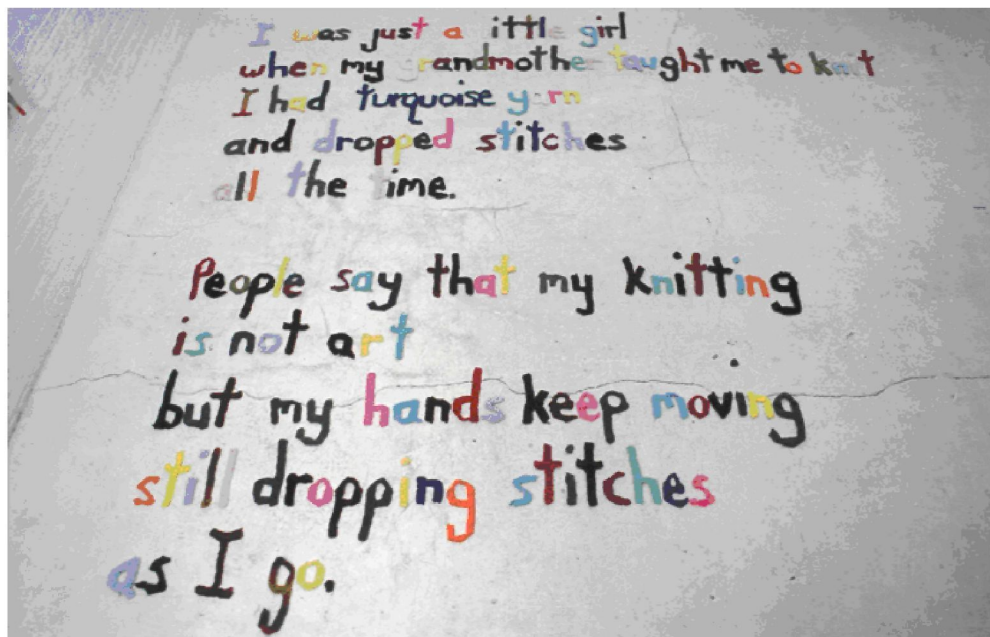
California based textile artist Lacey Jane Roberts makes an interesting statement about the diminishing respect for craft within art based learning environments. Whilst undertaking her MFA at the California College of Art & Crafts, the college decided to drop '& Crafts' from its official title, opting instead for a more unified approach to the Arts in general terms. Roberts created a knitted version of the omitted letters and created an installation that re-established the original craft-inclusive title [Figure 21].

Roberts work questioned why the term 'Craft' has been outmoded in favour of a more unified title of 'Arts'. This is also a relevant question to apply to the diminishing craft of framework knitting. Veiteberg suggested that 'one of the preconceptions with which craft is encumbered is that it belongs in the domestic rather than the artistic sphere.' (Veiteberg, 2004 p. 2) This somewhat negative view of 'domesticity' has been steadily growing, partly as a rebound effect of a cultural move towards female empowerment with less time being dedicated to needlework and knitting. It seems that the readiness to move towards a system in which traditional textile craft skills are abandoned in favour of mechanised and digital processes could have a detrimental impact upon the future scope that textile production will have.

In the same way that Emin used her art as a story-telling device, Roberts' work also represents her own experiences and relationships. What Emin expressed through embroidery, Roberts explored through hand-knitting. In her piece 'Dropping Stitches' [Figure 20] Roberts used hand knitted letters to form a quotation that provided a narrative using the artist's voice to explain her experiences and motivations for knitting.



[Figure 21] & CRAFTS. Hand-knit yarn, plexiglass. 6.5ft x 16 in. Guerrilla installation on the façade of California College of Arts (San Francisco Campus) from April 3, 2005-April, 10th 2005 by Lacey Jane Roberts



[Figure 22] Dropping Stitches. Textual View. by Lacey Jane Roberts. Hand-knit yarn. approx. 10ft x 20ft. (2002)



[Figure 23] Craft Kills by Freddie Robins (2002)



[Figure 24] IT SUCKS (2005) By Freddie Robins. Hand knitted 2-ply Shetland Lace Yarn. 1000 x 1000 mm
Knitted by Audrey Yates. Commissioned by Pump House Gallery, London

The resurgence of handicrafts such as crochet and hand knitting over the last decade has been a slow uptake, but has at least ensured that subsequent generations have the opportunity to be taught these skills if they so wish. The situation with framework knitting is far more drastic. Within the next 20 years it is likely that there will be no practitioners left that have ever worked commercially on the frame, and there will not have been an apprenticed framework knitter employed full time in the trade since Henry Hurt began his training in the early 1950's. This has had a devastating effect on both the number of practitioners who are able to carry on the practical skills, and the likelihood that this craft skill will be revived once this current generation of knitters is gone. In this sense re-establishing a craft position instead of encouraging an artistic interpretation could be potentially damaging to the contemporary exploration of weft knitted lace.

This project supports the changing perception of craft as a vehicle for exploring artistic practice now that the hand frame is at serious risk of becoming a forgotten technology. In addition, there is an increasingly limited probability of the existing hand frames being used for commercial production in the future. The traditions of hand frame knitting are however a heritage-rich avenue from which to explore the contrast between 'traditional' and 'contemporary' approaches to weft knitted lace production.

Cross argued that design knowledge can be found in three key areas: 'People, processes and products' (Cross, 1999 p5) and relied upon the 'awareness and ability of the designer', from which we can assume that personal experience and understanding are a prerequisite in the application of practitioner skill. The changing landscape of creative practice within textiles has meant that craft-based design appears to be at risk of being entirely superseded by a more artistic approach. An artistic approach to hand frame practice allows craft-based skills to be maintained whilst creating a contextually diverse outcome. In this sense, the importance of people, process and products becomes the dominant feature in addressing the transition between craft, design and art based approaches to knitwear design.

Freddie Robins is perhaps the most well-known British knit artist, and her knitted art pieces are held by a wide number of art institutions and museums. She is frequently featured in exhibitions that focus on the use of knitted textiles within contemporary art.

An iconic piece of her work entitled 'Craft Kills' [Figure 23] shows a knitted human figure who appeared to be impaled on several knitting needles. Robins spoke of how this piece symbolised the idea of dying for your art, and also discussed how this piece challenges the misconception of knitting as a 'harmless' craft:

'I am much more concerned with is the stereotypical image that craft, and in particular knitting, has, of being a passive, benign activity. How would it be if craft was considered as dangerous or subversive? Since conceiving of this piece the world suffered the events of September 11th and its aftermath. You can no longer fly with knitting needles in your hand luggage. Knitting is now classed as a dangerous activity.' (Robins, 2004)

Robins claimed to explore a subversion of craft, creating a way of exploring the process of knitting whilst establishing a contextual rationale for its creation. This approach was also evident in her knitted piece 'It Sucks' [Figure 24] which took on the traditional form of the christening shawl and was used as a reflection of her experiences and emotions [Fig]

This subverted form of the shawl communicated who Robins felt after the birth of her daughter, an experience which gave her mixed feelings. The visual suggestions that Robin's employed were made through using text within the pattern to communicate personal messages.

At first this appeared to be a well-executed and beautifully made piece of reflexive practice that demonstrated the link between maker and product. This illusion was ruined by the realisation that this piece was hand knitted to Robin's design by another knitter. This helped me to realise that my own practice was greatly inspired by the experiences I have had, and it was therefore an important part of the design process to be physically involved from conception to production.

Using the hand frame to create knitted lace pieces has inspired a continuous process of reflection and reinterpretation, to reach a stage in which the final outcome is the product of my physical interaction with the machine. Robins cannot claim a similar connection. She is not present in the final product. This piece fails to make a specific point about hand knitting as the emotive connection that Robins is attempting to create is lost entirely through her physical disconnection during the making process. The connection between maker and product relies upon the physical connection with the fabric created, and having the technical ability to use the machinery required to construct it. This provides a form of authorisation for the maker that encourages a meaningful connection between conceptual thinking and technical making that allows them to defend their position as artist.

My role as the maker within this project is the central theme. My experiences lead my design, and my practice creates a contextual explanation of my process. In its current state, the hand frame is no longer able to compete with power driven machinery to be commercially productive, meaning that hand frame made products are increasingly rare and now hold a more 'bespoke' quality. Hand frame knitting is now useful for exploring creative approaches to knitwear design, often without commercial application. The commercial 'craft' of framework knitting may now be redundant, but contemporary applications of framework knitting offer hope for the future.

2.5. Contemporary interpretations of Craft

In response to the changing function of the hand frame, this study explored how traditional approaches to craft and design have been used to educate contemporary practitioners.

There have been a growing number of academic conferences held over the last decade that have encouraged wider thinking about contemporary approaches to creative practice, meaning that academics within the Arts have opportunities interact and establish inter-disciplinary discourses.

The 'Challenging Craft' conference held at Gray's School of art in 2004 was organised specifically to discuss the changing boundaries that define what is classed as craft, design or art and how this then affects the role craft now plays for contemporary makers.

Brown's discussion of the importance of technical language to textile practitioners was of particular interest to this research as it demonstrated that *'the observations made are context specific and are influenced by the personality and communication skills of the researcher'* (Brown, 2004, p 12)

The value of meaningful communication was explored at length within this study, as a way of looking at the transfer of technical and practical knowledge between practitioners. It was used to show how practices of the past have influenced practitioners, and their subsequent ability to pass these experiences on to others.

The 'New Craft: Future voices' conference held in 2007, charted the past, present and future of craft practice research. Presentations that were of particular interest in relation to this project included both Wolley's review of the perceived value of craft objects (Wolley, 2007) and Verhoeven's discussion of the identity of craft which included a detailed analysis of the value of

craft with reference to the object, the making process, the uniqueness and the value of the overall experience (Verhoeven, 2007).

Additionally, the 'Foresight: Mapping the Territory' conference organised by the Association of Fashion and Textiles Courses in 2009 was the first event at which I presented a paper, and was therefore an essential part of my development as a Researcher. This conference allowed interdisciplinary discussions to take place relating to fashion and textiles, and provided a location where I was able to discuss my research with a wide range of academic professionals.

With regards to conferences specifically designed to discuss knitting practices, 'In the Loop' conference was held at Winchester School of Art in 2008 and focused on all aspects of knitting practice. This was followed up by a second conference on the origins and evolution of knitting, which was held on the Isle of Shetland in 2010. A third conference in this series is due to be held in September 2012 and has been titled 'In the Loop 3: the Voices of Knitting'. The specialist nature of these conferences enabled a much greater discourse surrounding the exchange of ideas relating to contemporary knit practice and has therefore created an academic environment in which knitting can be discussed as an academic discipline.

Additional information was been gained from the Oral History Society Annual Conference 2010 which was run in association with the Victoria & Albert Museum to focus on 'Oral History in Art, Craft and Design'. The speakers were invited to show how oral history techniques have been used culturally to preserve the knowledge of specific craft techniques. Whilst none of the presentations referred directly to framework knitting, the techniques and processes employed to record and preserve craft techniques have provided a useful insight into how this research might achieve similar goals

2.6. Summary and Reflection

The process of learning to use the Lee hand frame as part of this project has brought to light the inadequacy of literary sources or documentation of pattern development ideas and traditions. Whilst the majority of the literature that supports the history of the knitwear industry provides a detailed account of machinery processes and technological advancement, it does little to suggest how the technological changes were implemented or how the developments in mechanical practice were adopted by the workforce.

The review of current literature has provided a historical context which showed that the hand frame has been documented almost exclusively from a technical or mechanical perspective, with little regard for the creative viewpoint and therefore I chose to examine contemporary creative uses of knit as a form of artistic practice to provide evidence of the relationship that is formed between craftsman and craft. This study aims to find a new way of looking at the practice of framework knitting that extends the historical accounts already identified and suggests a way of creatively interpreting the working practices of the past.

As a practitioner, my past creative experiences have enabled me to identify similar ways of working with the hand frame, drawing on my existing design knowledge to inform creative outcomes, which relies extensively on the ability to record and justify the design process. My role as researcher within this project developed alongside my hand frame abilities, and it is for this reason that a practice-led approach has been adopted to examine how the creative learning process is affected and influenced by literature, technical documentation and also the use of knit as a creative tool.

Chapter 3

Research Methodology and Methods

3.0. Introduction

The research methodology for this study was designed to support a participatory approach to creative practice on the hand frame, using interactions with practitioners, places and processes to facilitate a practice-led inquiry. This looked specifically at the experiences of framework knitters to develop personal narratives as a tool for communicating technical skill and expert knowledge.

As mentioned in the introductory chapter, this research was conducted with the support of an AHRC Collaborative Doctoral Award, which specified the initial parameters of the study to include collaborative interaction with the Ruddington Framework Knitter's Museum and G.H.Hurt and Son, one of the last remaining lace shawl manufacturers in the UK. The methodological approach supported this requirement and encouraged knowledge transfer between institutions of academia, heritage and industry.

This chapter presents the key decision-making processes that were used to structure this investigation through establishing the qualitative context of the research and introducing the rationale for taking a practice-led approach.

The chapter then goes on to examine the active participation of the researcher, with specific reference to how this encouraged reflective practice within the inquiry (Heron 1981, Heron and Reason 1997, Reason and Bradbury 2000, Reason 2001). This is then used to discuss the different types of knowledge that were acquired using the work of Heron and Reason to explore active approaches to creative practice through developing experiential understanding and creative narratives that were built as a result of interaction with existing hand frame practitioners (Creswell 1994, 1998 & 2009, Bruner 2004b, and Riessman 1993 & 2000). This examination of qualitative data identified 'stories' about the hand frame which were then used to develop creative narratives to support my own practice and provide new contributions to knowledge in the field of framework knitting.

A full review of the research methods is also provided, covering the use of creative practice, observation, artefact analysis, and interviews. A justification for the selection of interview participants is also provided alongside a discussion of the semi-structured nature of these interactions.

The chapter concludes with a summary of the research selected research methodology establishing why communication of the personal learning experience forms the central contribution to this thesis. This demonstrates that the hand frame can be used to explore contemporary creative applications despite it never having done so previously.

3.1. The Paradigm debate

In all approaches to research, whether it be scientific, social, creative or otherwise, the basic premise of all understanding stems from the 'world view' which underpins the reality of the researcher. The ontological basis for research in the field of art and design is more difficult to define than that of science or social sciences, but that is primarily because the field of research itself has only been established in academic terms for the last 30 years. This section of the chapter presents an overview of the various paradigms of inquiry that were explored, and the resulting research methods that were used.

Guba (1990, p. 22) outlines the four key paradigms of inquiry which are; Positivism, Post-Positivism, Critical Theory and Constructivism.

These four 'world views' offer contrasting understandings of how the researcher approaches the acquisition of knowledge in their field of inquiry, and is it important that this chapter clarifies the position that this research takes.

This inquiry looked at each of the paradigms, taking into consideration the existing research outline that was put forward as part of the AHRC Collaborative Doctoral award, and determined that in order to fully support the collaborative nature of the inquiry between academic, industrial and heritage institutions it was necessary to present this research from a mainly Constructivist perspective, although this has also been referred to as an 'Interpretive Paradigm.'

In the past, Constructivist thinkers such as Dewey (1900, 1910, 1933), Vygotsky (1926-1927 translated 2012) and later authors such as Kolb (1984) and Bruner (2004b) have alluded to the fact that the social constructions of researchers and research participants are made through the interpretation of personal narratives.

Cohen and Manion (1995, p. 39) state that the Interpretive approach focuses on the individual within small-scale research projects, where subjectivity and the personal involvement of the researcher allows for interpretation of experience. It supports the understanding of meanings rather than causes and looks to develop personal constructs and definitions of situations.

The research paradigm for this study was of particular significance when addressing the choices that I faced during the research process during periods of creative reflection. I was inclined to address how my practical choices contributed to the wider field of research that already exists on framework knitting. Guba and Lincoln argue that; *'Questions of method are secondary to questions of paradigm, which we define as the basic belief system or worldview that guides the investigator, not only in choices of method but in ontological and epistemologically fundamental ways.'* (Guba and Lincoln, 1998 p 195)

What has been described in this chapter as an 'Interpretative' approach to research has derived from the wider *'Constructivist Paradigm'* which Gray and Malins suggest is *'characterized by a 'relativist' ontology (multiple realities exist as personal and social constructions) and the epistemology is subjectivist (the researcher is involved); as a consequence methodologies are hermeneutic (interpretative) and dialectic (discursive).'* (Gray and Malins, 2004, p. 19).

The nature of interpretation within practice-led research is linked to the researcher's understanding of the subject area and their ability to make sense of their own creative journey. Cross suggests that there are specific 'designerly ways of knowing' which differ between scientific and creative studies. He states: *'There may indeed be a critical distinction to be made: method may be vital to the practice of science (where it validates the results), but not to the practice of design (where results do not have to be repeatable, and, in most cases, must not be repeated, or copied).'* (Cross, 2001 p 3).

In this sense, creative research allows the researcher to be explorative without requiring a fixed theoretical strategy of enquiry that demands the ability to reproduce exact findings or even reach a definitive creative outcome.

The process of learning to use the hand frame within this study was an experience that was unique to me as a researcher and practitioner, and was also unique in terms of its timing, location, and accessibility to previously unavailable sources of data collection. Being able to make sense of this journey relied on periods of intense reflection and therefore it was vital to document the research journey through learning journals, photography and digital video clips.

In relation to this research, an approach that actively encouraged personal interpretation, learning-by-doing and interpretation of creative experience provided a useful and creative way of undertaking practical knitting on the hand frame whilst enabling a continued interaction between historical, and social influential factors.

The benefit of an interpretive research paradigm is also championed by Bassey who suggests that an interpretive researcher can take into consideration the social actions of others in a way that a positivist researcher cannot:

'Interpretive researchers reject the positivists' view that the social world can be understood in terms of general statements about human actions. To them the descriptions of human actions are based on social meanings, people living together interpret the meanings of each other and these meanings change through social intercourse.' (Bassey, 1999, P 43)

The collaboration that was formed with Ruddington Framework Knitters' Museum initiated a great deal of exploration into the working lives of the original hand frame knitters. At first this was separate from the creative practice undertaken on the hand frames, but as the project progressed, the social influences that had once affected hand frame practice became an important part of how I defined myself as a practitioner undertaking a traditional craft process. In addition the social interaction between me and existing practitioners offered further opportunities for interpretation of the importance of the practitioner's role.

Bassey (1999 p 43) also acknowledges that *'The interpretive researcher considers that the rationality of one observer may not be the same as the rationality of another'*, and in that respect, interpretation of creative practice could be seen to be individually constructed. The exploration of knitting on the hand frame focuses on creative interpretation alongside a supporting theoretical and historical framework. This is also advocated by Cohen and Manion who suggest that an *'Interpretive paradigm'* involves the personal involvement of the researcher, to understand actions and meanings rather than causes, and to take into consideration *'micro concepts: individual perspectives and personal constructs'*. (Cohen and Manion 1995, p 39) They also suggest that the Interpretive paradigm is particularly suitable in situations (such as this research) where the research is small-scale, the researcher has personal involvement, and where the research is used to understand actions recreating social life.

The social interpretation of meaning is generated through a constructed reality in which the beliefs of the researcher are based on what they know from previous social interaction. This is then used to contextualise the research process which Creswell suggests is influenced by the knowledge that the researcher already has:

'Researchers acknowledge that their own experiences and subjectivity influence their interpretation and this becomes part of the research process, referred to as reflexivity. The values and biases the researcher brings to the study are made explicit within the write up to enable the reader to contextualise the study. Making sense of the meanings held by individuals leads to patterns of meaning, or a theory' (Creswell, 2007 in: Petty, Thomson and Stew, 2012a p. 270)

Similarly, Bassegy describes how interpretive researchers view their practice: *'To them the descriptions of human actions are based on social meanings, people living together interpret the meanings of each other and these meaning change through social intercourse.'* (Bassegy, 1999, p 43). This 'social intercourse' occurred in this study during a series of fieldwork scenarios which were designed to allow the researcher to observe hand frame practice, liaise with current practitioners and develop a contextual awareness that would inspire creative practice.

The collaborations that were formed with Ruddington Framework Knitters' Museum and G.H.Hurt & Son provided significant access to existing machinery, and were centres of knowledge where existing hand frame practitioners could interact. This provided the social discourse that underpinned other data collection methods which focused on artefacts that gave insight into the working lives of past hand frame knitters. At first this was separate from the creative practice undertaken on the hand frames, but as the project progressed, the social influences that had once affected hand frame practice became an important part of how I defined myself as a practitioner undertaking a traditional craft process. In addition the social interaction between me and existing practitioners offered further opportunities for interpretation of the importance of the practitioner's role.

3.2. Establishing a Qualitative Context

The methodology for this study evolved from the need to establish a way of looking at the practice of framework knitting through a contemporary lens and therefore it was important to select a research strategy that would also make sense of the limited resources that were available to maximise the potential contribution this study could make towards preserving skills and recording expert knowledge.

As this type of study required extensive examination of creative practices and experiences, it was necessary to conduct qualitative analysis of the data collected to provide a contextual rationale for the process undertaken. In relation to creative research, Barrett and Bolt (2007, p 3) argue that *'because of the complex experimental, material and social processes through which artistic production occurs and is subsequently taken up, it is not always be possible to quantify outcomes of studio production'*. The decision to focus on the qualitative outcome of the data collection rather than the quantitative ones was based mainly on the limited access to craftsmen or knowledgeable experts in this field which meant that a large scale interview program to provide quantitative data for analysis was not possible and therefore any quantitative data collected would have been severely limited.

A more suitable approach in this case was to look at the limited resources relating to framework knitting through qualitative analysis. Whilst numerical or statistical data, using a quantitative approach, might offer insight into certain aspects of hand frame knitting, for example the number of practitioners currently alive or the number of working machines, a quantitative approach would not have been able to aid technical exploration, creative interpretation or design practice and would not have enabled the researcher to develop empathy with fellow practitioners.

Some research methods such as experiments or questionnaires naturally lend themselves more towards a quantitative perspective as opposed to a qualitative one, meaning it *could* have been possible to examine the hand frame from a quantitative perspective through examining stitch mathematics, statistics or other measurable outcomes; but this would have too closely resembled the existing research in the areas of framework knitting such as the work of Rapley (1975), Palmer (1984), Lewis (1985).

To generate 'new knowledge' about the craft of framework knitting and to strengthen heritage, practice and academic discourses, a reflexive methodology was required to support learning through creative exploration and personal interaction. This could only be achieved through applying a qualitative approach to data collection.

Creswell (1998 pp. 7- 8) suggests there are five traditions within the field of qualitative research design; Grounded Theory, Ethnography, Phenomenology, Case Study and Biography, each of which allow the researcher to specify the type of interaction they have with their research participants and to select the most appropriate data collection methods for their study. Whilst this approach to research design is predominantly used within the social sciences, it's transferability to creative research is evidenced by its ability to allow research reflexivity and

interpretation of the data collected, whether that be analysis of historical artefacts, interaction with existing practitioners, or personal interpretation of creative experiences.

Creswell also highlights the contribution that each of these five traditions makes to the field of qualitative research:

- Grounded theory will seek to 'discover'.
- Ethnography will seek to 'understand'.
- Case study will seek to 'explore the process'.
- Phenomenology will seek to 'describe the experiences'.
- Narrative will seek to 'report the stories'.

(Creswell, 2009 p. 130)

3.3. Conducting a Practice-led Inquiry

This section of the thesis will discuss the choice that was made to conduct a practice-led investigation as opposed to a practice-based one.

From the outset, the process of learning to use the hand frame was a central component in the require research structure, as laid out by the AHRC Collaborative Studentship Award. That being said, the outcomes of this practice demonstrated the skills I was able to obtain during the period of inquiry and therefore represented the ongoing learning process that was undertaken.

The qualitative nature of the research was designed to analyse the experiential and interpretive data that was collected but initially it was unclear how to categories the type of practical approach that was taken. It was necessary to define the difference between 'practice- based' and 'practice-led research', to clarify how this study addressed the issues of creative exploration on the hand frame.

These two approaches have both been used within creative studies to describe research that is practice-centred and relies on the action of practice to provide some or all of the contribution to knowledge. Amongst others, the work of Mäkelä (2007), Nimkulrat (2007), Barrett and Bolt (2007), and Sullivan (2009a) has given particularly insightful views of the use and documentation

of practice in research. But this research sought to do more than just document new processes; it looked to establish a way of recording the skills of practice through taking into consideration the process of becoming a framework knitter and use the experiences of practitioners to develop creative narratives which support wider understanding of how the skills of the hand frame can be recorded.

Newbury references the work of Agnew who in 1993 argued for a new research culture that would support a new set of values for examining the research process as much as the research outcomes:

'Agnew recognises one aspect of this when he calls for a new research culture in design where the evidence of design decisions and processes are perceived as valuable and worthy of preservation, not simply for the use of the historian of design, important though such records may be to him or her, but as a resource for the development of the practice of design itself.'

(Agnew 1993: In Newbury 1996 p 7)

In effect, Agnew was arguing for better awareness and understanding of practice-led approaches to research, but this is not specifically mentioned as it pre-dates the time when such definitions were in place. The significant problem with defining research as practice-based or practice-led is addressed by Niedderer and Roworth-Stoke (2007 p. 1) who characterise it as *'a persistent uncertainty about the role of creative practice in relation to the requirement for making a contribution to knowledge within research'*. This uncertainty is mirrored by the AHRC Research Review into Practice-Led Research in Art, Design and Architecture who stated that at that time *'it had not been possible to identify any established or accepted prior definition of practice-led research'* (Rust, Mottram and Till, 2007 p 11).

However, since that document was published there has been significantly more written about the differences between practice-based and practice-led approaches. Edmonds and Johnson provide useful definitions:

'Practice-based Research is an original investigation undertaken in order to gain new knowledge partly by means of practice and the outcomes of that practice. In a doctoral thesis, claims of originality and contribution to knowledge may be demonstrated through creative outcomes in the form of designs, music, digital media, performances and exhibitions. Whilst the significance and context of the claims are described in words, a full understanding can only be obtained with direct reference to the outcomes.' (Edmonds and Johnson, 2011 p. 1)

This takes into account the requirement for the researcher to have an active role on the development of creative outcomes but with practice-based inquiry the chief contribution is made as a product of practice and does not necessarily take into account the learning process and personal reflections that occur in order to reach these practical outcomes.

In contrast, Edmond and Johnson's definition of practice-led research give us a clear insight into the knowledgeable contributions made by reflecting on personal processes:

'Practice-led Research is concerned with the nature of practice and is directed towards generating new knowledge that has operational significance for that practice. In a doctoral thesis, the results of practice-led research may be fully described in text form without the inclusion of a creative work. The primary focus of the research is to advance knowledge about practice, or to advance knowledge within practice. Such research includes practice as an integral part of its method and often falls within the general area of action research.' (Edmonds and Johnson, 2011 p. 1)

To summarise, Edmonds and Johnson clarify the distinction between these two approaches: *'If a creative artefact is the basis of the contribution to knowledge, the research is practice-based. If the research leads primarily to new understandings about practice, it is practice-led.'* (Edmonds and Johnson, 2011 p. 1)

From this we can see two similarities: both approaches advocate the use of creative practice as a data collection method, and both approaches can contribute to a wider field of knowledge through the active participation of the researcher as a creative practitioner. But the fundamental difference between the two lies in the way that practice is used to either provide a physical product as the result of active practice (as in practice-based research), or to contribute to an existing field of knowledge through examining the process of practice (as in practice-led research). This study did produce knitted items that acted as a culmination of a lengthy learning process, but it was the process itself that provided the original contribution to knowledge in this case.

The growth and awareness of research that explores the *process* as much as the *product* of practice has been slowly expanding in recent years as Mäkelä and Latva-Somppi discuss:

'During the last three decades, research in art and design – together with craft as an integral part of this field- has begun to explore new dimensions, as artists and designers have taken an active role in contextualizing and interpreting the creative process of their own practice, as well as the products of this process.' (Mäkelä & Latva-Somppi, 2011, p. 37)

Although the emergence of practice-led research as a recognised approach to creative inquiry is one that is still in its infancy, this investigation commenced at a time when greater funding opportunities were being given to practical research that explored creative processes. By 2009 the AHRC had provided a definition of how it supports small-scale practice-led projects; *'to maximise the value of research outcomes by promoting their dissemination and, where appropriate, to facilitate the knowledge transfer of those outcomes, both to the research community and to other contexts where they will make a difference.'* (AHRC 2009, p. 1).

The collaborative nature of this inquiry was an important factor in selecting an appropriate research approach. The partnership with Ruddington Framework Knitters' Museum gave access to the hand frame machinery that would be used to explore practical and creative discourses and it was the process of learning to use the hand frame that became contextually important in the development of new knowledge. I was required to learn to use the frame having had no experience of it beforehand, meaning that the early stages of technical and mechanical skill development were a prerequisite in the overall ability to conduct any creative practice at all. There were no short-cuts in this process and I was required to put in significant hours of practice to establish myself as a competent enough knitter to authoritatively lead a contemporary creative inquiry of hand frame practice.

In the case of this research, my development of practical knowledge supported all other areas of data collection by providing a contextual awareness of process, action and creative application. Sullivan supports this by discussing why a practice-led approach ensures an *'interdependent relationship'* where interpretive connections are made between maker, viewer and the setting:

'In this instance, knowledge embedded in practice, knowledge argued in a thesis and knowledge constructed as discourse within the institutional setting all contribute to new understanding. In its broadest sense, practice-led research is circumscribed by an equally important emphasis placed on the artist-practitioner, the creative product and the critical process. The locus of inquiry can begin at any of these three points. What is critical, however, is the interdependence of these domains and the central role that making plays in the creation of knowledge.' (Sullivan, 2009 pp. 47-48)

Sullivan's suggestion that the research focus can start from the perspective of person, product or process (but should always maintain congruent to the others) can be applied to this study as it specifically supports the genesis of ideas through practical experimentation on the hand frame, using the researcher, the products created and the learning experience as focal points.

In this study, the products that were made as outcomes of practice were used to contextualise the learning process that had been applied. The items that were made on the hand frame during the course of this investigation were directly inspired by interactions with other hand frame

practitioners and showed how technical skills and mechanical knowledge were used to inspire creative ideas which were subsequently explored through practice. The knitted items that were constructed were primarily used to demonstrate the 'process' of being a framework knitter, and to establish how the 'values' of framework knitting can be applied in a contemporary context.

If we consider that it is the 'value' of a practical process or skill that that provides the new knowledge in practice-led research then we may also deduce that although creative practice may result in the making of products or artefacts (as it did in this study), these artefacts merely demonstrate that a creative process has occurred. This would appear to reflect what Fraying says about how research in art and design can be addressed, which he derived from the earlier work of Herbert Read.

He suggests three main types of research in art and design: (Frayling, 1993 p 5)

- Research *into* art and design
- Research *through* art and design
- Research *for* art and design

Frayling's categories enabled me to determine the following about practice in research:

'Research *into* art and design' is characterised through historical research, aesthetic or perceptual research and research into theoretical perspectives used in art and design. These principals can be used to look at art and design practices and construct theories about their meanings, but it does not necessarily involve the researcher taking an active role in the process or being physically involved creatively in any of the art and design practices being explored. This is research about practice but does not require the researcher to take on a participatory role in the practice under investigation.

'Research *through* art and design' Frayling describes as including materials research, development work and action research using a research journal to document and actively contextualise practice undertaken. This would involve the researcher being an active participant in the practice and developing a contextual understanding of materials by working reflectively to navigate the research path. This definition appeared to be the most accurate interpretation of the work that was conducted during this study, although it was also supported contextually by historical research. This is practice-led research

Defining 'Research *for* art and design' posed a greater problem for Fraying who suggested that it is '*Research where the end product is the artefact – where the thinking is, so to speak, embodied*

in the artefact, where the goal is not primarily communicable knowledge in the sense of verbal communication, but in the sense of visual or iconic or imagistic communication.' (Frayling, 1993 p. 5) This would suggest that the outcomes of the research do not have to be in the form of academic discourse, but rather can be measured as an artistic idea presented in a conceptual form. This is practice-based research.

The distinctions Frayling makes define how the researcher thinks about their study and how they gain understanding and acquire new knowledge. My understanding of this would be: do I know what constitutes knowledge when I see it, when I do it or when I feel it? In the case of this research, I very much felt that my practice was more closely linked to the work of a craftsman rather than an artist. The purpose of my work was to learn a craft and develop skill rather than to provide a conceptual exhibition of work. Therefore my work sits within Frayling's idea of research *through* art and design.

3.4. Active Researcher Participation

As discussed in the previous section, the practice-led approach that was used for this research required active participation and reflections of the researcher. It was for this reason that 'Action Research' emerged as suitable strategy of participatory inquiry.

In the introduction to their Handbook of Action Research, Reason and Bradbury suggest that there is no 'short answer' about what Action research is. They do however suggest that Action Research has the following characteristics:

'Action research is a participatory, democratic process concerned with developing practical knowing in the pursuit of worthwhile human purposes, grounded in a participatory worldview which we believe is emerging at this historical moment. It seeks to bring together action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people, and more generally the flourishing of individual persons and their communities.'

(Reason and Bradbury 2000, p 2)

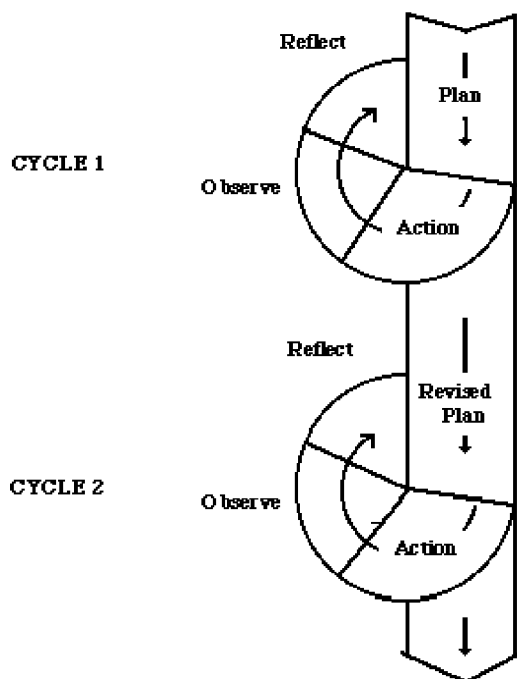
The 'worldview' that Reason and Bradbury describe as Participatory is one that extends the Constructivist Paradigm to look not only at people, but also at their actions. As discussed in the first part of this chapter, this research has used an interpretive paradigm to build a view of framework knitting that examines the skill and expertise of hand frame practitioners through active reflection.

Schön characterises active reflection as someone *‘thinking what they are doing while they are doing it’*. (Schön, 1987 p. xi) and this relates very closely to Heron and Reason’s idea of critical subjectivity which *involves ‘a self-reflexive attention to the ground on which one is standing.’* (Heron and Reason, 1997 p 9). The use of researcher reflection in this study has identified that the researcher’s creative use of the hand frame was able to grow and improve through interactions with other practitioners. These interactions provided the necessary inspiration to push my own creative practice further.

The work of Kemmis and McTaggart (1988), describes a model of Action research which highlighted the continuous process of action, revision and subsequent progression. [Figure 25]

Fox, Martin & Green’s (2007, p. 49) talk of Action research as a cyclical process in which those that take part in the research, and the researcher, are all active but also talk of the importance of researcher participation within the process:

‘New ways of undertaking action research were developed to try to connect theory and practice. Central to this was removing the distinction between practitioner and researcher. The importance of being both a practitioner and a researcher were strengthened. These approaches became known as ‘participatory action research’ (Fox, Martin & Green’s 2007, p. 49)



[Figure 25] Model of Action Research - Kemmis and McTaggart (1988 p. 1)

Action Research is particularly useful in studies that require a reflexive view of the practice undertaken, in this case, a review of traditional craft practices and their potential use in contemporary design. The participation of industry experts such as Henry Hurt and Reg Robbins was on-going throughout the course of the study, and as my framework knitting skills have grown I have been able to revisit and review elements of the practice with on-going support from those that have been instrumental in my development.

The use of Action research advocated the progression of practice, followed by a period of reflection on that practice, after which the process may be altered via a physical intervention, which allows an alternative course for the development of the practice to be achieved. The review of the resulting practice may provide the answers to the research questions that the first attempt failed to, alternatively, it may be one in many cycles of revision and exploration that continue until a research outcome is achieved. It is a cyclical process, one of review, intervention, repetition and resolution.

It is through these reflective cycles that the new understanding of the research problem is obtained and it is this understanding that provides the contribution to knowledge. Reason suggests that there are four types of 'knowing' that make up co-operative action learning:

- *Experiential knowing is through direct face-to-face encounter, with person place or thing; it is knowing through empathy or resonance, and is almost impossible to put into words.*
- *Presentational knowing emerges from Experiential knowing, and provides its first expression through forms of imagery such as poetry and story, drawing, sculpture, movement, dance and so on.*
- *Propositional knowing 'about' something, is knowing through ideas and theories and is expressed through abstract language or mathematics*
- *Practical knowing is knowing 'how to' do something and is expressed in a skill, knack or competence.*

(Reason 2001, p.185)

By looking at these categories in closer detail we can determine how each approach was applied within this research:

'*Experiential knowing*' was achieved through observations of places, practices and artefacts, and took into account the reflections of other practitioners through conducting personal interviews. My own reflections and growth as a practitioner enabled me to use experiential awareness to comprehend the experiences of others.

'Presentational knowing' was developed as a direct result of reflecting on the data that was collected to provide inspiration for creative exploration on the hand frame. As my knowledge of people and practices increased I was able to use this understanding to better inform my creative outputs and the knitted fabric I produced was a creative expression of the words of wisdom I had heard during my learning journey. I was also able to display this knowledge and skills through demonstrating the machines to an audience, which in itself may be classified as a form of performance and allowed experiential knowledge to be presented in a creative format.

'Propositional knowing' became evident when the later interviews were conducted, by that time my expertise and knowledge of the hand frame had become well-established and I was better able to articulate my awareness of process and . The type of technical language that I was able to use helped to develop a more complex narrative between myself and other practitioners, which enhanced technical knowledge transfer and theoretical interpretations of the importance of hand frame practice.

'Practical knowing' in relation to operating the hand frame was derived through a rigorous approach to learning through repetition to achieve autonomy. This was documented through written notebooks, photographs, and the production of textile fabrics. This type of knowledge was the fundamental basis for this practice-led study, which highly valued practical expertise and craft skill.

These 'types of knowing' gave relevance to this study as they enabled (and enhanced the importance of) meaning-making within practice-led inquiry. Using Reason's guide, this research looked to define what practical knowledge of framework knitting could be recorded, paying special attention to the experiences of practitioners. Through using an Action research and combining research methods to examine historical and personal approaches to creative practice on the hand frame, it became possible to define what new knowledge could be provided in this practice-led study.

The interventions that occurred in this research during the process of creative practice on the hand frame involved a systematic approach of refining and simplifying lace pattern structures and methods of production to produce whole finished pieces. A consequence of this was in changed attitudes towards the hand frame where rather than seeing it as a dead craft there was an establishment of a new creative context for framework knitting.

Reason and Bradbury argue that *'Action research is emancipatory, it leads not just to new practical knowledge, but to new abilities to create knowledge. In action research knowledge is a living, evolving process of coming to know rooted in everyday experience; It is a verb rather than a*

noun.' (Reason& Bradbury, 2000 p 2). The active and experiential approach that this research has taken showed that a contemporary interpretation of traditional design methods can be used as a way of identifying potential applications for future design practice on the hand frame.

Through an active approach to research practice, the hand frame was used to create an analytical response to knowledge derived from experiences acquired. Using the hand frame as a part of critical reflective practice supports the practice-led nature of this research and has enabled an on-going process of analysis and reflection. It allowed the role of the researcher to be combined with that of artistic practitioner to support an interpretive paradigm that identifies ways to use the hand frame to support creative practice. This research has enabled the preservation of the skills and knowledge of hand frame knitting through changing the way the hand frame is used to enhance its usefulness as a tool for creative practice even though its commercial role is redundant.

Learning to use the hand frame became a process in which constant reflection and reassessment of technique was the driving force behind the design creativity. Reason and Bradbury believe that *'as we search for practical knowledge and liberating ways of knowing, working with people in their everyday lives, we can also see that action research is participative research, and all participative research must be action research.'* (Reason and Bradbury, 2000 p 3)

It should be mentioned at this stage that although Action Research provides a useful platform for exploring reflective practice in research, it is not in itself a well-defined method of inquiry as Denscombe highlights;

'Action research quite clearly is a strategy for social research rather than a specific method. It is concerned with the aims of research and the design of the research but it does not specify any constraints when it comes to the means for data collection that might be adopted by the action researcher.' (Denscombe 2003, p. 74)

However it does create a flexible way of addressing researcher-participation within creative research and supports the official research methods which have been used to structure the observational and participatory aspects of this study. Practical interaction leads to technical confidence, and it is this that opens the door to creative interpretation and the ability to draw parallels between past practices on the hand frame and the contemporary applications that can now be addressed.

3.5. Experiential Understanding

Following on from the earlier discussion about Reason's 'types of knowing', the notion of 'Experiential' understanding will now be explored in greater detail.

Constructivist thinker Kolb (1984) looked at how experiential thinking can be used as a source of learning development, which in itself presupposes that the act of making sense of one's own experiences has the ability to contribute to a wider understanding of the world and our place within it. As part of the practice-led approach to this research, the idea of 'experiential' knowing was highlighted, which Heron (1981) links into ideas about creative thinking:

'Experiential research is the kind of research on persons in which the subjects of the research contribute not only to the content of the research, i.e.: the activity that is being researched, but also to the creative thinking that generates, manages, and draws conclusions from, the research. And the researchers, in the full model, contribute not only to the creative thinking and management, but they also participate, like the subjects, in the activity that is being researched.' (Heron 1981. p 1)

Heron's comment suggests that the experience of being an active participant in the research process is one that enables the researcher to shape research outcomes through incorporating what they themselves experience during the course of the study. This is supported by Haseman who suggests that *'practice-led research is intrinsically experiential and comes to the fore when the researcher creates new artistic forms for performance and exhibition'* (Haseman, 2006). The concept of an 'experiential approach' has been used within this research through using the hand frame to create a new perspective on contemporary weft knitted lace production which links closely to developing dialogues between researcher experience, and contemporary creative craft practice.

In a similar way, Niedderer and Townsend (2010, pp1-2) talk of experiential research being the bridge between the newly developing field of craft research (which relates more closely to ideas of personal experience) and the existing field of research that produces knowledge. The self-reflexive practitioner uses their own experiences to facilitate creative development and it is this 'experiential' approach used in practice-led research which influences the outcome of creative exploration by bringing the existing knowledge and expertise of the researcher into an environment where it can be used to influence the decisions made throughout the creative journey.

Within this academic study the process of self-reflection was based upon my own experiences of practice and my interpretations of the experiences of other practitioners. This approach also appears in the discussion between 'artistic research' and 'practice-led research' (Elo 2007, p. 9) in which the features of both can be characterized as an active process. Borgdorff suggests that 'one particular feature of artistic research often referred to is the dual role of the artist/researcher as both the practitioner and the one who reflects upon the practice' (Borgdorff, 2006: In Elo 2007 pp. 21-22). As a creative practitioner, the use of action helps to support the reflexive process that contextualises art or craft based practice and encourages parity between the 'thinking' and the 'doing'.

This requires a rigorous process of self-reflection, but also on-going documentation of process. The experience gained through my exploratory approach to lace pattern generation has identified that the role of the framework knitter requires a combination of technical understanding and practical awareness. In the process of becoming a critically reflective practitioner, Thompson and Thompson suggest that '*at the heart of reflective practice is the process of becoming aware of the knowledge that informs our practice – making it more visible.*' (Thompson and Thompson, 2008 p 12).

In this respect, undertaking a practical approach to hand frame knitting, involving interaction, ensures the research evolves as the researcher's knowledge of the machine develops and in this way personal narratives flourish as creative experiences increase. These narratives in turn create an overview of the practice undertaken as the basis of research development and as a contribution to understanding of craft skills.

But it is not only interactions with other practitioners that aid in personal reflections, but also the interactions that occur between the researcher and the locations where practice takes place. The interaction of researcher and research location (whether that be for creative purposes or not) is what O'Riley (2006 p.1) defines as 'an inaudible dialogue'. It is an experiential understanding that creates researcher 'knowing' and enables the researcher to derive meaning from the situations in which the practice takes place.

Press suggests that '*as designers, we are driven by values. We find those values in the culture that forms us, that inspires us, that informs our views of the world around us.*' (Press, 2010 p 5). In this investigation the 'values' came from meaningful technical interaction with the hand frame, establishing a rapport with existing practitioners and reviewing and reflecting upon existing literature and other documents that chronicle how the hand frame has been used and how it might therefore be used in the future.

The experiential approach presented a way for me to use my own knowledge of practice as a context for understanding how my experiences differed from the experiences of other hand frame practitioners. The creative practice undertaken formed part of learning a new skill which also enabled a wider understanding of how to interpret historical documents and how to look for patterns in data when analysing interview transcripts.

3.6. Building Personal Narratives

So far we have discussed the use of a qualitative approach to understand practice-led research using active researcher participation, all under a wider interpretive paradigm. This section will examine how we can use the information gained through this approach to create dialogues between places, practitioners, and processes, which Riessman (1993, p. 9) refers to as the *'performance of a personal narrative'*.

The social construction of meaning that occurs within interpretive practice has been used in this study to make sense of the stories of the framework knitters that were obtained through interaction with current practitioners and literature. These interactions generated personal narratives which have been used in this study to better define the creative practices of framework knitting that are not traditionally captured through historic accounts.

Bruner's concept of 'narrative constructions' (2004a & 2004b) was in part influenced by the thinking of Vygotsky and other Constructivist thinkers and along with contemporary authors such as Riessman (1993 & 2000), Binns (1997), Brearley (2000), Cross (1982, 1997, 1999, 2001a, 2001b, & 2004) and Clandinin [et al.] (1993, 2002, 2007 & 2009). This form of interpretation is now widely used to support researcher-centred action research.

Some of the narratives that were constructed related generally to the life histories of the interview participants, who responded to questions about their practice by 'going back to the beginning' and chronologically describing their lived experiences. This was useful for insomuch as it provided a time-based assessment on practice and learning but it also suggested that the experiences of one framework knitter could be used to address the wider problem at hand of loss of expert knowledge.

In reference to 'life histories' Cohen and Manion cite the work of Goodson who argues that life histories *'have the potential to make a far-reaching contribution to the problem of understanding the links between "personal troubles" and "public issues".'* (Cohen and Manion 1995 p. 59), and it

is this concept that allows us to use the small number of interview testimonies to examine the factors that may have affected framework knitters in general.

Patton (2002 p. 15) supports this by suggesting that many forms of personal narrative including family stories and life histories 'reveal cultural and social patterns through the lens of individual experience.' In this study the narrative 'patterns' were derived from the recorded experiences of framework knitters, and the recorded experiences of my own practice, which jointly could be used to contribute to the wider narrative understanding of the creative skills of framework knitters.

Narrative interpretation of experience has also been addressed by Creswell who describes Narrative research as '*a strategy of enquiry in which the researcher studies the lives of individuals and asks one or more individuals to provide stories about their lives.*' (Creswell, 2009 p. 13) he goes on to suggest that both phenomenology and narrative approaches seek to '*study the individuals*' (2009 p. 177). This is supported by Patton who argues that '*Narrative Studies are also influenced by phenomenology's emphasis on understanding lived experience and perceptions of experience.*' (Patton 2002 p. 115).

Thinking from a phenomenological standpoint, the collective realities of people which features a central 'phenomena' (In this case being able to operate a hand frame) can be used in this study to explore why certain people's experiences of framework knitting are different from others and this can be used to determine how an individual's personal 'biography' can be used to contribute to a wider understanding of a particular practice and as Petty, Thomson and Stew suggest: '*Narrative research may be biographical following the life of individuals, while an oral history explores the personal reflection of events from one or more individuals.*' (Petty, Thomson and Stew, 2012b p. 380)

Narrative research is often dually referred to as the Biographic method (Creswell 2009 p130) and it is through this construct that we may examine how life experiences contribute towards meaning-making within contemporary framework knitting practices. It is through documentation of such narratives that the research themes can emerge.

As Smith (1998, p 186) suggests, there are many variants of biography and they can fall under such labels as '*portrayals, profiles, memoirs, life stories, life histories, case studies, autobiographies, journals, diaries, and on and on*'. Therefore the biographical approach in qualitative research can be understood to look at a person's lived experience from a number of different perspectives, and in the case of this study that was from historical, social and creative viewpoints.

This inquiry used the information that emerged from the analysis of personal notebooks belonging to past hand frame knitters, the narrated stories acquired during interview, and my own documentation of practice to generate a new dialogue about the hand frame. The analysis of this data was partially done whilst the interviews were still in progress, by asking participants to clarify certain experiences that were pertinent to the themes of the investigation which Petty, Thomson and Stew (2012b p. 380) determine requires, *'reorganizing the stories into chronological order, identifying key aspects and may include interpretation and thematic analysis. The researcher negotiates the meaning of the stories with participants.'*

Riessman (1993 p. 2) discusses the simplicity of using personal narratives as data, suggesting that the act of locating such narratives is 'ubiquitous in everyday life'. She goes on to suggest that *'we can all think of a conversation when someone told in exquisite detail what she said, what he said, what happened next – a recapitulation of every nuance of a moment that had special meaning for her.'*

In this sense the researcher participation during the interviews, enabled the semi-structured nature to generate a 'flow' to the narrative which could be controlled (almost always) by the researcher, but also to take into consideration the depth of reply offered by the interview participant. When talking about interview participants, Riessman identifies that on many occasions the interviewee will naturally narrate for extended periods of time and will 'sometimes organise their replies into long stories.' (1993, p. 3). This was a factor in my interviews, some of which ended up being over two hours in length, simply because the interview participant still had more stories to tell.

Patton (2002 p. 439) suggests there are three main approaches for organising and reporting qualitative data which consist of storytelling, case study and using an analytical framework. 'Storytelling' refers to the analysis of isolated events and seeks to order them chronologically which places emphasis on how the narrative develops over time. This works well for isolated histories but does not work as effectively

This study required three types of stories to be reported, the historical stories, the personal stories and the creative stories. Therefore the interpretive approach to addressing research narratives was used in three contexts within this study, to support the three main constructed perspectives: The Historian, the Interviewer and the Practitioner:

- **The Historian:**

The historian assessed to what extent artefacts could be used to decipher the skills and expertise of past knitters. This involved the analysis of knitted samples and workman's notebooks which

allowed the researcher to explore the creative narratives that could be drawn from such artefacts and this information was then used to determine to what extent practitioner narratives can be recorded. This role was necessary to provide an historical context through which to situate the current research. Riessman poses that, '*Investigators do not have direct access to another's experience. We deal with ambiguous representations of it – talk, text, interaction, and interpretation.*' (Riessman, 1993 p8.)

So in the case of this research, it is through the act of interaction with the hand frame that I acquired the practical skills and knowledge of the craft that allowed me to have a greater ability to interpret the experiences described by the interview participants, and the artefact data such as notebooks, which provided a textual example of a personal narrative.

- **The Interviewer:**

The interviews conducted with existing hand frame practitioners allowed a spoken narrative to develop. The biography in this case was constructed through the individual stories of the interview subjects, each of which provided their own interpretation of what it is like to know how to work the hand frame, and how their interaction with the hand frame has made them experts in this particular field. These are socially-constructed identities which Clandinin and Huber describe:

'For us, identity is a storied life composition, a story to live by. Stories to live by are shaped in places and lived in places. They live in actions, in relationships with others, in language, including silences, in gaps and vacancies, in continuities and discontinuities.' (Clandinin and Huber, 2002 p. 161)

- **The Practitioner:**

The process of learning to use the hand frame and then using those skills to create knitted products was the most personal narrative that was generated throughout this study and as Clandinin and Huber (2002 pp. 161-162) suggest, the '*experience, understood narratively, has both artistic and aesthetic dimensions.*'

The experiences gained through physical interaction with the machinery allowed my role as researcher to become interactive, practical, and to continuously reflect on how the research journey was changing as it progressed. Eisner and Powell summarise this type of understanding:

'The term artistic modes of thought pertains also to the quality of experience, but is more closely associated with experience that is used to make decisions about which courses of action to take in the conduct of one's work; a sense that this choice is better than that one, that this fit is better

than another, makes decisions possible that cannot be made by appealing to rules of logic or to the probabilities secured through inferential statistics.' (Eisner and Powell, 2002 p. 135)

This section has discussed at length the nature of building personal narratives, and it is through the analysis of these narratives that a unique contribution to the creative field of framework knitting will be addressed.

3.7. Research Methods

This research was designed to combine analysis of existing information on framework knitting to inform practices that could inform contemporary creative practice. Therefore the methods selected for this particular study were required to combine observation of existing practices, interaction with existing practitioners and analysis of existing artefacts to determine how these sources can provide stories about creative practices and design motivations that would then go on to inspire a contemporary creative exploration of the hand frame.

Practice was integral to this study. The methods of data collection that were used were specifically selected for their ability to show what evidence of hand frame practice is available. These sources could be used to show to what extent the practice of framework knitting has been recorded and what visual narratives can be created from the information collected.

The research methods that were used in this investigation were creative practice, observations, artefact analysis and interviews and will be discussed in greater detail in the following section.

3.7.1. Creative Practice

This investigation actively encouraged personal interpretation, which allowed the researcher to acquire new practical skills through 'learning-by-doing'. It also enabled a continuous interaction between creative, historical, and social influential factors. The practical elements of this study were centralised around the hand frame, with special attention paid to learning the working actions of the machine in order to analyse the weft knitted lace patterns that were originally manufactured using hand frame technology. Traditional knitting techniques were used to explore how heritage patterns were manufactured and this approach was then adapted to produce weft knitted lace pieces on the hand frame as an exploration of contemporary craft practice. This

process relied extensively on the communication of the person learning experience to create a discourse between the analysis of artefacts, interviews and my own practice.

Creative practice was also conducted through demonstrations of the hand frame at heritage events which often led to interaction with visitors who were interested in hand frame technology and the people who originally worked in the industry. Many of these informal interactions became small performances, where I would be able to actively talk about my learning process to an audience. This led to interesting conversations and interactions allowed me to voice my actions and justify the decision making process as I progressed.

The creative journey was recorded in personal notebooks, similar to those of the old framework knitters, and included pattern ideas, diagrams, sample plans and influential quotations. Photography was used to document the physical practices achieved on the hand frame, and on some occasions digital film clips were made to demonstrate the hand frame in working action. I was able to review these recordings in a reflective way to examine how my thought process had developed and this provided the justification for why the practice-led study developed as it did.

The importance of skill, and in particular the skills of the craftsman have been highlighted by Niedderer and Townsend who talk of its current significance:

'Over the past few years craft has received increasing public attention through debates about the significance of craft and skill in philosophical, economic, social and political contexts, with skill being regarded as an intrinsic characteristic of craft.'

(Niedderer and Townsend, 2011 p.3)

The significance of exploring craft skill as to inform experiential understanding lies in the fact that the knowledge of framework knitting is vastly diminishing, and preservation of knowledge relies on the researchers ability to record historical, practical, social, personal and creative data. Schön suggests that the use of creative practice with experiential outcomes is essential in the process of attributing meaning to actions:

'Art (creative practice) is now an increasingly acknowledged experiential mode of inquiry that, when firmly located within a research framework, can reveal insights and understandings in ways that expand our capacities for 'knowing'. The notion of 'making sense' can not only be taken as making (craftwork) through sensory exploration, but also as 'sense making' – creating understandings about that practice both through action and reflection on it.' (Schön, 1983 in Gray and Burnett 2008 p. 1)

'Sense making' as Schön calls it, is the primary driving force in conducting this research from a practice-led perspective. The need to establish new ways of understanding the practice of framework knitting relies on the researcher's ability to understand their creative actions and to reflect upon how the process of learning to use the hand frame can generate contemporary inter-disciplinary dialogues between history, theory and practice.

Creative practice was used to support all other research methods and through this was able to establish inter-disciplinary dialogues that generated new perspectives on the use of the hand frame within a contemporary context. Developing the operational skills of the hand frame was of central importance in establishing a reflexive process through which to examine the use of craft knowledge as an aid to 'practical knowing'.

3.7.2. Observations

The observations that were conducted during this study were informal and often sporadic, but were predominantly undertaken during the many hours spent operating the hand frames at Ruddington Framework Knitters' Museum and G.H.Hurt and Son. Some of the observations were made simply watching other practitioners in action on the hand frame, or were made through watching museum employees give demonstrations and tours about the knitter's workshop. These observations helped to strengthen 'experiential knowing' and gave access to locations where spontaneous conversations could occur.

These conversations are what Silverman (2006 p.201) refers to as 'naturally occurring talk', and enabled the informal discussion of ideas about framework knitting between experts and non-experts outside of the remit of a formally conducted interview.

The following two sub-sections of this chapter examine the observations that occurred during the collaborative placements at Ruddington Framework Knitters' Museum and G.H.Hurt and Son and also reference the creative learning that was conducted.

A '*naturalistic*' approach as defined by Denzin and Lincoln (1998 p. 19) and Robson (1995 p. 61) encourages researcher observation and supports practice-led research as it allows the self-reflexive practitioner to review their process and make justifications about the next steps based on patterns that emerge during their practice. These observations have been conducted using Robson's approach to descriptive participant observation (Robson 1995, p. 194) which Denscombe suggests can be achieved through direct observation, fieldwork, being present in natural settings and taking into account issues of perception (Denscombe 2003 pp. 192-193).

3.7.2.1. Collaboration with Ruddington Framework Knitters' Museum

The AHRC funded collaboration with Ruddington Framework Knitters' Museum began in October 2007 and started with a series of practical tutorial sessions, where I was taught to use the hand frame by the museum's technical practitioner Milla.

The initial observations that were made at the museum related to watching the hand frame in action, in order to start the process of understanding how it worked and the importance of maintaining a careful approach as not to damage the machinery.

After two taught sessions had occurred, regular weekly practice on the hand frame was unsupervised and I used my developing skills to explore various knitting techniques, predominantly focussing on stitch transfer and pattern exploration. My practical awareness was strongly influenced by the observations I made, particularly those that helped me to retain a more

The learning process was relatively slow, and the speed at which knitted fabric was produced was far less than would have been achievable on modern machinery. On many occasions the amount of fabric produced in a day's work was no more than 30cm long. The learning process and practical development was documented using written notebooks, photography and a few short film clips. Documentation of my practice allowed me to reflect on the creative learning experience and compare this to the experiential narrative of other framework knitters.

In addition to learning to use the frame, the allocated workshops at the museum were used for learning how to cast lead in moulds to secure machine needles, and regular maintenance of the machines became a regular part of the practice. This was an important part of the creative process because the practice required mechanical and technical skills to be developed alongside the creative ones. It also gave an indication of how the conventions of the framework knitter were not only creative but also very technical. The ability to maintain one's own machinery was an important part of the role the knitter and demonstrates that the understanding of the knitting process is more complicated than simply learning to create knitted fabric.

Creative sessions at Ruddington Framework Knitters' Museum often included demonstrating the hand frames in action to members of the public which strengthened my ability to communicate information about the machines and gave me the opportunity to become a storyteller, passing on ideas about how the industrial heritage of the hand frame has the ability to influence contemporary design practice.

The museum also provided access to textile artefacts and specialist library resources that are not available elsewhere. Many of the resources held there are rare or unique and were used extensively to identify evidence of past creative practices.

A more in-depth account of the observations made at Ruddington is provided in Chapter Four which looks at locating the heritage of the hand frame and Chapter Five which examines artefacts and other evidence of creative practice on the hand frame.

3.7.2.2. Collaboration with G.H.Hurt and Son the Shawl-makers.

The interaction with G. H. Hurt & Son began in June 2008 and was initially designed as an opportunity to experience what it was like to work in a commercial environment that still produces weft knitted lace shawls in a similar style to the original hand frame manufacturers. G. H. Hurt was established in 1912 and at that time, all its lace production was done on hand frames. As a result, the company maintains a proud industrial heritage and continues to keep many of its old hand frames in working order.

My main role at G. H. Hurts involved operating the hand frames and using them to produce weft knitted lace patterns that could be then finished and dressed as lace shawls. The manufacturing process was documented using a learning journal, photography and digital film recordings.

The methods of practice undertaken at G. H. Hurt & Son were designed to extend the parameters of creative practice that has already been started at Ruddington Framework Knitters' Museum. comprised interaction with a commercial shawl production environment; ability to work on well-maintained hand frames, interaction with placement students also learning the heritage approach to commercial knitwear design; involvement in a 'living museum' environment; interaction with industry experts and company artefacts and access to equipment used to finish and dress shawls produced on the hand frame

3.7.3. Documents and artefact analysis

The archival analysis that formed part of the data collection for this study involved looking at old literature on framework knitting, documentation of practice in notebooks and photographs and actual lace artefacts. These items were primarily located at Ruddington Framework Knitters' Museum but also at Nottingham Costume and Textile Museum. A number of weft knitted lace artefacts were identified, and photographed and these patterns were then used as inspiration for pattern trials and experimentation on the hand frames. The specialist knitting library (The Smirfitt Library) at Ruddington was also used extensively due to its wide collection of rare and important texts relating to framework knitting.

The archival analysis was supported by the curator of the Nottingham Castle Museum's textile collection, expert Jeremy Farrell. His death during this project emphasised the critical problems currently being faced in relation to lack of expert knowledge.

In addition to the museum archive collections, artefacts were also examined in the company archives of G. H. Hurt & Son. This is the first time the company has allowed their patterns to be examined for research purposes. There was also an opportunity created to look at a number of personal notebooks, belonging to former framework knitters, many dating from around 1900. They were pivotal in bridging the gap between heritage patterns, the life of the working man, and contemporary creative practice. These notebooks have provided a strong foundation for analysing patterns and documentation processes in a way that has not been undertaken before.

The company is still manufacturing contemporary lace goods although part of the factory has been left as it would have appeared when the framework knitters were there. It is therefore a heritage space in its own right where the artefacts associated with the workmen's practices have been left untouched since the workmen retired. Observations of these work spaces identified a number of unusual personal artefacts belonging to former framework knitters that indicate what the working conditions of the men would have been like. G. H. Hurts has created a space in which heritage works alongside contemporary practice and ensures that the presence of the original knitters remains for all to observe.

3.7.4. Interviews

The interviews that were conducted during this study formed an important part of the foundation for establishing how hand frame practitioners knowledge and skill are acquired through their

creative learning experiences. This type of enquiry has not been conducted in relation to framework knitting before and provides a significant contribution to the understanding of the creative nature of hand frame practice.

Existing hand frame practitioners are becoming increasingly rare and therefore it was important to document those that could operate the hand frame whilst they were still available. This particularly helped to understand how different working practices have been undertaken, and what experiences have shaped the knowledge of each practitioner. As this study was significantly linked to hand frame practice, and the emotive connection between practitioner and machine, it was not necessary to interview any knitters who were non-hand frame practitioners.

Robson defines what he considers to be the three types of interview structure as '*Fully-structured, Semi-Structured and Unstructured (Completely informal)*' (1995 p.230-231). This is similar to the types of interview identified by Silverman (2006, p.110) which include structured, semi-structured, open-ended approaches, but also includes a fourth category; the focus group.

When designing the research strategy for this study, the 'structured interview' did not allow for any improvisation during the interview process and limited the extent to which questions could be adapted during the course of the interview to pick up on key themes that emerged.

In contrast, the open-ended questions allowed a good deal of interaction and adaptation during the interview, but they lacked structure and failed to define the key topic areas of discussion. As Patton (2002. p 342) defines, this type of conversational interview provides 'maximum flexibility' for adapting the discussion as required, but in this case 'no predetermined set of questions would be appropriate.' The interviews conducted as part of this study needed more structure to allow specific thematic areas such as 'creative practice' and 'the learning experience' to be covered as these were key areas of interest.

The 'focus group' was not used in this study as there was only a small sample group of hand frame practitioners available and the interaction that would have been possible between the interview subjects and the researcher would have been limited. There were also practical limitations due to the age and mobility of some of the participants.

Petty, Thomson and Stew (2012b p. 380) suggest that 'the conduct of semi-structured interviews involves a few pre-determined areas of interest with possible prompts to help guide the conversation'. The interviews provided an opportunity for me to interact with practitioners on a one-to-one basis to create an environment where conversations were led by the researcher. Following a pre-determined list of questions ensured that each interview followed in a similar path, but also allowed the flow of the interview conversation to change in response to the

individual answers given. Silverman (2002 p 123) refers to this type of interview strategy as 'Emotionalism' where the interview relies on a developing rapport between the researcher and the interviewee and the interactive relationship is guided by the researcher but is flexible enough to allow the participant to answer questions in depth and in unspecified directions.

In this study, two of the interviews were conducted within work-space environments, and the pace of the interviews needed to be flexible to allow the participants to demonstrate their technical abilities and reflect on them during the conversation. This also could include the use of 'detail-orientated probes' (Silverman 2006 p. 372) to gain more specific information about arising subjects. The interviews required informal practitioner-researcher interaction through which structured question responses were allowed to grow into substantial narratives which aided knowledge transfer and dissemination of the individual's approach to practice. Therefore the semi-structured approach to interviews was the most appropriate and was used during this study.

A list of general question topics were given to the participants prior to the interview, so they had chance to prepare answers, but during the actual interviews, this was only used as a rough guide as the interviews became more conversational and interactive.

To effectively capture the interview sessions, they were recorded using a digital Dictaphone and then transcribed. In addition to this descriptive notes were taken by the researcher to highlight the key themes that were raised during these conversations.

3.7.4.1. Selection of interview participants

The selection of participants for interview was done many months into the study, after the collaborations with Ruddington Framework Knitters' Museum and G.H.Hurt & Son had commenced. This fieldwork helped to identify remaining practitioners within framework knitting and ascertain to what extent interviews could provide rich qualitative data on this topic. During this fieldwork it was clear that access to hand frame experts was limited, and a small number of practitioners declined to be interviewed which resulted in there only being a small overall sample group.

Despite this small number, the remaining practitioners could still provide a useful insight into the use of the hand frame as they had all arrived at framework knitting via very different paths. The final group of five participants all had some form of specialist knowledge relating to hand frame practice or mechanics and between them they had experience of working in industry, working in

heritage environments, and using the hand frame for contemporary knitwear design. This gave a broad overview of how the hand frame could be explored and therefore was happy to proceed using only five interviews.

The Interview participants:

Henry Hurt Managing Director and owner of G.H.Hurt and Son Ltd. Took over the running of the company in 1955 and has continued to promote the heritage of the hand frame ever since.

Arthur Hesketh Former framework knitter. Worked in the knitting trade mainly for lace manufacturers in Hucknall, Nottingham between 1932 and his retirement in the 1980's

Reg Robins Knitwear technician at G.H.Hurt and Son Ltd and hand frame practitioner working in collaboration with Ruddington Framework Knitters'

Martin Green Formerly worked in the knitwear industry before becoming a volunteer at a Leicester Museum and becoming interested in the hand frame technology. Currently the only practitioner who is still making a living from making and selling lace shawls made on original hand frames.

Stacey Deakin Former Fashion Knitwear Design student at Nottingham Trent University, who worked at G.H.Hurt and Son during her placement in Industry. During this time she learned to operate the hand frame and used this to inspire her final catwalk collection at University.

These interviewees are identified with their full consent.

The interviews played a critical role in the development of this study, as they were designed to highlight the key areas of knowledge that are currently at risk due to the loss of expertise in this field.

The research interviews and participants are discussed in greater detail in Chapter Six of this thesis and the interview testimony is then analysed in Chapter Seven.

3.8. Summary and Reflection

The focus of this research has been on contextualising the process of learning to use the hand frame for contemporary creative practice. It was essential that the research methodology supported a researcher-centred study where the experiences relating to practice were the central theme and the creative journey was supported by developing creative narratives based on the experiences of other practitioners.

Qualitative information was collected through a number of methods including observation, archival analysis and interviews which together helped to show how personal practices have been documented and this was then used to help inspire the creative journey I was on. The data collection focused closely on looking for experiential evidence within the documents, whether that be written thoughts, spoken thoughts, or other indicators such as diagrams and lace patterns which helped to form stories about how the hand frame has been used by others. The 'Narrative' approach as identified by Creswell (2009 p. 131) seeks to 'report the stories', and was used as a foundation for this study. These stories were then used to inspire creative exploration on the hand frame.

The Interpretivist paradigm encouraged an approach where practice-led research could develop through personal interactions and reflections. This is sometimes referred to as 'action research' and it was this process that helped to identify and reflect upon the personal narratives that emerged during the process of learning to use the hand frame. This experiential interpretation ultimately led to a series of creative pieces being produced on the hand frame that examined the idea of passing on knowledge to others. Key quotations and phrases were used to symbolise the importance of preserving skill and expertise.

This research is the first of its kind to examine the hand frame beyond its technical or historical context. This study was designed to show the creative side of being a framework knitter and it is through an Interpretivist methodology that this is possible.

Chapter Four

Locating the heritage of the hand frame

4.0. Introduction

As outlined in the previous chapter, the methodological approach to this study sought to examine how the experiences of past hand frame practitioners can inform a contemporary creative learning journey. To achieve this, it was necessary to interpret the extensive observations that were conducted in workspaces and creative environments where framework knitting still occurs. This chapter reports the findings of the observations that were made between 2007 and 2012 at Ruddington Framework Knitters' Museum, G.H.Hurt and Son and the private workshop of Martin Green.

This chapter presents the historical information that supports this study, which includes an analysis of the remaining locations where hand frames practice still occurs, looking specifically at how these locations can affect the practical aspects of this research. The analysis looks at how past creative practice has been influenced by the environment in which it takes place and examines how these narratives can be used to inspire contemporary creative applications by examining an area of framework knitting that has not previously been explored.

This chapter also provides a reflection of the early stages of my own creative practice, when I was first learning to use the hand frame. These reflections are used to establish why the learning process was an essential factor in exploring a contemporary understanding of the hand frame.

4.1. The historical context of framework knitting

The interpretive nature of this research enabled the study to develop in response to social and creative experiences that were encountered, all of which occurred within environments where

the heritage of the hand frame is being conserved. The hand frame has a long and complex history which has significantly influenced the places and practitioners that remain today and continues to be an important factor in the justification for preserving the knowledge of such a technology. Therefore it was imperative that this study was able to support the practical outcome of research practice through historical contextualisation.

To enable an accurate review of the impact of heritage on contemporary framework knitting it was necessary to assess the current state of the remaining industry to determine what knowledge has been preserved and to locate remaining technical resources. This was done in part to demonstrate the importance of physically interacting with the hand frames as part of a practice-led study and also to provide an alternative source of information on the heritage of the hand frame as there are limited references to workspaces and practice within existing literature.

The following section looks at the declining role of the hand frame in industry, examining how the hand frame is currently being used and addressing what evidence remains of the past technological processes and equipment, taking into account the physical condition of remaining hand frames.

4.1.1. The declining role of the hand frame

The rapid decline of the textile industry in the UK has many contributing factors including global recession, globalised outsourcing, changes in fashion, and the overall decline of all major manufacturing industries. Framework knitting was well established for over 400 years, but could not survive the competition from power-driven knitting machines which increased manufacturing productivity to levels that were unachievable with hand-operated machines.

Felkin stated that in 1844 there were 44,712 hand frames operating in England, and over 96% of those were found in the Midlands counties of Leicestershire, Derbyshire and Nottinghamshire (1967, pp. 465-468). In Nottingham, the population as recorded by the 1841 census was 53,000 and of that number 16,382 were known to operate hand frames, meaning that 30% of the entire population of Nottingham at that time were framework knitters. This obviously does not take into account other professions that were peripheral to the knitting industry such as menders and spinners and needle-makers and so forth, so it is likely that at least one third the Nottingham population would have worked within the textile industry in some form, although the actual figure is likely to have been far higher. It is that fact that makes the later decline of the industry so

damaging to the economy of Nottingham, and so devastating to the skill and knowledge of framework knitting.

The hosiery and knitwear trades began to steadily decline during the early part of the twentieth century although companies such as N. Corah and Sons of Leicester and J.B. Lewis & Sons of Nottingham were still employing over 2000 staff as late as 1945 (Chapman, 1997 p.22). The reasons for the collapse of the industry cannot be attributed to a single reason, although changing fashions and increased international competition in the trade were contributory factors. Chapman talks about the decay of family firms that occurred in the 1960s which included large manufacturers such as the Nottingham Manufacturing Co. and previous manufacturing pioneers I. & R. Morley;

'At the first sign of serious overseas competition in the early 1960s, several traditional leaders of the industry exhibited characteristic signs of inadequate management leadership and control, notably that stocks were heavy and rising though customers were complaining of late delivery, staffing costs were high and responsibilities ill-defined or too generously awarded, some operations were already making losses, and overseas interest was out of control.' (Chapman 1988, p.221)

These pressures resulted in the near total abandonment of the remaining hand frames in favour of power machines, leaving only a skeletal hand frame industry remaining. Even small factories that had resisted earlier pressures to modernise production were now forced to adapt to using power-driven machines. The old frame workers were no longer training new apprentices and as a result the skills and practices of framework knitting were not being passed on to another generation. The hand frame had been superseded by more modern alternatives, and the practice of framework knitting was becoming a lost skill. It was at this point that efforts began to preserve the remaining local connections with framework knitting.

In 1968, the Ruddington Historical Society identified a series of old framework knitter's cottages and workshops, in Chapel Street, Ruddington. The buildings that had once housed a number of hand frames had been stripped of their former industry and were being used as storage space. The Society established a Charitable Trust which was able to save these buildings from demolition and provide a location for the preservation of local industry (Shrimpton, 1986 p 90). In 1971 the Ruddington Framework Knitters' Museum opened to the public to preserve the heritage of the redundant hand frame industry. It was at this stage that the real transition between commercial enterprise and heritage preservation occurred.

The museum was set up and supported by older framework knitters like Jeff Oxley who had over 60 years framework knitting experience working for G.H.Hurt & Son and who provided technical

expertise and advise on rebuilding the hand frames that were donated to the museum. [See Appendix 6]

During the course of this study around 40 frames were observed and fewer than half of these were in working order. This study has been localised to the Midlands counties, partly because it is the area where the most artefacts and machinery are located and also because it is the location in which the knitting machine originated. The development of framework knitting has been an important influence on the growth of the area, and it remains an industry which holds special meaning for local people who have personal and historical connections to the knitting industry.

[For a detailed timeline of the development of the hand frame please refer to Appendix 1]

4.1.2. The condition of remaining hand frames

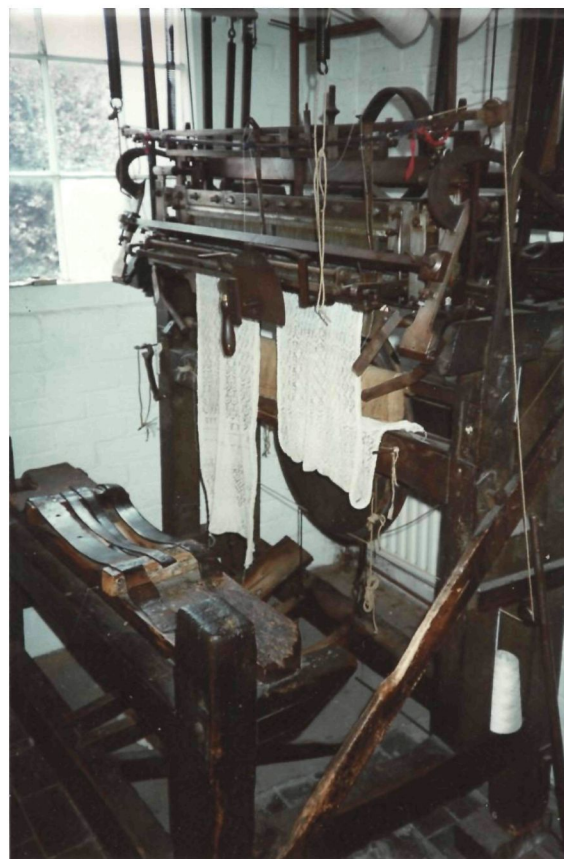
There are distinct physical differences between the remaining hand frames, as they were often constructed from parts that were salvaged from older machines. As a result, the majority of the frames that are still available are difficult to date, and are in varying states of repair. The machines examined in this study range from 28 gauge which produces a relatively course fabric to 40 gauge which produces significantly finer fabric.

Each frame provides a unique working experience and may work differently for different knitters as I found to my detriment when first learning to operate them. Each machine functions slightly differently, meaning that some frames are light and quiet to operate and some machines are heavy and incredibly noisy to operate.

Machines dating from before 1900 all consist of a wooden frame with an attached steel knitting carriage. A number of the machines dating from after 1900 have a frame made from either iron or tin, but they use the same type of needle bed and working action as the older machines. The width of each machine is unique, with no two machines being exactly alike. Wider machines have a larger area to place spring bear needles and this affects the width of fabric that can be knitted. The knitting bed is divided into sections, each of which are fed by a separate yarn feeder which enables multiple separate pieces of knitting to be produced at the same time. The working machines vary in width but are either set up to knit a single piece of fabric at a time (known as a 'One-at-once' machine) or multiple pieces (Two-at-once, Three-at-once etc). [See Figures 26 & 27]



[Figure 26] Two-at-once, Wide shawl frame at G.H.Hurt & Son.



[Figure 27] Two-at-once Shawl frame at Ruddington Framework Knitters' Museum. The frame dates from 1845 and was previously used by knitwear companies I & R Morley and William Wolletts.



[Figure 28] One at-once learner frame at Ruddington Framework Knitters' Museum. This was donated by Pasold Ltd in 1977 and convert to its current state by local frame engineers Ted Dring and Alan Cooke



[Figure 29] Five-at-once hand frame, modified for commercial use by Martin Green.

The hand frames that have been examined throughout this study are in various states of repair, many of which have been reconditioned, but a great deal more that have been left inactive. Those that have been inactive for more than two decades would require significant intervention and reconditioning in order to bring them back to working action. Reconditioning is also often referred to as 'recruitment' and refers to a mechanical overhaul that was done to ensure the hand frames were in prime condition. This involved cleaning the machine by removing all the needles and sinkers and replacing any perishable parts of the machine such as leather straps and the ropes that drive the slurcock.

A well-used machine was recruited roughly every 35 years, although some knitters were gentle with their working motions and therefore their machines sometimes went far longer periods of time without mechanical overhaul. This was evidenced by Felkin who spoke about the life history of a framework knitter who was reported to be the oldest in Nottinghamshire, who died in 1838 at the age of ninety-four, who unusually had actually afforded to buy his own hand frame at an initial cost of £25 and a further £3 a year for repairs. When the gentleman ceased to work it, it was sold and the excellent condition of the machine was remarked upon; *'He attributed the trifling wear and tear to timely repairs and the careful handling of the machine.'* (1967 from the original 1867, p. 451)

The majority of the hand frames that are currently available have not been treated with as much care during their long periods of inactivity. It is estimated that the most recent recruitments to the current hand frames was conducted on the machines that were donated to Ruddington at the end of the 1980s as part of the preparations to mark the 400 year anniversary of the invention of the hand frame, but many machines have been left dormant since their last user retired.

Machine maintenance is made difficult due to the lack of manufacturers for replacement machine parts, meaning that it is not unusual for an old hand frame to be dismantled so that the parts can be used to bring other hand frames back to working order. This makes the overall dating of machinery very difficult as many of the remaining hand frames are made up of parts dating from different centuries. Incomplete machines now require specialist mechanical attention if they are to work again but due to the lack of skilled frame mechanics, or frame-smiths, these old frames look likely to remain inactive unless this avenue of mechanical skill is also revived.

4.2. Locating the Practice

To develop a structure for creative practice it was necessary to identify the locations in which contemporary hand frame knitting was still possible, and to address the physical restrictions to creative practice that occur within these different working environments.

The majority of the remaining frames are located at Ruddington Framework Knitters' Museum [Figure 30] and G.H.Hurt & Son [Figure 31], with an additional number of working frames observed at the home of independent framework knitter Martin Green. Throughout the course of this study I was able to identify the location of no more than 50 hand frames remaining in the UK.

The analysis of the different types of framework knitting environment was necessary in determining to what extent the hand frame is a usable tool for creative practice, and how creative experiences can vary depending on the location of the practice.

The hand frame is rarely used commercially now, which put emphasis on looking at new ways to contextualise hand frame practice. This study looked at how the frame can be used in a creative way to stimulate artistic practice and to promote the preservation of the skills of the framework knitter. In this sense the ability to use the hand frame as a tool for creative inspiration has relied upon an understanding of how the hand frame is used, and how it relates to the environment in which it sits.

4.2.1. Museum-based practice – The Framework Knitters Museum

The preservation of the hand frame industry now takes place in a number of museum locations, most prominently at Ruddington Framework Knitters' Museum. Other hand frames can be found in small museum sites at Wigston in Leicestershire, Calverton in Nottingham and at a few other small community museums around the Midlands. There is no specific preservation strategy in place to document or care for the hand frames that remain meaning that locating all existing hand frames has not been possible.

The hand frames on display at Ruddington have been acquired from various sources, mostly donated by knitwear companies that went out of business in the early 1980s, or by smaller museums that could no longer care for their machines effectively.



[Figure 30] The hand frame workshop at Ruddington Framework Knitters' Museum



[Figure 31] Workspace of Jeff Oxley at G.H.Hurt and Son. 2010



[Figure 32] Modern metal hand frame dating from the 1960's, made by Alan Cooke



[Figure 33] Hand frames dating from around 1850 positioned as they would originally have looked when the building was used as a cottage industry

The museum at Ruddington has the largest collection of hand frames anywhere in Britain housing approximately 20 machines, although some are now dismantled.

At the start of this project the majority of my time was spent in the old knitters' workshop at Ruddington Framework Knitters' Museum. Whilst the workshop holds seventeen hand frames, I was often its only occupant, which meant it was a very isolated working environment in which I had limited interaction with others. Historically, many of the framework knitters had a single frame in their own home so would have experienced a similar sensation of solitary work, but in this scenario, the empty workshop only emphasised the lack of interactive potential that I was able to achieve at the Museum. It was only when forced to work alone that I appreciated how social interaction in a working environment was a necessary part of my own design practice, and that my own growth and maturation as a hand frame knitter was reliant upon having a support network of other practitioners to connect with.

As a relatively inexperienced hand frame practitioner, I needed social interaction whilst learning the skills of framework knitting to improve my understanding of the technical aspects of weft knitted lace production, especially in relation to the provenance of the machines I was using.

These hand frames range in size and include a 25gg two-at-once striping argyle machine, a 30gg frame used for making ballet tights, and a number of 32gg and 34gg machines used originally for hosiery production which were then converted for lace shawl manufacture. [Figure 34] There is also a very fine 40gg machine used for making surgical hose which actively demonstrate how diverse the knitwear industry became, especially considering that William Lee's early machines could only knit eight needles to the inch.

The frames have been placed in the original workshop to imitate how the working environment would have appeared circa 1850 when the Ruddington complex was at the height of its production as a cottage industry. [Figure 33] There are seventeen metal bolts that protrude through the walls of the building, which indicate the number of machines that were originally located there and where each hand frame would have been fixed in place to prevent it shifting across the floor as it was operated.

Ruddington is a unique location in that it holds a number of former industry frames that span a broad range of manufacturing roles, and represent many different stages in the mechanical development of the hand frame. Whilst every effort has been made to preserve the authenticity of the location, the hand frames located at the museum are not the ones that were originally

featured here and therefore have arrived on site in various states of repair, many of which are incomplete, or require a significant amount of mechanical intervention in order to work again. It also makes it more difficult to know who formerly used them, and in what capacity they were adapted for personal use.

The frame I initially learned to knit on was a three at once 34 gauge hand frame dating from around 1850 at Ruddington Framework Knitters' Museum. It was not a suitable machine choice for on-going creative practice as it was only a basic frame with no lace bar attachment, and was frequently used for visitor demonstrations. It was the most regularly used machine and therefore it maintained a smooth working action, but also suffered more wear than the other machines. The decision was therefore made to conduct the creative inquiry using an alternative hand frame which would be more reliable and would enable the production of better quality fabric.

The frame I used most regularly was a hand frame made in the 1960's by Allan Cooke of Ruddington. This frame was made of tin rather than wood and as a relatively modern version of the hand frame it did not have the same historic provenance that the older hand frames did. Whilst the fabric produced on this machine was of a good quality, the items produced had little historic value. Although technically classed as a hand frame, this more modern equivalent had no link historically to the knitters that would have originally occupied the workshop at Ruddington. My own design practice was limited on this frame because it did not inspire me to make the social links between the working environment and my own position there as a contemporary practitioner. The garments produced on this machine were also not as contextually relevant as those produced on older machines as they did not help to form a conceptual link between the knitters of the past and those of the present. Therefore the decision was made to actively seek out alternative hand frames on which to explore creative possibilities, one that was more in keeping with the heritage of the technology and provided a better link between the original knitters and my own practice.

The observations made at Ruddington demonstrated that the museum is an important location to explore artistic possibilities as it provides a practical space in which heritage and design practice can interact and provides a centre for knowledge transfer where many experts converge. It is an interactive environment where practice is an integral part of the museum life, and allows the artefacts and machinery to 'come alive' and be an accurate representation of how the framework knitters would have lived and worked. It is easier to understand and appreciate the technology of framework knitting in a location where machine demonstrations allow a visualisation of the complicated process of working the hand frames.

4.2.2. Industry-based Practice – G.H. Hurt & Son

As the only working factory that still produces Shetland-type lace shawls in Nottingham, G.H.Hurt and Son has built its present factory around the existing hand frames that were once their only means of shawl production. Although the shawls now produced there are done so on power machinery, the company has continued to maintain eleven hand frames, and actively participates in annual heritage events, to showcase the hand frames still in operation.

The hand frames at G. H .Hurts are much more closely matched in gauge than those at Ruddington and range from 30gg to 34gg. As these machines remain in their original factory location, extensive information has been retained by the company owner about the knitters who previously operated them, and the years the machines underwent recruitment. Four of the frames currently operational were once operated by Frank Oxley, his son Harold Oxley and his nephew Jeff Oxley who were well-know figures in the knitwear industry in Nottingham during the mid-twentieth century. The machines were 'recruited' in 1953 by Alan Cooke, the frame-smith in Ruddington and standardised to 30gg with the same sinkers and needles which regulated the sizes of shawls which were made on different machines.

The workshop that were observed at Ruddington were a direct contrast to the factory environment at G.H.Hurt and Son whose hand frames are located in three different parts of the working factory. Two fully operational frames stand in the noisy machine workshop, where the modern knitting machinery produces their products. Three hand frames stand in the main factory in a quiet room designated for mending damaged shawls. Two of these machines are still in full working order and are the most well maintained machines that I have encountered during this study [Figure 34]. A further six hand frames are in their original locations in the main factory in a room now used for finishing and dressing the shawls. These machines have been left in a dormant condition, having not been used in the last twenty years. All of these hand frames date from pre-1900, with some dating back as far as 1790. The workshop at Hurts was a more authentic example of what the working environment of the original hand frame knitter would have been like as it highlighted the social aspect of framework knitting and accentuated the differences between working as a solo knitter and working as part of factory environment.

The personalisation of work space is evident at Hurts as nearly all the hand frames have been in their current location since the company was opened in 1912. The work spaces have been left relatively untouched, and there were personal artefacts left behind of men that have worked there. This was what partly inspired my interest in identifying the lost 'voices' of the knitters.



[Figure34] Removing old Calico binding from Frank Oxley's former frame at G.H.Hurt &Son



[Figure 35]



[Figure 36]

By the time I arrived on location at G. H. Hurts I was already able to operate the hand frames after many months of training at the Ruddington Framework Knitters' Museum. Therefore my practical development at Hurts was based more around exploration of possible patterning techniques as opposed to learning the basic working actions. The well maintained hand frames enabled me to produce a number of knitted shawls that were of a traditional Shetland-style, incorporating a more contemporary approach in their pattern design.

Unlike the hand frames found at Ruddington, the working hand frames at G.H.Hurt have been regularly used and maintained throughout the last hundred years. The hand frame on which I made my first full scarf was in the knit workshop at G.H. Hurts and was formerly used by framework knitter Walter Bramley to knit up to 60 mohair shawls per day. This frame can knit up to four scarves at once, but has been reduced to two divisions to prevent needle breakage and to improve its use for teaching purposes.

Two of the working hand frames at G.H Hurt are shown in [Figure 35 and Figure36]. The machine on the left [Figure 35] is housed in a large open-plan workshop which is also home to the dozen of power driven modern knitting machines. This makes the working environment noisy, but more representative of how a busy factory workshop would have sounded. The machine on the right [Figure 36] has been located in its current spot over a hundred years and is housed in the 'finishing department' of the factory. This quieter location is more representative of how framework knitting may have appeared as a cottage industry.

The wide 3-at-once frame that stands in the main factory building at G.H.Hurt became my eventual favourite machine to work on. It is one of three machines in the factory that are in working condition and has been located there ever since the factory opened in 1912. At 5' 10" I am too tall to comfortably work many of the machines, as the way the seats are configured means the presser bar sits directing obstructing my view of the needles. The wide frame at Hurts was the largest of all the remaining workable machines and was operated by Frank Oxley at G. H. Hurts up until 1948 and due to its size it is better suited to a tall knitter. This machine benefits from a large workspace that is not confined by other machines, but is in a well-used and social area of the factory that provides a sense of community and helps to encourage a more interactive approach to designing lace patterns.

During the course of this research, the hand frames acted as individual work spaces. After working repeatedly on the same machine, it became a personal reflective space, where the knitter and the machine were influenced by each other. The wear patterns on the leather seats, foot pedals and thumb plates act as permanent markers of the men that once operated them.

Being on location at Hurts allowed an insider perspective of how industry and design are incorporated within framework knitting practice. The Hurt family have maintained their strong link to framework knitting through putting practices in place such as improved access to machinery and technical experts in order to preserve traditions and encourage a wider appreciation for the craft.

G.H.Hurt & Son is an important location in the exploration of framework knitting practice as it provides a first-hand example of how the knitting industry has changed but continues to realise the importance of the hand frame as an inspirational tool in the creative design process. This industrial location is still a small family-run operation, meaning that information about former framework knitters is readily available, and traditional frame-made shawl patterns can be reinterpreted on their power machinery for a contemporary market.

4.2.3. Independent Practice – Martin Green’s workshop

The working environments at both Ruddington Framework Knitters’ Museum and G.H.Hurt & Son are alike in the fact that although they are both places where framework knitting has been undertaken in the past and they are both no longer using hand frames in a commercial capacity. For this reason, the workshop at the home of Martin Green has been addressed, as it is currently the only place where hand frames are used commercially, where Mr Green knits a wide range of lace shawls.

It is perhaps important to mention at this stage that although Martin Green uses the hand frames commercially it is very much a capsule industry in which knitted products can be produced as bespoke pieces made to order and on a limited scale. The use of the hand frame for large-scale production and manufacture is now no longer a realistic possibility due to the high cost of maintaining the machines and the lack of experienced practitioners to operate them. The hand frames that Martin owns have all been restored by him and he continues to work towards keeping these machines in excellent working condition. The machines observed at his studio were in the best condition of all the machines observed during this study.

Martin Green first became interested in framework knitting after a visit to his local museum in Leicester which at that time was home to a number of hand frames. He went on to learn to operate the hand frame through association with expert framework knitter Jeff Oxley at G.H.Hurt & Son. He then acquired and reconditioned a number of hand frames which he set up in a



[Figure 37] Martin Green in his workshop, Kirby Muxloe, Leicestershire



[Figure 38] Stitch production with new loops being held in the beard of the needle.

purpose built workshop at his home in which he produces weft knitted lace shawls. He is the only remaining commercial framework knitter.

The purpose built workshop owned by Martin Green has expanded over the years, as his collection of hand frames has grown. He has acquired upwards of nine hand frames from Nottingham knitwear companies such as Wolletts and Hardy's when their businesses closed. Whilst many of these now stand fully functioning, there are a couple of machines owned by Mr Green that have been dismantled for spare parts, or are left in a dismantled state due to lack of workshop space to house them.

Mr Green has personally documented the process of dismantling frames in their previous locations, and then rebuilding them at his home, providing an interesting assessment of the difficult process of identifying machine parts, and reconfiguring them to work in a specific way. In a number of cases, the machines he acquired were incomplete, and he has therefore been responsible for finding replacement parts, or in some cases, having new parts made.

Although I was only an observer when visiting Mr Green's workshop, my own knowledge of the frame has enabled me to make a number of observations about the type of practice that is undertaken there. The modifications he has made to his hand frames allows different size shawls to be produced, meaning that he can allocate a particular machine for each sized product he manufactures. As Mr Green produces his shawls and scarves in relatively small quantities he is able to accommodate client's preferences to yarn and colour, and manufacture a product that is unique to them. As the only framework knitter commercially producing lace shawls, there is no competition for his particular product.

As the only existing location in which framework knitting is maintained as a commercial enterprise, Martin Green's workshop offers an interesting view of the current functioning role of the hand frame. His ability to customise not only the machinery he uses, but also the space in which they are kept means that this workshop provides a unique example of twenty-first century manufacturing on the hand frame. He is able to translate the traditional approach to the hand frame in his own personal way, and develop patterns and products that suit his available machinery. [Figure 37]

4.3. Factors that affect contemporary approaches to practice

Through examining the framework knitting locations it was evident that whilst textile heritage relies upon an on-going process of preservation and restoration of artefacts there has been little emphasis placed upon maintaining the working traditions of the original knitters. At present there is no established training programme in place that allows willing volunteers to learn to replicate the skills required to work the hand frame. This is mainly due the lack of well-maintained workable machines and the insufficient number of trained practitioners who have the available time and resources necessary to provide on-going support for trainee knitters.

The hand frames that were used within this study were basic machines with a single needle bed, and in some cases, an additional lace bar attachment to aid the transfer of stitches to form lace holes. There are no working hand frames remaining that have suitable modifications for making shaped garments which restricted the scope of the creative exploration as it removed the possibility of producing fully fashioned items.

Understanding the primitive nature of framework knitting has affected the parameters of creative practice in the following ways:

- The basic working motion of the machine was relatively simple to replicate, meaning that fabric could be produced even by a novice knitter. [See Appendix 4 for a diagrammatic representation of the working actions of the hand frame]
- As a hand operated machine, knitting is conducted by manual means that allows the knitter to have complete control over the manipulation of stitches. This personal interaction makes the hand frame an ideal machine to use for creative exploration of possible stitches and patterns. [See Appendix 5]
- Due to the needle bed being in a fixed position, the fabric produced is of a regimented width that cannot be increased or decreased meaning that garment shaping is not possible. More emphasis was therefore placed on surface patterning through stitch manipulation.
- Many of the hand frames that are still in working order date from around 1800, meaning that demonstrations of these machines in action contribute to the preservation of the knitting industry and encourage links between industrial heritage and creative innovation.

It was these factors that influenced my decision to focus exclusively on using the hand frame for fabric production in this research. In the early stages of the research development it was suggested that the hand frame may be used as a tool for exploring knitted lace prototype ideas

that could then be translated into patterns that would be manufactured on the computerised Stoll and Shima Seiki machinery in Nottingham Trent University's knitwear department. This idea was eventually discarded as it would have supported the assumption that the hand frame itself was no longer a viable machine for textile production. By exclusively using the hand frame for the practical exploration of knitted fabrics, this research has demonstrated that the hand frame does indeed still hold a viable and useful way of manufacturing knitted textiles; albeit not on a large commercial scale. By making the hand frame my sole creative tool, the development of practice was able to reflect an uninterrupted process of research and development which strengthened the creative narrative that subsequently developed between me and the machine.

4.4. Summary

This chapter has presented the first stages of analysis that occurred during observations and practice on the hand frame. It located three locations where it is still possible to conduct the practice of framework knitting and examined how the conditions of remaining frames affected the interactions that were possible.

By examining these spaces, it was possible to make reasonable assumptions about how each space was used by the old framework knitters and how they would have conducted practice. The workshop at Ruddington is a well-preserved example of a framework knitting environment where around twenty hand frames would have been placed in close proximity to one another, forcing the framework knitters to endure restrictive space and extreme mechanical noise. This is a prime example of the type of workshop that was available as framework knitting was expanding beyond its origins as a cottage industry and is one of only two museum environments that specially preserves the heritage of the hand frame in an authentic setting. As such, the museum is an important centre for knowledge exchange, particularly for existing hand frame practitioners.

The observations at G.H.Hurt & Son revealed that despite the factory continuing to operate as a commercial business they have also set aside space where the original company hand frames remain, ensuring that their origins as a framework knitting company are still visible. Jeff Oxley's workspace in particular gives an insight into how daily practices on the hand frame were conducted. This creates an unusual juxtaposition of history and contemporary manufacture and demonstrates that although the hand frames are no longer used by Hurts for commercial production, they remain a key influence on their work ethos and design inspiration.

Martin Green's workshop is an entirely different creative location to the other two. It is contemporary, purpose-built, and has been set up to be used exclusively by one man. This has resulted in every machine being in exceptionally good condition, having been built to suit the

specifications required by Mr Green. It is a fascinating place to observe him at work in an environment which is reminiscent of the hand frame as a cottage industry, but far exceeds it.

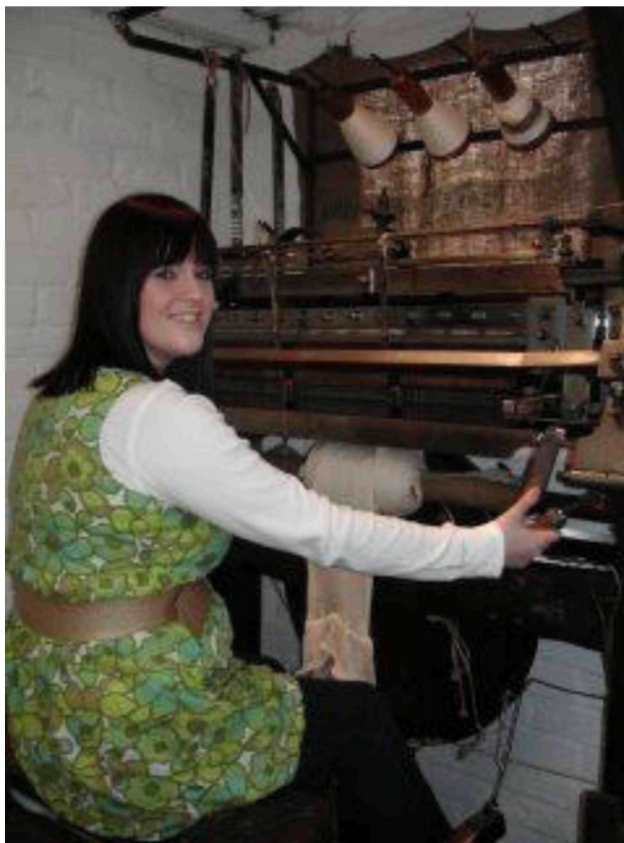
These observations made it possible to identify how the hand frame has been used historically and also determine how it can still being used to for contemporary creative applications. By conducting a practice-led investigation alongside the other methods of data-collection, the knowledge of the hand frame that was acquired through observations was also able to inform my creative journey. This was of critical importance in establishing an approach to practice that was underpinned both theoretically and historically.

4.5. Reflection: My first experiences of working on the hand frame

The hand frame was a physically demanding machine to operate, requiring a high level of strength and agility from the knitter. Additionally, the fragility of the bearded needles, and the overall delicate nature of the weft knitted fabric produced needed a careful hand, and therefore required a dexterous knitter who is both patient and tolerant of the potential quirks of using 300 year old knitting machinery. Therefore the learning process was not only been about acquiring practical skills, but also about adopting a temperament and stamina conducive with traditional hand frame operation that was respectful of the age of the machine and its capabilities. I do not naturally have such a calm demeanour, so for me this learning process was more about learning to take a measured and detailed approach than it was about rushing to produce large quantities of fabric.

The first tentative weeks of learning to use the hand frame were very challenging, partly because of the overwhelming size of the machinery and partly because any mistakes that were made were met with loud metallic screeches as the machine parts collided. Even when knitting smoothly, the movement of the yarn feeder across the sinkers is a noisy process. With experience, these movements become rhythmic if a simple pattern is being knitted and this rhythm is an integral part of the knitting process as it becomes an internal beat through which the knitter can time his movements. Problems such as broken needles or dropped stitches prevent the on-going pace of the knitter's progress, but a uniform fabric is knitted if the rhythm remains continuous.

Each hand frame has its own unique sound and knitting specifications, meaning that each interaction between knitter and machine is a unique experience. At this stage I was learning the basic operations skills through interaction with Milla, the technician at Ruddington.



[Figure39] Learning to use the Lee hand frame at Ruddington Framework Knitters' Museum (October 2007)



[Figure 40] Demonstrating the hand frame at the National Heritage open day

Having worked with a number of different manual knitting machines in the past I was confident that I would be able to use that knowledge to produce a plain knit fabric reasonably quickly. Although only very basic weft knitted panels can be produced on the hand frame, there is elegance in the way the stitches are produced and a simplicity to the construction of each row of stitches that is not always evident to the non-trained observer. The imposing nature of the large hand frames gives the impression that they are complicated and difficult to operate.

What I had not anticipated was the vast difference in mechanical working action that the hand frame has in comparison to other knitting machinery. Whilst modern knitting machines almost exclusively use the latch needle to hook and draw new stitches through formed loops, the hand frame uses bearded needles. One of the draw backs to this method of stitch production is the lack of stability that new loops have as they are formed as the stitches that hang in the beard of the needle are at risk of becoming dislodged with any unnecessary agitation.

I found the knitting process on the hand frame far more complicated to achieve than on modern flat-bed machines. During the first month of learning to work the machine I was instructed to practice manoeuvring the carriage and foot pedals without threading the machine up, essentially, knitting without the yarn [Figure 39]. The fragility of the needles mean that they are easily broken by novice knitters, and as there are eight different movements required to produce one row of stitches, there are multiple points where the yarn may be broken if the knitter is unfamiliar with the process. The process of working the hand frame was repeatedly practiced until it became familiar, before the yarn was introduced. During these early practice sessions I became aware of how my movements affected the fabric production, and started to improve my awareness of the knitting process by learning how to listen to the machine. It was a calm and reflective process where I could establish a relationship with the machine and start to anticipate how my movements would affect the machine's performance. [Figure 40]

After around ten day-long sessions, I was able to operate the machine effectively without making simple mistakes. I improved quickly and managed to successfully produce a rudimentary knitted fabric although it would take many additional months of practice to develop these skills sufficiently to begin to produce more complex pattern designs. I had significantly less time to develop my knitting skills than the original framework knitters who would have undertaken a seven year apprenticeship, so therefore I had to rely on my existing experience of knitwear manufacture to create a realistic output in the time frame available.

Chapter 5

Examining evidence of practice

5.0. Introduction

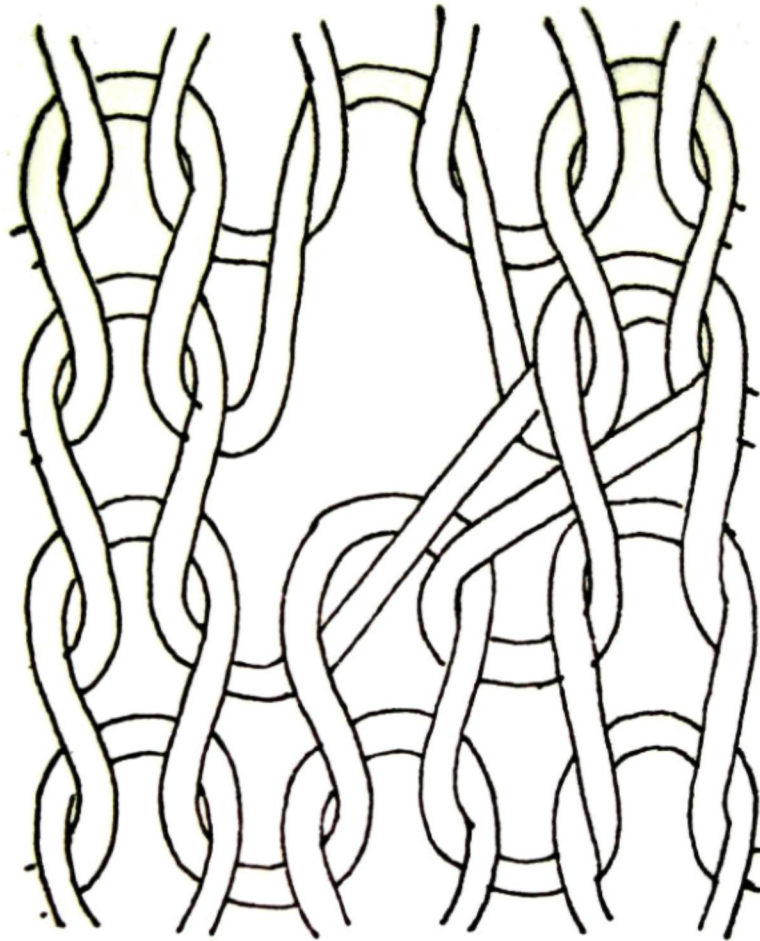
With limited access to appropriate literature and physical evidence, preserving the heritage of the hand frame has now become reliant on oral testimony and interpretation of artefacts. The practice of framework knitting becomes intertwined with personal experience and technical understanding.

This chapter discusses the difficulties faced in locating and analysing remaining knitted artefacts and considers how far significant artefacts can contribute to the overall understanding of past practices and technical expertise. There will also be a review of the sources that provide evidence of lace pattern development, with particular attention paid to the way that framework knitters have personally documented their design practice.

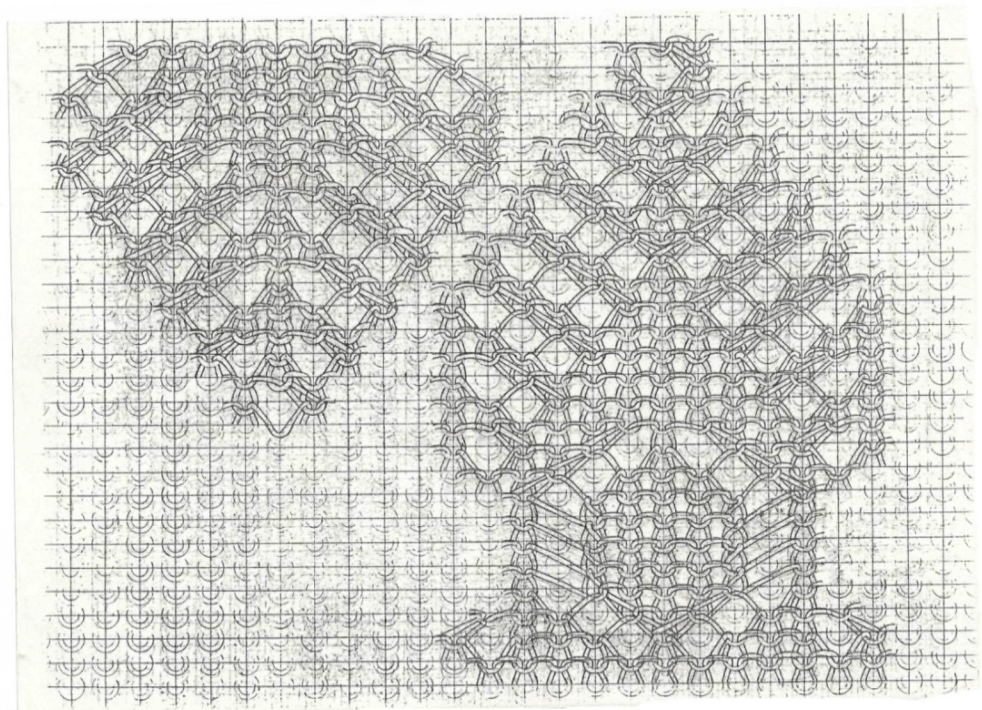
This then leads on to a discussion about how the hand frame has been used to inspire contemporary approaches to weft knitted lace design, and concludes by reflecting on how analysis of artefacts supports creative discourses in relation to the hand frame.

5.1. Locating the sources

Despite the fact that framework knitting during the nineteenth century employed tens of thousands of knitters, there are surprisingly few knitted artefacts remaining that can be attributed to the hand frame. Locating knitted artefacts was important to this investigation as it showed the evidence of the working practices of the original framework knitters through the creative patterns they had designed and constructed.



[Figure 41] The structure of weft knitted lace. (Rebekah Wood, 2011)



[Figure 42] Lace transfer diagram from the archive at Ruddington Framework Knitters' Museum. Examination of knitted artefacts was important to this study as it identified the products of practice and gave a contextual underpinning to the technical process of creating fabric on the

hand frame. It also highlighted the problems associated with artefact conservation and categorisation and provided pattern construction inspiration for the practice-led elements of this study.

The artefacts that were analysed were all 'weft-knitted' which is the term used to describe a knitted fabric made up of a single thread that is manipulated in a horizontal motion to make up a series of inter-connecting loops. Fabric knitted on the hand frame can either be plain or patterned but is always a single-bed weft-knitted fabric. Plain fabric is a 'stocking stitch' which is characterised as the facing side of the fabric being made up of knit stitches and the reverse being purled stitches. Patterned fabric is used to describe any form of stitch manipulation that has been applied to the single bed fabric to create an area of decoration. For this study the artefacts of significant interest were lace patterns made on the hand frame through either hand manipulation or using a lace bar.

[See Appendix 5 for a detailed account of making weft-knitted lace on the hand frame]

Locating weft-knitted lace artefacts was one of the main challenges faced within this research. Information that relates specifically to lace made on the hand frame is under-represented in literature as evidence of practice has not traditionally been recorded as part of academic discourse. Additionally, the fragile nature of weft knitted lace has resulted in very few artefacts of this kind surviving, and those that do are often in a poor state of repair.

An extensive review of local and national textile collections was conducted to locate existing hand frame-knitted artefacts and to establish how many artefacts are currently still available.

Electronic database searches were conducted for institutions housing major textiles collections such as the Victoria and Albert Museum, The Gallery of Costume at Platt Hall in Manchester, The Fashion Gallery at Snibston Discovery Park, The Costume and Textile Museum in Nottingham, and various university textile collections such as the University of Southampton which has an extensive knitting archive.

Additional enquiries were made to smaller museums from areas where knitting has historically been of local significance such as Scottish locations like Harwick and the Shetland Isles. This analysis found that of these UK based textile collections the majority did not hold any weft knitted lace artefacts, and the collections that did contain weft knitted lace held items that were predominantly of a hand knitted origin, The Shetland Textile Museum and the Shetland Museum and Archives being prime examples of this. It was difficult to identify any museums outside of the Midlands that held artefacts that could be definitely linked to the hand frame. The focus of this

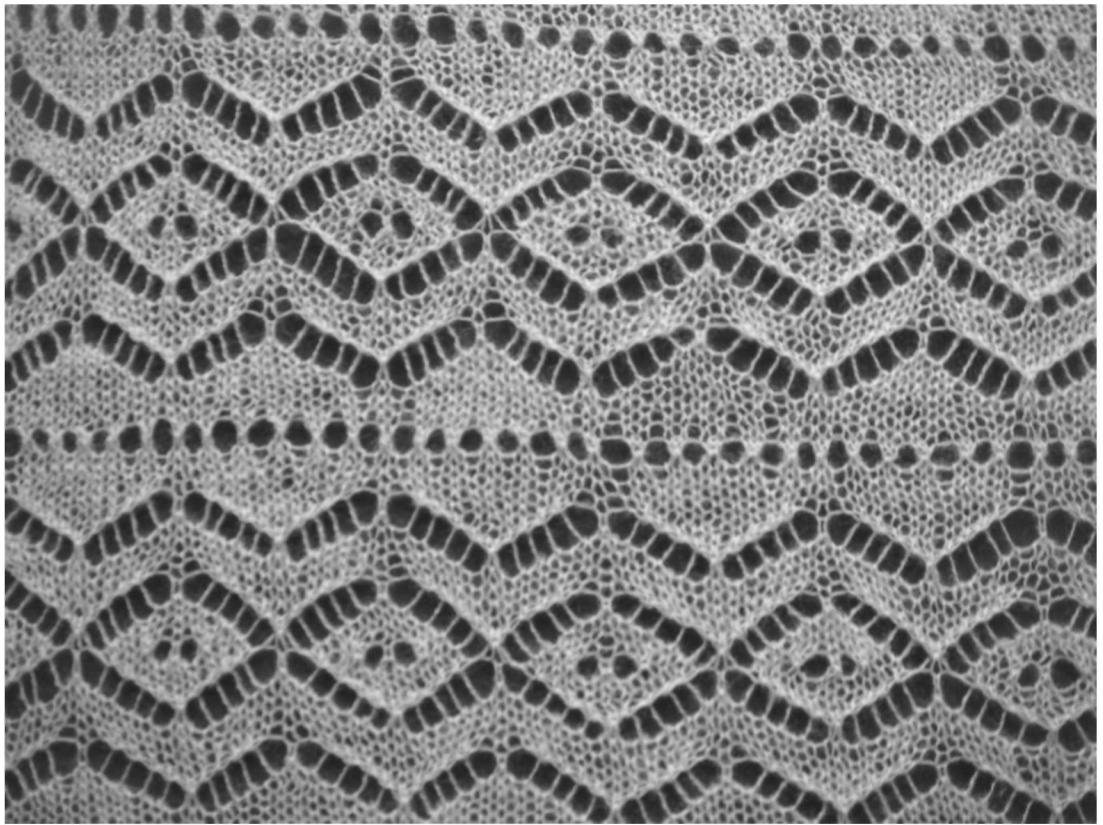
study therefore remained in Nottingham as it was the only place where hand frame-knitted artefacts could be definitively identified.

A significant problem in identifying the location of hand frame-made artefacts was also due to the lack of knowledge regarding how these items can be distinguished from other types of weft-knitted lace. Hand-knitted fabric is recognisable as it tends to have a less regimented tension throughout than machine-made fabric, but in the case of experience hand knitters, the perfect stitch manipulation makes it difficult to differentiate it from fabric made on the hand frame or from fabric made on power machinery.

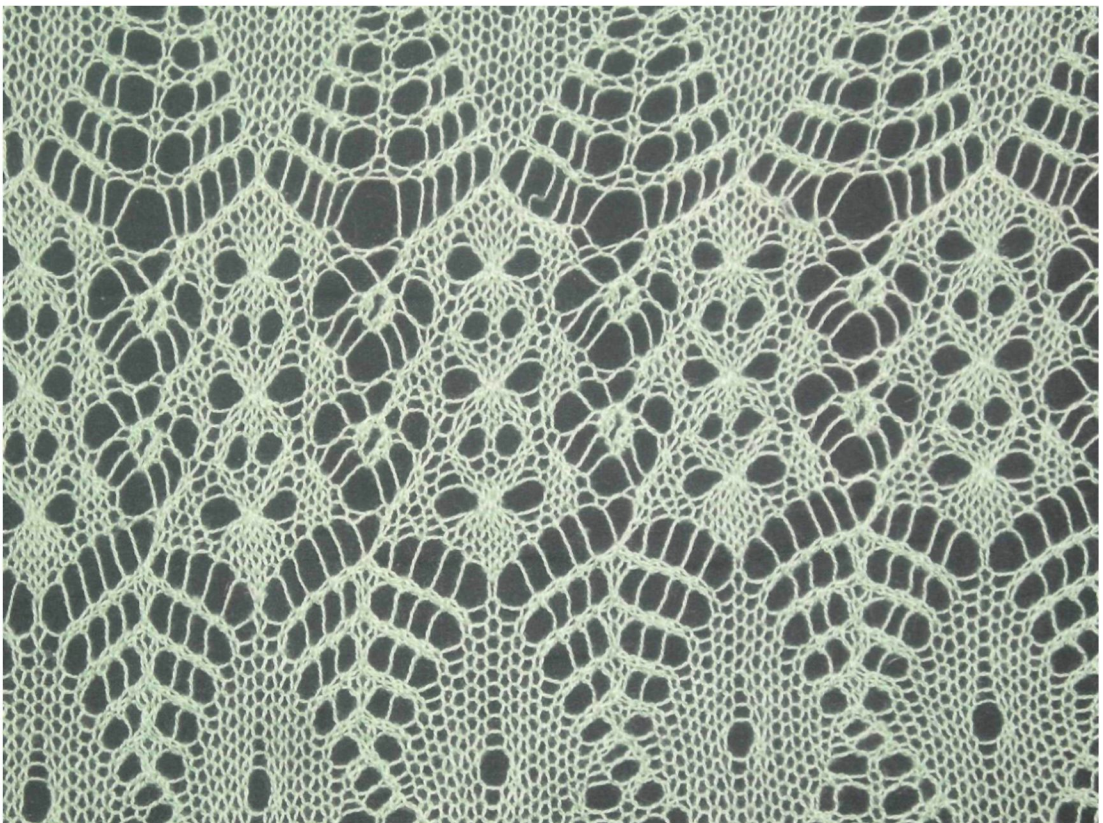
The largest organised collection of weft knitted lace is held in the archives at the Ruddington Framework Knitters' Museum, with an additional amount of knitted lace samplers and lace garments held in the collection at the Nottingham Costume and Textile Museum. The latter is no longer open to the public, meaning that access to the collection is reduced and these samples may eventually be placed into storage rather than remaining available. At the time this thesis was submitted the textile collection held at the former Costume and Textile Museum has been relocated to join the collections at Newstead Abbey and Nottingham Castle Gallery. Therefore the timing of this research meant that these samples could be analysed and recorded whilst they are still relatively easy to access.

After reviewing the available lace samples, it was evident that there were far fewer examples of weft knitted lace made on the hand frame than either hand-made knitted lace, or other forms of twisted or machine-made traditional lace, and there has been no real way of establishing why that is, other than to suggest that due to the low-value of the finished product made on the hand frame, the product of practice were not deemed worthy of museum preservation in the same way as hand-made or luxury lace would.

The type of lace produced on the hand frame was most commonly used for decorated hosiery and lace shawls. [Figure 43] These items would have been used frequently and as a result would have worn out quickly which also provides a possible rationale for why there are so few existing knitted lace artefacts. As there is no definitive database for lace patterns, there is no communication between institutions where weft knitted lace samples are held meaning that lace artefacts cannot be properly dated and are often catalogued as knitwear but not specifically attributed to the hand frame



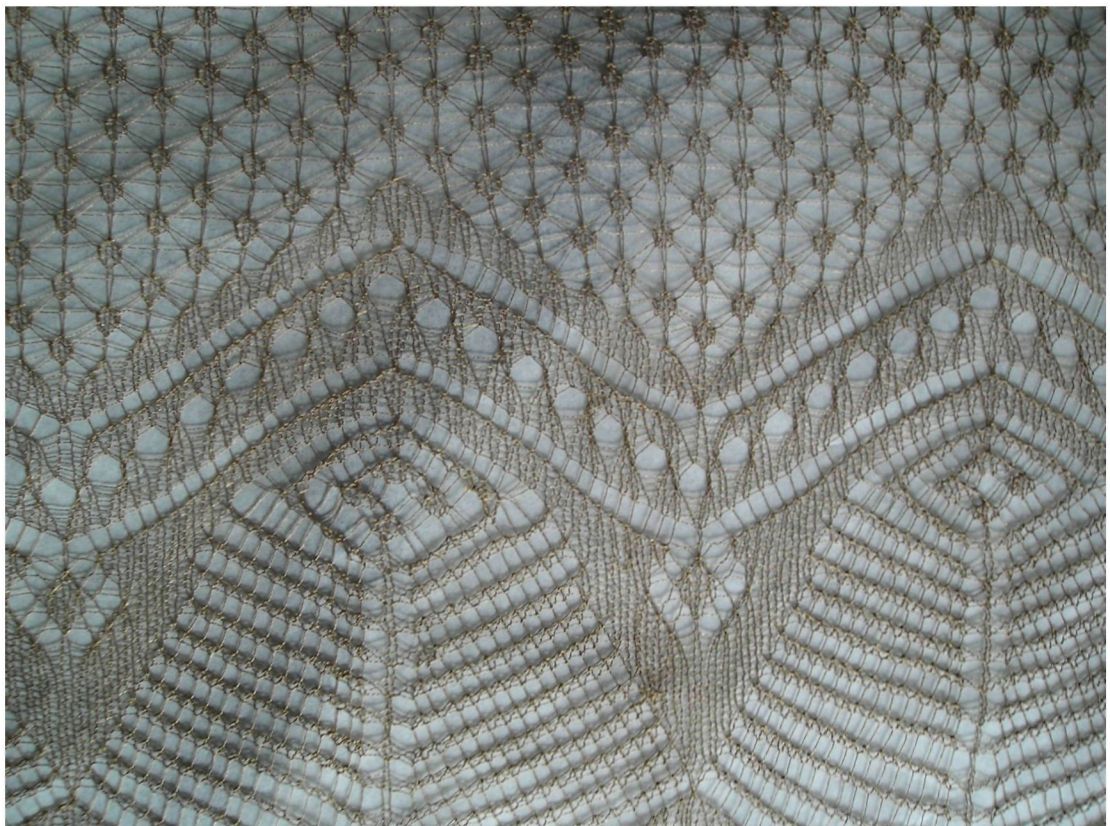
[Figure 43] Repetitive horizontal lace design at Ruddington Framework Knitters' Museum



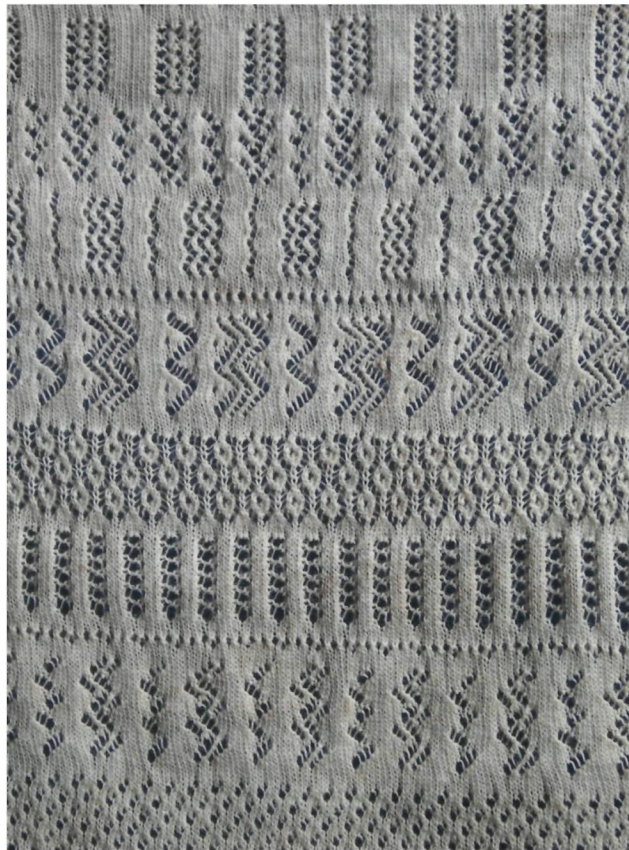
[Figure 44] Variation of the Tree of Life Pattern.
From the collection at Ruddington Framework Knitters Museum, c 1980.



[Figure 45] Pattern Demonstration Sampler c. 1890 From the collection at the Costume and Textile Museum, Nottingham



[Figure 46] Weft knitted wedding veil made from gold silk.



[Figure 47] Wool pattern sampler c.1890
From the collection at the Costume and Textile Museum, Nottingham



[Figure 48] Evidence of rust damage to lace sampler.



[Figure 49] Damage to lace samplers due to perished yarn.



[Figure 50] Clumsy repair-work to damaged shawl.

5.1.1. Examining lace artefacts

The artefact analysis identified weft knitted lace items which included shawls, falls (small lace panel used on the front of a pram to protect the baby from bright sunlight), antimacassars (decorative panels used on armchairs to prevent hair- oil damaging upholstery), pattern samplers, mittens and one very ornate knitted silk wedding veil.

Analysis was conducted by photographing the patterns, and recording fabric type, construction method, origin and any other significant characteristics. Unfortunately very few of the artefacts provided any background information, so it would not have been possible to trace origins or makers if they were not already recorded.

From this examination it was identified that there is no specific protocol in place to care for weft knitted lace artefacts, meaning that a large proportion of the examples that exist have some kind of damage, mainly in the form of rust deposits, or bad attempts at mending.

The conservation of weft knitted lace is difficult due to its fragile nature, and there is evidence to suggest that many of the existing artefacts have been ineffectually cared for in the past, leaving many of the samples damaged or in an advanced state of fragility. This may be due to conservation error, or simple lack of knowledge on how to properly care for these types of samples.

The artefacts were primarily used to inform the creative interpretation of lace stitches that took place during the practice-led investigation of knitting on the hand frame.

5.1.2. Critical issues

To recap on the discussion raised at the start of this chapter, the identification and analysis of lace patterns and artefacts highlighted a number of critical issues relating to the preservation of framework knitted textiles.

These were the critical issues identified:

- The number of lace artefacts available was comparatively small in relation to the fact that the knitting industry had at one time been vast.

- In some cases there has been a low level of effective conservation of lace goods in the past, meaning many of the remaining artefacts show significant signs of damage.
- Identifying weft knitted lace made on the hand frame is difficult as there are no characteristics which allow it to be distinguished from other weft knitted fabrics made on power machinery.
- It was difficult to date many of the artefacts as there are very few samples that can be used for comparison purposes.
- The decline of specialist knowledge is clear within the heritage sector as well as the industrial sector. Even expert textile archivists and conservators have little or no expertise or experience in the area of weft knitted lace preservation.

5.1.3. Contribution to the developing narrative

As mentioned in the methodology chapter of this thesis, the use of qualitative data analysis to locate evidence of past practices is important in establishing creative narratives relating to framework knitting. In order to establish a way for the examination of lace artefacts and documents to support these narratives and inform experiential understanding, it was necessary to ensure the artefact analysis ran alongside the wider creative inquiry.

It was possible to identify that the use of the hand frame to produce lacy fabric was considered an early form of 'mass production' and a move away from the traditionally hand-crafted and more highly desirable forms of lace. This has highlighted a situation where weft knitted lace made on the hand frame is perceived, in heritage terms, to be of a low monetary and cultural value, which also possibly explains why existing samples have not always been preserved efficiently.

The specific mechanical movements that are required to produce lace on the hand frame are entirely controlled by the knitter, meaning that making this type of fabric relies entirely on the interaction and skill of the workman and provides a unique overview of how mechanical innovation improved the speed and productivity of knitted fabric production.

The role of the workman in the production of weft knitted lace has, up until this point, been largely ignored by conservators and textile historians. Learning to operate the hand frame in conjunction with the analysis of remaining artefacts has therefore provided a unique account of

how knitting processes and design practices were undertaken. This personal documentation helps to demonstrate how the framework knitters worked, and reiterates

Museums and heritage institutions are usually focused on the care and classification of artefacts whilst knit practitioners are traditionally focused on the structure and design of the fabric and its manufacture. My practice has created a unique opportunity to combine these approaches and create a dialogue between the past and present worlds of framework knitting. Existing research on framework knitting has not previously been able to unite the areas of history and practice in a way that creates a new vision of framework knitting in a contemporary design climate.

The human element has been very important within this project. The evidence of past knitters and their approaches to design, combined with my own experience of mimicking these practices has identified that the hand frame still holds a valid and useful way of exploring lace pattern design.

5.2. Identifying other sources of pattern documentation

This section of the thesis presents the findings of the data analysis that looked at evidence to support a greater understanding of the past practices of framework knitters. This identifies sources such as pattern notebooks, technical files and company lace archives that have not previously been available to use in support of an academic investigation.

5.2.1. Pattern notebooks

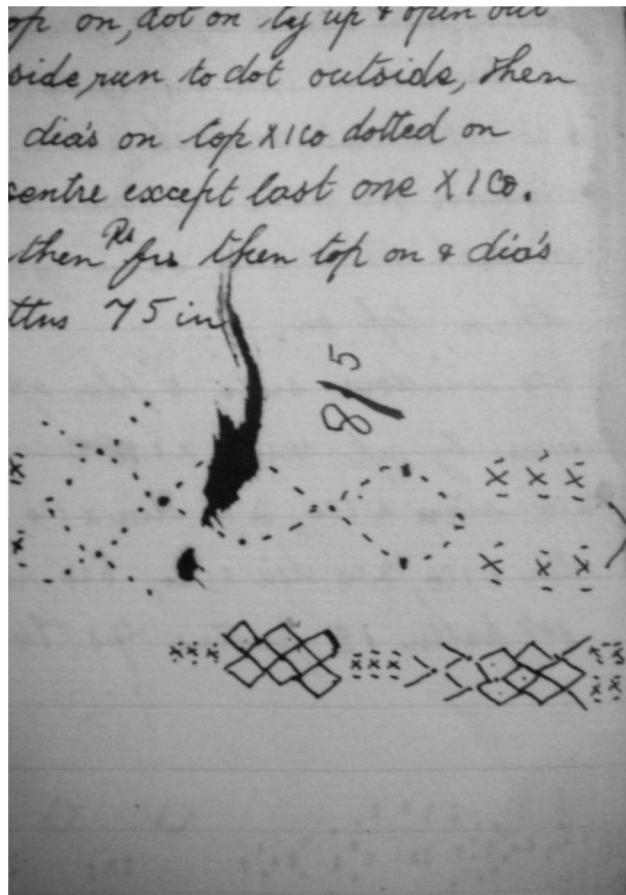
Following on from the initial discussion about pattern notebooks that appeared in Chapter Two, this investigation examined what type of information has been recorded in the notebooks of former framework knitters to ascertain if the data within them could be used to provide new evidence of past practices. These notebooks provide personal accounts of lace pattern development and design decision-making that framework knitters were making, and this is a highly unusual resource to have as the examples that have been located as part of this study are exceedingly rare, as the majority of notebooks were passed down from father to son, or would often be committed to memory and then destroyed to protect the knitter's pattern secrets.

Whilst these artefacts are difficult to date and to assign to a specific man, these personal records kept by individual knitters have provided an unparalleled way of identifying how they undertook their daily knitting practice, and it has also helped to demonstrate how particular lace patterns are designed and made.

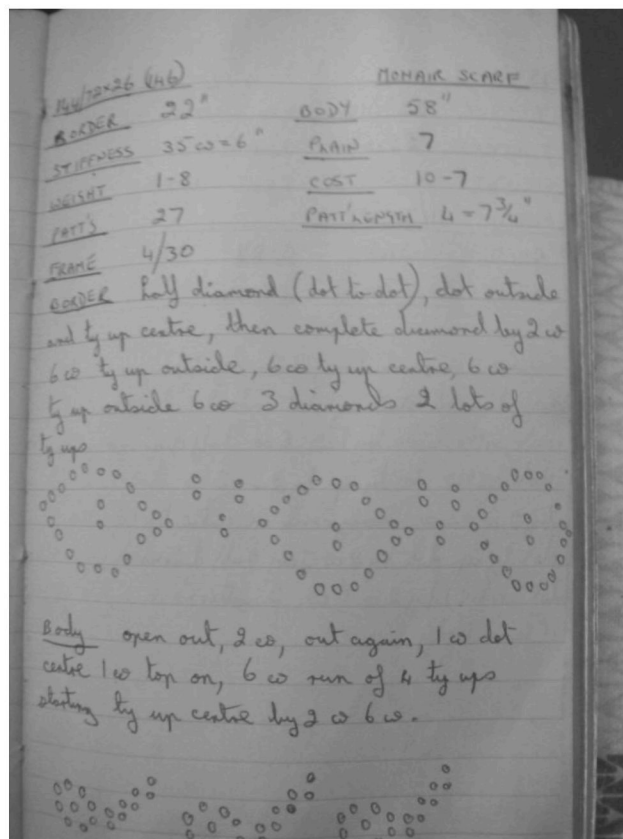
Six notebooks have been analysed as part of this study. Three notebooks are from the personal collection on Mr Henry Hurt who identified one as dating from around 1920, having belonged to his grandfather and founder of the family business Mr George Henry Hurt [Figure 51 & Figure 52], and one that would have belonged to Jeff Oxley, a framework knitter, who worked at G.H.Hurt until the early 1980s. Jeff Oxley's notebook in particular was virtually illegible due to his untidy penmanship and personal language that acted as a form of code. The other notebook is not attributed to a specific man but may well have belonged to another member of the Oxley family who worked at Hurts in the early twentieth century.

Three further personal notebooks were located at Ruddington Framework Knitters' Museum that had been donated from private collections but whose provenance is untraceable. One notebook appears to have belonged to a 'Mr Poyzer' but no further information is known. These notebooks appear to date from the 1950's as there are a number of song lyrics jotted on the back pages which date from that time. Each notebook provides an independent account of how the knitter has developed lace patterns, and includes pattern notations which show the step-by-step process of making the pattern and pattern sketches as well as written reminders about finished product size.

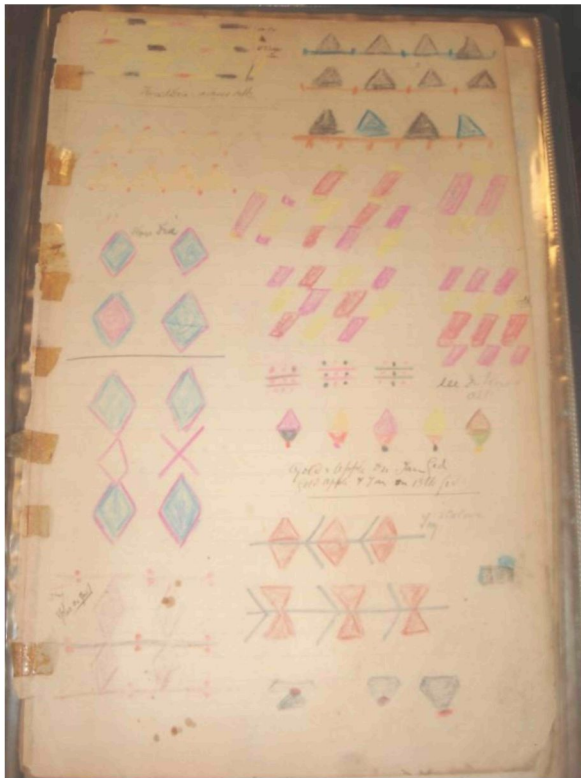
Examination of these notebooks was an exciting way of connecting to the creative practices of the past, and contributed significantly to the awareness of how pattern documentation can inform technical knowledge. The notebooks provided pattern inspirations and terminology that was not available from any other sources and suggested how knitters would have planned their patterns before the knitting commenced. What this demonstrates is that the framework knitters would have been likely to follow their planned designs, which indicates that that it was unlikely for a knitter to make up a pattern as he went along. Mathematical diagrams were made to ensure that the pattern was the required length or width, and this indicates that knitters would have followed specified designs rather than use the hand frames to 'play around' until an interesting pattern appeared.



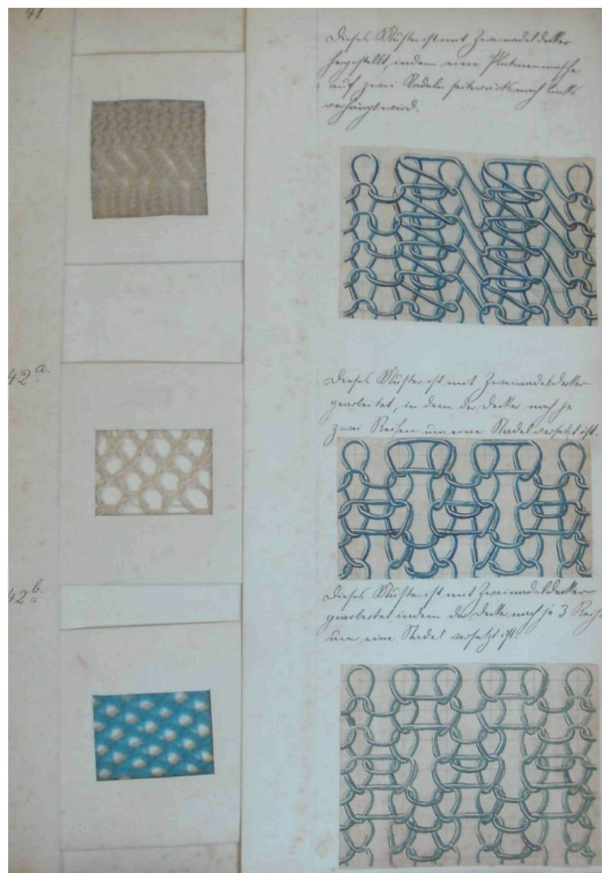
[Figure 51] Detail of Shawl pattern notebook belonging to George Henry Hurt (c. 1920)



[Figure 52] Pattern notebook belonging to Mr Poyzer c.1950



[Figure 53] Pattern design notebook of Mr John Oliver of Wilford Road. c.1900



[Figure 54] Weft knitted lace diagrams by F.A.Felkin in his technical notebook (1880)

The notebooks demonstrate the high level of technical ability that the knitters had with regards to calculating complex and intricate patterns, but it also documents very little evidence in the way of creative experimentation. These knitters were using the hand frames commercially, and as a result would have only been looking to create lace fabrics that had some form of commercial value. Pattern making was not done for conceptual purposes and in that was this research can offer a new way of approaching lace pattern design.

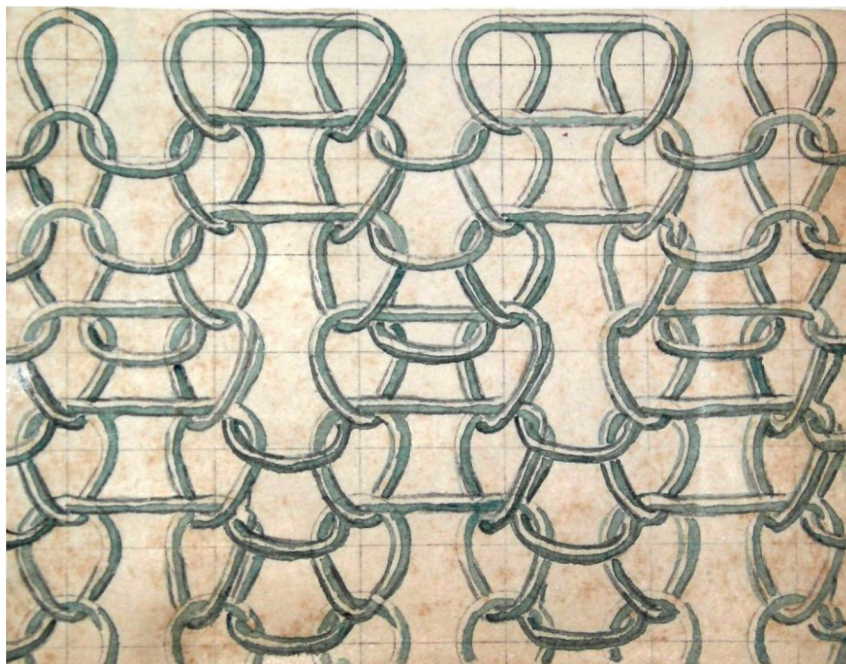
5.2.2. Technical files

In addition to the notebooks of framework knitters, Ruddington Framework Knitters' Museum also holds a technical file made by a Mr F.A. Felkin dating from around 1880. The cover bears the title 'Musterbuch' which translated from the original German means 'Pattern Book'. [Figure 54 & Figure 55] This is the only existing example that has been found which shows technical samples and diagrams of fabrics made on the hand frame.

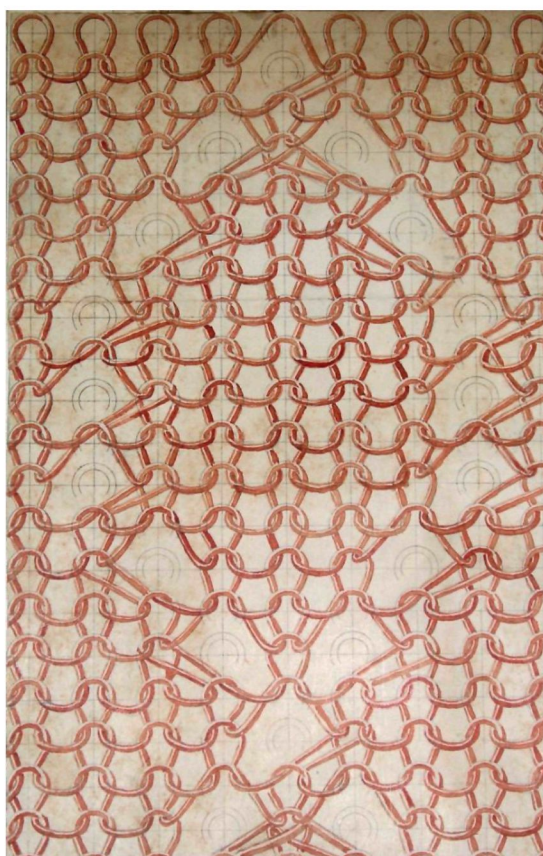
During the mid to late nineteenth century, there was a great emphasis put on technical education, and industry scholars were often sent to the School of Knitting in Chemnitz Limbach in Germany to study under the instruction of Professor Gustav Willkomm, who would later publish a seminal text on the technical structure of the hand frame. Although there is no firm evidence to suggest that this technical file was produced at that particular German institution, the period of time that it would have been made and the German language identification indicates that it is likely that it was produced to show technical competency as part of a taught program of industrial knitting techniques possibly in the Saxony area of Germany where an independent branch of hand frame knitting was widely established.

This technical file is similar to the other personal notebooks in that it gives an insight into the type of patterns that were being designed, but this particular technical notebook is far superior in that it holds a number of lace development swatches alongside incredibly detailed pen and ink drawings of the loops formation of each fabric swatch. [Figure 55 & Figure 56]

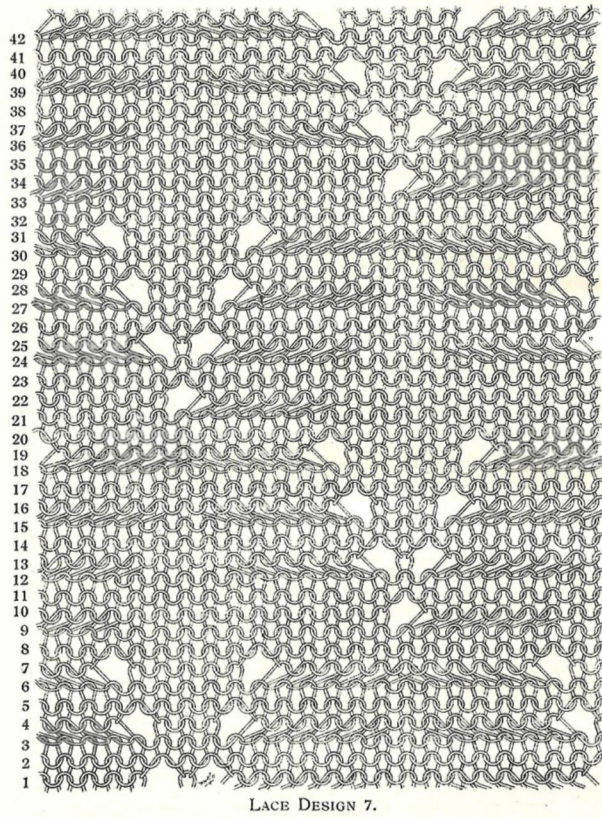
The attention to detail that can be found within this file shows the level which knitting scholars were expected to achieve as part of their studies. This example is unique in its quality and provides a glimpse into a highly competitive and physically demanding craft.



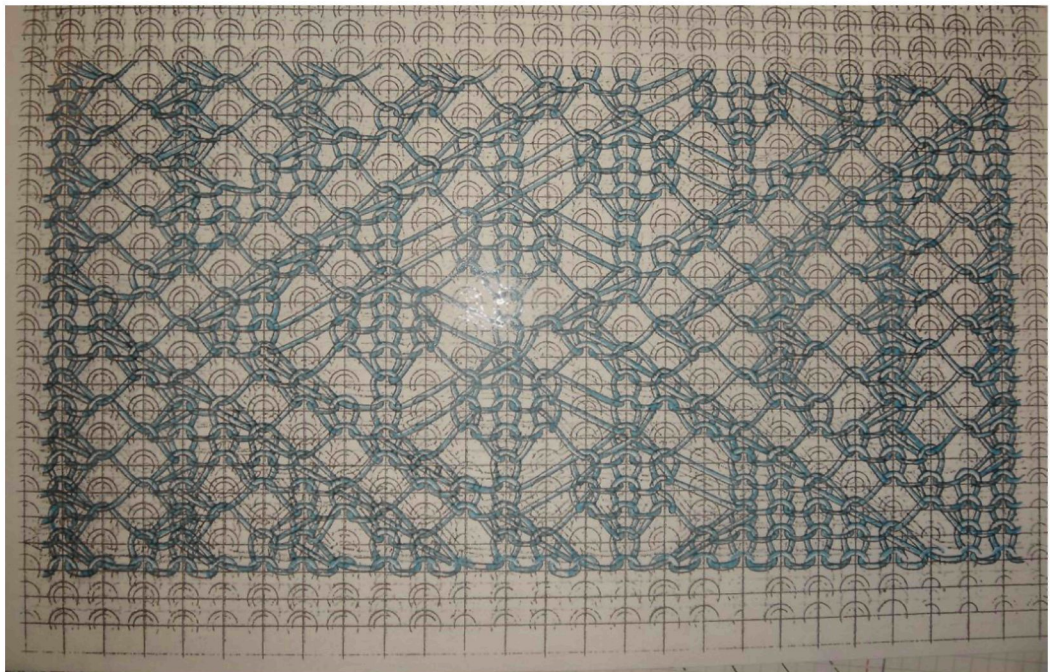
[Figure 55] Hand-drawn loop transfer diagram [detail] produced by F.A. Felkin (c. 1880)



[Figure 56] Hand-drawn loop transfer diagram produced by F.A. Felkin (c. 1880)



[Figure 57] Lace transfer design, Quilter and Chamberlain (1911)



[Figure 58] Ruddington Framework Knitters' Museum- Openwork hand frame pattern book c.1970

This intensive form of education provided a solid theoretical and practical foundation for those entering the world of knitwear manufacture as managers and owners so was only available to a select few. The majority of framework knitters learned from their fathers, or by personal experience. So this documentation by an educated framework knitter is truly rare.

5.2.3. Company archives

The organised documentation of lace patterns produced by knitwear and hosiery manufacturers is another rare resource. The identification of company lace pattern archives has been limited as the dramatic decline in lace manufacture has left many former company resources inaccessible.

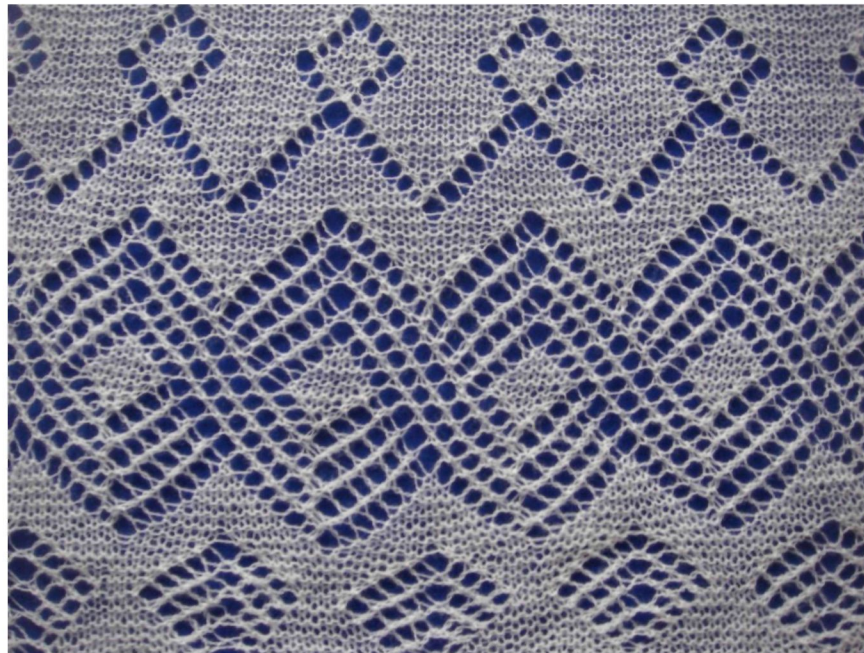
As the only remaining manufacturer of weft knitted lace products, the pattern database at G.H.Hurt and Son is unique and provides evidence of patterns dating back to when the company first opened in 1912. The lace patterns that were formerly made on the hand frames have now been translated into patterns for the modern power machines, which keep the framework knitting designs alive. [Figure 59 & Figure 60] The loss of other company archives has been, in part, the result of the highly competitive knitwear industry, where design practice was secretive, and new patterns ideas were closely guarded. If a company went out of business, it became common practice to destroy all the pattern notebooks, garments and paperwork rather than to sell ideas to rival knitwear companies (Farrell, 2008 p 67)

This loss of the important visual information that was contained within company archives is also representative of the way that knowledge about framework knitting is diminishing overall. The evidence that does still exist requires extensive documentation, with particular attention paid to oral testimonies, written design diaries, and the few remaining knitted artefacts.

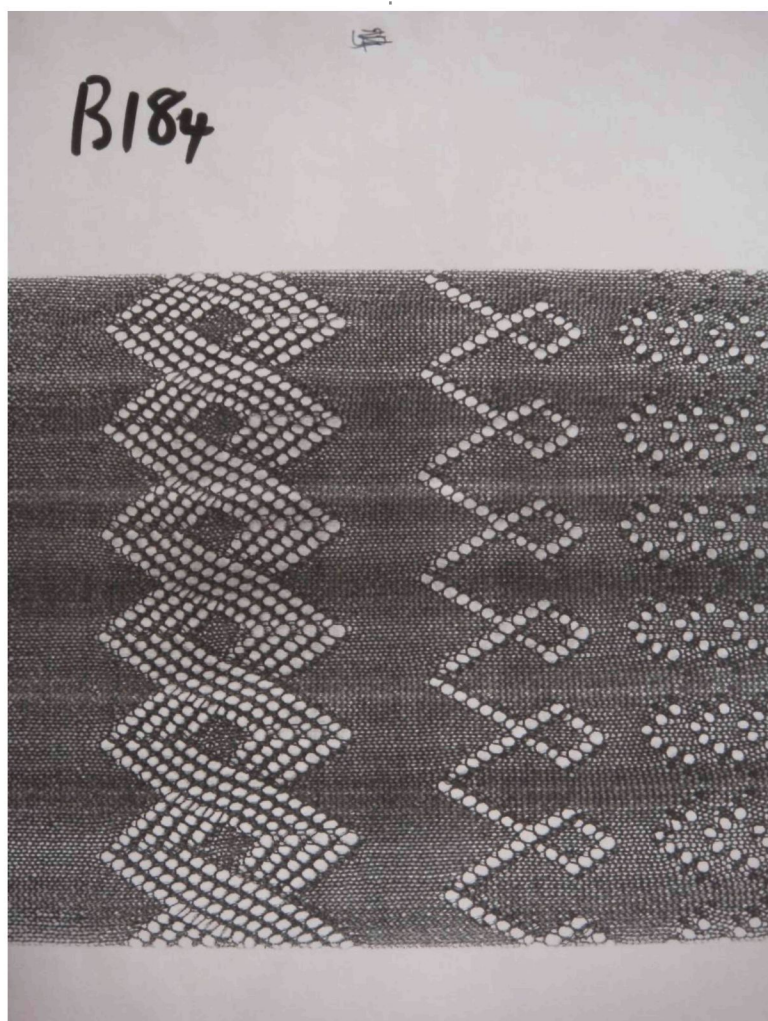
5.3. Pattern analysis

The analysis of artefacts and other visual sources has identified both repetitive and non-repetitive lace patterning which have been used for both decorative and utility purposes. [Figure 61 & Figure 62]

The majority of the lace patterns that were identified show a regular spacing of lace holes indicating that they were made using a tickler bar. These patterns are typically repetitive across the width of the fabric sample, and are most often symmetrical, but occasionally feature twists or cables that are repetitive but non-symmetrical.



[Figure 59] Lace shawl from the Collection at Ruddington Framework Knitters' Museum.
This is most probably a B184 pattern originating from G.H.Hurt & Son



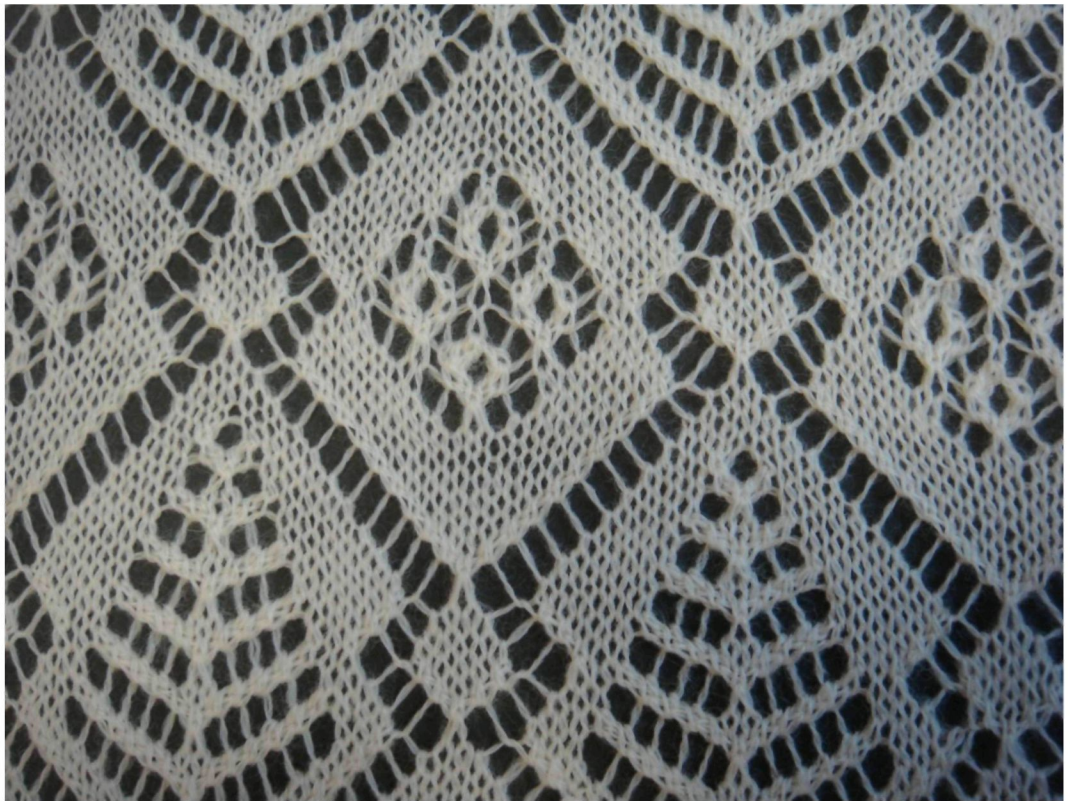
[Figure 60] Copy of the B184 Shawl Pattern design and produced at G.H.Hurt & Son (2010)



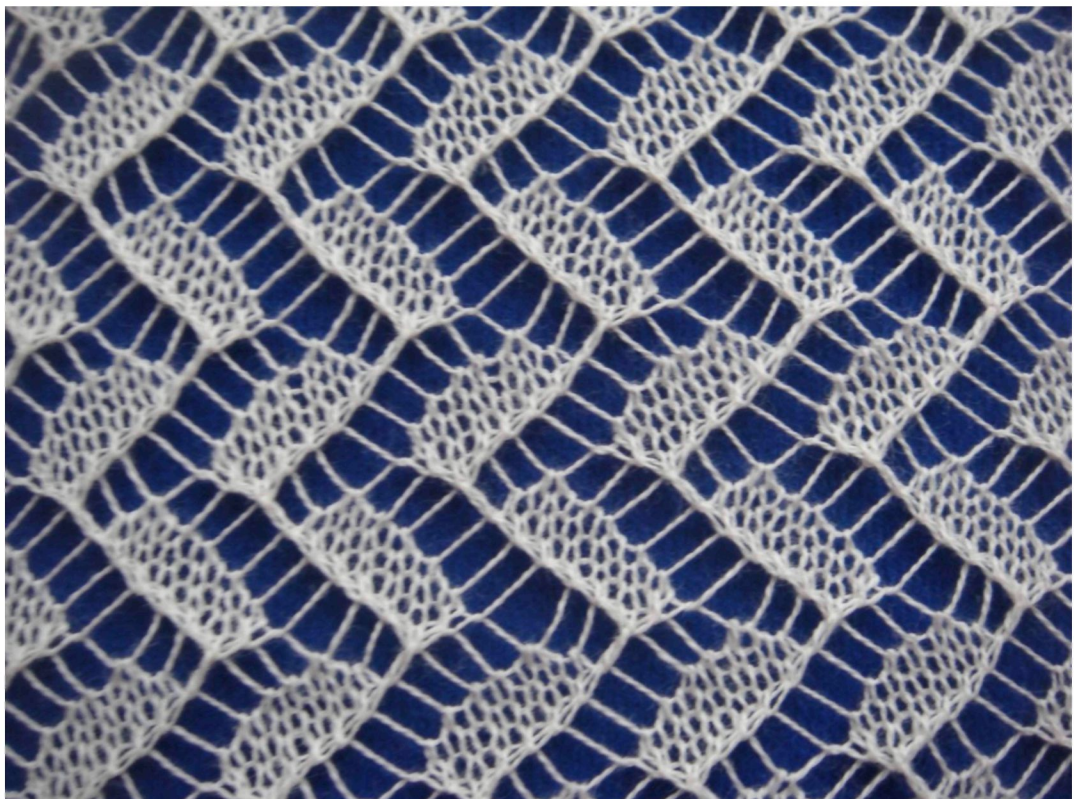
[Figure 61] Symmetrical and repetitive lace pattern from the Collection at Nottingham Costume and Textile Museum



[Figure 62] Non-repetitive lace motif. From the lace collection at Ruddington Framework Knitters' Museum



[Figure 63] Symmetrical lace design. From the lace collection at Ruddington Framework Knitters' Museum



[Figure 64] Asymmetric lace pattern. From the lace collection at Ruddington Framework Knitters' Museum

The pattern samplers analysed show numbered blocks of isolated patterns. This numbering system demonstrates how larger patterns could be made by combining any number of smaller pattern blocks. This is then evident in some of the large pattern shawls which show that large areas of pattern are either made of one pattern repeated multiple times, or smaller blocks of different patterns that are joined together in a continuous section of lace decoration. Other shawl designs feature a detailed border pattern around the edge and a plain centre where small motifs such as flowers are evenly dispersed.

Amongst the common lace patterns that were identified were zigzags, feathers, flowers, church windows, fir cones, the tree of life and a large amount of repetitive shapes such as hexagons and diamonds. [Figure 63 & Figure 64]

Whilst the use of decorative and repetitive patterns can be used to show how patterning fashions changed, these types of patterns are found commonly throughout the existing lace artefacts that have been examined. The use of non-repetitive patterns has been far less well represented amongst the existing lace artefacts but has been most evident in the form of maker's marks and other forms of lettering that have been knitted into the structure of the fabric.

The use of stitch transfer to demonstrate lettering was used widely during the middle of the eighteenth century when the knitted goods produced in France were considered to be of a better quality than those produced in England. Both Felkin (1867, reprinted 1967 p82) and Earnshaw (1986, p 20) talk of the twenty year period starting around 1754 when framework knitters used eyelet holes to spell 'PARIS' into their welts in an attempt to pass their products off as being French in origin.

This practice was then popularised when in 1755 the Salisbury Journal advertised personalised knitted hosiery where Gentleman and Ladies could have their own names incorporated into the fabric of their stockings. This would have been achieved through manual stitch transfer and led to the Manufacturers mark being introduced under the factory system. The practice of using eyelet holes for lettering was also used by knitters to 'sign' their work with their initials, or with the initials of the company that they worked for. In the Victorian era the practice of including the letters VR in decorative lace hole lettering was done to represent the initials of the queen.

Lettering became a way for a knitter to claim ownership of their work, although this practice is only evident in a few of the knitted artefacts that remain. Using lace stitches to form identifying marks suggests that the knitters were proud of the work they produced, and this approach to lace pattern design can be used to identify the 'voice' of the knitter within the finished fabric.

5.3.1. Examining evidence of past practice

This inquiry identifies that evidence of past knitting practices is limited, partly due to the perceived low status of hand frame-made goods and partly because secrecy played a big part in the life of the framework knitters. Patterns that were developed were seldom shared, even between other knitters working for the same company. The competition between makers was so severe that knitters would prefer to destroy their notebooks rather than risk them being used by another knitter. To protect this secrecy some notebooks are written in a form of codes that only the knitter can distinguish.

The notebooks provided indicators of pattern repetition but no charts or official pattern layout. Most often the pattern ideas were rough 'doodles' that showed a basic outline of the pattern but no significant detail. Technical awareness was paramount to the framework knitter. Constructing patterns relies on acute mathematical accounting and special awareness. This suggests that experienced knitters could plan vague patterns on paper which they were then able to automatically interpret when plotting out the stitch manipulation on the hand frame to create the lace patterns.

5.4. Supporting contemporary creative narratives

Exploring the use of lace patterning on the hand frame has identified that there were multiple approaches to pattern construction including the placement of individual motifs or repeated patterns to create borders or larger all-over designs. Lace pattern designs can range in size and complexity and can be made simplistically or with more intricacy. Lace patterning has been an instrumental part of developing the practice-led elements of this research as it enabled a novice knitter like myself to start designing simple patterns and eventually move on to creating more complicated designs as my skills improved.

From examining these artefacts I learnt that within textile archives there appears to be little evidence of weft knitted lace made on the hand frame, and the few artefacts that are available are in varying states of disrepair based on their fragile nature. It is also difficult to determine which knitted lace artefacts were made on the hand frame which means that those that can be attributed as products of framework knitting are increasingly rare and can help identify specific working practices that are not traditionally recorded as part of formal histories of the hand frame.

The analysis of artefacts was of critical importance within this inquiry as provided evidence of the products of hand frame practice. With the loss of the Knitwear Industry and the rapid decline of expert knowledge there are fewer and fewer sources available that provide evidence of the working practices of framework knitters. Identifying stories of the past, particularly creative ones, creates a strong dialogue between the practices of the past and the potential creative applications of the future.

In order to provide a new contribution to knowledge, it was necessary to ensure that the practice of knitting lace on the hand frame went further than simply repeating or reinterpreting existing lace patterns by finding a new way of using lace stitches and patterns in creative design.

5.5. Reflection: The importance of practical knowledge

The practical application of knowledge of the hand frame generated a technical and visual awareness that allowed a detailed analysis of key literature as well as an educated perspective through which to examine remaining lace artefacts. The main argument that this thesis puts forward is that it is necessary be able to operate the hand frame to fully understand how the practices of the hand frame fit within historical, technical or creative contexts.

From my experiences learning to use the hand frame, it became apparent that the majority of the literature relating to framework knitting had been written by knowledgeable experts, who may have had the skills to operate the hand frame, but who did not demonstrate this within their work, and because of this there is an essential element missing that relates to the creative uses of framework knitting. In order to ensure that framework knitting remains an active craft and not just one that is relegated to history, this study brought together historical, technical and creative discourses to examine ways to re-establish hand frame practice as a vital element in the study of traditional weft knitted lace design.

From the outset, this project was designed as a practical exploration of the Lee hand frame which would enable traditional approaches to practice to inspire contemporary design outcomes. Learning to use the hand frame formed an important part of the development of this research as practical knowledge allowed a greater understanding of the mechanisms of the machinery, which in turn allowed a greater awareness of the capabilities and limitations for creative practice on the hand frame.

Through acquiring the skills to become a hand frame practitioner I was able to contextualise the mechanical processes and creative uses of the hand frame which then allowed an informed analysis of the technical literature to occur. Within the existing literature, the language used to define the parameters of framework knitting was often specialised, and understanding it therefore required a high level of technical awareness.

The seven year apprenticeships that would have been undertaken by the original framework knitters could not be replicated during the timeframe of this study, but my prior experience of knitting machinery allowed the practical analysis of hand frame skills to be undertaken in a much shorter time. However, operating the hand frame was a complex process. The multiple manoeuvres required to knit a single course needed to be performed in a specific order, using the correct amount of force. Each hand frame had a slightly different working motion, so the skill of the knitter was also required to determine how hard to press the treadles and thumb plate. As a result, the process of learning the frame was more difficult than had been first anticipated and this aspect of the research took significantly longer than had been envisaged.

Framework knitting required a large amount of physical strength, using a combination of hand and foot pedals which worked simultaneously to create the knitted stitches. As this type of action is not used on any other knitting machine, it was a slow learning process to synchronise the movements necessary to achieve a rhythmic working action. It also took time to be fully familiarised with the working parts of the hand frame, and therefore the practical expertise had to be perfected before creative exploration of patterning techniques could be attempted.

Analysis of the technical aspects of using the hand frame gave me a greater understanding of how the machines operate which led me to be able to diagnose problems with the machines and suggest ways to rectify these problems. I was then able to identify how and where I could position myself within the historical, technical and design contexts of framework knitting. In this case, my role as a designer allowed the application of conceptual ideas to change the way the hand frame was used to create decorative lace pieces.

The conducting interviews, I was also able to identify myself as a skilled practitioner within a wider community of existing hand frame experts, which allowed more detailed interactions to take place. In this respect, my contribution to knowledge is unparalleled, as this is the only study that has combined design awareness with actual practice on the hand frames.

The active role of the practitioner in this study allowed technical knowledge to be applied in the process of analysing weft knitted lace artefacts. The ability to identify and make sense of lace

patterns allowed the researcher to understand how patterns were constructed and used decoratively. In the past, the secrecy between framework knitters was so prevalent that design practices and patterns were not often shared, and now the only evidence of how these patterns were created lies in the artefact itself. Therefore as a researcher it was vital to be able to mentally deconstruct how the patterns were made to enable a proper analysis of pattern structure.

Chapter 6

The Role of the Knitter

6.0. Introduction

During one of the practical sessions spent knitting on the hand frame at G.H.Hurt & Son, it occurred to me that the old framework knitters of the past were always referred to as ‘the Workmen’ or ‘the Knitters’ and occasionally as ‘the Craftsmen’. The word ‘Artist’ or ‘Designer’ was never used, either in literature, practice or in conversation with experts. This was surprising as I would often refer to myself as a ‘Knitwear Designer’, even when working on the hand frame as my work involved *designing* knitted structures, and I was frequently inspired by conceptual knitwear artists.

This raised questions about how the role of the framework knitter can be characterised and what different technical roles were evident through examining artefacts and literature? More importantly it questioned what impact such roles have on the creative process and how they can ultimately affect contemporary understanding of the hand frame.

To address these issues, this chapter examines the importance of recognising different approaches to framework knitting and presents a dissection of the different practitioner roles that were identified. It then looks beyond these definitions to examine how the practice of contemporary framework knitting differs from the practices of the past. It then provides a short biography of the current hand frame experts that were interviewed during this study including a rationale for why they were selected.

The chapter concludes with a summary of the factors that influence the various roles of within framework knitting and reflects on how my own role as a researcher has affected the creative application of my practice.

6.1. The importance of the framework knitter

In the early stages of this research I came across a statement made by Susanne Pagoldh, an author on Nordic hand knitting practices, which took the viewpoint that in creative terms, hand-

knitting was superior to machine-knitting due to the interactive nature of forming stitches by hand:

'Machines produce clothes more cheaply and quickly. But machines can't copy human hand work or create one of a kind colours and patterns. Machines form stitches evenly and monotonously, with no trace of feeling. Every stitch in a hand knitted sweater bears the trace of time, a trip, a landscape; of persons, events, `and thoughts.' (Pagoldh, 1987, in: Turney, 2009 p. 42)

This assumption that a machine produces fabrics with no trace of feeling may be true in the case of modern power driven machinery, but in the case of the hand frame, this statement is simply incorrect. The monotonous nature of knitting machines does not occur in the same way with hand frames, due to the fact they are driven by the hand and foot movements of the knitter, meaning that they are in constant contact with the machine and therefore the process of creating knitted fabric is a collaboration between the knitter and their frame. Framework knitting is as much about personal connection between man and machine as the hand knitter's relationship is to their needles. It is simply a different design tool.

By examining the different types of hand frame practice that have occurred historically, and through analysing an individual's interactions with the hand frame, we can define the various practitioner roles that come under the wider title of 'framework knitter'. This puts into perspective the changing function of the hand frame over the last 400 years and gives an opportunity to determine how contemporary approaches to framework knitting can contribute to a new era of creative understanding.

The hand frame has an important historical provenance that spans a long period of social and economic change. These changes have seen mechanical and technical developments lead to industrial expansion, followed by the ultimate collapse of commercial enterprise and the preservation of the hand frame within the heritage field. We are now at a critical junction point in the life cycle of framework knitting where, for the first time, the hand frame is being seen through the lens of conceptual creative practice. The products made on the hand frame now do not need to be commercially viable, but they are nevertheless capable of communicating a message about the skills required to operate the frame and the knowledge that is at risk of being lost.

As the uses of the hand frame in industry have changed so too has the role of the knitter, and it is likely to change further in the future meaning that it is imperative that the specific expert knowledge of the hand frame is preserved by recording the oral testimonies of the few hand frame practitioners that remain.

6.2. Types of hand frame practitioner

Through a combination of observation, practice and analysis of key literature, photographs, notebooks, and other artefacts, the working lives of framework knitters was explored to determine how personal experiences influence creative practice. This analysis found that although the term 'framework knitter' is commonly used to describe any man (or woman) who is able to operate the hand frame, these practitioners vary in age, technical training, creative ability and overall expertise.

Gale and Kaur (2002) suggest that Textile practitioners can be separated into a number of categories, specifically; *The Textile Designer, The Designer-Maker, The Craftsperson and the Textile Artist*. However, when considering the role of the framework knitter, these categories were historically out of context with the original workmen, and as a result it became important to differentiate between the role of the knitter in past centuries and how it is currently perceived now that the hand frame is commercially obsolete.

Different levels of technical expertise within framework knitting were identified and the following categories represent the different types of practitioners that have been identified:

- *The Workman* – Relatively unskilled labourers with limited amounts of training or expertise
- *The Craftsman* – Traditionally apprenticed for seven years at the start of their training, learning the skills of framework knitting from other expert practitioners.
- *The Technician* – Mechanically minded experts who are most usually focussed on the mechanisms of the hand frame as opposed to the creative knitting aspects and were often responsible for machine maintenance and adaptation.
- *The Creative Practitioner* – Usually formally educated creative practitioners using the hand frame for design exploration.

These categories were derived through interaction with existing experts, and through the analysis of the work patterns and skill progression of knitters from the past. Whilst it is difficult to compare practitioners from different time periods, their common link to the hand frame creates definable similarities, such as machine gauge, workshop location, commercial productivity, and proximity to other practitioners.

These factors show the chronology of the changing role of the hand frame practitioner, growing from workman, to craftsman then ultimately shifting to technician as the knitwear industry faded, and eventually reaching the creative practitioner, who looks at the hand frame as a tool for idea

generation but not commercial production. This helped to demonstrate that as the hand frame became less commercially relevant, the role of the knitter was forced to adapt to these changes to ensure that some of the knowledge of hand frame practice was saved. This encourages modern day framework knitters to reflect upon the responsibility of guarding the skills and traditions that have been passed down to them.

This section presents the findings of the research observations which led to the identification of key types of hand frame practitioner.

6.2.1. The Workman

It should be made clear from the outset that the way I have chosen to describe 'The Workman' may seem contradictory to the historical account as written by Henson (1831) and Felkin (1867). This is because through examining the historical literature, it was evident that the term 'Workman' had been used to describe under-skilled as well as highly skilled framework knitters. For the purposes of this thesis, the term 'Workman' will be used to discuss under-skilled labour and the term 'Craftsmen' will be used to discuss more highly experienced practitioners.

The earliest framework knitters would have had a mainly manual approach to framework knitting, using relatively crude knitting frames at a time where mechanical production of knitwear was still developing. This is shown in the structural simplicity of remaining artefacts that date from around 1700, before mechanical advancement allowed more complex fabrics to be created. These practitioners only undertook a limited amount of patterning and garment shaping, all of which was hand-transferred and would have restricted their ability to be creative with patterns or surface structures, allowing them to develop technically to only a very basic skill level.

Throughout the history of the hand frame the 'workman' role is most evident in the early days of the evolution of framework knitting in the seventeenth century, and then reappears again in the early nineteenth century when under-skilled knitters began competing with experienced craftsmen by producing cheaper knitted products. This developed as self-taught expertise during a time period where framework knitting was growing rapidly as a practiced profession and saw an influx of cheaply made products flooding the English textile markets.

Earnshaw highlights this further:

'Greedy manufacturers used incompletely trained apprentices, instead of skilled knitters, to cut production costs, until standards had fallen so low that consumers only wanted French stockings.' (Earnshaw, 1986, p 20)

Evidence of early framework knitting has not been recorded by the knitters so examining their creative processes is not possible. The term 'Workman' has therefore been used to describe a hand frame knitter who was able to operate the machinery but had had little formal training and has limited creative or technical skills.

6.2.2. The Craftsman

In contrast to the workman, the craftsman's skills were more acute and specialised. As the hand frame became used more frequently for more decorative and fully fashioned work, framework knitters developed their knitting skill as craftsmen and this new knowledge and technical expertise enabled a wide range of knitted products and patterns to be produced on the hand frame.

The term 'textile design', has not been traditionally associated with working on the hand frame, mainly because the hand frame pre-dates the design education system as it exists today, and therefore the use of the hand frame in manufacture has always been linked more closely to apprentices that were trained on the job. The original framework knitters did not consider themselves to be 'designers' as this terminology is a modern construct.

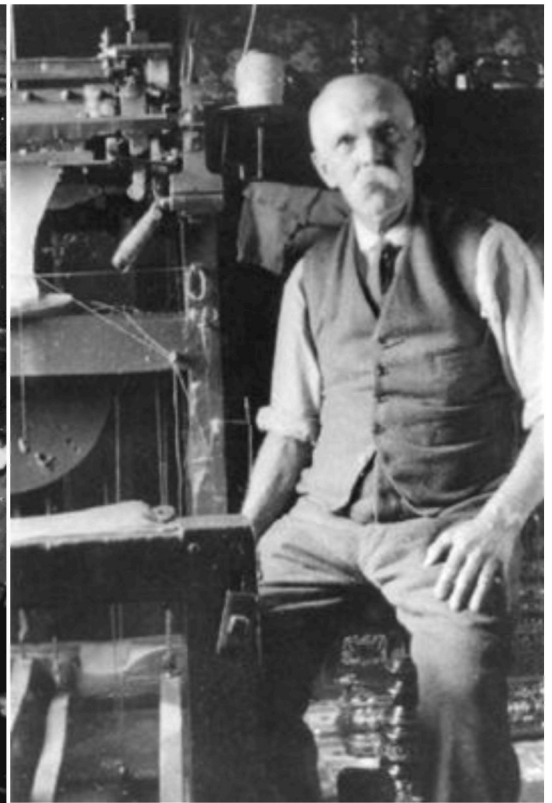
The technical education of these framework knitters was derived from years of practical interaction with the frame, and throughout the seventeenth and eighteenth centuries an intensive seven-year apprenticeship provided vocational training to boys from the age of twelve. This lengthy process would often consist of knitters working six days a week and up to fourteen hours a day, meaning that an apprentice could expect to clock up over thirty thousand hours of knitting time during their training alone, helping them to increase their speed, agility and accuracy.

Framework knitter and business entrepreneur, William Felkin provided a description of the knitting agility and awareness of the craftsman: *'While the hands are thus busy, and the feet moving at the rate of one hundred yards in a minute, they eyes must keep watch over the needles as to their soundness and uniformity.'* (Felkin 1867 reprinted 1967 p 48)

This mechanical intuition demonstrated the wider awareness that the craftsman had in relation to understanding how the hand frames worked and how they could therefore be used efficiently. The Review of the working conditions of the framework knitters in 1845 showed that during periods of mass growth and rapid mechanical development, the role of the knitter as a craftsman encouraged new ideas about personal interpretation, allowing men with little formal education to



[Figure 65]



[Figure 66]

[Figure 65] Bill Yates of Allen Solly and Co. Ltd. working in Davey's Shop in Calverton (c.1920)
[Figure 66] Mr Gillott of Dam Cottage, Furnace Lane, Loscoe (c.1900) John Gillott was an expert framework knitter who at one time worked for I & R Morley of Heanor. His machine is now in the Framework Knitting Museum, Ruddington, Notts.



[Figure 67] Framework Knitters working one-at-a-time frames in Nottingham (c. 1900) become specialists in their field through years of technical training and experience. (British Parliamentary Papers, 1968)

The care of the hand frames became an everyday part of the craftsmen's practice and the level of expertise was often measured by how well a man maintained his machine. Felkin also suggested that;

Inferior workmen often necessitate a recruit (a thorough repair) of their frames in three years: many however are so worked as not to require it in less than ten or twelve, and we once knew a steady and clever frame-work-knitter, sell his frame at the end of twenty-five years, never having had a recruit, nor then needing one.' (Felkin 1867 reprinted 1967 p50)

The knowledge of craft practice that these practitioners developed has helped to establish working traditions that have continued to filter through to hand frame practice today. This allows us to recognise that the skilled craftsmen who created beautiful and intricate knitted work still have the ability to influence current creative practice on the hand frame as their techniques and pattern generation has set a precedent for all lace knitwear that the hand frame can produce. Evidence of their practice is recorded in rare personal notebooks which showcase the vast range of pattern knowledge and mathematical ingenuity that these knitters had.

The 'Craftsman' represents a dedicated and highly skilled practitioner whose formal training allowed them to demonstrate a high level of technical proficiency and creative ability.

6.2.3. The Technician

Through examining the mechanical competence of the framework knitters, 'The Technician' has emerged as another practitioner category. These practitioners had ability as a practical knitter, and were able to operate the hand frame, but were less dedicated to designing patterns and instead were more focussed on maintaining the knitting machines. In the eighteenth and nineteenth century this role would have been known as a 'frame-smith', who would have been responsible for the large-scale maintenance of machine parts and repairs. As the framework knitting trade declined, the frame-smith's role became virtually redundant, and therefore knitting practitioners had to become more accustomed to repairing their own machinery.

The evolution of framework knitting from cottage industry into factory settings created environments where large numbers of hand frames were being used in close proximity, and general mechanical knowledge grew as better communication links between practitioners were strengthened by more physical interaction with other knitters.

Within framework knitting extensive mechanical knowledge is the difference between a good practitioner and a bad practitioner. Felkin provides a somewhat comical description of a bad technician:

'When a workman, ignorant of mechanism and too impatient to wait for a remedy from another, attempts to rectify defects, he often unfits the machine for working at all, until thoroughly repaired.' (Felkin 1867 reprinted 1967 p 49)

The knowledge of this type of practitioner is evident in mechanical diagrams, technical documentation of pattern structure, and in the adaptations that have been made to existing hand frames. The 'Technician' represents the mechanically minded practitioner whose expertise relates most closely to machine maintenance and technical modifications.

6.2.4. The Creative Practitioner

As the hand frame has diminished as a tool for commercial production, an opportunity has arisen to explore the technical capabilities and creative potential of contemporary knitting on the hand frame. The 'Creative Practitioner' is able to use the hand frame for experimental practice to provide conceptual and creative approaches to framework knitting. This type of practitioner did not exist in the days when framework knitting was still a commercial practice.

Now that the trade in frame-made products is almost extinct, and there are no longer any significant attempts being made to train new hand frame practitioners, the skills of framework knitting is now only been passed down to a small number of individuals who are willing to take on the time commitment of learning the craft efficiently and who purposefully seek out the opportunity to train.

This type of practitioner is able to record their practice through photography, film, creative journals, and through producing conceptual knitted work that extends the boundaries of how the hand frame has been used creatively.

The 'Creative Practitioner' is used to define contemporary practitioners such as the textile designer or textile artist who are able to use the hand frame in an innovative or conceptual way. Their approach to practice on the hand frame extends beyond that of commercial use and opens up an environment where skills and traditions can be followed or expanded upon.



[Figure 68] Jeff Oxley aged 78, featured in the West Notts and Derbyshire Recorder. Working on his hand frame at G.H.Hurt & Son. (June 17th 1982)



[Figure 69] Milla, Hand frame expert and technician at the Ruddington Framework Knitting Museum

6.2.5. Moving beyond definitions

To tackle the research questions posed at the start of this investigation, the examination of practitioner roles was further used to determine how creative narratives can be identified and how this ultimately affects contemporary approaches to framework knitting.

This inquiry found that recorded evidence of practice, found in artefacts and notebooks, could provide an insight into some of the creative processes of framework knitters, but due to the lack of specific personal information about experience and creative awareness, the 'voice' of the knitter was rarely recorded. This type of information only became accessible through talking to existing practitioners.

Additionally, whilst the role of the knitter can be addressed through the examination of key literature, machinery, and artefacts, this only goes as far as to suggest practices of the past and does not necessarily relate to the practices that continue in a contemporary setting. It was therefore essential to support the analysis of artefacts and documents with additional interaction with current practitioners and experts.

6.3. The Interviews and Participants

As discussed in Chapter 3, the interviews conducted during this research were semi-structured to allow a flexible, conversational discourse to develop with the existing hand frame practitioners; allowing the participants to openly discuss their own experiences of working with the hand frame. This provided a rich resource of qualitative information exploring themes which ranged from learning to use the hand frame, pattern design, old knitters of the past and their personal feelings about being one of a dying breed of practitioners.

The interview process was designed to allow the participants to reflect upon how their experiences of practice have shaped their work as a framework knitter and to provide key information about the everyday working practices that have not been formally recorded before.

The following sub-sections in this chapter provide biographies of the interview participants and support the decision to include them in this inquiry.

6.3.1. Henry Hurt

Owner and managing director of G. H. Hurt & Son, Henry Hurt has spent his life in the textile trade, and was one of the last people to be apprenticed into the framework knitting trade. After taking over family business in the 1950s he has continued to champion the hand frame as an important historical innovation and preserve the skills he was taught by the old framework knitters.

His company is currently the only remaining lace knitwear manufacturer that survives in the Midlands, and their main goal is to continue to manufacture lace textiles using traditional patterns and finishing techniques

His expertise lies in the manufacture of knitted lace goods and shawl pattern design. He maintains strong links to the traditional hand frame crafting techniques and the company continues to keep a number of working hand frames which operate alongside the more modern power machinery. He has also provided the facilities to train design students to use the hand frame whilst on placement at his firm.

In June 2009 he was awarded an MBE for his services to the Knitting Industry in Nottinghamshire.

Henry Hurt was asked to participate in these interviews because he has extensive knowledge of the hand frame, as both a knitter and a company manager. He was present during the period of transition where hand frames were being superseded by power machines and is a well-known champion of preserving the heritage of the knitting industry.

Mr Hurt is a 'Craftsman'.

6.3.2. Arthur Hesketh

Arthur Hesketh was ninety-nine years old at the time the interview was conducted, and is a rare example of former hand frame practitioners who experienced the working environment of framework knitting during its final days of commercial enterprise. He has been responsible for training a number of other knitters to use the hand frame and retains a vast amount of technical expertise as well as an unparalleled amount of knowledge about knitting processes and the social history of Nottingham.

As a dedicated craftsman, he followed in the footsteps of his father and grandfather and undertook an apprenticeship to become a framework knitter in 1929 at the age of 18. He spent

over 60 years in the framework knitting industry and worked for many of the lace shawl manufacturing companies that once existed in Nottingham.

Arthur Hesketh was asked to participate in these interviews as he was the only person identified who had worked as a professional framework knitter whilst the hand frames were still being used in industry. He was able to provide a fascinating insight into the creative uses of the hand frame during the early part of the twentieth century and describe everyday working practices that have not traditionally been recorded in other historical accounts of the hand frame. There was a slight concern with this interview that his advanced age would mean he was classified as a 'vulnerable interview participant'. The concerns were raised with the NTU graduate school ethics committee who approved this interview. Additional measures were taken to support Mr Hesketh during the interview by inviting his daughter Sandra Bodill to sit in and participate where necessary.

Mr Hesketh is a 'Craftsman'.

6.3.3. Reg Robbins

In comparison to the previous two interview participants, Reg Robbins is a 'new' generation framework knitter, in that he only began his training during the 1970's when knitting on the hand frame had become virtually non-existent. He was trained in a traditional manner by former framework knitter Jeff Oxley. [See Appendix 6 for more information on the Oxley Family] Since leaving school, he has continued to work for G. H. Hurt and Son as chief mechanic and creative consultant, and has also been responsible for training a number of students to use the hand frame.

Reg's work has straddled the historical past of framework knitting and the modern introduction of power machinery and he confessed that he feels responsible for continuing the legacy of the hand frame. He also demonstrates the working machinery at Ruddington Framework Knitters' Museum.

Reg Robbins was asked to participate in these interviews because he has extensive knowledge of the hand frame through his work at G.H. Hurt and the museum. He is responsible for the maintenance of the hand frames in his care and was taught by Jeff Oxley, one of the most well respected framework knitters of his generation.

Reg is a 'Technician'

6.3.4. Martin Green

Martin Green initially worked in the textile industry as a machine operator, and was introduced to framework knitting after volunteering at a Leicestershire Museum which held a hand frame in its collection. He went on to learn how to build, maintain and operate the hand frames and is now the only remaining knitter that uses these machines commercially.

He sells lace shawls and scarves that he knits on a number of hand frames that stand in his purpose built frame workshop. Martin has been an active participant in maintaining the traditions of framework knitting, and is particularly skilled at documenting the process of dismantling and rebuilding machines.

Martin Green was asked to participate in this study as he is currently the only framework knitter in Britain who runs a successful business selling products made on the hand frame. He has built many of the machines himself, therefore demonstrating his extensive technical knowledge and he was able to provide access to his private workshop which holds the third largest collection of hand frames in the UK.

Martin is unusual because his multiple areas of expertise mean he is a 'Technician', a 'Craftsman' and a 'Creative Practitioner'.

6.3.5. Stacey Deakin

Stacey Deakin is a textile designer who learned to operate the hand frame during her year placement at G.H.Hurt & Son during her BA Fashion Knitwear Design degree at Nottingham Trent University. Stacey's experience, were similar to my own in that she came to the hand frame with an existing knowledge of knitting technology and design processes. She was then able to use the hand frame to inform her creative practice and was awarded the student bursary from the Worshipful Company of framework Knitters to continue her final year of studies using the traditional forms of framework knitting as inspiration for her final collection.

Stacy was asked to participate in these interviews because she has learned the craft of framework knitting alongside her academic design education. She is one of only a very small number of women who have learned to operate the frame and she has been able to apply her knowledge of the hand frame to her contemporary design projects.

Stacey is a 'Creative Practitioner'.

6.4. Summary

A question raised at the start of this chapter asked how the role of the framework knitter can be characterised and this has been addressed through the identification of the different practitioner categories. This chapter has identified that the role of the knitter changes depending context in which the practice occurs and has identified the factors that affect this change.

From literary sources and remaining machinery we can ascertain that as the early framework knitting industry grew, practitioners were learning new skills, but they were limited due to the crudeness of the first hand frames. As the industry evolved, and machinery became more sophisticated, the knitter was then required to adapt their practice and move from being a basic workman to being a more experienced and dexterous craftsman.

Additionally, as the trade declined, there were fewer frame-smiths to keep the hand frames in working order, and therefore framework knitters were forced to acquire far more technical and mechanical skills in order to be able to successfully maintain their machinery. We are now faced with a situation where the hand frame knitting trade is virtually redundant, but where hand frame skills and knowledge can be kept alive by the practices of a few key individuals who place emphasis on the creative importance of the machinery.

These factors have demonstrated that the term 'framework knitter' can be used to describe a range of practitioner roles, but all of whom have technical knowledge and experience of operating the hand frame. This practice-led study was highly influenced by the interactions that occurred with the interview participants which helped to underpin the overall contribution that these testimonies made.

6.5. Reflection: The importance of dialogue and interaction

As this study progressed, my own creative learning journey was inspired by the practices of the past that I observed through my interaction with current hand frame practitioners. These experts had such vast knowledge of the hand frame that every question they answered potentially divulged a story about the hand frame that had never previously been recorded.

The practitioner 'types' that I identified gave a clear description of how framework knitting practice can be deconstructed, and this enhanced my own understanding of how each framework knitter would have used their frame. Every framework knitter that I encountered added their

unique perspectives and personal stories to the ongoing narrative, meaning that by the end of this research, my understanding of hand frame practice was wildly intertwined with stories of learning, and creation, and mistakes, and innovations, and sore backs, and broken needles and a hundred other scenarios.

This was a fascinating contribution to the social history of the hand frame, which not only unearthed stories about the lives of the interview participants but also uncovered second-hand tales of other framework knitters who had inspired and influenced the ones that remain. [For the Practitioner Relationship diagram see Appendix 2] Every tale told, no matter how simplistic, or seemingly insignificant, produced a new thread which was metaphorically knitted together to form a tangible tale of framework practice over the years.

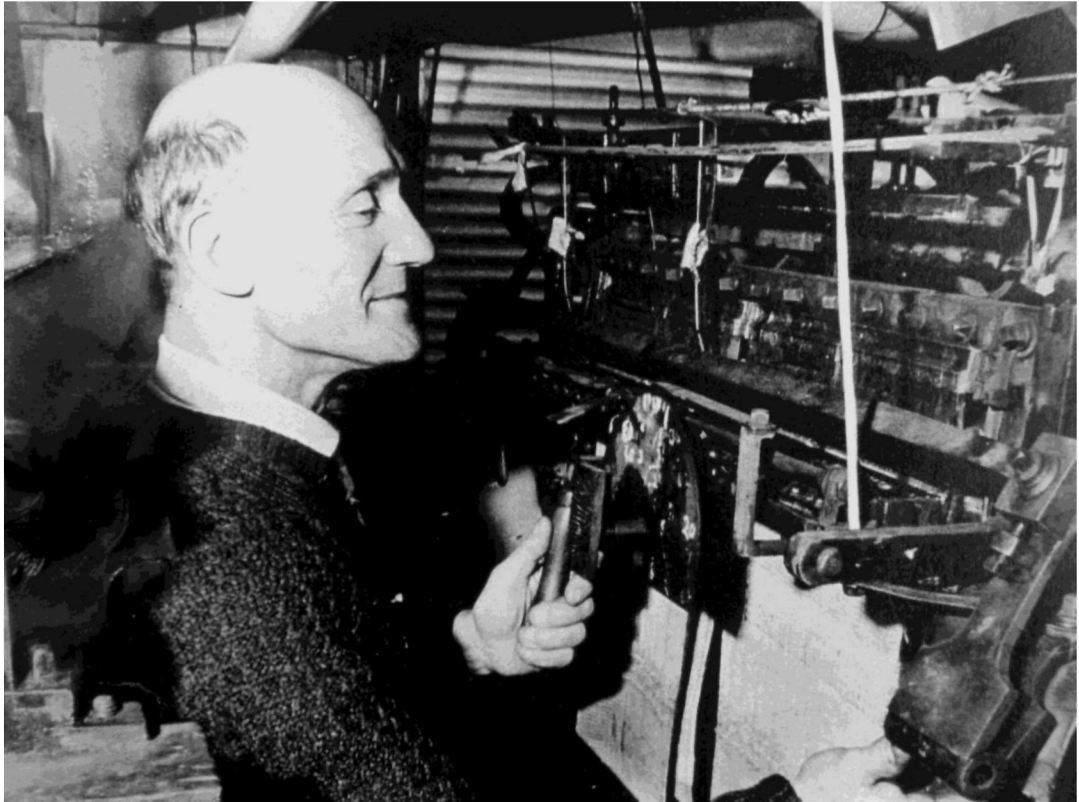
Whether the interview participants were aware of it or not, their personal narratives acted as a way of transferring both technical and historical knowledge. It seems that the sharing of ideas and creative 'tips' is mandatory between existing framework practitioners. As soon as you identify yourself as one of the lucky few who know how to operate the machine, you are welcomed into the fold like the prodigal son returning. With Martin Green's interview for example, the pace and focus of the discussion charged rapidly once I revealed myself to be a knitter. It is like suddenly realising you both speak the same language.

By producing definitions of the different roles of the framework knitter, I was able to identify specific practices that were contextually novel and could therefore be used to define potential new perspectives of the hand frame.

My dual role as researcher and creative practitioner enabled me to share my own experiences with my interview participants, generating a free-flowing dialogue where questions and responses formed part of the knowledge transfer.

The role of the practitioner within this study became a central theme, which suggested that personal experience has the ability to shape independent creative practice. As the study developed, interaction with hand frame experts and practitioners influenced the way that the design practice was conducted, by providing advice on traditional techniques and the most efficient methods of creating weft knitted lace.

The identification of different types of creative practitioner demonstrated a variety of approaches to creative practice on the hand frame. These approaches highlighted how the hand frame has been used for manufacturing, for heritage demonstration, and for creative exploration, therefore displaying the contextual relevance that the hand frame can still have today.



[Figure 70] Arthur Hesketh working his hand frame in Hucknall aged 77 (1988)



[Figure 71] Mr Henry Hurt demonstrating a two-at-once hand frame to 'Heritage Day' visitors to G. H. Hurt and Son, Chilwell (September 2010).



[Figure 72] Martin Green operating one of the hand frames he uses for commercial production in his private workshop (2010)



[Figure 73] Knitwear designer Stacey Deakin working on the hand frame at G.H.Hurt and Son (2010)

Variation in practice was also observed in the different locations where framework knitting is still practiced. The workshop at Ruddington Framework Knitters' Museum replicated an authentic work environment, but as many of the hand frames are incomplete and unusable this differed considerably from the workspaces observed at G.H.Hurt and in Martin Green's workshop where machines, on the whole, were in full working order. Observation of these work environments showcased the hand frame in different contexts and highlighted the importance of machine maintenance in the long-term preservation of knitting skills.

The most significant interactions that occurred during this study were with existing hand frame practitioners. Having learned to operate the hand frame, I was able to interact with the interview participants on a level where we were both practitioners. The specialist knowledge I had gained through practice was then used in conversation with other practitioners which enabled more technically detailed interactions.

Interaction with other knitters formed a new context for using the hand frame creatively. These discussions established how the hand frame was used on a day-to-day basis and enhanced my ability to understand the stories told to me by existing experts.

Storytelling became another important theme within the study, demonstrating how personal experiences have impacted on creative processes. These unique testimonies clearly demonstrated how practitioners were able to use storytelling as a way of recalling their own experiences and discussing their own emotional attachment to the hand frame.

Stake talked about the '*uniqueness of situations*' when interacting with others during the research process, suggesting that it is the researcher who decides how they will interpret such situations within their report (Stake, in Denzin and Lincoln 1998 pp. 91-93). What Stake exemplifies is the ability for the researcher to use the stories of experience from their observations of others, and their own practice to create a new narrative which can be used to showcase a combined example of practice and experience

Through interaction with practitioners, I developed my own narrative, which was a combination of the stories I had heard and the experiences I had. This narrative was then used when demonstrating the hand frames to visitors and non-experts during heritage events at both Ruddington Framework Knitters' Museum and G.H.Hurt & Son. The act of demonstration and narration became a way of maintaining the traditions and skills of framework knitting through passing on my interpretations. It became a form of performance, through which I was able to demonstrate not only how the hand frames operated, but how they fitted contextually within the

heritage of their location, and how they were adapted by the individual knitter to suit his work style.

The men who originally worked on the machines left their mark in a number of ways. The hand frames were often bolted to the walls or ceilings, to prevent the machine rocking across the floor as it was used, meaning that the placement of machines and their location within the room was clearly evident. Additionally, the machines themselves show signs of wear, where the handles have been worn down producing grooves where the man's hands were once placed. The leather strap seats remain curved to the shape of the man that sat there, and places where the wood or metal has been carved shows how the machines were customised to best suit the knitter. These markers indicate how each frame has been used in the past, and in that respect the knitter that once used the machine has left a physical presence on their frame. Within my own creative exploration, this was the starting point from which I chose to explore the importance of the individual's creative experiences.

Learning to use the hand frame has demonstrated that the ability to understand the process of framework knitting relies upon a combination of technical skill and awareness of the working environment. The origins of the technical process, relating to the workmen's everyday work routine has provided a new perspective on the history of the hand frame, and has demonstrated that these skills and practices can be modified and interpreted to fit a contemporary approach to creative practice on the hand frame.

The 'every-day' life and work practices of the knitter were addressed in this study, as it was important to get a realistic view of the life of the workers as opposed to the romanticised view that is often portrayed in traditional heritage institutions. Storytelling was used to challenging the common practice within museum environments of only displaying the 'elite' perspective, and instead this study looked to re-establish the voice of the knitter as a valuable tool for exploring creative practice on the hand frame.

What can now be learned about the heritage and past uses of the hand frame is obtained through examining the testimonies of experts and practitioners. The individual is uniquely responsible for what they can remember or record about their own creative experiences. The transfer knowledge of these experiences occurs through story-telling.

Building on Schön's declaration that story-telling is an effective genre for translating research back into practice (Schön, 1983), Marshall and Newton further supported the use of storytelling to inspire creative practice;

'Story-telling discloses relevant themes, rather than theories. Story-telling both facilitates and actively promotes a transformation of the story themes into a specific situation context. In this sense, the stories themselves represent design knowledge.' (Marshall and Newton 2000 p.1)

This study has confirmed that the stories of the past give context to the learning process, and enable the hand frame to be used in a contextually relevant way.

Chapter 7

Analysing practitioner experience: The Interviews

7.0. Overview

At the time these interviews were conducted I had already established my role as researcher, which ensured that I was already familiar with the history, mechanisms and creative processes involved in operating the hand frame. This allowed in-depth technical discussions to take place with existing hand frame practitioners, and as a result I was able to modify my questions to best suit the individual interviewee.

The semi-structured nature of the interviews allowed the discussion to be guided towards individual learning experiences, and specific interaction with the hand frame relating to lace pattern design. Whilst each participant was asked a similar range of questions, the responses were varied and related closely to their own approaches to hand frame practice.

As these interviews were conducted separately, over a year long period, my interaction with each participant shaped my own learning experiences and my perception of ways to interact with the hand frame. The first interview with Mr Hurt established a pattern of questions that were then replicated and adjusted to suit the additional interview subjects.

In considering the role of the contemporary knitter, the experiences of the five interview participants have all been drawn upon to discuss how current knitters interact with the hand frame and how their personal experiences can help inform contemporary design practice.

7.1. Categories of Analysis

The analysis of the practitioner testimonies identified five key themes that have been used in this thesis to explore contemporary experiences of framework knitting. The analysis of the data collected from these semi-structured interviews has been presented using the following themes:

- Inspiration - Examining factors that provide personal creative motivations and initial design influence.
- Exploration - Developing practical skill through practice to 'play' with ideas and enhance awareness of pattern-making techniques
- Communication - Examining the dialogues created between practitioners, focussing on the relationship between expert and apprentice.
- Implementation - Applying 'what you know' through the ability to adapt and modify your practice using established technical and mechanical skills.
- Creative Application - Using the hand frame in a creative context to explore new ways of applying traditional skill.

7.2. Inspiration

Through conducting interviews with creative practitioners, the concept of personal inspiration was discussed frequently. Each of the hand frame experts gave evidence of their own motivations for undertaking the challenges associated with using the hand frame, and as a result it was possible to identify what the practitioners found 'inspiring' about being a framework knitter.

Inspiring new ways of understanding and using the hand frame has enabled this investigation to recognise the importance of preserving what knowledge is left of framework knitting. This section of the chapter identifies the discussions that took place within the research interviews that relate specifically to processes, skills or experiences that the hand interviewees found to be inspiring or valuable to them.

Henry Hurt was asked about what he found so inspiring about the hand frames:

HH: Well the very first model of anything is a continuing lesson really, some are still in use because the product is unique, and of course they're used for sampling, if you want to run off a sample. And any hand frame still continuing in existence is becoming more valuable as time goes on.

[Henry Hurt - Appendix 9/ Transcript #1/ 51]

The value of the hand frame in a historical context was discussed by all the interview subjects. Each of the interview participants have been inspired to learn to use the hand frame and are therefore very aware of their role in the preservation of this heritage of the machine.

For Stacey, her first experience of seeing a hand frame was when she came to G.H.Hurt to begin her industrial placement. New experiences and encounters that are outside the context of the established heritage of the hand frame provide a unique understanding of why the hand frame can now be examined as a way of exploring contemporary creative practice. Stacey Deakin chose to learn the hand frame as it was a skill that none of the other students in her university class would have the opportunity to acquire, and this would set her apart when it came to demonstrating her creative skills to future prospective employers:

RW: Was it something that you were interested in and you decided that you would try and learn, or was it something that you were encouraged to have a go at?

SD: I didn't really know anything about the hand frames before I came here [G.H.Hurt & Son]. Nothing at all! And coming here with all the heritage that there is, is just, you know. That's what made me interested, so interested, when I got here.

RW: You said just before we started the tape that this is your 'Happy Place'. What makes you so happy to be here?

SD: I just loved working here, and I loved everything that I learned here about the history. I never thought I'd be interested in the history of knitting and everything like that, but I dunno, I just got so absorbed into it. I just loved it. I loved the hand frames. I love how they work, and I love the stories behind them.

[Stacy Deakin - Appendix 13/ Transcript #5/ 5-8]

Stacey found that the stories she was told of past knitters and the processes they used were valuable to her design development. This then inspired both her design work whilst on placement at G.H.Hurt and then her final year knitwear collection at university:

RW: So is the history of knitting something that actually inspires you in your own design practice?

SD: Yeah it really inspired my final collection.

RW: So what kind of things did you do for your final collection?

SD: It turned into...the ideas was basically moving knitwear forward, moving from the heritage, and the going on to newer things now. But you know I couldn't have figured the end product out without the beginning. But it was a lot of circular design and stuff like that. It did turn out quite modern, but I could have got to that point without knowing all the history. The concept behind it was all about the history.

[Stacey Deakin Appendix 13/ Transcript #5/ 31-35]

Reg Robbins's experiences of learning to use the frame also demonstrate that the heritage aspect of the hand frame was a prime motivation for inspiring him to learn more about framework knitting:

'[The hand frame] was a little bit of a novelty because I knew that that there weren't many people that could actually knit... so I wanted to do it.'

[Reg Robbins Appendix 10 / Transcript #2/ 26]

The 'novelty' value that Reg mentions is not a new experience in relation to the already established history of the hand frame, but as a personal encounter, the hand frame was novel to him. Reg felt that learning to use the hand frame would differentiate him from his peers, who had mainly gone into trades to be electricians or builders. Being a framework knitter set him apart and gave him a unique skill.

He was asked about his first experience of learning to use the frame and why he wanted to learn:

RW: Um, so how did you first learn to use the hand frame?

RR: Um, it was because I wanted to learn it. Um. I hadn't been here that long and I used to go and stand and watch the frame knitters, and I thought how easy it really looked so one of the chaps just said 'Oh, sit in the frame and have a go'.

RW: Who was that?

RR: That was Harold...no that was Frank Spray. And he sat behind Jeff [Oxley] and it was Jeff's frame he was talking about. Unfortunately the first time I touched it I broke a load of needles. [RW Laughing] And I thought that was going to be it, but Jeff saw that I was interested so he decided to teach me.

[Reg Robbins - Appendix 10 / Transcript #2/11 -14]

Reg's experience clearly indicates that the process of first learning to use the hand frame gave him mixed feelings. On one hand he was inquisitive and eager to learn, and obviously supported by the older knitters, but then undertaking the actual knitting process was far more challenging than he had first realised. But it appears he benefitted from these early errors and was able to create a good relationship with his mentor, although he wasn't able to dedicate as much time to learning as he would have liked:

RW: Were you the only person learning the frame at the time?

RR: Yes.

RW: Did you find that having Jeff as a teacher made it quite easy to learn?

RR: Um, unfortunately I got him when he was getting older, and his patience was very thin. Saying that he was the most experienced person you know, in the area, and he just sent the best way to learn. And it was a little bit trial and error, but we got through it.

RW: Were

RW: So it was one-on-one tuition?

RR: Oh yes.

RW: So was he able to spend a lot of time with you?

RR: Well unfortunately we were both working on the modern machines at the time, 'cos Jeff was doing that transition period where we got a couple of machines in and he became the engineer for those...

[Reg Robbins Appendix 1 / Transcript #2/ 15-22]

In contrast, Arthur Hesketh's first experience of learning the hand frame is remembered with fondness, and it appears he was naturally suited to framework knitting:

RW: What do you remember about the first time you learned to use the hand frame?

AH: Well it came so easily I didn't know it was in my blood. I just went on, and the man, he wanted paying for teaching me, in them days, I forget how much, 5 pound a week. It was a lot of money when I first learned. He charged me 5 pound a week and I found I was earning twice as much in three months. In three months I was earning twice as much as I did at the pit, like. Because it was only little patterns, same as you said you learned. But I learned it very quickly and was able to earn quite a lot of money compared to what I'd been earning.

[Arthur Hesketh - Appendix 11/ Transcript #3/ 106-107]

Arthur's story shows that he was surprised by how easily the skills of framework knitting came to him despite the fact he only became a framework knitter after having an initial career in mining. It was clear from his discussions about his family that he came from a long line of knitters and he therefore believed that the ability to learn the hand frame was inherited from his family:

RW: Brilliant! So what first made you go and change your career and be a framework knitter?

AH: All me beforehand, they were all framework knitters. We've traced 'em back to seventeen-summot, and the last one we traced back he had two men working for him in the frames.

RW: So it was a family tradition then?

AH: Yeah my great, great, great grandfather was a framework man. Me grandfather, right down like.

[Arthur Hesketh – Appendix 11/ Transcript #3/14-17]

Family traditions were clearly a big influence for the older generation of hand frame experts, Henry Hurt in particular, whose family legacy of framework knitting meant that he is now one of a long line of hand frame experts to trade in the manufacture of lace goods.

He spoke about the formal process of becoming a framework knitter:

HH: The apprenticeship for being a hand frame knitter was seven years. And that meant you had to learn how to build a frame and dismantle it.

RW: Seven years is actually a really long time, I mean people learn to be doctors in that kind of time. So you can imagine that the skill level you needed to get to was quite a high one.

HH: Well they were just put in the machine and they knitted simple stuff, a lot of the time, but I think I was the last framework knitter's apprentice. I had an indenture to be a framework knitter. I suspect my dad really did it to postpone my national service. I think it was submitted to the board and they rejected it, because it wasn't an apprentice miner or apprentice...something else. So I had to do my national service at the proper time.

[Henry Hurt - Appendix 9/ Transcript #1/ 177-179]

Coming from a family with a long heritage of Framework knitting, it is not perhaps surprising that Mr Hurt was one of, if not the last person to be apprenticed into the trade,

Initially he told me that he had wanted to become an artist, and he states that both he and his father came from an artistic background and this ultimately influenced his creative abilities as a framework knitter:

RW: Do you think that your artistic, or creative nature, having come from a fine-art painting background, do you think that has helped you to be more creative with the [shawl] designs you have come up with?

HH: Yes I think it did influence me. My father was, he could paint as well.

[Henry Hurt – Appendix 9 / Transcript#1/ 29-30]

Unfortunately Mr Hurt's dreams of becoming a full time artist were not realised as he had to take over the running of the family business in the mid 1950's after the sudden death of his father. He

has however continued to use his creative abilities to inspire the lace patterns and structures that have been made by his company.

This discussion with Mr Hurt raised questions about what sources of inspiration would framework knitters have had when designing new patterns.

I spoke to Arthur Hesketh about the samples and patterns he used to design and asked him where he got his inspiration from:

AH: He used to come to me to ask to make a sample like and you used to wrack your brains and you'd used to look at the wall like, and you used to use picture to make the wallpaper, patterns like, and sometimes it would give you ideas.

[Arthur Hesketh Appendix 11/ Transcript #3/ 51]

The patterns and skills that have been passed down from former hand frame practitioners, such as Jeff Oxley, have demonstrated that current knitting practices follow the basic patterning and construction methods of the past. What is historically valuable about the hand frame is that it can be used to document personal skill and demonstrate working processes of framework knitters. This allows each subsequent generation of knitters to contribute to the on-going story of framework knitting.

RR: Well as I say, I don't think really that there are any new patterns, they had already made them. We've adapted them and altered them, stretched them, took bits out and put bits in but the original patterns have all been used.

RW: How much variation is there in unusual yarns? Do you every try anything a bit crazy?

RR: Oh yes we do try a lot of the yarns, but we're restricted to the machinery that we've got. A lot of yarns are for too thick for our gauge machines although buyers still want you to try them and a lot of the yarns are far too fine. We do have ways of adapting, of getting round it, adding yarns like Solveron which we wash out afterwards for fine yarns. We try anything that anybody gives us

[Reg Robbins - Appendix 10/ Transcript#2/ 96-98]

The concept of being inspired to create a 'new' pattern is not necessarily required for G.H.Hurt now, whose reputation for preserving the heritage of the hand frames is filtered down into the patterns that they adapt for contemporary commercial use. Mr Hurt states that all of the company's current patterns are adapted from old designs:

RW: How far do current shawl patterns take influence from old designs?

HH: All of them! Well all of them are influenced by the history side of things, we like to be influenced by that rather than normal knitwear really.

RW: It's nice that you are willing to keep the old tradition going.

[Henry Hurt – Appendix 9 / Transcript #1/ 94-96]

Traditional technology and techniques continue to be used to inspire contemporary work by both G.H.Hurt and Martin Green, who replicate and adapt existing lace patterns to sell to contemporary markets.

Martin Green also spoke about the inspirations behind his lace patterns:

MG: I made a note of what Jeff Oxley was knitting and basically changed it a little and so they're all ex Jeff Oxley [Laughter] but he told me the names of the different patterns. He did much more intricate patterns than I ever do...yes he told me the names of all the different patterns and so on and I wrote them all down and then went home and just simplified it...you've got to... I never do more than two transfers per row, I only do transfers on every second row maximum and through the body of the scarf... you know ...in the middle, every fourth row [Laughs] Minimalist!

[Martin Green - Appendix 12/ Transcript #4/ 522 -523]

From this analysis the inspirations of the current hand frame practitioners have been highlighted, in particular their initial motivations for wanting to learn to operate the hand frame, and also their later creative inspirations that have helped them to develop new lace patterns.

7.3. Exploration

By exploring the 'inspirations' that have shaped the early learning experiences of the interview participants, I was interested to identify how we could further explore their creative abilities by examining how they have used their skills to develop their work.

The interviews identified that 'exploration' formed an integral part of the creative process for all of the participants. It was possible to identify key stories about how the unique nature of working the hand frame has shaped the experiences of these practitioners.

When asked about how they explore new ideas, many of the practitioners talked about how they adapt their skills as they go. Their practice changes to suit the situation in which they are required as Martin Green explains:

MG: I think your knitting action changes all the while, especially when you move from machine to machine. I normally won't knit on...I'll only knit on one machine on any one day...because when I change machines it's a good time to be...if you change in the middle of the day...there's a certain urgency then you're trying to go too quickly. But when you change machine you've got to go really slowly to start with until you become accustomed to the workings of that machine. And all the machines have a different...they are different when you are working them...the knitting action on every machine

RW: I suppose it's like driving any car...it's the slightly different bite point

MG: Yes!...absolutely!

[Martin Green - Appendix 12/ Transcript #4 /583-585]

Martin mentioned the physical action of operating the hand frame and noted that it varied between each machine. The 'feel' of the machine is affected by many things including room temperature, age of machine, and how tightly sprung it is. As a result every machine felt unique to operate and each knitter had their own personal rhythm that they used accordingly.

Arthur Hesketh describes how he had a fast and vigorous rhythm and his mentor's rhythm was much softer:

AH: Well there's some frames that are heavier than others like...it's surprising what a difference there is in frames.

RW Well I've seen some children do about ten rows

AH: It's how they're sprung like really...

RW: Then it's much, much stiffer

AH: There are two main springs at the top of the frame...[indistinct] well the man that taught me, he'd got a short leg and he had a big heel on it...on his shoe and he just used to tip...tip the [stitches] over and it'd come over and be so silky and he's be like that all day long like and his frame would be so light that if I got in it...I'd be shot at it like, bearing in mind the [carriage] went up quick like...and it made it jerky...but not his like.

[Arthur Hesketh – Appendix 11/ Transcript #3/ 414-418]

Through having a background in knitted textiles, Stacey Deakin already had extensive experience using different knitting machinery and so it was interesting to see how she felt the hand frame compared to other machines she was familiar with:

RW: Did you find it a difficult machine to learn, obviously coming from a Design School background where you already know how to use other different types of knitting machine? Did you find the hand frame harder to use?

SD: Yes and No. Yes it was different. It was very different and you had to get used to it. I loved how manual it was, and I enjoyed that, so I think that's what made it easier

[Stacey Deakin - Appendix 13 / Transcript #5/ 9-10]

The 'manual' aspect that Stacey describes is one of the main characteristics of the hand frame that differentiate it from more modern power-driven varieties. The machine is operated solely by the manual action of the knitter using a combination of hand-action to operate the needle plate and foot-action to operate the yarn feeder and needle sinkers.

Based on the simplistic nature of manually operating the machine, I was intrigued to know how the knitters construct their designs and whether or not they planned them in advance.

I spoke to Reg about how often he gets chance to use the hand frames and if he uses that time to use the frames creatively to explore his ideas:

RR: Oh yeah well I mean the idea is, if you're not busy doing anything else you can always go back and you know, do something on one of them. The idea is to keep them maintained and then if you need them for anything you haven't got a big job to get them up and going again.

RW: How often do you get to play around on them?

RR: Well it depends; I haven't really... maybe a couple of times a year. Springtime...you have a couple of months where there's all the fashion shows and things like that so people aren't ordering, or January February time, that's about it.

[Reg Robbins - Appendix 10/ Transcript #2/ 82-84]

We then went on to discuss the time commitments required to keep the machines active, and how Reg uses them to plan out potential pattern ideas that he would later translate into a pattern for a modern machine:

RW: How much time would you spend keeping the hand frame in working order? Are they difficult to keep working?

RR: Well they are because really they should be knitted on all the time to keep them working, but we can't do that so... I mean when I first started learning to knit, if I was learning a new pattern I would go and do it on the hand frame first.

RW: How come?

RR: Well because I could see it. Well if you wanted to say make a diamond pattern, its far easier to go knit it yourself and then write it down or draw it for another machine than to try and draw it out first and waste time sort of thing...

RW: Do you always recommend just sitting on the machine and feeling how the stitches work?

RR: Yeah and seeing what it's going to look like

RW: Now that's an interesting way of looking at it because a lot of the time, especially with design thinking, you would go and organise what you wanted to do first and then go and knit it, but it's really interesting that you do it the other way round.

RR: I like to see what I'm going to make.

[Reg Robbins - Appendix 10/ Transcript #2/ 85-92]

The way Reg talked about being able to 'see what he is making' was intriguing for me as my own practice has often followed this pattern too. I often try out a pattern via 'trial and error' to decide how it looks and feels. This sampling process however is a luxury for those who have time to conduct it. But often it forms a necessary part of the thinking process, allowing the knitter to reflect on stitch structure and composition before committing to a complicated pattern that will ultimately prove difficult to execute efficiently when knitting it on a larger scale.

Reg continued to discuss why he uses the hand frame to explore new pattern ideas:

RW: I suppose that means you're able to be more creative as well because you're not limited by the design you've already written down.

RR: Yeah. The thing is, when you're setting up a modern machine and it takes... every time you make a new sample it costs hundreds of pounds just to make that sample up. You know that time, and cards if it's a mechanical machine, well mainly the actual time. If you can leave that machine knitting on a pattern that it's already doing and go and sit in a hand frame and have a play and get your pattern, you're actually ready to go and put it onto the machine before you make the pattern. Do you know what I mean?

[Reg Robbins – Appendix 10/ Transcript #2/ 93-94]

So in Reg's case it appears that he uses the hand frame as part of his work at G.H.Hurt & Son as a means of practising a design idea in a way that will ultimately save the company time and money. Once a pattern has been successfully explored on the hand frame, Reg can then go about having the necessary jacquard cards made so that the pattern can then be transferred onto the power machines for large-scale production.

The hand frame is being used in this instance to explore new pattern ideas and influence design decisions. To find out if Stacey wrote down her patterns or made them up as she went along I asked her about her thought process:

RW: So say you were going to start and just design a lace pattern, how would you go about it? Would you write it down on paper first or would you have a play on the machine?

SD: Er... I'd probably have a go first and then plot it out, and then just do it from a sheet of paper. That's how I would probably do it. 'Cos I'm a bit of a planner when it comes to my designs. Yes that's probably what I would do.

RW: So you find that it's better to be prepared and organised before you start, rather than have a go and hope for the best?

SD: Yes, although I do like to just play around with the pattern first, before any plan or design. You just play around a little bit first.

RW: I think that's how Reg works as well, it's a very similar description of the way he said he designs. I suppose until you see how transferring two stitches on the same row looks, once you've knitted a couple of rows, you don't know whether or not it's going to work in the design

SD: And even things like the direction that you transfer it, makes a difference to the whole pattern. I think. It looks subtle but it makes a difference I think. Every transfer should be planned in that way

[Stacey Deakin - Appendix 13/ Transcript #5 / 103-108]

Despite Stacey having only spent a year learning to operate the hand frame, her description of the subtle differences in the stitch direction within lace patterns highlights her understanding about construction methods and the impact they can have on the overall design aesthetic.

It was also interesting to see that both Stacy and her mentor Reg approach their design work on the hand frame by 'playing' initially but then going back and making a more specific plan to follow during garment construction.

Knowing how each machine works allows the knitter to construct a balanced design and creates 'good' lace patterns. This knowledge aids the exploration process because it enables the knitter to be able to differentiate between patterns that look effective and those that don't. But this is also linked to the

Mr Hurt added that it was important to understand that pattern design is often limited by the capabilities of each machine:

HH: Yes well, each machine has certain restrictions, not every machine can do everything, but each machine can do something slightly different, its horses for courses in many respects. And we use the special ability of each machine to produce lace hand knit patterns. If a machine can't produce a lace hand knit pattern then it is not really of great interest to us. And each machine offers an opportunity to do something different, some are course gauge, some are fine gauge, some can do patterns you can't do on the other machines. And that's regardless of age, it doesn't matter how old the machine is if it can do something unique.

[Henry Hurt - Appendix 9/Transcript #1/ 83]

I was really inspired by Mr Hurt's words about the age of the machine not mattering when it comes to creative invention. The hand frames do have the ability to produce fabric which is structurally similar to modern fabrics, but is constructed in a far more complex way and also had that added element of being historically grounded as a traditional form of manufacture.

Mr Hurt went on to talk in further detail about the patterns that he remembers being made by one of the old framework knitters:

HH: Let's talk a bit about the hand frame, I do remember sitting in my hand frame talking Jeff on his hand frame, I was in Frank Oxley's hand frame and I was knitting my B28 54" shawls, and I said to Jeff 'This is a lovely shawl Jeff, its goes left it goes right, you know where you are all the way through it' He said 'Yes that was one of Frank's patterns' he said 'I've often 'eard 'im knitting an order, Mr 'Urts given 'im, and he's said 'who invented this pattern? He's got me going left, left, left, left, and then that drops me a stitch because of that' Instead of going right, left, there's a way of being comfortable in the hand frame, so the pattern doesn't pull the fabric away, and it's nice and flat, but it made me think that not anybody can invent a shawl pattern, it's got to be done balanced and symmetrical but it's also got to be done to suit the hand frame.

[Henry Hurt – Appendix 9/ Transcript #1/ 119]

Listening to the description that was given about the knitters designing and making lace patterns was inspiring for me as a fellow practitioner because I was able to visualise how these patterns were constructed, and what made them balanced and aesthetically pleasing to look at.

A further discussion about decorative pattern-making is provided discussed further in 7.6. the 'Creative Applications' subsection of this chapter as pattern design and garment construction were often intertwined with statements about creative practice.

From this section of analysis it is possible to decipher that Mr Hurt's expert knowledge of machinery was evident throughout his testimony and it was significant that he chose to talk about the different machines that make different patterns, making it clear that he highly values the techniques that can be made on the hand frame even though his company now only use power machines for their manufacture. His concept of 'exploration' was in describing the technical process of discovering new patterns, or revisiting old ones and adapting them to make them applicable to a current market. His understanding of pattern showed that he explores new ideas with a commercial application in mind and this was also emphasised by his willingness to try new things in the hope of finding a new creative application for his lace patterns.

Reg looked to the hand frames as a way of trying out new ideas, and was particularly motivated by the desire to keep the machines working. He used his free time to play around with new pattern combinations and it was through this process of trial-and-error that he was able to see how the patterns would eventually look.

Mr Hesketh lamented the fact that he had given up his machines, and frequently mentioned his desire to see if he could still work a frame. The way he talked about 'amusing himself' by making new patterns strongly demonstrates that his expertise and passion for framework knitting was put to good use as he experimented with patterns and stitches. Of all the testimonies recorded, Mr Hesketh was the most animated when it came to him talking about the actual process of making things. His memories of past events were so strong that he was even able to recall the way a machine sounded, or the heaviness with which a knitter operated his machine. This demonstrates the explorative process of designing and making knitted products was of significant importance to Mr Hesketh throughout his life, and it is tragic that his health problems have resulted in him no longer being able to practice that skill

Martin Green discussed the process of watching other people at work and trying to emulate the practices that he saw. This practice was also evident in the testimonies of most of the other participants who all identified the act of learning the hand frame as one that presented numerous challenges and creative obstacles.

Stacey's enjoyment of the frame was derived from the manual process of working the frame, and the fact that as a creative practitioner she was given a 'licence to play', using the hand frames to investigate her own creative ideas. She described the process she undertakes when planning a new patterns, and demonstrated that whilst 'play' was important to her exploration, it was 'planning' that enabled her to make sense of her design ideas and adapt them for the hand frame.

7.4. Communication

To address the issues of knowledge transfer that relate to passing on traditional skills and knowledge, this section of the chapter has explored evidence of communication of ideas and specifically looks at the narratives that are formed between hand frame practitioners.

This analysis began with Mr Hurt talking about the communication that took place between his company and another knitwear manufacturer that once existed in Nottingham:

RW: So once you acquire the knowledge of how to do a pattern, you can continue to use it if it is a successful pattern and people are still interested in buying it.

HH: And another of the firms also had a beautiful pattern that when you pulled it, it pulled loose in parts and tight in others and I always thought I'd like to do that, and when he packed up I bought one of his machines as well and I also inherited that pattern because he went bust about 1991. I have always kept fairly well in with other firms, I didn't think we could learn much off them, but we were saying you're never too old to learn.

[Henry Hurt - Appendix 9/ Transcript #1/ 122 -123)

Mr Hurt was always able to maintain a somewhat friendly relationship with his rival companies which is shown by the fact that he was able to inherit their patterns after they closed. Being able to communicate with fellow practitioners has been the cornerstone of this investigation, looking in detail at how knowledgeable experts share their skills and expertise with others and then communicate this out to a wider audience through their design work.

The communication of the personal learning experience has been addressed many times throughout these interviews and it is important to document how the knowledge of framework knitting is passed from practitioner to practitioner.

Due to the timing of this research it has become clear that many of the key experts on framework knitting are no longer available for interview. But whilst many former framework knitters and technicians have passed away, their knowledge has continued to live on in the stories told by the existing hand frame practitioners.

The discussions about communication between practitioners identified some of the relationships that exist between the experts and their apprentices particularly Reg and Stacey:

RW: So was it Reg [Robbins] that taught you to use the machines?

SD: It was yeah.

RW: What sort of learning process did you go through there?

SD: Well he [Reg Robbins] took me to Ruddington, an I learnt first there, you know to use the hand frames there, and then I was allowed time [at Hurts] I think it was Monday mornings, to come and use the hand frame as much as I wanted, and just experiment with it.

[Stacy Deakin - Appendix 13/ Transcript #5/ 42-45]

Reg provided Stacey with a nurturing environment where she was able to develop her ability to operate the frame and further explore her design development. In the case of each of the interview participants there have been mentors that have helped shape the type of practitioners that they have ultimately become.

Martin Green spoke of a man named Bert Aggis who was a well-known local man in Leicestershire at the time that Martin first became interested in framework knitting. Bert was a prolific photographer, and specialised in collecting and restoring old hand frames.

Martin discussed three hand frames that he now owns that came from Bert Aggis:

MG: It wasn't complete when he gave it to me, so when I bought more and more machines...it was one of the machines that is now in the shed over there now dismantled, which is a little bit sad. I've got three other machines that are dismantled in that shed...erm...that came from Bert Aggis...who used to collect machines...

RW: Oh right?

MG: ... and renovate them and sell them but he never sold them as working models he sold them as like features for the foyer of the knitting factory...

RW: Oh I see

MG: and so he made them look beautiful, and he did, he cleaned all the parts up how they never would have been, but they obviously looked good in the reception of a factory

[Martin Green – Appendix 12 / Transcript #4 /20-24]

Bert acted as a mentor to Martin, and in particular helped him to understand the importance of documentation. As a photographer, Bert collected many images of framework knitters at work and recorded the steps he took to recondition old hand frames. As a result Martin is now fastidious about documenting his process and has organised an inventory of all the machines he has come across. Bert Aggis encouraged Martin to respect the history of the hand frames and has passed on a wealth of photographs and technical expertise.

The interviews proved to be incredibly useful in identifying former hand frame practitioners that had particularly influenced the contemporary knitters. More than any other, Jeff Oxley was discussed, as it appears he has had an impact on every one of the interview subjects. Mr Hurt employed him, and was also his student, as were Reg Robbins and Martin Green. Mr Hesketh worked alongside him, and Stacey Deakin learned to knit on Jeff's old hand frame.

The Oxley family consisted of Frank Oxley, his son Harold Oxley and his nephew Jeff Oxley who worked for G.H.Hurt & Son during their most formative years as a shawl manufacturing company. This family group has played an incredibly important part in the continuation of the trade during times of decline, and in ensuring that the skills of framework knitting were passed on.

Reg was asked what memories he has of old framework knitters like Jeff Oxley and spoke about how he was first inspired by these old knitters:

RW: What memories do you have of old framework knitters like Jeff Oxley?

RR: Oh a lot of fond memories. They were all individual characters and they were all larger than life because I was at a young age where I was influenced a lot by people, especially people who knew what they were talking about.

RW: Did they have a good camaraderie between themselves?

RR: Oh yes, they were very close knit. I don't know, it's funny... it's... They were close and yet they weren't.

RW: They still maintained their separate space?

RR: Yeah

RW: How far did they talk to each other about their work and what they were doing and their patterns, things like that? Did they share patterns or were they a bit secretive?

RR: Unfortunately I didn't come in until the end when there were only two of three left and Jeff used to do all the...the Oxley Family had always done all the patterns and designing and [inaudible] I suppose with it being a factory instead of lots of different cottages, things like that, there was no rivalry or anything like that, they all shared... When we eventually came over onto modern machinery it was the hand frame knitters that transferred the thing over, sorry, when we came over to the straight bar knitting machine which is the nearest machine to a hand frame, it was the Oxleys that adapted the patterns and that, although they'd never worked on modern machinery, they knew how the needles and the points worked and where the holes should be...

[Reg Robbins - Appendix 10/ Transcript #2/ 103-110]

The idea of being influenced by experts became a key theme throughout this entire project. The experiences of past knitters are often used as a way of departing wisdom to a younger generation. Martin Green told a story about some of the wisdom that Jeff Oxley shared with him during his early experiences learning to use the hand frame:

MG: Jeff Oxley when I first started sitting with him in Hurts... and he said to me 'When you find a good pair of boots, lad...he presumed everybody still wore boots... 'When you find a good pair of boots, lad, don't use 'em for anything else, leave 'em next to the machine'

RW: ...and so the boots are there next to the machine

MG: The knitters had like their 'day' boots that they went to work in and then they had...

RW: they had special ones?

MG: like 'knitting' boots. [Laughter]... but if you didn't know that you might think 'I wonder why that old pair of boots are next to the machine?'

RW: I suppose it's like any kind of footwear if you use it outside, you wear it down more...

MG: I chose it with these...with certain...certain soles slip on the pedals and others don't

RW: Well, being a girl, I've worn many ridiculous pairs of shoes to try and...

MG: what, flip flops? [Laughter]

RW: well, not flip flops but because of the Health & Safety and risk of losing a toe!...well things like this...

MG: I only use certain...it's changed over the years but now these are the only shoes I ever knit in and have been for the last few years...say five years...haven't knitted in any others...I will not knit in any other shoes than the ones I'm wearing...because...I know they don't slip...it's the devil you know...

RW: You can just work better and faster...

MG: I used to wear trainers and they are fine...it's got to be something that sticks to the wood...especially if it's wet outside and you walk in and you don't want to have to wait ten minutes for your shoes to dry, no.

[Martin Green - Appendix 12/ Transcript #4/ 274-287]

It is the small insights about personal approaches to practice that demonstrate the importance of the interaction between expert and novice. The communication of the learning process between Jeff Oxley and Martin Green demonstrates that the whole process of immersing oneself in learning a new skill must also take into account the mentor's 'helpful hints' that do not necessarily improve the ability to understand the technology, but it gives the novice an opportunity to think and act like a framework knitter, to get into the mindset of an expert. It is possible to learn about the hand frame through reading literature, and through experimenting with how the machine operates, but it is the little pieces of advice, like suitable footwear choices, that make the difference between a good knitter and a great knitter.

Mr Hurt also discussed the Oxley family, particularly the way they interacted and shared expertise:

'HH: Yes the Oxleys were a big family that were involved; in fact the Hurts weren't as strong as the Oxleys really.

RW: Would the company have suffered without having the Oxleys' presence here?

HH: Oh yes, I was saying this the other day, if you get a group of people together and they're functioning well and it works, they feed off each other, it's like perhaps when you were at school. What occurred to me when I was in school, there were six of us that were encouraged by the teacher to paint a lot. One or two of them were really, really good, but the rest of us were dragged up, by those good ones and even we became pretty good painters. And I've heard tell many, many years later that the best group of painters ever in the school was our group. But I wasn't the best by any means. You know it's like a football team, that's gets suddenly to the top of the league, it's because they all gel together.'

[Henry Hurt - Appendix 9 / Transcript # 1/ 26-28]

Henry went to report tales of the other members of the Oxley family who worked for his company over the years:

HH: Frank Oxley. who wasn't Jeff's father but he was that generation, led his family from the top, and his patterns were always the best, well at least they were to him! And so he was the one who decided if the pattern should be altered for the benefit of the hand frame knitter so they could produce more, or it made it easier or they wouldn't drop as many stitches, or make as many mistakes.

[Henry Hurt - Appendix 9 / Transcript # 1/ 165]

Frank Oxley, the pattern developer, focused his expertise on developing well balanced and creative lace-hole designs that contributed to the overall shawl aesthetic. In a contemporary context, his skills show creative exploration and an ability to demonstrate a dedication to detail and intricacy.

Mr Hurt also spoke of how mechanical knowledge was a key feature of Jeff Oxley's early technical education:

HH: Well his family helped Jeff learn, and Jeff was the only one amongst all the family that decided that the mechanical side of the frame was more important than being a knitter. Or 'you can't knit if you don't know'. So a lot of the knitters didn't have any mechanical know-how at all, they had a bit obviously that they'd learnt over the years, but they could always call on Jeff. Allan Cooke always called on Jeff if they were making a hand frame for other people. They called on Jeff just to go over it and 'tell us what's wrong with it' before it goes out. And Ruddington museum, the very first frame that they had put in, Jeff went to see it was working.

[Henry Hurt Appendix 9/ Transcript #1/ 1]

Henry clearly reports the fact that the knowledge Jeff acquired through working alongside his family gave him the necessary expertise to communicate those skills to others and in particular educate those who asked for his advice. The communication of knowledge between practitioners in Jeff's case appears to have been conducted to widen the scope of people who knew about framework knitting. He passed on his knowledge willingly and this is demonstrated by the fact that all of the existing hand frame practitioners link back to Jeff Oxley in some way based on the places where he shared his knowledge.

As well as mechanical expertise, and the ability to creatively interpret patterns, Henry Hurt suggests that being an effective knitter was reliant upon an internal rhythm, to which the knitter could monitor his pace. :

He was a bit of a deliberate knitter. We had better knitters, but not people who understood what was happening. His cousin Harold Oxley was the best framework knitter. He had such rhythm, and as soon as he'd finished his 60 scarves a day, you know it was time to go home. He stopped. People often asked him if he'd switched it on because it sounded so rhythmical. Like a machine. They didn't believe that he drove it himself.

RW: So you have Frank Oxley who is the 'pattern' expert, you've got Jeff Oxley who is the 'master mechanic', and you've got Harold Oxley who was the best knitter. So you had different generations of the same family who all brought different skills to the process so between the three of them, you had a really refined product.

HH: Yes we refined it better than some, who didn't have that sort of background.

[Henry Hurt Appendix 9/ Transcript #1/ 167-169]

Frank Oxley applied his knowledge and expertise of pattern construction to develop intricate and detailed designs that demonstrated a high level of skill. These skills were passed down to the younger generations of his family and have subsequently been passed on to the likes of Henry Hurt and Martin Green through their interaction with Jeff Oxley.

Harold Oxley perfected the skills of being an autonomous knitter, producing a pace and rhythm to his knitting practice that showed his understanding of being able to listen to his machine and adapt his practice accordingly. When operating hand frames now, this type of skill is essential in reducing the amount of damage done to already fragile machinery and keeping them in the best workable condition.

Jeff Oxley became a master mechanic and had the ability to recognise the technical imperfections to each individual machine and make alterations to improve their performance. The importance of machine maintenance is now a high priority for hand frame practitioners particularly with the ever decreasing numbers of frame mechanics available. His expertise was invaluable in setting up the hand frames at the Ruddington Framework Knitters' Museum in the early 1970s.

Mr Hurt believed that the hand frame could still be used commercially by knitters if they had the same skills as Jeff Oxley:

RW: Well going back to what you were saying about Jeff Oxley going to Ruddington and helping them set up their machinery, in 1972 when they were setting the museum up with 'old' machinery, yet your company were actually still using that machinery in regular production. There is a real transitional period there between the last days of the framework knitter...

HH: I think you'd have to say that 1986 was the last time we used them fully commercially, so we were the last, no actually there is one man in Kirby Muxloe who is still making a living out of using it. I mean if I had a hand frame knitter who was a 'Jeff' I would still...you know. It can be done, it depends of the level of ability and enthusiasm.

[Henry Hurt – Appendix 9/ Transcript #1/74-75]

The Oxley family provide a rare insight into the collaborative nature of framework knitting to show how independent practitioners do have different types of expertise. It is now important for current knitters to work towards being technicians, mechanics and pattern designers if the skills of the hand frame are to survive to the next generation.

Yet not all of the experiences of the remaining knitters have found that practical knowledge was easy to acquire. In many cases the older generation of knitters were not forthcoming when passing on their knowledge as Martin Green explains:

MG: Do you know, that when I went round in...and found out in 1979 about how these Framework Knitters were working...I went round then to Hurts, to Woollett's and to Bucks and it's only Jeff Oxley who would really open up. He told me...don't matter what I asked him, he told me...do you know the others would talk about football and other things but at Bucks and Woollets, they'd...

RW: Try to distract you?...

MG: Yes, they wouldn't talk about Framework Knitting and wouldn't talk about their jobs...

[Martin Green - Appendix 12/ TRANSCRIPT #4/ 686 -688]

I then asked Martin why he thought some of the framework knitters were so secretive:

MG: But that's business isn't it? But with the Framework Knitters, there were rows and rows of machines in 1979 but they weren't all full of knitters and the new ones that were coming along were getting out the trade because they could still then... and the only ones that were left were the older ones, that it was too late for them to learn another trade. The writing was on the wall [about the trade] but it was in their blood but they couldn't change themselves could they?

RW: No

MG: But it was ingrained into them you don't tell anybody the tricks of the trade so thank heavens for Jeff Oxley. I looked it up after you phoned, I've still got the notes that I wrote down in my book that he told me...on the back page of this book it's all like in shorthand...you couldn't read it

(Martin Green Appendix 12/ Transcript #4/ 690- 692)

The secrecy of the framework knitters was clearly very strong, and this perhaps explains why Jeff Oxley appears to have been viewed as a different sort of thinker for his willingness to share ideas coming from an industry that actively prevented the communication of ideas and techniques.

Henry Hurt also described the secrecy of the knitters:

RW: How secretive were the knitters about their patterns?

HH: Well between six firms each apprentice approaching the same market, they tried to out-skill each other. And sometimes, if they got an order that was really big they did actually share it out amongst themselves. So there was a certain amount of secrecy, far more than there is these days. Because the fella up the road can't nick your idea. We sit here and we think, 'what can we do new this year?' how can we put a new impetus into it. We come up with various ideas, well if they all do it at the same time, although it's strange...when there were more hand frame knitters doing it, the market was bigger. The market diminishing has reduced the number of people doing it. It isn't as if the last one [company] left is going to do six times the amount of work. It never works like that. It's just that we've managed to absorb all their best points.

(Henry Hurt Appendix9/ Transcrip#1/84-85)

The secrecy of former knitters has inevitably hindered the amount of information that is currently available about past practices and the use of the hand frame in industry. All of the interview subjects had learned the skills of framework knitting, but not all of them had passed their knowledge on further. So the interview questions were shifted slightly to find out how current practitioners had communicated their own skills by teaching others to operate the frame.

I asked Mr Hesketh if he'd ever taught anyone to use the frame:

RW: You're very thrifty using it all again...I mean how many...have you taught people to use the hand frame?

AH: Yes, lots of people

RW: Yes, how many people do you think you've taught?

AH: There's one that was the minister at the Baptist church...I remember him, 'cos he used to come to see gaffer and used to stand and watch me like...and I had him and it weren't long before he we' like you knitting...knitting them like and I went to his church once, not so long ago...five years ago perhaps and he told his congregation all about me like

RW: Arrh [Laughter] I suppose you've been quite responsible for passing on some of the knowledge then and your skills

AH: Yeah...I have like...my own son...thinks he could work one like...he's down in Bournemouth...

SB: oh he's older than me and had to do the National Service so he actually went in the catering corps as a chef so after he'd gone and done his National Service, he never actually came back into the trade...he didn't enjoy it as much as Dad did

RB: What a shame

SB: He found it really hard work...I don't think he was as strong as Dad to be honest

[Arthur Hesketh - Appendix 11/ Transcript #3/ 247-255]

The discussion developed later to inquire as to how good his apprentices were:

RW: Have you ever taught anyone to knit who was just absolutely hopeless...just couldn't do it all? Or do most people take to it alright?

AH: No I don't think I've come across one that's not been teachable, no

SB: Perhaps people wouldn't go into it... you only really ask if you want to go into it

[Arthur Hesketh - Appendix 11/ Transcript #3/ 261-263]

I liked Mr Hesketh's notion of some people being potentially 'unteachable' as framework knitters. I am intrigued to know what makes someone this way, and how much time would need to be dedicated to early exploration and communication before all hope was abandoned. My own prior knowledge of knitwear design meant that I began my learning journey with some degree of skill and awareness of knitted structures, but my motivations for learning the hand frame were linked to my desire to explore the academic boundaries of knitwear, which is not the case for most new knitters that learn the skills of framework knitting.

Martin Green spoke about the somewhat unsuccessful attempts he made to encourage his daughter to learn to operate the hand frame:

MG: I taught Annabelle, my daughter to knit on the machine but you couldn't encourage her to spend any length of time learning how to do this...because...well...you know...it's...there's no finish...I don't think you going to make a good living at being a Framework Knitter so it's a difficult one isn't it?

[Martin Green - Appendix 12/ TRANSCRIPT #4/ 516]

He recognises the difficulties faced with learning to use the hand frame in a contemporary society where the technical skills are vital in supporting a heritage craft, but are unlikely to ever be applicable for contemporary mass-production. Although Martin Green has a profitable business working the hand frames, it is in itself a 'one-off' and it thrives on the fact that it is a unique form of production, albeit a modest one.

A question must therefore be raised. Why would anyone want to learn to operate the hand frame if they can never make any real money from it? To try and address this problem I looked to the responses Reg gave about how he communicates the knitting process with the students that he teaches to use the hand frame:

RW: When students come to Hurts on placement are they always offered the opportunity to learn the frame?

RR: I offer everyone the opportunity to do anything they want to. Whether it's the hand frame, making socks on the Griswold's, the hand operated machines, even the computerised machines. They can make what they like. It's only fair to give them a certain amount of time. It's up to them as to what they want to learn. I like to give everyone a go at everything and let them decide what they want to do.

RW: Have you found that people that you have taught the hand frame to have really got really interested in it, in the same kind of way that you did?

RR: Um, only a couple. Some people find it easy to learn the initial part of it, but to actually understand the knitting and go on further there's very few that are willing to put the time and the effort into it.

[Reg Robbins - Appendix 10 / Transcript #2/ 137-140]

It was interesting to see that Reg was very willing to pass on the knowledge of knitting to another generation, but understood that the craft would only be preserved if he was able to pass it on to knitters with the necessary drive to use the skills effectively once they had been acquired. This subtly suggested that there were some people who he felt would waste the opportunity of learning to use the frame by never applying it or passing it further.

He was later asked why he felt it was important to pass his skills on to other people:

RR: Oh yes. Well its part of your heritage and its part of the history of... there are virtually no textiles firms left in Nottinghamshire and Leicestershire, let alone the ones with the real history. And the main part of that history is the hand frames. And once it's gone it's gone.

RW: Do you feel like you have a responsibility to help pass that on?

RR: Oh yes. I feel that I have a responsibility to anybody that's ever taught me anything. Not just the hand frames, but the first mechanical machines, the electronic machines and even the computerised machines. Because everyone I've ever known who ever did them is either dead or retired now. If I don't show anybody then it has gone.

RW: I feel sort of similar now. Now I've learnt the skills, it would be a shame if I didn't pass them on to somebody else.

RR: You feel responsible. It's as if someone has handed you something and said 'Do what you like with it', but... it's a responsibility

[Reg Robbins - Appendix 10/ Transcript #2/ 120-124)

This idea of the skill of framework knitting being a 'responsibility' is one that conjures up a vision of the existing knitters carefully carrying 'the torch' of framework knitting, looking for a way to pass it on to the next generation. But it now appears that these exchanges are becoming far scarcer and it may not be long before there is no one left who is able to pass the information on.

Reg talked about the four or five students he was taught to use the hand frame over the year and expressed his disappointment that more of them hadn't continued to use those skills creatively:

RR: Unfortunately I don't think any of them are actually doing anything with the knowledge. But you never know. I hope that if you teach a student, they'll go through, finish their course, go and do a job and then eventually turn round and think to themselves, 'oh I've got this bit of knowledge maybe I ought to go back and use it'. So hopefully someone will come back in another ten years and turn round and say 'can I work the frame?' If you teach enough people, surely somebody's got to come back.

[Reg Robbins Appendix 10/ Transcript #2/128]

Reg's view that teaching as many people as possible seems like a logical way of ensuring the craft of framework knitting is not forgotten. But this learning will clearly need to occur in locations where hand frames remain available and in a working condition and under supervision from experts with the necessary skills to make sure that traditions are passed on effectively.

As one of the few students who has shown dedication to the craft of framework knitting, Stacey was asked what her feelings were about passing her skills on to others:

RW: Now that you've learnt to use the hand frame, do you think at some point in the future you'd like to either continue working with them or maybe be responsible for maybe teaching somebody else, like a future generation?

SD: That would be...yeah definitely, I think that would be interesting. Especially at places like Ruddington, where people can go and learn. A lot of people don't know about it. I think it should be more...taught in... like knitwear at universities and things. A little bit about the history because nobody...I knew nothing about it.

(Stacey Deakin Appendix 13/ Transcript #5/ 81-82)

The point Stacey made about framework knitting being taught in universities is an interesting one. Within Knitwear Design education the emphasis placed on understanding the history of the industry is rarely taught, if at all. This seemed odd to me, particularly with reference to fields of Fine Art such as Painting or Sculpture which focus heavily on training their students through examining the art practices and process of classical artists.

I wondered why this was not the case in knitted textile design. Why was the history of Machine Knitting not of critical importance within Knitwear Design education just as Art History is within Fine Art education?

It is a question I have yet to fully answer.

But there is a glowing ember of hope that the skills of the hand frame may yet be used to light future creative fires.

It is not enough then to just learn how to operate the machines. We are now in a situation where if the practice of framework knitting is going to live on, each practitioner must take responsibility for passing on what they know to others. Both Stacey and Reg talk about 'showing people' how to use the hand frame, as an essential part of the preservation and transfer of historical knowledge. This links back to the notion of performance previously mentioned, which provides a significant contribution to the creative understanding of how the hand frame can be used in a contemporary context.

Mr Hurt continues to use his influence and expertise to support the on-going nature of preserving the hand frame, presenting an opportunity to generate new creative dialogue between heritage and academic institutions:

RW: How are you continuing the framework knitting skills? Obviously me being here is a big part of that, being able to pass on knowledge.

HH: We cooperate with Trent, Ruddington... Ruddington Museum helps us a lot and we help them. It's a sort of reciprocal thing, and if people continue to be interested, then we continue.

[Henry Hurt – Appendix 9 /Transcript #1 /170-171]

It is this 'co-operation' that has ensured that both Ruddington and G.H.Hurt remain active heritage locations, each supporting the other through marketing, sharing practitioners, and encouraging new users. The Museum and G.H.Hurt are now almost solely responsible for maintaining the industrial past of the hand frame, and therefore, their ability to work together to preserve the past is mutually beneficial, and ensures that the hand frame can continue to act as a bridge between the craft practices of the past, and the mechanised future of knitted textile production.

The desire to pass on your creative skills was demonstrated most evidently during the interviews by Martin Green, who got on to his hand frame and actively showed me how he operates it. I was a new audience for his skills and as a result he chose to use the time in the interview to teach me something new:

MG: What I do do...and it tells you on this...so I might as well not tell you... because it's on the video if you look at Leicestershire Industrial Society video, but I do what Jeff Oxley did and that is I don't divide...and the only reason I do it is because that's how he was knitting, so I do that [Demonstrates] and normally divide it like that and pull that dividing stitch underneath and it's a stitch...but I don't and Jeff Oxley didn't either...

RW: Oh sorry...show me a bit slower...

MG: [Demonstrates] I form a stitch and then I just rest the sinkers on the top of the loops and then you divide there

RW: Oh I see

MG: There's no divide you see

RW: You're barely even pressing your sinker pedal down at all

MG: Yes if you press and make like a quarter divide

RW: Just enough

MG: Things start to go wrong so you've either got to divide fully and not divide at all so you've got to be really gentle...and just rest it on top see I haven't divided

RW: But you've got a great length of loop hanging now...

MG: Yes...but it divides here doesn't it

RW: I see...when you split it ...

[Martin Green – Appendix 12/ Transcript #4/ 490-501]

From the transcript analysis we can see that the current communication process between practitioners varies considerably from the limited communication that the framework knitters had when the hand frames were still in commercial use. In the past, the skills of working the frame appear only to have been shared openly between family members, to preserve the technical knowledge by remaining secretive about pattern construction methods.

Now that there is no commercial competition as all but G.H.Hurt a & Son have closed there is far more information being shared willingly amongst practitioners, and even the construction methods of formerly top secret patterns are now up for potential discussion. The loss of the framework knitting trade has supported the growth of the heritage industry and as such has provided an environment where knowledge about the hand frame is now being openly communicated. But this can only continue for as long as there are practitioners willing to take on the responsibility of learning the craft of framework knitting to enable it to be passed on to future generations.

7.5. Implementation

This chapter has already examined the factors that have inspired the current hand frame experts, particularly recognising their individual motivations for wanting to learn to use the hand frame, and has then examined how they have explored their skills and communicated their ideas between fellow practitioners. This section of the chapter looks in greater detail at the way these framework knitters have implemented their knowledge to provide ways of keeping the craft of framework knitting alive.

From my time spent knitting and demonstrating hand frames at Ruddington Framework Knitters' Museum I was able to observe that the knowledge of framework knitting is implemented in a particular way to enable the museum visitors to see the technology of the past in situ as part of a 'working museum'. What was clear from the discussions with both Martin Green and Mr Hurt was that the 1970s were the pivotal point in changing attitudes towards the preservation of historical knowledge, and it was at this stage that greater support for preserving the skills of framework knitting was being implemented. At this time, Martin had begun to learn about the hand frames and had forged links with several knitting companies including G.H.Hurt, who were coming to the end of their time using hand frames for commercial manufacture and were looking to preserve the heritage of their company. G.H.Hurt never intended to become a museum, but their presence as a heritage location occurred almost by accident as the company retained its old hand frames due to financial restraints.

Mr Hurt spoke about when he began to realise that the hand frames could be used to preserve the skills of the past:

HH: It was in the early 1970's that we first discovered that we were interesting. Our old frame knitters were knitting there day in and day out and they didn't realise it was historical or hysterical, or whatever, and they just knew it as a job, they had done it all their lives, and it was only me who really started to promote some of the framework knitter's characters themselves, because they sold themselves. Once I suggested that the Women's Institute came round, and we organised a day and Jeff transpired to be rather a star, I'm sure that some groups came round just to see Jeff. 'Ooh have you been to that place where that bloke is' It got a bit over the top eventually, he didn't know where to draw the line. It all followed on and that's really where we got him on the British Empire Medal list, but it was only his love for the frame, He always said he would be happy to die in his frame if necessary, there or in his garden digging, because they were the two loves of his life.

[Henry Hurt - Appendix 9/ Transcript/ 107]

From Mr Hurt's statement we can begin to see that implementing skills of framework knitting through demonstration was even being conducted by the likes of Jeff Oxley, who was a lifelong commercial framework knitter. This indicates that there were major changes being made at that time in industry, and the desire to pass on knowledge of the craft was now becoming more important to the knitters than their previous secrecy had been.

Mr Hurt identified that one way of preserving the past was through the framework knitters themselves. Instead of just talking about the mechanical processes it was important to observe the human element. Exploring information about the knitters, as well as their machines, became a way to access and interpret a new type of historical knowledge.

This inspired this study to record as many of the past practices of framework knitters as possible to ensure that the decision-making process was recorded well as the mechanical processes. The implementation of skill is about being able to use what you know to help enable someone else to understand why you love what you do.

To address this idea further the interview participants were asked to talk about ways they had personalised their machinery and their knitting, in order to implement their own working practice.

Mr Hurt began by discussing how Jeff Oxley frequently adapted the machines at G.H.Hurt & Son to make them more efficient and able to produce a wider variety of lace patterns:

HH: Yes my father told Jeff, 'Go and get a nice matching off Cooke's at Ruddington and we'll get it renovated up to date', and get it so it will do the feather pattern and various things, and he had all the sinker eyes cut out a little bit higher than is the norm which meant that we could do this feather pattern which was very desirable for ladies jumpers and our best customer had a lot of that fabric, but the other knitters didn't really like to knit the pattern because it wasn't quite right for the machine, but he [Jeff Oxley] adapted the machine, and what he put in was a 'Shogger', it has two big screws at the side at the top, if you want to change the size of the stitches that you make. The sinkers drop onto a plate and it's adjusted with two screws so that the lower you set it the bigger the stitch. And he was making these B1 Shawls... the thing is about these shawls is that they had a plain centre, and a patterned border. And the plain centre, his instructions were to knit a border then knit the plain centre but screw up your tension so you got a tighter plain bit in the middle and it would pull into the middle and look a perfect shape. Oh he got fed up screwing these things so he put a long strip of metal in so that when he shogged it to the left it raised them, and if he shogged it to the right it lowered them. And that's not an innovation on any of the machines except his.

RW: It seems as if he [Jeff Oxley] was a master mechanic really. He knew exactly how his machine worked, what it did, how it felt, and what he could do to it to make it work better.

HH: As soon as he got in a hand frame, he knew what was wrong with it. He could feel it, and we even perfected noise, I know on one or two of our frames because we had the Noise Abatement System, removed, but it made the whole factory a lot quieter when you started adding in strips of rubber...

[Henry Hurt – Appendix 9/ Transcript #1 / 149-151]

The mechanical know-how of knitters like Jeff Oxley revolutionised the way that companies like G.H.Hurt & Son could use their hand frames to produce knitted lace products. They adapted machinery to suit the type of product that they wished to make, and in that sense invented a new system for implementing mechanical skill.

Martin Green also discussed adapting his hand frames:

MG: So I had real problems when I was setting this machine up because I found it very difficult to adjust the transfer bar to match up with the needles and I was forever undoing these things here and once you've undone it, it's everywhere...you put it back and it's still not right...so what I did was I made an addition to the machine by the addition of these...there's one at each end...which is a little nut so I never undo this bolt or anything else...I only shog this from side to side...if I want to adjust how far it goes to the left and to the right, I turn that little bolt...my little, secret little adaption.

RW: That's brilliant

MG: And so if you turn it anticlockwise, this will move and you can turn it like a thousandths of an inch...now I can adjust it and I've got one just here just the same...what I did when I tapped, 'cos there's no locking nut on it at all, when I tap them, I tap them 'badly' if you want to put it that way, so it wasn't fully cleaned out the thread so when you put the nut in it's very stiff...so you never need to lock it, it'll never move!... You'll need a good size spanner to move it...

RW: Yes to actually get it out

MG: so it's locked all the while like...exactly the same at the other end so it means it's so easy to adjust for the shogging...so that's how far it goes to the left and until I did that I couldn't get this machine to work at all.

[Martin Green Appendix 12 / Transcript #4 /607-611]

Martin's discussion about the adaptations he makes to improve his working practice demonstrate clearly that he has an exceptional wealth of mechanical knowledge that he is able to put into good by designing new ways of making his machine work to its potential.

His knowledge of machine building was very much learned as he went along as is shown from his discussion about the first frame he acquired:

MG: I think the older ones were upstairs; No. 8 is a more modern machine so it was downstairs. Yeah. So that's my first machine, got it in 1979, took me nine months to get it to go...

RW: [Laughs]

MG: ...had no frame...

RW: So how did you go about starting to... kind of... make it work again? Was it a lengthy process or was it something that ...?

MG: Well obviously, I was really in uncharted waters with my first machine, I had no idea what I was doing really. And it hadn't been used, Bucks had bought it fifty years or however long ago before, and it hadn't been used and it had just been left ...in the knitting room, so it was just... it was absolutely covered in dust and rubbish and it was solid...you couldn't move it.

And so...it was...you could say it was a bit of a bad buy really, but in fact in that it had had a recruit before he'd [Bucks] bought it, it was a good buy when I got it going, but it did take me nine months to get it going. I had to make a ...the frame is an old frame that came from Woollett's Yard. It was outside, in a big heap

RW: Oh lovely 😊

MG: There were no complete frames...so it's got one rail...the foot rail as you can see is a foreigner ...it doesn't actually match...it was 4 and a half inches too wide, I had to cut 2 and a quarter inches off each joint.

RW: Yeah I suppose a lot of the machines are like cannibalised from other machines these days aren't they?

MG: Yes...well obviously any industry that's in decline rather than buying new parts, they'll just pinch a part off another machine, which is a terrible thing to do...but that's life isn't it?

[Martin Green – Appendix 12 /Transcript #4/ 42-51]

Renovating his first machine was clearly a labour of love for Martin who took many months to complete the build. There were many obstacles to overcome when completely rebuilding a hand frame, particularly one that did not have all its original parts when it was acquired. Much of Martin's testimony talks about how he was able to adapt and build machinery, to suit his purposes, which is as much a contribution to the understanding the 'implementation' of knowledge as actual knitting is.

He starts by recollecting his attempts to buy a particular hand frame for his collection which required the help of a man named Russell Kempton whose family had been a big manufacturer of bearded needles. Russell was an avid collector of hand frames, many of which were rare models. Martin talks about how Russell helped him to acquire a new machine:

MG: He [Russell Kempton] erm...bought the whole bank...because I tried to buy this machine, I wanted this machine, because I needed a shawl machine and the receiver wouldn't split the row of machines up, he wanted to sell them all at once. And I couldn't have bought them, I wouldn't have had anywhere to put them but Russell Kempton luckily bought them all and let me have this one. And in fact I've been...I started renovating that two years ago and then other things happened, and I'm still renovating the machine, which is a bit of a sad story, but it's a nice machine.

[Martin Green - Appendix 12/ Transcript #4/55]

Martin applies the knowledge he has about framework knitting into projects that include the full renovation of the machines he can find. In this way he implements his technical skill not only through knitting, but through building new machines, or through taking old and incomplete machines and making them work again.

He discusses this process:

MG: And so...But this machine actually came from Ruddington. This machine went presumably from Bucks to Ruddington, and then Ruddington erm...wanted to use the frame ...it was in poor condition...they wanted to use the frame for another machine and it had got parts missing and they offered it to me and so I made the whole frame for this one...

RW: So it's all been built...you've built it all up...

MG: Yes, the end pieces and the back pieces came from Hurts' cellar. God bless Henry Hurt

RW: Arrhh yes

MG: And then I made the rail...can you see the rails are all new, so I made the rails and so this is the most documented machine. It's got a whole book full of photographs....because it was really my baby...

RW: Oh I can see

[Martin Green - Appendix 12/ Transcript #4/ 105-110]

At that point he showed me the photograph albums which document one of the hand frames he acquired from the day he brought it home in pieces in the back of his car to the day he made it work again. It is very clear from his vast and detailed documentation that the enjoyment he derives from framework knitting is gained through using his technical competence to revive old machinery. He complements his knowledge with skills passed on through observation and the re-telling of stories, and other things are passed on through acquiring a practical skill and using it to demonstrate a process or action. In this case, passing on 'technical' knowledge requires a more physical and hands-on approach than 'mechanical' knowledge.

His learning process was almost entirely self-taught and self-initiated and as a result, his expertise was sometimes incomplete. He said that many years ago he was given a beautifully fashioned metal part for the hand frame by Alan Cooke, once the frame-smith in Ruddington, but still had absolutely no idea what it was for:

MG: I went across to Ruddington once...I don't know whether I'll be able to find it [walks away down workshop looking for something] and err, and err, what was his name...Cooke?

RW: Alan Cooke?

MG: Yes, Alan Cooke came round and said 'Oh I've found a part for your machine', and he gave me this piece of metal, beautifully made and machined and so I said 'oh thank you very much', and then I came home and I still don't really know what it's for [Laughs]

RW: [Laughs] have you ever found out?

MG: No! Well I know what it is and I've found its mate, [Looks for it in workshop] I don't know where it is, I can't believe I can't find it ...can't believe it...got to be in the box somewhere...but I found a...a similar piece of metal...the same but different on the machine...and err...but it's to do with the quality of it...I think I took a photograph of it [shows photos]

[Martin Green – Appendix 12 / Transcript #4/ 72-76]

We can see from Martin's experiences that building up a hand frame was not always a simple process, even for a practitioner with extensive technical knowledge. His ability to adapt around the problems that were encountered during the construction of the machine allowed him to develop an acute set of problem-solving skills which have enabled him to implement his practical knowledge in a way that allows him to overcome mechanical obstacles.

This technical ingenuity was also displayed by Arthur Hesketh who renovated and built up many frames over his lengthy career. He told the tale of when he first returned from his stint in the Army during the war years and how he found himself without a working machine to operate:

AH: When I come out of the Army I worked for a firm called Hardy's, and when I got back there was a man called Taylor in charge who'd bought the firm like, and the same men were working there as I went for my job back that I had with Hardy's and he said 'no I can't', and on the shop floor there were half a dozen frames all in little bits. Then men used to go and fetch a spare part if they wanted one, there were all bits and bobs like.

RW: How come that had happened?

AH: I said to him, I said... He said he hadn't got a frame like, well I said 'I could put a frame together, I could put a frame together out of what you've got on the floor'. He said 'You couldn't'. I said 'Yes I could. If you'll give me employment I'll put a frame up and work it like.' And he did do, and I thought...bit of crafty again like, I'd put a frame up with four-at-once. I'd seen one of the men and he's got some good work, easy work, and quick to make, and I thought I'd build this four-at-once that would make this work. And I built it, and when he saw it he marvelled like, but he gave me orders like. And then...I don't know. He gave me the order that he gave my friends in the... and they went into complain that he was giving me the order that they were meant to have. The good pay orders, you know. And they complained so he took me off it and put me just on ordinary work. I'd built it for the purpose of making the best work like, but he made me make this [simple] sort of work like. We used to have truckloads of Russian orders, you know a little bit for a dozen. I don't know what it was but it was coppers for dozens like and you could make them quick. Five courses to an inch, and this pattern [He indicates my simple patterned scarf], you wouldn't make anything better than that.

RW: Just something small and simple?

AH: Cheap, very cheap. And I was on them like, but you know, it was a living. More than I could earn at other places.

[Arthur Hesketh – Appendix 11 /Transcript #3 /101-105]

With a single hand frame consisting of well over 2000 parts it is an extremely impressive feat to be able to build an entire frame up, even for an experienced framework knitter. Mr Hesketh's mechanical skill had not been affected by his years spent away in the army and he was able to slot back into his craft once he had returned.

He also went on to talk about the hand frames that he bought for his own personal use that he kept in his conservatory at home:

RW: So did you... sometimes really enjoy your work? Was it a job that you really enjoyed doing?

AH: Oh yes I always used to enjoy it, well as I said I took four frames of my own, like! I didn't buy them old, I bought them in, you know, couldn't work state. Built 'em up.

RW: You built them back up to working order?

AH: I could get the parts from any firm where I knew they were loose, like. I worked for them all and the loose parts were always shoved to one side, like. You could always get what you wanted.

[Arthur Hesketh – Appendix 11/ Transcript #3/ 135-138]

Mr Hesketh's mechanical knowledge was demonstrated in his ability to discuss lace pattern terminology and manufacturing processes, but he wondered how his technical skills would now be after having not knitted on a hand frame for over 20 years. He pondered;

'I was wondering if I was strong enough to do a course [knit a row].'

[Arthur Hesketh – Appendix 11/ Transcript #3/ 260]

Despite his recent inactivity, he was positive he would still be able to do it:

AH: I could visualise it...I could set the machine out...well I think so...when I dream about it, I think I could still set the machine like, same as I used to do

SB: He dreams about it...

RW: Aaww

AH: All the parts and the way that they handle and everything such as ...you've got your sinkers at the back like...and then you've got your draw...I don't know what to call 'em like ...but that knocks the sinkers down

RW: Oh yes, I know what you mean

AH: and all that kind of thing and the setting up of the wheels with the string like...I think I could manage all that like...if you was catching your needles with your whatisits...I could set it right like...all that kind of thing comes back to you like...you think you could...I think I could do it now like

RW: I suppose you did it for so many years, you really get involved in it because it's such a personal thing 'cos it's you and your machine

AH: yes, yes,

[Arthur Hesketh – Appendix 11/ Transcript #3/ 472-479]

In spite of his age, Mr Hesketh's belief that he would still retain the technical skills necessary to operate the hand frame may be true, as the process of operating the hand frame does become autonomous over time. I have no doubt that, given the chance, he would be able to demonstrate the technical abilities that he spent a lifetime perfecting.

Mr Hesketh spoke fondly of his conservatory at home where he once kept four hand frames:

AH: When I got the ones I had on my own, you know, the ones I had in my garage, I could play with them. I used to amuse myself making different patterns, like.

RW: Do you think if you still had one of your hand frames you'd still be tinkering around on it?

AH: I think about it often. When I gave them away at 80 I'd had a slight stroke and I thought that was the end, like. So when this chap came to look at them he said he'd got some and I said 'You can take that one away', like. He jumped at it, like. Ooh he was eager to get it away. It was the same with the others, I gave all of them away. And I thought, I wish I hadn't done.... I used to put them in my greenhouse, well it was a conservatory, and it was only five or six foot wide, but it used to have a hand frame in, close to the wall, like. I used to come out of the back door and hop on the seat. I used to play allsorts with them, like. I could build them up, I put my woodwork up, then I could go to work on them, like. I could make whatever width I wanted. If I wanted to make scarves like yours... I should make a six-at-once or a four-at-once. Whatever, like.

RW: I suppose because there's so many working parts in a hand frame, there's so many, you know, needles and so many sinkers and pedals... it's a complicated machine.

AH: Well I had truck-loads of spares, like. I mean needles, I had six at one time, I made a six-at-once out of a stocking frame. Ooh I did enjoy that, I could make six of these at once! And that's what it used to look like, it used to be just like this [Indicates the like scarf I made on the hand frame] Only I'd make six at once!

He seemed very upset when talking about this workshop as it was clearly a space that he was immensely proud of. His own hand frames remained there until about 1991 when he suffered a stroke and decided to give them up; a decision which he still regrets.

Martin Green was the recipient of one of Mr Hesketh's frames, which he placed alongside other machines he has acquired. As the hand frames are very large, even when broken down, he described the process of building his workshop once the machine was in place:

MG: Yes...it was dismantled and in pieces when I brought it home. I built this part of the shed around it. So we put it on the concrete base...which is that bit there and then I built the shed round it

RW: Amazing!

MG: If you see what I mean. Yes. Now obviously we clean it all up before you put it all back together again...hopefully it goes back together

[Martin Green – Appendix 12/ Transcript #4/ 80-82]

The personal workspaces of these knitters are always customised to suit their needs and the size of the machines. It was evident from seeing Martin's workshop that it is a great passion of his, and he spends a lot of time and money making the space work for him.

This is the only 'shed' I've ever seen that has its own telecom to the main house, electricity, phone-line and heating system to keep the machines warm during the winter. But it is clearly a space that allows him to feel productive and motivated.

Preserving historical knowledge is only one step in the process of keeping the knowledge of Framework knitting alive. Martin Green, G.H.Hurt and the museum all operate under the belief that preservation alone is not sufficient. Preservation of knowledge keeps it static, it says 'this is how it was'. But it does not help to preserve the skills of production or offer the opportunity to see 'how it might be' in the future.

This is what drove the industry in the past, and it is why expert knitters taught their apprentices, in the belief that new ideas and patterns would develop in the future.

Through understanding a little more about the personal relationships that these knitters have with their workspaces and their machines, it can be seen that the enjoyment they derive from framework knitting is as much about their working environment as it is about the machines they use. Creating a personal workspace allows the framework knitters to interact with their hand frame and produce knitted work in a way that demonstrates the best of their technical and creative ability. In this way they can implement their skills through creating an environment which inspires them creatively.

7.6. Creative Applications

The creative side of framework knitting has rarely been captured within existing literature, and therefore it was necessary for this research to capture the working practices of the current hand frame practitioners from a creative perspective. This was achieved through examining the knitters' development of decorative stitches and patterns to determine how they use their knitting skills creatively.

I asked Reg Robbins about any experiences he had had of making knitted lace on the hand frame, and he talked about the most important item he has ever made:

RW: So I know you've said a few bits already but do you remember about your first experiences of knitting lace on the hand frame? Or just knitting on the hand frame in general.

RR: Um, I enjoyed it, I think, it was a little bit of a novelty because I knew that that there weren't many people that could actually knit... so I wanted to do it, and it... the first thing I ever made completely was a baby shawl for my son.

RW: So something that had a real poignant value to it because of what it was?

RR: Oh yes. I've never knitted anything that's equalled it.

Reg's shawl was both a technical and creative achievement and demonstrates how the hand frame has been used to create items of personal importance. Whilst this was an early piece of his work, made when he was less technically developed as a practitioner, its emotional significance gives it a greater personal 'value' and demonstrates that even simple designs can be made beautiful by the care and attention of the knitter.

Making something personally important is clearly different to the type of work created during commercial manufacture as there is far less of a connection between the maker and the garment. However, the use of decorative patterning within commercial knit design still uses the design ideas and creativity of the knitter and gives them the opportunity to explore a wide range of design variables such as yarn fibre, colour, weight, and overall patterning,

Reg went on to discuss the types of products and yarns he has worked with during his time working at G.H.Hurt & Son:

RR: Well sort of silk-lined jumpers and err... bed jackets, things like that have gone now. But the majority of the things are still traditional, you know, you make a shawl, you make a stole, you make a scarf. Its only the yarns, you know, we don't sort of...

RW: What sort of yarns have changed?

RR: Well there's not so much mohair, um [pause] things like camel hair, angora, things like that. You don't seem to use those as much. There was such a lot of different mohair when I first started. One of my first jobs was winding yarn for the hand frame knitters, and the majority of that would be mohair. But now, yarn such as cashmere seem to be easier to knit so you don't get the wastage and err,...I think they are... in relationship to other yarns, I think they are slightly cheaper than they used to be so people will buy them.

RW: When you're working on the hand frame what sort of yarn do you prefer to use?

RR: Um, I would say wool. It's... Mohair's a little bit rough, it's a bit brittle, and the only way to knit that really is by damping it down, or using some sort of oil. We don't knit man made yarns on them anyway.

He went on to talk about the number of patterns that they have at G.H.Hurt & Son:

RR: That we've got, probably a couple of hundred. There's not much...

RW: So lots of different patterns then?

RR: Yes, well you've got probably two or three versions of one pattern. A lot of shawl patterns are adapted to make scarves and things like that, and parts for...

(Reg Robbins - Appendix 10/ TRANSCRIPT #2/ 50-52)

Of these patterns many of them were identified by a code number, but many of them can be recognised by the type of shape that was used to inspire their creation:

RR: Yes. There aren't really a lot of...most things are called by their actual number.

RW: So you design a pattern and it stays with its number as opposed to having a 'fern leaf' pattern name.

RR: Yeah, I mean there are others like, more the older patterns that've got nicknames, there's one called 'Church Windows' and there's one called 'Cat's Paws'.

RW: What does the 'Church Windows' look like?

RR: Um... its where you transfer blocks in together so your holes are actually on the outside but you feather into the centre probably blocks of four and then you make a diamond or a 'V' or an inverted 'V' at the top and it actually looks like a stained glass window.

RW: And what was the other one sorry? Cat's Paws?

RR: That's just little dots in a circle. And they used to say that was cat's paws.

[Reg Robbins - Appendix 10/ TRANSCRIPT #2/ 58-64]

These pattern types are synonymous with lace shawl design as they can be used alone as small motifs or combined together to form borders or all-over patterning. The hundreds of patterns that are in the database at G.H.Hurt represent over a hundred years of pattern design from the earliest hand-frame made patterns, through to the more contemporary designs that utilised power machinery or even computer aided technology.

With a database so vast, I was intrigued to know what pattern was Mr Hurt's favourite:

RW: 'what is your favourite lace pattern and why?'

HH: Well my favourite ones are pretty ones that are symmetrical and balanced. You can't say one particular pattern is good but some lace patterns that you see made elsewhere look as if the mechanic was just testing the machine's capabilities, and didn't have any idea about start and finish. You know, I've seen lace scarves where they've obviously tried to emulate what we do, come from Italy, and the patterns are really ghastly, and the only reason I can say they're ghastly is because they're not balanced.

RW: You need to know your pattern parameters.

HH: Yes it's awful when the pattern ends up nowhere. When they're designing patterns sometimes it ends up looking like they've just tested the machine to see what it can do.

[Henry Hurt - Appendix 9/ Transcript #1 /114-117]

The idea that there are 'good patterns' and 'bad patterns' is an interesting concept, especially to a knitwear designer like myself who is learning the skills of framework knitting. Mr Hurt's comments suggest that playing around on the machine and simply transferring stitches at random will not necessarily create a design that works within the fabric of the overall garment, and this must be carefully considered during the creative process.

In this study the exploration of pattern making has been almost exclusively related to lace transfer work, but when asked about his favourite pattern Mr Hesketh has an alternative preference:

RW: What's your favourite thing you ever made? Did you ever make a pattern you were really pleased with?

AH: Yes the cable stitch. You start with a tie-up and then you feather and you have eleven-plain, one, five down and one up, first you tie up then you feather to the other tie up, then you feather from the next one, you've got to keep feathering. And then the next one, the eleven one, you take it right over to the further centre at the other side, and you divide it so you can take one from that side and put it back. And that makes the cable stitch.

RW: it's very mathematical isn't it? You have to have a very logical to do this kind of work because you have to remember where you are in the pattern.

AH: It went very quick because you used to make one movement, and then you can make seven, five, three... whatever... courses and then make another one and it would make a wonderful pattern. And you'd got all the plain courses after you'd done this you see, it used to take up so much this big wrack-over, eleven-plain, what we call a wrack-over. And it used to make a wonderful cable stitch. You couldn't tell from... I made so many different patterns with tucking and that kind of thing, what you call a tuck stitch you don't move from one needle to another, you just press it on the one...you've seen them make tuck stitches? Press on the one then you can wrack it where you want it, like.

RW: You'd use your points and you'd hold it down so that when you knitted it, that particular stitch didn't go anywhere.

AH: Yeah that's right. You had a plain garments but it was still wrack-overs. There's so many ways that you can wrangle these patterns, like. In tuck... as I said, in wracking, that's the thing that makes this a very open pattern, the other would be very.... You'd have to make it twice as long to stretch you see, if this was a scarf with a very open ended pattern, with a tuck pattern you'd have to make it twice as long

[Arthur Hesketh - Appendix 11/ Transcript #3/166-171]

Sometimes listening to Mr Hesketh speak was like trying to understand someone speaking a foreign language very quickly when you only have a very basic understanding of the vocabulary. But at the same time, he is able to demonstrate clear and detailed instructions about how he would make these patterns even though it has been over twenty years since he last knitted them. I believe this demonstrates that Mr Hesketh's pattern-making ability is ingrained into his memory after decades of experimenting and creating new designs.

As the only knitter who currently maintains a commercial framework knitting business Martin Green was the most appropriate of the knitters to ask about the types of products he makes. He spoke about the garments he sells for his business and roughly how long they each take to make:

MG: This machine I use all the while, the three at once machine. I make squares on it like 36 and 42 inch, then wide, long like, 'wraps' I call them, 80 by 30 inch wraps and...

RW: How long would it take you to make a piece, a garment like that?

MG: A wrap...that's a really, that's one of the biggest garments I make erm...I can't remember offhand...but if I came in, I'd allow myself an hour say to knit a set so you get three in that time so it's twenty minutes per wrap if you want to ...but it's not...but I'd have to look that up...I will have it written down.....well I don't make many wraps but if you asked me on the scarf machine how long it takes...I'm on that all the while...

RW: Are we talking minutes then? [laughs]

MG: [Laughs] I know to the second how long it takes, yeah. Also with the machine I don't use too much, which are all the ones we're talking about now, there's a bit more setting up time...that's just some waste yarn up there, so I've got to put the proper yarn up and run it through and then I haven't used it for some time so you've got...there's some setting up... to get it all going you have to go slowly to start with.

[Martin Green – Appendix 12 / Transcript #4 /56-60]

As an incredibly fast knitter, it is possible for him to produce a good quantity of kitted items from just a few hours knitting. He went on to discuss the garments he makes in more technical detail:

RW: So your 'five-at-once' here... is this the one you use to make your scarves?

MG: Yes, the narrow scarves...they're twelve to fourteen inches wide...they're a really narrow scarf, yes, whereas the end machine makes scarves that are twenty inches to twenty four inches

RW: Yes, yes so they're more like a small shoulder shawl...

MG: like a stole...yes, yes... the evening stoles that I make are twenty-two inches wide which is perfect on that machine

RW: ...and your second one along is the 'two-at-once' that can do the really big ones

MG: Yes the shawls on that one...the 'three-at-once' makes squares ...thirty-six and forty-two inch squares. And this is another shawl machine...and this is another scarf machine like the first machine but I don't use it.

[Martin Green – Appendix 12 / Transcript #4 / 174-179]

Creating traditional style lace garments for a contemporary market is now unique to Martin Green, but other knitters have used the hand frame to make one-off garments and samples that use decorative lace patterning.

Stacey spoke about the garments she made on the hand frame during her placement at G.H.Hurt & Son:

RW: Obviously I knew you from when you were working here, but what kind of products did you make on the hand frame?

SD: I made a shawl on the hand frame. And I also made some fabric for a cardigan

RW: What kind of patterns did you use for those?

SD: A lot of geometric zig-zag lace patterns, things like that. A bit of colour. A bit of colour in striping.

RW: I suppose because that a bit different from what you would expect to use on the hand frame, because you expect to use a very muted colour, or plain wools, so using something a bit...

SD: Well I remember when I was doing it and Reg was helping me out with it and we were trying to do something that was an old shawl, made in the same way with the borders stitched together, but a bit more modern. So bringing a bit of a newer twist on it if we could.

RW: So how did you go about making it a bit more modern?

SD: Mainly to do with the pattern and the style of it really, because we wanted it to be...we thought about linking it together but I wanted to hand stitch it because I wanted to make sure it was done the way that they'd [the old framework knitters] done, spent hours doing it...

RW: So you've got that heritage element coming back in?

SD: Yeah, exactly yeah.

[Stacey Deakin – Appendix 13/ Transcript #5/ 22-31]

As well as making her own designs and knitted garments, Stacey was interested in using the old fabric that had been left on the hand frame over the years. As the knitted fabric grows longer, it wraps around a central bar and is coiled up until the knitter removed it. Some of the fabric that was left on Stacey's hand frame has been there for at least twenty years, and maybe even longer.

She spoke about the idea of recycling old fabric for a modern project:

SD: Yes, definitely, and I love the idea of using all the fabric that's left on the machine, that's been there for like, twenty years. I've still got some of it and it's something I want to use for something and put it into something.

RW: For those that don't know about the hand frame you can unwind it so you've got this chronology...you almost have 'this man's knitted this part' and then it's been wound on, and then another man has knitted a little bit more, and then another man has knitted a little bit more, you could wind it all out and have a history of everyone that's ever used the machine.

SD: Exactly. And I think especially here, with so much... they've left so much on. It's really fascinating to unravel. I left my own little mark on this one you know...

RW: What did you put on it?

SD: I put something like 'Stacey was here' or 'Stacey used this machine' something like that.

RW: So in years to come when they unwind it, that'll come out! [Laughter] Well I think that's it, putting your mark in text is something that's quite modern. You can imagine it's a bit like graffiti, it marks your moment on that machine in a historical sense, so in years to come they can look back.

[Stacey Deakin - Appendix 13/ Transcript #5/ 37-42]

For Stacey, using the hand frame for her own playful patterning was a way of doing something new and inventive with the skills that she had recently acquired.

In contrast, for Arthur Hesketh, 'making something inventive' involved creating garments on the hand frame that had not been done by other knitters:

AH: Well I did something with the hand frame that's not done generally, we made these sorts of things, jumpers and run a rib on. We had a rib made, on the ordinary flat machine and then transfer it onto the what-is-it machine, and make a short... about ten to the inch. They were very stiff and full of pattern. And the lady, Mrs Hardy it was, that got the orders, she used to give 'em us and we used to make three times as much on these. Running the ribs on cost 8 shilling a dozen like, well we got the ones that made the ribs to make a very slack course, and.... And about ten courses, and we could shove the thing onto it.

RW: So you had like a bit of waste yarn in between so that you could unravel it?

AH: You got twenty courses to the inch then you had one that was five...er four courses to the inch, you had one course and then very stiff underneath, and the slack course used to slip lovely onto the needles and we were getting 8 shilling really for just running it on, well we weren't running it on, we were just pushing it on and then taking it from there.

[Arthur Hesketh – Appendix 11/ Transcript #3/ 120-122]

For Mr Hurt, being inventive often involved using a new yarn or fibre to broaden the range of product that his company can offer:

RW: Do you find it quite exciting when there is a new type of yarn on the market? For example if you heard about a new type of yarn will you inevitably try it to see if it'll work?

HH: We do get a little bit nervous when Italy puts on its yarn exhibition at the beginning of the year, or whenever, because then all the spinners have about ten different yarns and tell people about it, and you find they're telling customers about it, who don't knit, the shops like Harrods and Liberty's, people like that, and they come to you and say 'Can we have a scarf in this new yarn?', and it's probably bouclé with loops that catch in your latch needles, you can't do it on a bearded needle. And so sometimes we have to say no as its unknitable on our machines. But we do go to massive lengths here to go to the nth degree with a machine. If someone comes in with a very fine yarn, most knitting companies would say 'we'll put four ends together', but we try one end and we can, on a course machine knit one end, providing we wind it, and wax it, and prepare it. If the yarn is properly prepared before you knit it, not just by the spinners who send you cones of yarn, which they may have forgotten to put wax on, but it's the preparation. And we do have other means of supporting the thread which will wash out afterwards. So we can't say we don't try, but it's the very course yarns that require a machine 2.5 gauge, that's a needle every 2.5 inches, we can't do that

[Henry Hurt – Appendix 9 / Transcript #1/ 136-137]

Reg's ingenuity lies in translating old patterns for contemporary use, as the knitter before him did during the transitional period when hand frames were being overtaken by power machines:

RR: Well originally they took the simplest patterns that the hand frame did and transferred them over onto the machines. And then as we've got better machinery we've gone back and we've done more complicated patterns. It's like, the majority of the first patterns we made were very simple, six or eight holes, small repeats, but now, with the latest machinery...with the computerised machinery we can knit a shawl that's got a border on that hasn't had to be sewn on by hand. It just looks like it's been put on, we seem to have transferred over and done the easiest things the frames ever did and got more complicated...

[Reg Robbins – Appendix 10 / Transcript #2/ 118]

But with any creative endeavour there is a propensity to go over-board and think that more complicated equals more commercial. In the case of contemporary lace manufacture Martin found that it was best to keep his lace patterns simple:

MG: Yes ...purely...you've got to put the minimal amount of transferring in but so as to give the effect of a lacy scarf. When it was in 1989 when it was the 400th Anniversary of the invention of Framework Knitting, I made a really intricate design, thought I'd really go over the top...did it as a numbered addition and all that...and do you know when I started running out of colours on the 400th Anniversary edition...the public...you know I could sell the

ordinary one that had got half the transferring in...they weren't bothered at all...which is a bit sad isn't it? I'd got transferring on every course right through the garment do you know what I mean, the whole thing was absolutely over the top and I put the price up accordingly...so when it came to an end and I started...no, no, no, that's... they didn't query the price it didn't matter ...you know what I mean? Unfortunately the pattern, unless you're a purist doesn't really matter that much ... and I've done what I call the 'Daisy' pattern, this one with daisies all over it, what I thought for the younger person and everyone really wanted the...the majority of my customers wanted the more traditional one, so I stopped doing that...'cos once you bring a new pattern in you've got to have...I keep stock of everything...

[Martin Green – Appendix 12/ Transcript #4/ 527]

The more complex the design, the longer it takes to construct, but the overall effect of lace patterning can be just as beautiful and effective if it is planned carefully and maintains a simplistic structure. Martin talked about how he prefers to keep his business going by producing simple but traditional lace items, rather than buy in more complicated lace items from overseas suppliers:

MG: Mine are incredibly simplified versions

RW: I suppose you are totally right...that's how you keep it commercial and how you keep on top of it...if you were going to spend hours and hours doing multiple transfers with lots of feathering and lots of different transfers per row...you're pricing yourself out the market...the amount you'd have to charge for something like that would not be...

MG: You couldn't sell it and then of course if it wasn't that I actually retailed them myself...the business would not be viable, because I make more money, if you want to put it that way, by retailing...that's where the money is ...the money isn't in making them...I could make more money if I bought them in from India...I get emails from people in India, because they see my website and say we can make those for you and ...keep emailing me...because it defeats the whole object... they're supposed to be made by the craftsman at the show...but I'm afraid at these shows a lot of stuff is not made by the person...they come from China...

RW: And I suppose that's what makes you unique and makes your product unique

MG: They're not from China! [Laughter]

(Martin Green Appendix 12/ Transcript #4 / 704-708)

For me this means 'unique' in terms of creative knowledge and design practice, and in this way the hand frame offers an opportunity to continue to explore creative knitting processes, even though it is now effectively redundant as a commercial machine.

Contemporary knitters have moved on from the idea of secrecy, through demonstrating their knitting ability publically, discussing the stories of knitters, and sharing their own design practice. Martin goes on to discuss the fact that he never intended his work to develop into a successful business:

MG: Well a hobby because when I bought this machine, I hadn't got any ambition to, at all, sell anything...just bought it to play with...and then it was really quite a surprise to me, that I could make something that people wanted

[Martin Green - Appendix 12/ Transcript #4/ 793]

Martin has found a niche market for products made on the hand frame, and it is a business that he is able to sustain by taking sensible decisions to limit the complexity of his patterns to make them more commercially viable.

But Martin is now the only trader who is using the hand frame and therefore he does not have to face the same issues of commercial competition that G.H.Hurt & Son

Mr Hurt admitted that in the past he had misled a rival company about how he made a certain patterns in order to protect something that was very profitable to his company.

The decline of the knitting industry, having reduced the number of competing companies has removed the need for such a secretive approach to lace pattern design. As a consequence, all of the interview subjects shared quite openly their pattern designs, ways of working and the thought processes that influenced them.

An example of this would be how easily both Mr Hurt and Reg shared their understanding about lace patterns, in particular the need for balance:

Reg suggested that being selective with positioning of patterns allowed the knitter to balance the overall finished product whilst maintaining creative freedom:

RR: Well a lot of... I should imagine...I should imagine virtually every pattern possible has already been made. So it's easy to take parts of old patterns and adapt them. I mean if you know you're making a shawl that's got a border round the edge, you've got to...it's got to weigh itself up. If it's busy on the outside, you tend to make it simpler on the inside. And you look through the patters for...you know, just for a balance, and that's the way you make it.

[Reg Robbins – Appendix 10 / Transcript #2/ 36]

This was also an element that became evident in my own practice during the process of planning how my knitted pieces were going to look. This process is about making critical judgement about the pattern you are making and adapting your designs to fit the specifications of the machine.

Adaptation is a theme that features heavily with framework knitting, as its long history demonstrates. In the first instance adapting to changes in fashion from making stockings to making shawls is one clear example. Adaptations to the technology of the hand frame through the creation of additional pieces of machinery allowed knitters to have more options when it came to creative design application. However changes in the knitting industry have resulted in the need to adapt to new contexts to ensure future survival.

This idea of 'adaptation' within framework knitting is one that is closely linked to ideas of technical and mechanical change and as such, gives us a rationale for why the hand frame has been able to survive for as long as it has.

Mr Hurt discussed adapting his hand frames to suit the products he wished to manufacture:

RW: What innovative measures have you taken in regards to lace manufacture? That just means what steps have you taken to come up with new ideas.

HH: Innovative measures, well we try to avoid being dragged into making ordinary knitwear and stick to what we know and what we can do best using the various capabilities of each machine. So we have to be innovative on a machine, we only had hand frames until 1968 and we had the first machine after the hand frames. You see none of our machines are making what they were designed for; all that we want is the ability to transfer stitches and make lace.

[Henry Hurt – Appendix 9 / Transcript #1/ 146-147]

In this sense, G.H.Hurt has demonstrated that whilst the hand frames remain an important part of their company heritage, they understand that adapting to suit their environment, and market, is

an essential part of survival. As the only remaining knitwear manufacturer in the area, this ability to adapt has clearly proved successful.

Stacey is one of the few students who has undertaken design experimentation on the hand frame and has gone on to use this as inspiration for her later design work:

RW: So you had free creative licence to have a 'play'

SD: Which is great on a placement, because a lot of placements don't let you do anything like that.

RW: So as well as getting to do something commercial you get the chance to do something completely un-commercial and for your own fun.

SD: Exactly, almost irrelevant, but it wasn't in the end.

RW: Because it totally inspired everything that you went on to do in the year following.

SD: Yeah exactly

(Stacey Deakin - Appendix 13/ Transcript #5/ 46-50)

But it seems as though Stacey's continued interest in the heritage of knitting is actually a rare occurrence. To find out more about her connection to the hand frame I asked her about how experience of designing on the hand frame differs from the 'non-hand frame' work she now does for industry:

RW: Do you feel that the hand frame is something that's much more unique?

SD: Yes definitely, definitely. And I think using the hand frame has just made me fall in love with knitting even more. I mean I always loved it but it totally made me fall in love with it. I mean everything about it, from hand knitting to machine knitting to hand-frame knitting. This is what made me ... [Makes loved-up face]

RW: Can you think of why that would be?

SD: I think it's knowing the history and knowing how far it's come, I think that's what makes all the newer stuff so amazing

[Stacey Deakin – Appendix 13/ Transcript #5/ 59-62]

As the only student other than myself to learn to use the hand frame during the time that this project was being conducted I looked to Stacey to discuss what she thought was likely to happen to the craft of framework knitting in the future:

SD: I really believe that to move anything forward, knowing the history helps so much. Knowing a little bit of the background history is fine but to go far back and know how it all started, I think that's the way to push forward even more. Go right back to the beginning.

RW: So do you feel like you've got something in common with the old men that used to work on these machines in the past?

SD: Yeah, yeah definitely, I think, because they obviously loved it, because they spent so much time doing it, but it wasn't just a trade for them I think. It was, you know...and that's what I got out of it.

RW: So there was something more... a passion there for it, not just a job.

[Stacey Deakin - Appendix 13/ Transcript #5/ 66-69]

That statement 'not just a job' seems to resonate for so many of the framework knitters past and present that have been mentioned throughout this investigation. The act of knitting a garment in itself is technically impressive but not wholly spectacular, and yet there is something about framework knitting that ignites a passion in the people who learn the craft. Whilst the commercial framework knitting industry is being maintained solely by Martin Green, these interviews have indicated that there is still a wealth of knowledge to be obtained about past practices which can enable the craft of framework knitting to live on, if the necessary skilled practitioners can be trained.

It did occur to me during the interview with Stacey that both she and I are third-generation framework knitters descended from the teaching of Jeff Oxley, and both of us at some point or

another have used his old hand frame to hone our skills as framework knitters. I wondered how he would have felt about this:

RW: What do you think Jeff Oxley would think of you knitting on his machine?

SD: Oh I don't know! I wonder! I wonder if he'd be happy that some woman's knitting on his machine!

RW: I can imagine he's happy that somebody is knitting on his machine rather than nobody.

SD: Don't ruin my machine! Or something like that.

RW: I think it's one of those things thought because they don't want to die because they don't want to leave their machine to somebody else.

SD: I think that's a definite thing with the hand frame, nobody wants them to die. Everyone who's got one like Mr Hurt and anybody else, like Ruddington, they just want to keep them in any way that they can, and keep them relevant in any way that they can.

[Stacey Deakin – Appendix 13/ Transcript #5/ 75-80]

Stacey's comment about needing to keep the hand frame 'relevant in any way that they can' brings us to the crux of the argument within this research. What can be done to make sure the craft of framework knitting is preserved for the future?

The simplest way of bringing the skills of the framework knitter to life and encouraging greater awareness and interaction with the hand frame comes from providing working demonstrations that show the process of operating the hand frame within heritage environments. It was through a demonstration like this that Martin Green was inspired to take up knitting, and it is through demonstrating the hand frame that I myself have had the most positive reactions from museum visitors.

During the interviews both Martin Green and Stacey Deakin chose to get on their hand frames and demonstrate their working actions to me which enabled me to see first-hand the processes that they were describing. Martin was confident at talking about his own experience, but said that

he felt nervous about demonstrating his knitting skills in front of someone [myself] who already knew how to knit, saying, "I'd better get this right."

[Martin Green – Appendix 12/ Transcript#4/ 482]

Providing demonstrations to non-practitioners is easier in the sense that they have no concept of how good you are technically, but being observed by a fellow knitter increases the desire to showcase the machine and yourself in the best light. Ironically with fewer hand frame practitioners around, it is now hard to identify our own skill level and it is a very rare occurrence for there to be more than a couple of framework knitters together at any given time (Which made me wonder about what the collective noun for framework knitters might be!?)

For other knitters, the process of demonstration is linked more closely to showcasing their physical presence there, and not just their creative ability. Stacey said that an important part of her practice involved '*leaving her mark*' on her machine. [Stacey Deakin – Appendix 13/ Transcript #5/39]. For a practitioner whose work is inspired by the stories and practices of the past, the need to become part of that history is a strong creative motivator. And locating that practice becomes an essential element in the on-going process of creative exploration.

7.7. Summary

The analysis of the research interviews identified the five main topics of discussion which were: Inspiration, Exploration, Communication, Implementation and also Creative Application.

These five areas of discussion covered a wealth of conversations ranging from the practitioner's earliest encounters with observing the hand frame right through to examples of ways they have adapted and transformed the machinery to best suit their creative needs.

This chapter identified that for the current hand frame experts the main influencing factor that inspired them to want to learn the hand frame was the history and heritage associated with such a machine. The machine itself and the patterns that could be made on it were both seen as 'unique' and this mean that for the interview participants there was a novel quality to the practice that could be conducted on the hand frame. Family influences were also a key motivator, as some of the practitioner followed past generations of their family into the trade, and other practitioners

have had their talent nurtured by older framework knitters which has allowed them to build on the practices of the past and use old patterns to inspire new creative ideas.

By looking at how exploration has been used as part of the process of knitting on the hand frame it was possible to identify that now the majority of hand frames are no longer commercially viable there is a new opportunity to use the hand frames for explorative inquiry. This allows current framework knitters to use the frames to 'play with new ideas' which can then aid the planning of new patterns and garment ideas which lead on to actual making.

The communication processes that were discussed during the interviews highlighted that there are essentially three types of communication that have occurred within this investigation. Firstly there is the communication that happens between knitters, whether that is between mentor and apprentice, companies, or experts passing on and sharing ideas and tips. It was these dialogues that enabled this study to examine the knowledge of the hand frame that is transferred between practitioners and how this therefore affects knowledge partnerships and skill acquisition. Additionally there was an added element that looked at the communication of the personal learning experience, which enabled me to reflect on my practice in a way that demonstrated how the people and practices of the past had enhanced my understanding of the technology of the hand frame. Lastly, this analysis looked at ways in which the skills and knowledge of framework knitting can be communicated to a wider audience through demonstrations and though giving the hand frame a more visible profile. It is through this process that the heritage of the craft is most clearly represented and will continue to inspire others.

This chapter also examined the ways that the hand frame practitioners have implemented their technical knowledge by adapting their machines to create different patterns, and by building up and reconditioning old machines, sometimes just from a heap of spare parts. From this analysis it was possible to identify specific skills that framework knitters often had advanced technical abilities that enabled them to customise their machines and their work spaced to suit their practice.

The final section of analysis looked at the creative applications that have been made possible on the hand frame by the current practitioners. They were able to show that the hand frame can be used to create something that has personal significance to the knitter and ties together historical technique with contemporary styling. The practitioners also spoke about the wide range of

pattern styles and structures that they were able to create on the hand frame and this demonstrated that through the development of mechanical awareness and expertise it was possible to enhance the knitter's technical ability.

Developing new patterns and establishing a more creative way of looking at the working practices of the past motivated the current practitioners to think about how their knowledge can be applied in the future to develop contemporary approaches to knitting on the hand frame.

Chapter Eight

Resolution of the Creative Journey

8.0. Introduction

‘Craftsmanship to be artistic in the final sense must be ‘loving’;

it must care deeply for the subject matter upon which skill is exercised.’

(Dewey, 1934, p.49)

I have started this chapter with a quotation from Dewey’s *‘Art as Experience’* because as it did not seem possible to write a more eloquent and poignant summary of the use of craftsmanship within this research. Whilst the study itself has bridged areas of historic contextualisation, and interaction with existing practitioners, no one factor has been of more significance to the research and to myself than the act of learning to operate the hand frame.

Emotionally speaking, now that this research has reached its completion, I feel a combination of great pride that I was lucky enough to be involved with such a rare and exciting project, but also great sadness that this stage of the process is nearing an end. The skills that I have acquired during my research journey are ones that have fundamentally changed how I think as a Knitwear Designer, and will continue to influence how

Learning to be a framework knitter allows you to belong to a very exclusive club, where the only prerequisite of being a member is that you must take on the challenge of learning to use the hand frame and persevere with it through the difficult initial years until you develop autonomy and reverence.

The practical elements of this study involved a high level of personal participation through which technical skill and theoretical understanding became an integral part of the transition between

researcher and maker, and it is through the analysis of these experiences that the narratives of practice emerged.

This chapter summarises the creative journey undertaken throughout this project, to look at how the process of making can be used to showcase the importance of personal emotive responses to learning new creative skills. In particular, it highlights the importance of locating the researcher in the creative process and discusses the 'narratives of knitting' that were identified and how they were used to inspire my self-reflective practice

Evidence of my own design practice is included within this chapter, showing how the practical interaction with the hand frame was used creatively.

8.1. The Personal Approach to Framework Knitting

The methods of working the frame have been widely documented in the written literature. Whilst early authors such as Willkomm and Felkin were able to give a detailed account of the way the machine parts were manipulated to create knitted fabric, it became apparent that without substantial knowledge of the terminology of the machinery, these reports were essentially useless in helping to teach the practical skills of operating the hand frame to new practitioners. Within the training process, the human element is vital. Each machine has a unique size and feel, meaning that the experiences of working one machine is often very different from working another, and the relationship that forms between trainer and trainee is as important as the one that forms between the knitter and their machine.

Interaction with the hand frame allowed me to more effectively understand the language and terminology of the industry which in turn has allowed me to authoritatively interact with the expert interview subjects and to have an authorised opinion. These interactions paved the way for a series of interesting creative dialogues in which other practitioners were able to discuss how their own relationship with the hand frame formed and how it has influenced their approach to design and craft practice. It was from these discussions that the idea of capturing the stories of the knitters was first approached.

In the past, my own design practice has been highly autobiographical, and often included a highly emotive process of self-reflection. In this case, the scarcity of the existing knowledge on framework knitting practice was a major driving force in persuading a move towards a literal

documentation of oral history traditions. Some of the personal traditions and working practices of the original framework knitters have been documented in a very general way through photography and occasional design notebooks, but this research has attempted to capture the 'voice' of the workman in a more innovative way through using lace stitch patterns to create typographical representations of personal statements made by framework knitters. I was inspired to use the hand frame to create a range of traditionally constructed knitted shawls that explore the importance of recording and documenting personal experiences.

8.2. Locating the Researcher in the Design Process

The development of this research as a practice-led exploration of hand frame knitting has been instrumental in analysing how traditional methods of making have previously been used, and how they can also be used and adapted to provide a contemporary understanding of textile craft practices.

The key themes that have been addressed within this project have been drawn primarily from an extensive contextual review of the working lifestyles and practices of former framework knitters. Through personal interaction and interviews with experts, I have been able to build a network of stories and experiences that have helped to highlight the importance of craft practices to hand frame practitioners. The research progression has helped to tell the story of how my own experiences as a designer have been affected by the heritage of the hand frame and the people that once operated them.

To understand my personal role within this project, continuous documentation of the design journey was undertaken, to show how a combination of active participation, heritage awareness and creative practice have impacted on the way that framework knitting can be used in a contemporary context.

The use of story-telling as a way of understanding and contributing to the design process is not a novel concept. Turney suggests that '*the history of textiles is interwoven with narratives and stories. Whilst textiles were made, stories were told, and as objects constructed, so were tales, each seamlessly interconnected.*' (Turney, 2009, p 136). The interconnection between textile practice and story-telling has been evident throughout this research, from the initial practical stages where hearing stories of past knitters enabled me to contextualise the practice that I was undertaking. As the practice has evolved, so has the way that themes have developed through the analysis of experience and historical legacy. In this way, the design process has taken on a

form that is both emotive and personal and represents the interactive nature of learning to be a framework knitter in a contemporary environment.

In the case of framework knitting, the design process is one that is at risk of being forgotten, and as such, the passing on not only of practical skills, but also of oral traditions is necessary to ensure that the hand frame technology can remain an active one. Sametz and Maydoney suggest that *'Storytelling through Design'* can be a beneficial way of articulating the way that various design principles can be united to form a harmonious final design. They propose that *'focused approaches to the selection and deployment of color, type, imagery, and so forth, provide not only the voice, gestures, and body to tell stories, but also the glue to hold stories together-both within a single story and from story to story'* (Sametz and Maydoney, 2003 p.3). The stories of past framework knitters have demonstrated that practitioner voices provide an important insight into the changing nature of hand frame practice. Without these voices, creative experiences are forgotten.

In order to fulfil the aims of this research, part of the research process involved analysing my own motivations for undertaking this research, and particularly, my own emotions relating to the heritage of knitted lace practice. Seah believes that *'when you help someone understand new technology in the context of their understanding of the world, they can co-creation the new reality with you because they can envision their place in it.'* (Seah, 2006, p.1). This notion was instrumental in helping me to see how my role as researcher was uniquely located in a particular time and space, and would never be replicated in the same way. As a result, my on-going self-reflection within this research has related to how I see myself as a practitioner, and in particular how my roles as designer, artist, craftsperson and researcher interact.

As I began interacting with other hand frame knitters, I found that many of their stories were romanticised versions of their own personal histories. Many of those that were interviewed recited tales that were evocative of a time in which the knitting industry was prosperous, workmen were gentlemen, and their work was important to them. In particular, Reg Robins talked of making his own son's christening shawl, and how he believes it is the greatest piece of knitted lace he has ever made. This led me to question what it was about hand frame knitting that I related to so personally, and why I found the process of being a hand frame knitter such an important part of my development as a researcher.

My own self-evaluation revealed that as a practitioner I undergo a process of understanding, capturing and expressing my own thoughts when approaching my design work, and it would be fair to say that as a knitwear designer, often these thoughts then manifest themselves as

constructed patterns and structures. I value that the experiences of the individual has a profound impact on how they live, how they work, and what they leave behind for the next generation. This in turn has had an impact on the type of designer I am. Story-telling has always played a big part in the way that I interpret a design brief, how I choose the mood and theme of my projects, and how I visualise the final outcomes. It is a relative process in which the final result is a project that puts across a certain story, whether that is one of colour, texture, or style. Porter and Sotelo suggest that the 'addition of meaning' in design through story-telling is what separates the creative from the analytical:

'Our design culture is dominated by two different views, "non-rhetorical" design (claiming that a brick is just a brick, a vase is just a vase, that stone, steel and board cannot or should not "speak") and an intention to "add meaning" to design through the telling of fables, leaving small space to suggest another position. There is a difference, between a definition based on "design as narrative" and the idea of "narrative design."' (Porter and Sotelo, 2004 p.1)

Similarly, Seah described the difference between the *specialist designer* and the *story-teller designer*. The *specialist designer* provides an evolving systematic approach to a design brief based on a pragmatic understanding of the needs of the client, whilst the *story-teller designer* bases their design journey on motivation and desire and has little need for functional specifications (Seah, 2006 p 1). Using a similar theory, Johns highlighted the need to find your voice whilst undertaking the journey toward becoming a reflective practitioner (Johns, 2004). Johns differentiated between '*the connected voice*', that is able to empathise with others and provide meaning to experience, and the '*separate voice*' which seeks to locate a rational understandings using a logical approach to test validity and appropriateness. If we consider that the development of a personal narrative relies upon some form of self-awareness and reflection, then 'the voice of the knitter' is one that can be used to highlight how experience and practice influence the use of the hand frame within both a fading commercial environment, and a potential contemporary context.

What my early experience of framework knitting identified was that my own position as a practitioner has always been central to my creative development. I find it hard to divorce my feelings from the products I create, and in many circumstances, the pieces become a visual representation of my emotions.

My own practice has almost always naturally taken the approach of the story-teller designer. It allows me to creatively interpret the information I encounter and build a practical project that ties together themes to result in a personalised documentation of thought processes. This research

became a way for me to creatively explore the way that storytelling can be used to show how art, design, and craft interact.

8.3. Knitting Narratives in the development of creative practice

The interaction that occurred between hand frame practitioners during this study demonstrated that although very few practitioners remain, those that still have knowledge of the hand frame actively seek ways to pass their expertise onto others. Kennedy's research into routine creativity within design practice sought to establish a way to understand and explain designers. He conducted interviews with practicing designers and in particular focused on interviewing older designers who had witnessed significant changes in their practice. He also discussed how in these scenarios he tended to get social as opposed to technical descriptions of design practice.

(Kennedy, 2002 p. 2)

Socially orientated responses were also frequent during my own interview process, and the interviews became as much about the descriptions of work spaces and daily practices as they were about creativity and design motivations. This project looked at the hand frame from a contemporary perspective to demonstrate the skills that were achieved during the research process. As a result of this practice I was able to construct knitted fabrics that used lace holes to spell out key phrases that had inspired my creative journey.

To explore the 'voice' of the knitter within my own creative practice, I chose to focus on specific phrases that had been used by other practitioners as a way of passing on useful or personal information. Some of these phrases came directly from the practitioners that were interviewed, some were repeated 'wisdoms' that had been passed on to them by former framework knitters, and some phrases were identified through the analysis of key literature.

I examined the 'Report from the Commissioner appointed to inquire into the condition of the Framework-Knitters' dating from 1845 and was able to examine the testimonies of a vast number of framework knitters. As this is one of the only existing accounts that recorded the voice of individual framework knitters in their own words, this source proved invaluable in establishing past narratives relating to the practice of framework knitting.

The Report captured a great number of interesting accounts, but the testimonies that are featured below were ones that had particular resonance to me because of the insight they provide of the hardships of being a framework knitter:

'The child, as soon as he earns 5s. Or even less than that, begins to think he is a great man.'

[Testimony of Mr Rogers, Framework Knitter]

Mr Rogers was disgruntled that his trade was being over-run by under-skilled young men who thought they were master knitters despite their lack of training and experience.

'He is taught to be a master long before he is fit to be from under the control even of his mother'

[Testimony of Mr Rogers, Framework Knitter]

Mr Rogers continued with his scathing comments about under-skilled workmen by suggesting that they were still too young to make their own decisions.

'They are so badly paid that they do not manifest the same care about their work'

[Testimony of Mr Dallison, Framework Knitter]

Mr Dallison suggested that the under-skilled young men who were coming into the trade, had little respect for the hand frame and the work they produced because the wages were so poor.

'The art of framework knitting is not difficult to acquire, but the best fashioned work, and all fancy work, require a quick sight, a ready hand and retentive faculties'

[Testimony of Mr William Felkin, Factory Owner]

Mr Felkin suggested that in order to be a skilled knitter, the workman must be nimble and dextrous.

'Women and Children cannot work so long in a frame as a careful man without having it recruited.'

[Testimony of My Hayes, Framework Knitter]

Mr Hayes simply believed that women and children damaged their machines more easily than the men did.

(British Parliamentary Papers 1968 [reprint of 1845 Report])

The Report was established to look at the poor working conditions of the knitters, and as such provided a platform for the knitters to talk about all manner of grievances that they felt affected this practice. What was striking about these statements was that they expressed very personal and often opinionated views, which in a contemporary context appear to be somewhat comical. When it came to my practice, I was intrigued most by the humorous element that many of the statements had, and I began to look for additional sources that identified practitioners talking about their experiences of framework knitting.

Laughter seems to have been a key part of the working environment at G.H.Hurt. The owner, Mr Hurt gleefully recalled a time when he purposefully misled a rival company about how he had constructed a particular lace pattern and Jeff Oxley (a former framework knitter at G.H.Hurt), was frequently referred to and quoted. A personal favourite of mine being:

"You're not too old to learn, if you're not too stupid." [Jeff Oxley]

And this is most definitely the case. The evidence from knitting companies, archive records, and personal testimony have all suggested that many men did not retire from working the hand frame until they were physically unable to continue, and this was often in their 80's. From being

involved in a working knitting industry, the evidence of a love for your job is most strongly evidenced amongst the framework knitters. Their pride as craftsmen can be seen in the way they would identify themselves as makers by transferring the stitches to spell out their initials in their knitted pieces, and their fierce privacy over their developed patterning ideas. From statements made by men like Jeff Oxley we begin to see how much of a role they played within the development of hand frame knitting, but also how much of a role the hand frame played within their lives and experiences. The experiential approach to looking at hand frame knitting practice has opened an avenue for me to explore how my design knowledge can influence my ability to learn an old traditional form of craft, but has more importantly highlighted how important the hand frame has become in influencing the way I think as a designer.

This became the starting point for developing lace patterned shawls as part of the practical strand of this project. I was encouraged to connect with my hand frame in a much more personal way by interpreting the phrases once spoken by the same men that once sat using the same machines. This was an important step in applying an experiential approach to lace pattern design as it allowed me to use my insights as a hand frame practitioner to evaluate the extent to which physical interaction with the hand frame generates a working environment that accommodates the contemporary reinterpretation of traditional knitting methods.

Through a review of the contextual literature, expert interviews, and researcher-led creative practice, this study demonstrated that personal experience is an important influential factor in the process of learning to use the hand frame. The way that personal interpretation leads to the formation of distinctive design narratives can be used as a way of analysing past design pathways as well as establishing a way to envisage the future of creative production on the hand frame.

The term 'narrative' has been used within this chapter to describe a way of using both oral storytelling and personal experiences to construct a conceptual context for practical design work whilst encouraging an on-going process of self-reflection.

I first heard the term 'Narratives of Knitting' at *In the Loop: Knitting Past, Present and Future*, a three day international conference held at Winchester School of Art in July 2008. Amongst the speakers within this section of presentations was Sabrina Gschwandtner, a New York City based artist and author of Knit Knit Magazine, Clio Padovani, Senior Lecturer Textile Art, Winchester School of Art and Mary Brooks, a Reader at the Textile Conservation Centre.

This conference demonstrated that the development of personal narratives can be used across disciplines to create contextual understanding, and allow a review of the personal processes that make up our individual experiences as researchers or makers. Gschwandtner (2008) discussed her *'relationship with knitting and the interaction between making, mending, fixing, destroying and subsequently documenting her practice'*. Padovani (2008) spoke of *'reinterpreting textile collections through digital technology, therefore changing the way that they are understood, to create an extended taxonomy of knitting'* and Brooks(2008) discussed her *'set of ambiguous feelings about being a textile historian that is not able to knit'*.

These three speakers in particular demonstrated the importance of self-awareness within the construction of any sort of personal narrative. 'In the Loop' provided an environment to discuss how knitting is used by designers, craftsmen and artists alike to create a documentation of their experiences, processes and emotions and it was this that encouraged me to be inventive with regards to my self-reflexive approach to framework knitting.

'Knitting narratives' also act as effective story-telling method within social environments where textile craft has played a role in the development of the local culture. Knit Artist Deirdre Nelson, frequently uses themes of social and textile history within her work and is particularly regarded for her ability to unite notions of tradition with that of contemporary art. Through working in remote knitting community locations such as Shetland and Uist, Nelson has developed a recipe for her craft:

- *Find a location, a text, or a humorous story.*
- *Study relevant people.*
- *Find a contemporary link.*
- *Develop an idea and study a traditional technique.*
- *Add a bit of humour.*
- *Add some craftsmanship and hand skills.*
- *And translate into something tangible, which will be inclusive, engaging, and encourage a smile.*

(Nelson in Hemmings, 2010 p 81)

Nelson's recipe mirrors the natural approach that I take myself when developing and organising practical knitting projects. And I made an attempt to write recipe of my own using her outline:

Firstly, examine the locations where framework knitting still occurs and determine why so few hand frames remain. Then identify and communicate with any remaining hand frame practitioners with a view to finding a contemporary way of examining the craft and skills of framework knitting. Develop a methodological structure that supports the use of active researcher participation in practice and through this record the stories of the past that have not previously been captured. By adapting traditional craftsmanship for contemporary creative practices, find a way to use the stories of framework knitting to engage a new audience.

[Recipe complete. Now time to see if it came out alright!]

This study placed a great deal of emphasis on using the active role of the practitioner to inform creative interactions leading to the development of personal narratives. Through a discussion of Conversations and Narrative, Lawson (1997 p 49) suggests that the development of design narratives within many design disciplines is not uncommon and that this is due to *'the power and flexibility of story-telling as a design technique'*. This power is its ability to be transferable across disciplines, as well as across skill levels. The personal interpretation of a story from one person to the next maintains links to creativity and allows experiential approaches to be undertaken through which all manner of creative practices can be explored.

Culturally speaking, creative narratives form an important part of the work of artists, designers, critical theorists and educationists alike, enabling a greater sense of personal connection with objects, processes and histories. In the case of the hand frame, whilst so few personal accounts of approaches to practice have survived we must look to other sources such as diaries and knitted artefacts to define ways that traditional approaches to knit practice can be used in a contemporary society.

What is important to consider is that hand crafts have a history of being more closely related to knowledge transfer through oral history than machine crafts have. There are a number of reasons why this might be the case, but the most logical would suggest that; hand crafts are typically undertaken by women, mainly in social situations in which group projects were common and passing on knowledge ensured an harmonious working relationship. On the other hand, framework knitting was a craft nearly exclusively dominated by men and was a much more solitary pursuit, where technical knowledge was only valuable as long as it remained secret and profitable.

Turney suggested that story-telling is a necessary tool for maintaining social identity within textile communities:

'Analyses of the significance of the relationship between oral and craft traditions have often been eclipsed by a Romanticism for a nostalgic past, yet studies have uncovered a clear link between storytelling, work, and life narrative, which include a strong sense of identity-building, political comment and critique of the everyday, regardless of whether these stories can be considered 'factual'.' (Turney, 2009, p 136)

In the case of framework knitting, the secretive nature of practice amongst workmen has restricted the extent to which knowledge transfer has been possible and as a result we are now faced with a situation where there is very little evidence that remains of how traditional hand frame knitting was practiced by the masses. We must now be content with using the testimonies of the few remaining experts to provide as broad a view of the traditions and practices of framework knitting as possible.

Interaction with both knitting professionals and the environments in which former framework knitters worked has allowed me to question the role storytelling has played within this project. As well as defining important historical and traditional approaches to knitting practice, the interaction that has taken place, particularly at G.H.Hurt has unearthed a number of stories relating to former framework knitters that has helped to identify how the working life of the men was impacted by their own experiences. This was an important influence in the development of my own creative practice as it allowed me to relate to the knitters on a more personal level and to see how the environment in which they worked was customised to their own work requirements.

As the hand frames have had very few alterations made to them over the years, physical evidence has been left behind that provides clues to working practices that influenced design direction. This approach to understanding the social practices of the framework knitters has highlighted areas of the history relating to framework knitting that is not usually covered by historians or museums.

Through informal conversations with Mr Henry Hurt between 2008 and 2011, tales about former employees and practitioners were often told. Some of the stories that emerged included:

- The framework knitter who smoked continuously and placed his hand frame beneath the pilot light of the gas lamps so he could light his cigarettes more easily so as to not affect his productivity.

- The elderly knitter that had his leg amputated from the knee down but who continued to operate his hand frame using his prosthetic leg
- The woman who worked in the pinning-out and finishing room who was so small that as she tried to carry the peg board across the company yard during windy weather she was blown into the street and nearly killed by oncoming traffic.
- Personal items left behind, next to the machines, such as wage packets, glasses, dental appointment cards and brochures about bus trips.

My own creative practice looked to explore the importance of stories like these, to establish how they can they provide a historic context that is not already explored through specialist literature.

These stories were pivotal in providing a link between historical trends and creative potential as they provided an alternative version of events to what is typically recorded as 'authentic' versions of history. Koestler surmises: *'The history of human thought is full of triumphant eureka's; but only rarely do we hear of the anti-climaxes, the missed opportunities, which leave no trace.'* (Koestler, 1964 in Boden, 2004)

It is the culture of the everyday that provides the contextual narrative for this research. The seemingly insignificant details that provide an understanding of how life alters experience and how understanding the world around you can be influenced by what you understand of establish cultural norms. Many of the practitioner stories provide a humorous element to the understanding of the hand frame, one that is almost always lacking from traditional historical documentations of framework knitting and it is this that helps to creatively contextualise the real people who were involved in the knitting industry.

8.4. Formulating a self-initiated narrative

The development of my own creative journey throughout this research was reliant upon a combination of historical understanding, technical skill and creative interpretation, all of which were closely related to the experiences I have had throughout the course of the research. Through this process I was able to ascertain to what extent the hand frame can be used for contemporary craft practice. My own design practice had begun by learning the basic techniques required to operate the hand frame, but as my skill level increased, and I was exposed to

additional techniques and expert advice I was then able to use the stories of knitters to inspire a create range of knitted lace items.

The following subsections review the experiences I had at both Ruddington Framework Knitters' Museum and G.H.Hurt shawl company and identify the main issues raised as part of my analysis of workable techniques on the hand frame.

8.4.1. Experiences at Ruddington

- Initial training to use the machine:

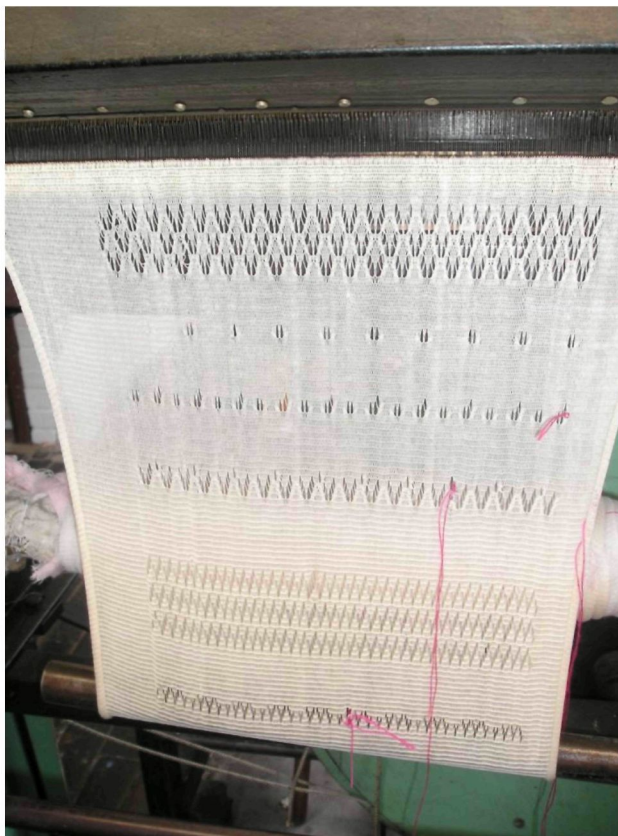
Ruddington is a unique location for learning to operate the hand frame as it provides unrivalled access to working machinery and heritage materials relating to framework knitting. The hand frame I first used to knit lace produced a strong fabric that allowed me to play with the limitations of stitch transfer. Having a dedicated workspace allowed me to attempt to produce lace patterns at my own pace.

- Problem Solving:

Often there were technical difficulties with operating the machine that would require the help of a trained technician. Whilst this help was sometimes available, often I would be required to work out the issues alone. This enables me to work more independently and develop personal processes in relation to technical problems such as jammed needles and slack tension. I was able to explore my own design objectives, and managed to find the patience to produce lace patterns that were time-consuming and intricate.

- Specialist environment:

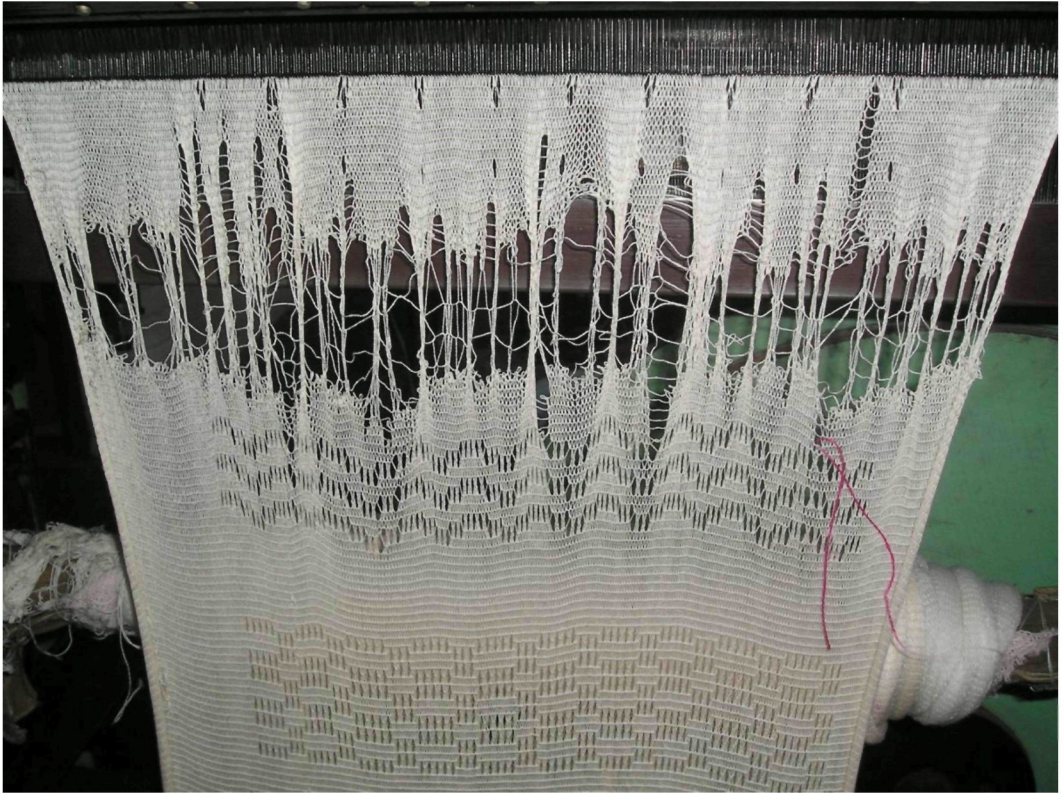
The museum allowed access to facilities that were not available elsewhere, particularly those for melting and casting lead in moulds to join needles together to fit the hand frame. In addition to this, an influential part of the research came from demonstrating the machines to the museums visitors.



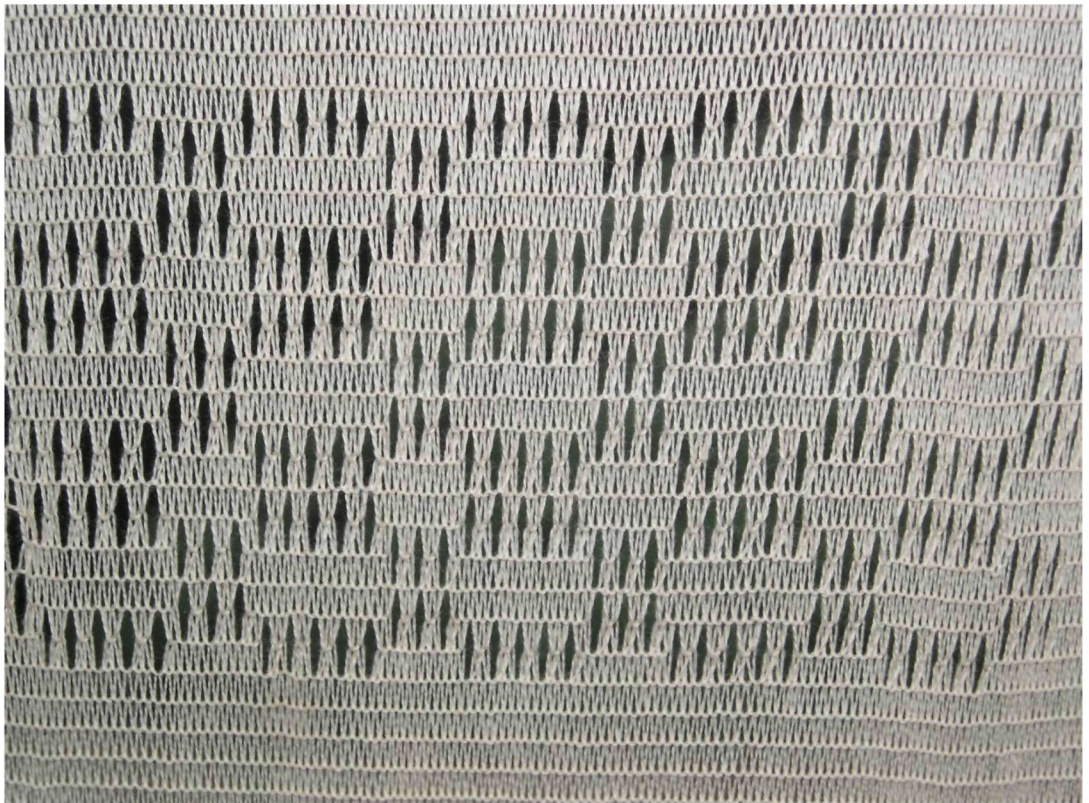
[Figure74] My initial exploration of patterning techniques on the Lee hand frame.



[Figure 75] Hand transferred lace experimentation: Diamond



[Figure 76] Dropped pattern caused by incorrect manipulation of the stitches.



[Figure 77] Lace transfer pattern exploration using the tickler bar

Learning to use the hand frame at Ruddington was a difficult process that involved long hours and unfamiliar technology. My early explorations with lace patterning were often fruitless as my skills were still that of a beginner, and as a result I was unable to analyse my mistakes in the same way as I would be able to after years of practice.

At first the lace patterns I produced were relatively basic [Figure 74] but it was through exploring these simple patterns that I was able to get a feel for the machines and to develop an understanding of how lace stitches may be manipulated in any number of ways to make decorative designs.

My main strengths as a practitioner were developed through the requirement to showcase the skills of the knitter to the public. It encouraged a sense of self confidence which improved my ability to 'perform'.

The hand frame came alive within the museum environment and enabled visitors who had no prior experience of the hand frame to see how it worked and get a sense of its importance. I found that using the machines for demonstration purposes allowed me to practice my style and speed and also to keep technical knowledge fresh in my mind.

8.4.2. Experiences at Hurts

- Opportunity to experiment:

The hand frames at Hurts were kept in exceptional working order, meaning that exploration of pattern and technique was made easier as less maintenance was required. The knitting workshop was also different from that at the Museum as it was within a private company where the work environment was filled with industry employees providing a creative atmosphere.

- Access to vast pattern library:

G.H.Hurt continues to manufacture lace shawls in patterns similar to those that were developed by the original framework knitters. The catalogue of patterns is extensive and provided an invaluable reference source for developing simple patterns that I could replicate on the hand frame despite my limited technical expertise. Mr Hurt also had in his private collection a number of workmen's notebooks belonging to his grandfather and other men who have worked at the

company. These were previously unseen resources that provided a very personal account of the working practices of the framework knitter. They provided detailed and often coded information about lace pattern design and construction methods.

- Interaction with fellow practitioners

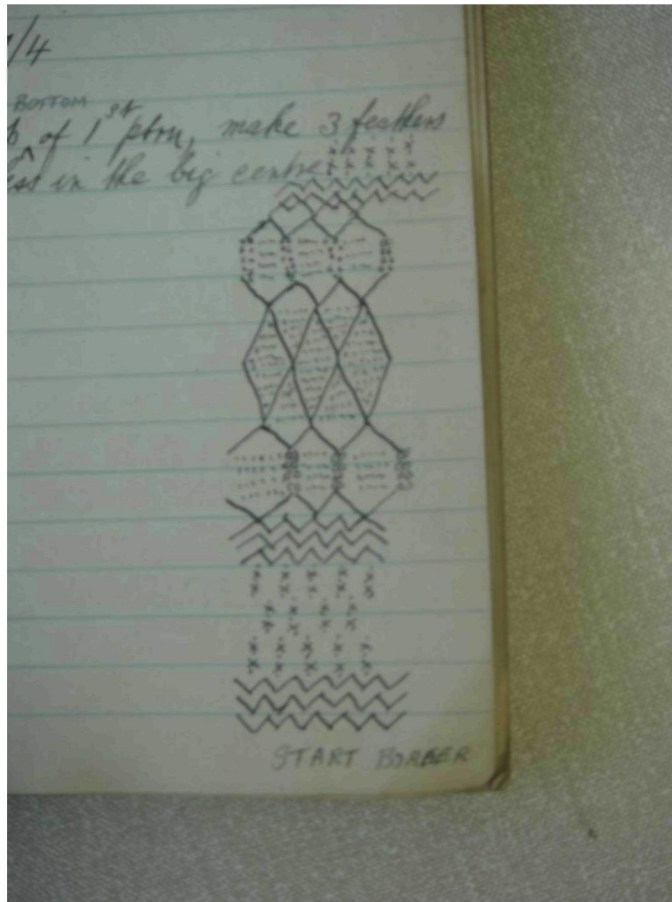
G.H.Hurt continues to provide a supportive environment to all those who wish to learn to use the hand frame [Figure 82]. The company has been established for the last hundred years, and remains as one of the only commercial businesses where framework knitting is still an inspirational influence. As a result, experts and framework practitioners are nearly always linked in some way to the company which has meant that locating existing expertise has been made far easier.

Mr Hurt was the first person to recognise the importance of preserving the working knitter's experience:

'It was in the early 1970's that we first discovered that we were interesting. Our old frame knitters were knitting there day in and day out and they didn't realise it was historical or hysterical, or whatever, and they just knew it as a job, they had done it all their lives, and it was only me who really started to promote some of the framework knitter's characters themselves, because they sold themselves'

(Exert from interview with Henry Hurt, 12th January 2009)

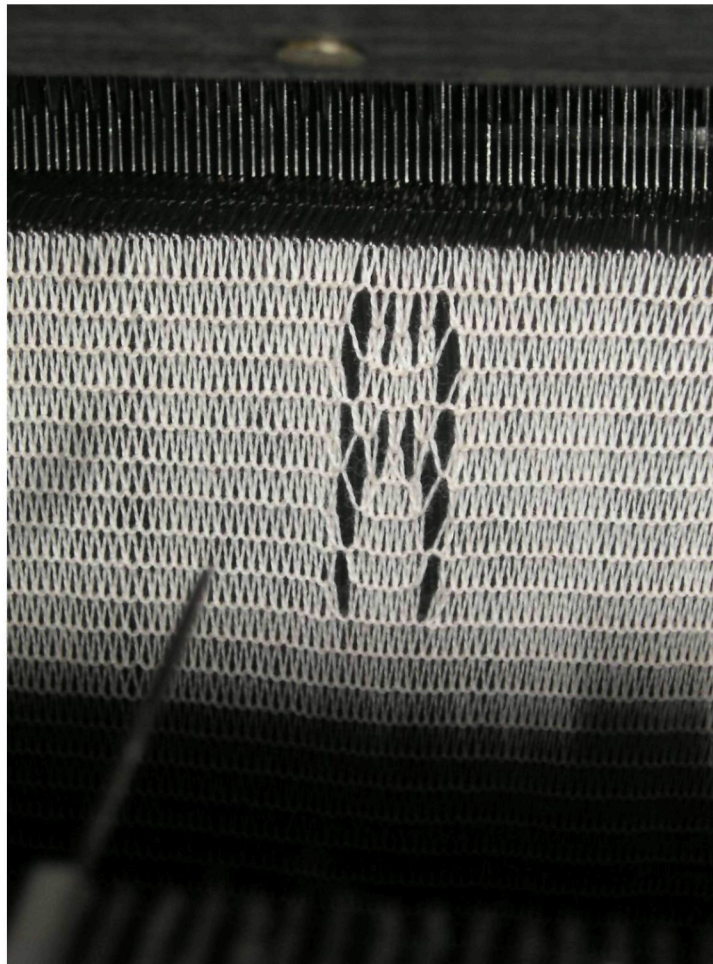
I have continued to follow the example set by Mr Hurt in attempting to preserve the stories of framework knitters that I have encountered during this project. By integrating learned skills, tradition and my own interpretation I have developed a practical approach to producing knitted lace on the Lee hand frame that explores the historic, cultural and social importance of weft knitted lace design.



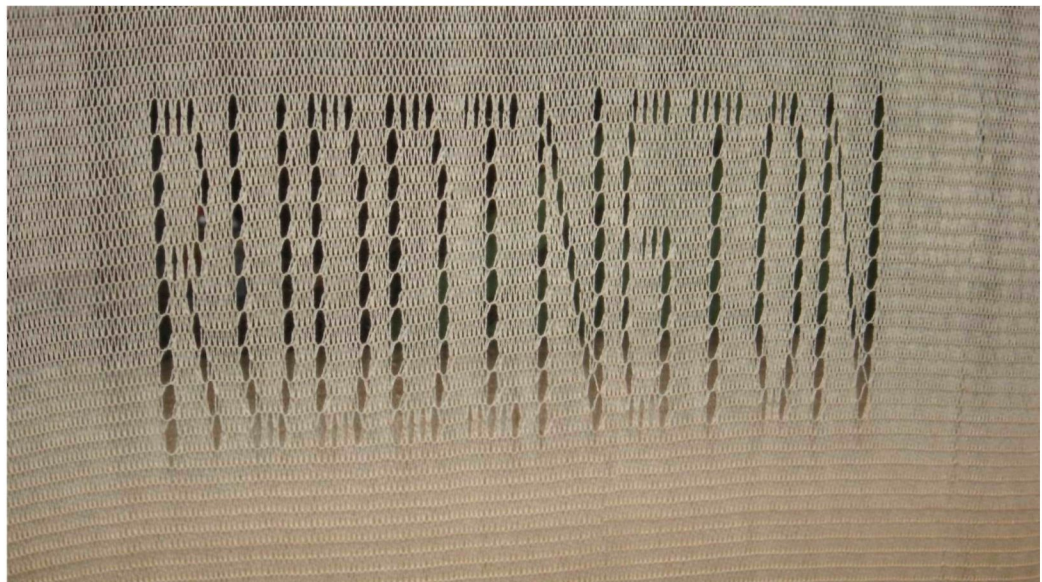
[Figure 78] Diary page from workmen's notebook at G.H.Hurt & Son. Author unknown. c.1920



[Figure 79] Part of a message left on a hand frame during a Heritage Open day at G.H.Hurt by Stacey Deakin. Over three parallel panels she transferred the stitches to form the words 'STACEY SAYS HELLO'.



[Figure 80] My early attempts to create lettering using hand transferred lace holes



[Figure 81] Exploration of lettering on the hand frame.
Hand transfer of lace stitches to spell 'RUDDINGTON'.

8.5. Attribution of meaning in weft knitted lace: A Reflection on the Practice

Through a review of patterns and lace traditions, I became aware that there were only very few occasions where knitters used text within their work. Often lettering was used to represent either the maker's initials, or that of Queen Victoria, and was more frequently used to identify the knitwear manufacturer.

In the past, much of my own design work has included the use of typography to demonstrate my feelings for particular subjects. I love how the use of words can be combined within a knit structure so that the words and the garment become intertwined and forever linked, providing an emotive product. As I was faced with an industry that has already lost the majority of its experts, it seems apt to use hand transferred lace to capture some of the statements about knitting that have arisen during my research. The use of text as a way of expressing personal connections with the fabric during the making processes is one that triggers all sorts of emotions in me. The use of expressive words within the structure of a knitted fabric creates a meaningful interaction between the maker and the machine to produce a symbolic knitted product.

The notes and visualisations made by framework knitters are often difficult to read, often because they're frequently written in a form of personal language that cannot be read by anyone other than the knitter. [Figure 81] On other occasions, they have virtually illegible handwriting but most of the lace diagrams are easily interpreted.

The practitioners I had met inspired me to think about creative applications of weft knitted lace that would preserve the skills and techniques of framework knitting whilst exploring a conceptual angle. I looked for potential phrases that would work well visually and emotively if knitted into the structure of a shawl fabric.

The diary pages of the framework knitters were an initial inspiration for my shawl designs, as they represented such a direct link to the men that had used the hand frame. However, the notebooks were almost exclusively technical, with no annotation about feelings or experiences. This made the link between man and notebook a difficult one to translate into lace patterns. Their technical patterns were a good guide for creating border patterns, but did not provide a personal enough link to use as a central emotive quotation. In this sense I began to look elsewhere for the link to personal experience that I was seeking. This came through engaging with current hand frame

experts and hearing them talk about their own experiences and also quoting the men that had been their teachers.

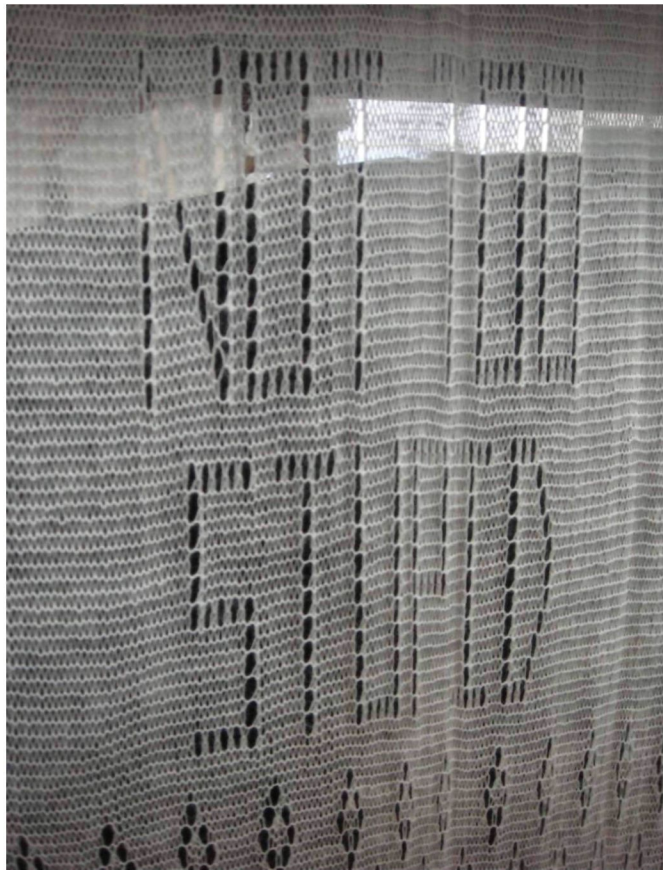
Experiments to create lettering using lace holes was slow, as all stitches were manually transferred using the transfer tool. Early attempts to knit a letter 'A' identified that each letter would require an odd number of lace holes at the width to ensure any letter that had points at the top, or central columns (such as 'A, I, J, M' etc.) could be successfully balanced. [Figure 83]

I extended the exploration of lettering to see how to space letters to create readable words or phrases. [Figure 84] Spelling out the word 'RUDDINGTON' involved planning a chart for each letter to anticipate where shaping would start, and take into account curves and diagonal transfers. The letter that were most complicated to knit was 'N' as it require the first two initial lace holes on the bottom row to be places further apart than all the other letters to accommodate the amount of holes required to create the diagonal central line. It was these realisations that improved the quality of my work and enabled me to plan more intricate designs.

The first lace prototype I made was knitted on the 3 at once hand frame at G.H.Hurt and Son. The entire phrase reads 'YOU'RE NOT TOO OLD TO LEARN IF YOU'RE NOT TOO STUPID.' This was a saying that former framework Knitter Jeff Oxley would use at Hurts frequently. This trial allowed me to practice letter shaping and spacing and to use the words in connection with boarder patterns to create an overall pattern that could then be stretched out as a small shawl. For this first attempt I transferred the stitches so that the letters were facing me, meaning that they showed up correctly on the reverse of the fabric. During later technical developments I transferred the stitches so that the letters appeared to be in reverse so that they would show up correctly on the front side of the sample. [Figure 82]

Once the shawl prototype was complete I removed it from the machine so that it could be overlocked, washed and dressed [Figure 86] The machine I used was capable of knitting three shawls at a time, but I decided that I would work on the central panel only to ensure that I could dedicate my full attention to creating a well-made product.

The shawl was dressed on a peg frame so that it had all the characteristics of a traditional lace shawl. [Figure 87] In this sample I experimented with lettering and size proportion, so did not knit the piece to any length specifications. As a result it short and did not fit easily only any of the existing size peg frames. From this prototype I was able to calculate how many courses would be required to produce a standard 120cm x 120cm shawl



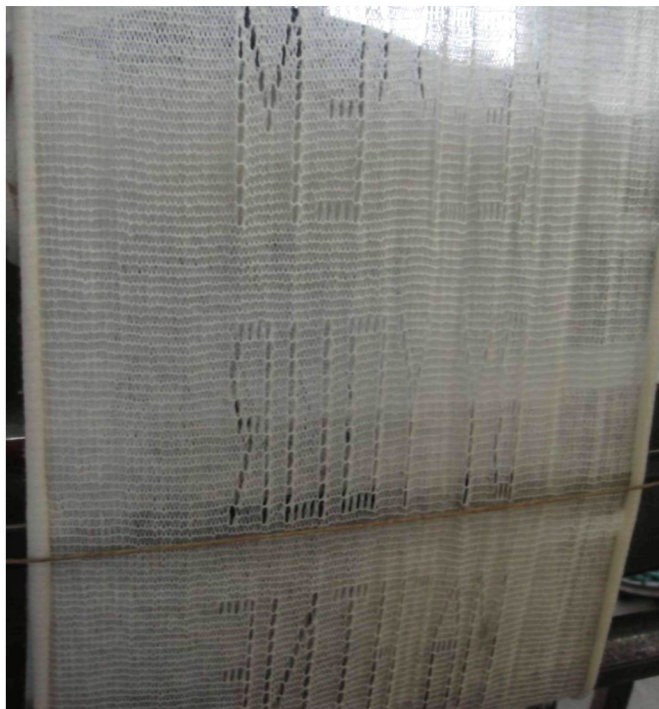
[Figure 82] 'You're not too old to learn if you're not too stupid'. Shawl prototype knitted on the 3 at once hand frame at G.H.Hurt & Son



[Figure 83] The finished sample (centre) is removed from the hand frame alongside two pieces of plain fabric



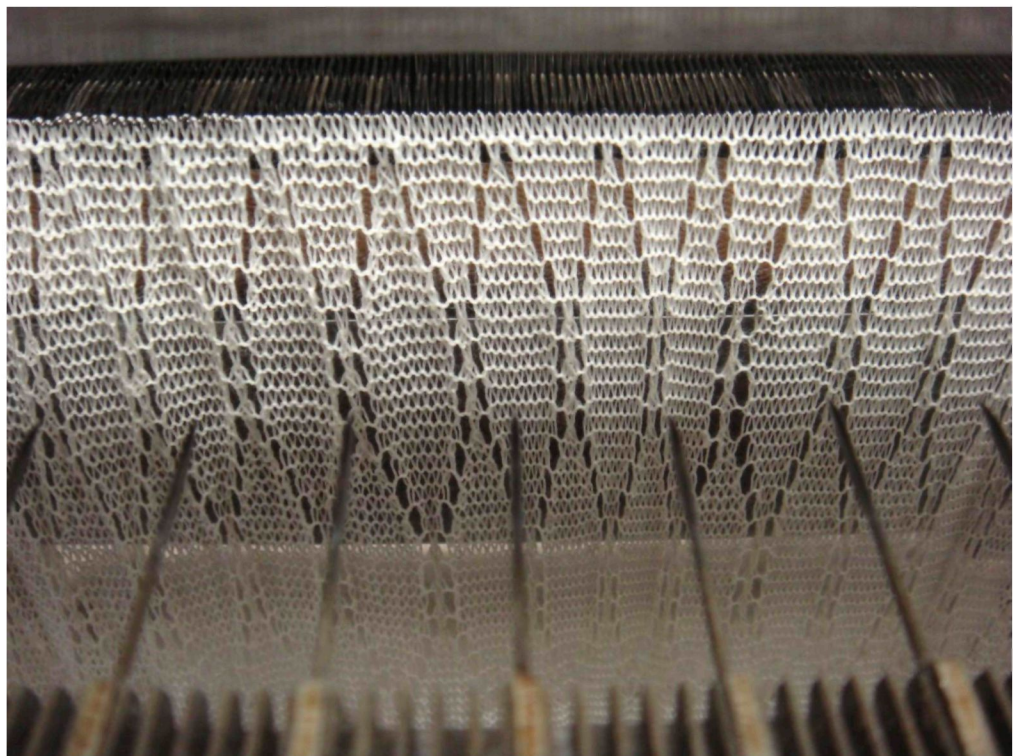
[Figure 84] Finished shawl being dressed on a traditional peg frame



[Figure 85] Work in Progress:
'When you find a good pair of boots lad, keep 'em by your machine'. (2010).



[Figure 86] Finished shawl being dressed on a traditional peg frame



[Figure 87] Work in Progress. Start of the boarder pattern for additional shawl

I created a series of lace shawls, taking into consideration that the lace letters much be constructed as a mirror image in order for the text to appear the correct way round when the garment was complete, [Figure 88] Work in Progress: 'Arthur Hesketh says 'WHEN YOU FIND A GOOD PAIR OF BOOTS LAD, KEEP 'EM BY YOUR MACHINE.' 2010. As these letters were knitted in reverse it took far longer to complete this shawl than the previous attempt. My brain had to work harder to ensure that no mistakes were made whilst working on a mirror image of the finished phrase.

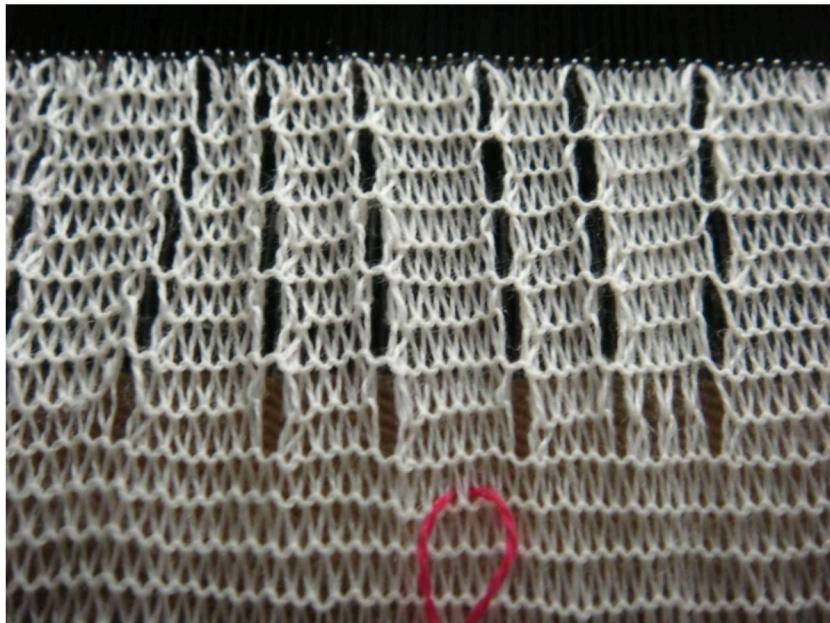
The finished shawl was dressed on a traditional peg frame 120cm x 120cm. [Figure 89] This particular phrase arose from my interview with current framework knitting practitioner Martin Green who is still making a living from producing shawls on the hand frame. The phrase was one that was told to him by Mr Arthur Hesketh and was meant as advice from an old knitter to a novice to prevent him from wearing his 'good knitting shoes' in an outside environment where they would get damaged. He advocated having a separate pair of shoes allocated for work that were not worn in the street so maintained smooth soles that would work well on the foot treadles of the hand frame,

After completing the first shawl, producing others was far easier. The size specifications allowed for a deep boarder on the top and bottom of the shawl [Figure 90] and this left enough central space to create seven lines of text. Short simple phrases worked best as they looked visually striking when surrounded by plain fabric. The letters 'Q' and 'K' proved difficult to construct so were approached with caution.

To ensure the lettering was central on the panel, a thread of contrasting colour yarn was threaded through the central stitch so that patterns could be balanced [Fig 91]. Unbalanced patterns were difficult to pin out because the ratio of lace holes to plain knit gave the fabric different type of stretch. .

8.6. Summary

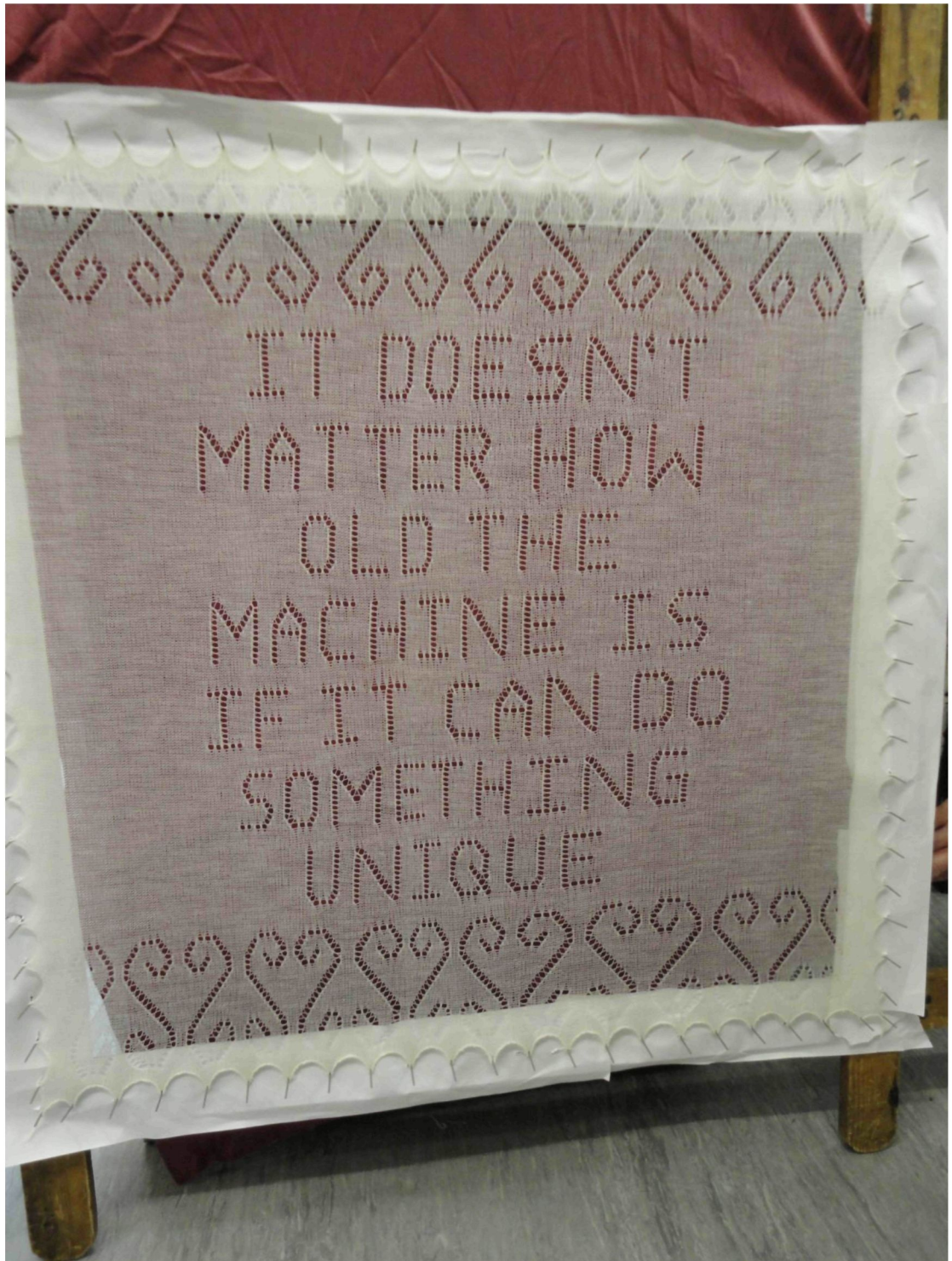
The use of storytelling to produce 'narrative textiles' is an important step in expressing the heritage of the hand frame through a contemporary interpretation, which provides an accessible conceptual understanding of weft knitted lace fabrics. The ability to showcase personal experience through practical exploration of traditional approaches to knitwear design is instrumental in locating the researcher within the design process. This is particularly important with design environments that rely on the dual roles of researcher and practitioner.



[Figure 88] Pink yarn acting as marker for the centre stitch of the pattern.



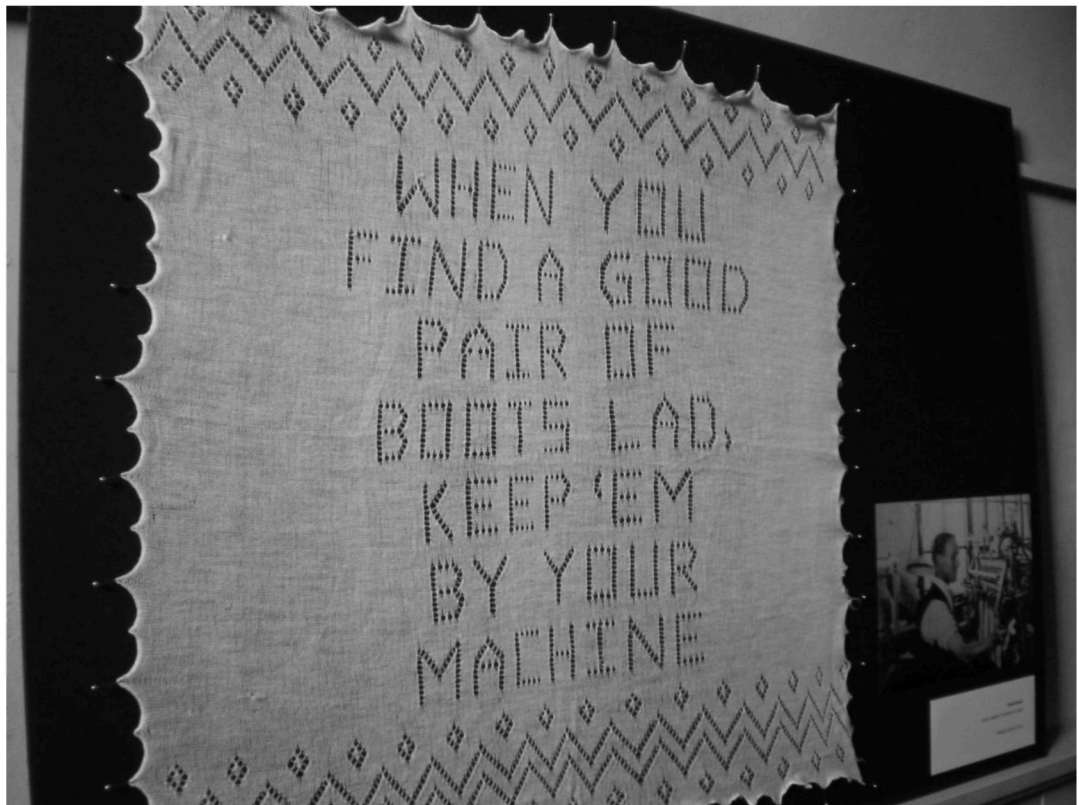
[Figure 89] My workspace, formerly Frank Oxley's workspace at G.H.Hurt.



[Figure 90] 'It doesn't matter how old the machine is if it can do something unique.'
Quotation of Henry Hurt. Finished Shawl pinned out on a traditional peg frame (2011)



[Figure 91] 'If I die in the frame shop or in my garden I will die happy.' Quotation of Jeff Oxley (2011)



[Figure 92] 'When you find a good pair of boots lad, keep 'em by your machine'.
Quotation of Arthur Hesketh

Finding my 'voice' was an imperative part of this research journey as it allowed me to compare how my own experiences match or differ from the experiences of other hand frame knitters. This practical work brought a new contribution to knowledge by providing a contemporary view of knitted lace production through representation of experience through application of text. By identifying people who were influential to the trade and its development, the hand frame has been now been used to explore new ways of creating and using lace patterns to examine creative experiences.

8.7. Reflection: The importance of applying creative skill

As mentioned in the previous section, this study has identified that demonstrating the hand frame generates a viable way of transferring technical and creative knowledge, to both practitioners and non-practitioners. This type of performance showed the skills of framework knitting in a previously unseen context, and generated an avenue through which I explored how my own creative process was influenced by interaction with other practitioners.

I used the hand frame to construct a series of knitted shawls that each depicted a quotation from one of the practitioners that I had encountered during this study. The nature of performance and storytelling were such significant themes that it was necessary to use them as a conceptual context to develop lace patterns within my creative practice.

I chose to visually represent the voice of the knitters through creating lace holes that were configured as letter formations and adapted the pattern to suit the dimensions of a traditional 32 inch squared lace shawl. These products showed that the hand frame is historically linked to each practitioner that has operated it, including myself. Creating the shawls offered the opportunity to merge a number of key aspects, the knitting itself, the exploration of lace patterns, and the application of text to show the 'voice of the knitter'.

Through practical learning I became more aware of the terminology used by framework knitters, which enabled me to interpret artefacts and workmen's notebooks to identify pattern designs that could then be explored as part of a conceptual design process.

The knitted products made were a culmination of the key aspects of the research and provided a visual representation of my ability to use the hand frame and recognise the importance of preserving the creative experiences of existing practitioners.

Chapter 9

Conclusion

9.0. Summary of the inquiry

Through this practice-led inquiry, the traditional skills of framework knitting were investigated to determine to what extent the hand frame can be used to explore contemporary uses of craft knowledge. This study used creative interaction and interpretation to build a critical evaluation of the process of learning to use the hand frame, and it was through this process that interactions were made with existing practitioners.

This inquiry intended to use the hand frame as a means of preserving expert skills to support a greater appreciation for the heritage of the craft and by using active researcher participation, the investigation was able to assess the contribution that personal experience can make to 'experiential knowing'.

By documenting the processes of learning to use the hand frame, the skills of framework knitting were examined and used to establish collaborative dialogues that communicated across academic and creative boundaries. These were used to generate a new perspective for understanding the creative potential of the hand frame.

9.1. The key decision-making processes

Throughout the research process, the investigation was continuously influenced by the ongoing narratives that emerged as part of interactive participation with the hand frames and their practitioners. The narrative themes that developed related to personal experience and in particular the emotional connection that occurs between a workman and their machine.

These narratives provided contextual references for theoretical and practical applications which guided the key decisions that were made as part of the practice-led investigation of contemporary creative applications. Creative narratives formed the basis of the contribution to knowledge by

establishing that technical skill and expertise shapes the type of interactions that occur between practitioners and practice.

Through reflective participation I was able to acquire the necessary decision-making skills to direct the inquiry towards a conclusion that supported a creative perspective of the hand frame. The communication of the personal learning experience generated critical dialogues between the heritage of framework knitting and the potential creative applications. This highlighted key working practices and demonstrated that practical knowledge of the hand frame can contribute to a wider debate about the future of traditional craft.

9.2. Examining the emerging themes

Using the reflective testimonies of remaining framework knitters, creative narratives were explored from which five key themes emerged. These themes followed the research process from initial ideas to practical and creative applications:

Inspiration -	Examining factors that provide personal creative motivations and initial design influence.
Exploration -	Developing practical skill through practice to 'play' with ideas and enhance awareness of pattern-making techniques
Communication -	Examining the dialogues created between practitioners, focussing on the relationship between expert and apprentice.
Implementation -	Applying 'what you know' through the ability to adapt and modify your practice using established technical and mechanical skills.
Creative Application -	Using the hand frame in a creative context to explore new ways of applying traditional skill.

These research themes have been used to draw parallels between the experiences of different hand frame practitioners and have focussed the inquiry to enable creative narratives to be formed that then supported my own creative learning journey. This formed part of the research

analysis that was used alongside the other data collection methods to form a wider understanding of how knowledge of the hand frame was acquired.

This inquiry used Reason's approach to understand experiential, presentational, propositional and practical 'types of knowing in co-operative action learning' (Reason 2001 p. 185). This approach was used throughout this investigation to underpin the reflections that occurred in this practice-led study to establish what sort of knowledge could be gained from the research methods that were selected.

From analysing the data collected the following conclusions were drawn:

Experiential Knowing

From the analysis of historical sources and creative locations, and through the examination of lace artefacts and notebooks, this research was able to determine that the development of an 'experiential' understanding of the hand frame was enhanced by the researcher's interaction with practitioners, which encouraged an empathetic form of knowledge to be generated. Experiential knowing gave me the ability to understand the actions of other knitters having been through a similar process of learning to use the frame myself.

The examination of historical machinery and locations created an awareness of technology and work space which strengthened my ability to 'put myself in the shoes of previous knitters', encouraging me to visualise how these spaces and machines could have been used in the past. This was a necessary step in documenting how past knitters would have conducted their daily lives, and what factors would have physically influenced their knit practice.

Experiential awareness shaped the way I approached my early learning experiences, by encouraging me to think contextually about where my own practice fit within the wider heritage of the hand frame. I was also influenced strongly by the research interviews that were conducted as they gave me access to the experiences of other hand frame practitioners and it was these interactions that inspired the use of lace lettering to spell out some of the 'knitter's wisdom' that was passed on to me.

Presentational Knowing

The development of 'presentational knowing' came as a direct result of the extensive program of creative exploration that was conducted on location at Ruddington Framework Knitters' Museum

and then later at G.H.Hurt & Son. The knowledge that I acquired through interactive exploration of stitches on the machines was a way of expressing the ideas and creative visions that I had during sessions of reflection. I was able to display my skill development through operating the hand frame successfully to produce knitted samples and shawls but also through applying the expertise of construction methods that I had obtained from observing existing framework knitters in action. The act of operating the hand frame alone was enough to display the result of the application of the experiential understanding I had achieved, but was able to extend scope of my performance by demonstrating the hand frame in action to an audience. This combination of practical learning, experimentation, practice and performance all supported the research quest to establish new ways of using the hand frame in a contemporary context but furthermore it established a new way of using the hand frame to connect with the public, which in heritage terms is a huge step forward.

Propositional Knowing

By combing the experiences of experiential and presentational knowing it was possible to both develop specialist vocabulary and use that language efficiently when talking to other knowledgeable experts. Being able to use this specialist or technical language aided the understanding of terminology used in discussions between practitioners and other experts. This would not have been possible without the combined element of research and practice running simultaneously. Without a practical understanding of the hand frame I would not have had the necessary technical vocabulary to interpret the exact experiences of others to form creative dialogues. My 'propositional knowing' allowed practice to inform expert know-how, which led on to better communication with hand frame practitioners and an increased ability to transfer knowledge efficiently.

Practical Knowing

Knowing *how* the hand frame worked would have been a useful aid to any researcher looking at framework knitting, but in order to justify the practical decisions that were made and to encourage useful meaning-making it was necessary to move beyond thinking and actually participate in active practice and reflection. 'Practical knowing' was the most important element of this research, because it brought together all the other threads of understanding to form one coherent voice; one that reflected on the research process that I had undertaken and used the experiences of working with the hand frame to inform my contemporary practice.

Reason's approach actively encourages the development of personal narrative and strengthens the ability to comprehend what is known and apply it to the outside world.

Reason summarises this:

'Knowing will be more valid – richer, deeper, more true to life and more useful – if these four ways of knowing are congruent with each other: if our knowing is grounded in our experience, expressed through our stories and images, understood through theories which make sense to us, and expressed in worthwhile action in our lives.' (Reason 2001, p. 184)

9.3. Addressing the research questions.

The initial research questions that were outlined in the introductory chapter of this thesis looked to establish new ways of understanding the craft of framework knitting in relation to contemporary practice.

This chapter will now revisit these research questions to provide a final reflection to show how these questions have been addressed.

Firstly, this study questioned how the analysis of existing machinery and weft-knitted artefacts could be used to inspire creative dialogues between the manufacturing processes of the past and the future creative potential of framework knitting.

- Interaction with existing machinery increased the practitioner-awareness and technical understanding that helped the ability to contextualise the deconstruction of lace artefacts
- Identifying how lace patterns may have been constructed helped support the understanding of what creative practices may have been undertaken by previous knitters, this in turn gave an insight into how the hand frame was used as a tool for creative design.

- Simply increasing the contact with machinery and artefacts promoted the dialogues that were formed. For example, the artefacts at the Costume museum had not been viewed for research purposes or by the public for at least 20 years, so simply getting them out of the archival boxes and talking about them with the curator highlighted the fact that even a knowledgeable expert like Jeremy Farrell had a limited expertise of these particular artefacts.

This thesis argues that the examination of textile artefacts and personal notebooks offers a way of examining the working practices of framework knitters that has not been achieved in any earlier studies. This process allows the 'voice' of the knitter to be identified and used to inform all other aspects of data collection within the study.

Secondly, the study also questioned how the analysis of practitioner testimonies could contribute to the existing creative narratives of framework knitting.

- This investigation identified that there are very few written examples of practitioner testimonies except British Parliamentary Papers dating from 1845, and the interviews that were conducted with framework knitters by Rapley for her Masters thesis. Additionally there were interview transcripts that appeared in Newton's History of Hucknall, but the most significant of those interviews was with Mr Arthur Hesketh who has been re-interviewed for this study. From these testimonies it was evident that no emphasis was placed on recording the creative ideas of framework knitters. Practice was often discussed, but it was done so in a technical manner that did not take into account creative inspirations or design development. My interview questions were specifically geared to ask these questions.
- As creative practice on the hand frame is also under-represented in existing literature, this study identified that many of the every-day working practices of the framework knitters have already been lost because they have not been recorded at any stage. As a result, part of the knowledge contribution that was achieved through these interviews was the recording of personal approaches to practice that would not traditionally be recorded as part of a historical narrative of framework knitting. This highlighted practices that are unique to the individual but which enhance their ability to use their hand frame creatively.

- It was also evident from the interviews, that the pool of knowledge about the practice of framework knitting is now so small, that all of the interview participants either knew each other through working together or had interacted with each other in some other form as teacher and apprentice, or through trading machine parts [See Appendix 2]

This thesis suggests that the analysis of the interviews demonstrated that the personal experience of each hand frame practitioner has the ability to contribute to a wider discourse about the creative applications of the past and the potential creative practices of the future.

Finally, this study questioned how a practice-led inquiry could facilitate the acquisition of new knowledge in relation to contemporary creative practice on the hand frame.

- The practice-led nature of this research required the documentation of the various stages that were undertaken in the process of learning to operate the hand frame, from early initial repetition of motions, through to experimenting with transfer stitches, and eventually producing finished articles. I documented this process through extensive note-taking, pattern grid diagrams, photography, film, and through the production of knitted samples and shawls. This in itself is a unique contribution to knowledge in the field of framework knitting, as past practitioners have not evidenced their training in this way, nor has historical literature been able to provide evidence of such practices.
- By learning to operate the hand frame I was able to use my skills to demonstrate the hand frame in action to non-experts, thereby widening the scope of interactive dialogues that could be performed. Many of the sessions that I conducted for heritage open days and museum visitors resulted in unexpected exchanges of knowledge as many of the visitors that attended these events had done so to further their own understanding of framework knitting having already conducted their own family history research and found evidence of framework knitters in their own heritage. As a researcher, these were useful interactions that gave me access to a wide range of informal stories that supported other tales that I had been able to uncover about

framework knitting. I was also able to present the findings of my own research informally in another context, by sharing the tales and experiences I had had with an audience beyond those who might ever read my thesis.

- The practice of framework knitting also provided a personal indication of how I understand my own creative practice and apply my creative skills to learning a new craft. This enabled me to identify how I approach new challenges especially in relation to a craft that has a significant historical presence.

This thesis strongly argues that the process of learning to use the hand frame is of critical importance in a practice-led exploration of technical skill and knowledge. This process also relies on the researcher's ability to contextualise their creative practice through documentation and extensive self-reflection.

9.4. Contributions to knowledge

This investigation looked at the hand frame in a way that has not been done before within academic inquiry. Whilst past practice has been driven by commercial or heritage purposes, this study represents the first time the hand frame has been used to explore a contemporary understanding of creative practice on the hand frame.

Through establishing a contextual understanding of previously undocumented hand frame practices, this thesis was able to provide an analysis of past practitioner testimonies to identify new discourses that explore the craft and skills of framework knitting.

Through conducting a series of interviews, this investigation provided an important opportunity to interact with living hand frame practitioners and was able to identify their motivations for conducting their practice and looked to examine what inspired them creatively.

This research has established that the 'voice' of the knitter can be located in artefacts, workman's notebooks, and the analysis of the workspaces of former framework knitters. But these voices can only be contextualised by someone who shares a similar experiential awareness of learning to use the hand frame and has the ability to interpret creative approaches to framework knitting.

9.5. Final Thoughts

According to Bruner (2004, p.709), *'Any story one may tell about anything is better understood by considering other possible ways in which it can be told. That must surely be as true of the life stories we tell as of any others.'* This is true of the many narratives of framework knitting. Over four hundred years the hand frame has provided mechanical, technical and industrial stories, shaping a rich social heritage that defines so much about the communities and people that have been influenced as a result. With this in mind, this research has provided an entirely new set of stories about the hand frame which explore themes of inspiration, and creativity to capture rare insights of practitioner experience.

The creative narratives that were uncovered in this investigation helped to give a 'voice' to the knitter by capturing previously unheard stories and presenting the practical knowledge of framework knitting in a way that makes the technology and skills accessible to a wider audience of non-practitioners and ultimately this research has set a precedent for examining the hand frame from a creative perspective, attributing new value to the skills and expertise of the craftsman. It is through continued preservation of these skills that the hand frame may continue to provide a lasting example of creative inspiration and influence.

9.6. Next steps in relation to practice-led research

During this investigation I made contact with a number of creative people who were interested in furthering their own creative work using the hand frame as a starting point. One of these was a musician who was eager to document the noises of the working hand frame to create an artistic sound performance and another contact wanted to use the hand frame as inspiration for a novel they were constructing. By sharing my knowledge I was able to inspire their practice in a way that goes beyond the parameters of this study but which shows that the hand frame can be used to inform many forms of contemporary practice, not just textile production.

In the future I intend to continue developing the hand frame skills I have acquired, through continued collaboration with the institutions I have been working alongside during this investigation. I now possess a specific range of skills that have been entrusted to me and it is now my responsibility to ensure this knowledge is preserved and shared so that the craft of framework knitting may continue to have an active presence.

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THE KNITTER'S TALE:

A PRACTICE-LED APPROACH TO FRAMEWORK KNITTING THROUGH A CONTEMPORARY EXPLORATION OF TRADITIONAL PRACTICES, PATTERNS, SKILLS AND STORIES

VOLUME 2 of 2

REBEKAH ELLEN WOOD

A thesis submitted in partial fulfilment of the requirements of

Nottingham Trent University for the degree of Doctor of Philosophy

March 2013

This thesis appears in two Volumes:

Volume I contains the written thesis and the Bibliography

Volume II contains the Appendices.

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Appendix 1

Timeline of the development of the hand frame

DATE	DEVELOPMENT/ACTIVITY/EVENT
1589	The invention of the first mechanised stocking frame knitting machine by Rev. William Lee
1598	Machine refined to knit silk and wool stockings, but Lee again refused a patent by Elizabeth 1
1600	Hand knitting industry is still thriving. Techniques develop further, with small communities such as that in Shetland and Orenburg in Russia creating lace work shawls.
1610	Lee took his knitting frame to France on the invitation of Henry IV where he successfully gained a patent for his machine. This however was short lived after the assassination of the French King forced Lee to withdraw from France.
1614	After Lee's death, his brother Robert is reported to have transported the Frames back to England and continue to modify and improve the quality of fabric that could be produced.
1656	Jean Hindret's diagrams of the working parts of the Hand frame date from this period.
1660	Around 650 stocking frames in Britain. After the Restoration, the fashion in hose became progressively plainer and turned shaped more popular.
1663	Framework knitting gradually becomes established. Does not fully replace the hand knitting industry, but mechanical progresses enable fully fashioned silk stockings to be produced. Opens up a world of opportunity for the mass production of quality silk hosiery.
1663	Charles II grants the Worshipful Company of Framework Knitters a Charter so gives credibility to the use of hand frames for garment manufacture. London area, undergoing an economic boom and needs a greater number of people to be involved with the manufacturing process.
1665	London ravaged by the Great Plague which spreads quickly throughout the lower classes in London having a dramatic impact on the population of Framework knitters, the majority of whom have living accommodation that consists of a single room shared with their family.

1666	The Great Fire of London - beneficial in helping rid London of the Plague, but it also enables London to be rebuilt, and consequently re-establish itself as the trade capital of England.
1670-80	Fashion for decoration on hose clox to be less flamboyant.
1700	Openwork mittens, gloves and hose all embroidered, are imported into England from Cordova in Spain where they are made on the hand frame. The eyelet holes made using the work needle or hand ticklers.
1750	'Gradually London declined as the centre of frame-work knitting and, by 1750, the major areas could be broadly classified as Derby for silk, Nottingham for Cotton and Leicester for wool knitting.' (Spencer 2001 p 9)
1750	'Lee's original frame was undoubtedly crude, and knitted poor quality woollen stockings with a gauge of only 8 needles to the inch (25mm) It required two men to operate it. Not until 1750 were frame knitted stockings accepted as comparable in quality to those knitted on pins.' Spencer (2001 p 9)
1751	Diderot's 'Encyclopédie ou dictionnaire raisonné des sciences, des artes et des métiers' published and contains Hindret's Diagrams
1754	For twenty years knitters write 'Paris' into their welts so that their work may pass as French since the French goods seen as superior to the English ones.
1755	Personalisation of knitted garments advertised in the Salisbury Journal, where Gentlemen and Ladies are able to have their own names wrought into the stocking. This would have been achieved through manual stitch transfer. This led on to the manufacturer's mark being introduced under the factory system.
1758	Jedediah Strutt patents his 'Derby Rib' attachment to the stocking frame. This was the first time both knit and purl stitches could be created on the same side of the fabric, allowing for more decorative pattern variations, and a better quality garment finish. The progression of technology has been slow remaining relatively unchanged for 200 years, but the 18 th Century sees the development of various machine additions and variations that enables the knitting frame to feature heavily in the Industrial Revolution. This opens the door for a new generation of inventors to experiment with

	new additions to the frame.
1763-64	John Morris, a hosier from Nottingham patents a frame that produces an eyelet hole mesh. The fabric created simulates lace and is widely used for Spanish silk mitts, gloves, aprons, handkerchiefs, hoods and caps. Demand for Morris's products is such that his business operates 49 frames with this attachment. Morris's success prompts others to work specifically in the development of open lace-style fabrics
1765	The Tewkesbury Act requires goods to be marked with an equivalent number of eyelet holes to indicate how many ends of yarn are used to make it. However this process only requires classification on fabrics made of three ends or more, meaning fabrics with two ends are often passed off as better quality than they actually are
1768	Crane's patent uses looped nets . Hammond imitates lace after seeing his wife's broad lace border on her cap. He calls the product 'Valenciennes Lace' (Although it bears no resemblance to the other lace of the same name)
1769	Robert Frost helps produce the first plain net machine through the addition of a sliding tickler machine. This produces a figured lace web known as 'spider-net' fabric which is very fine.
1770-1780	This period of time is distinguished for experiments in the leisure hours of workmen at the fancy stocking frame, in forming meshes by hand, which lead eventually to many discoveries in the mode of making lace mechanically
1785	There are only 50 Point Net machines in Britain
1786	After John Morris's retirement the patent for the point net machine is sold to the Hayne brothers of Ashbourne, Derbyshire. At this time there are around 20 Point Net lace machines in existence
1803 -1815	The Napoleonic Wars lead to the decline of transport links to the continent and therefore the business of early lace merchants. The further increases in taxation and bad harvests lead to a revival in Luddism

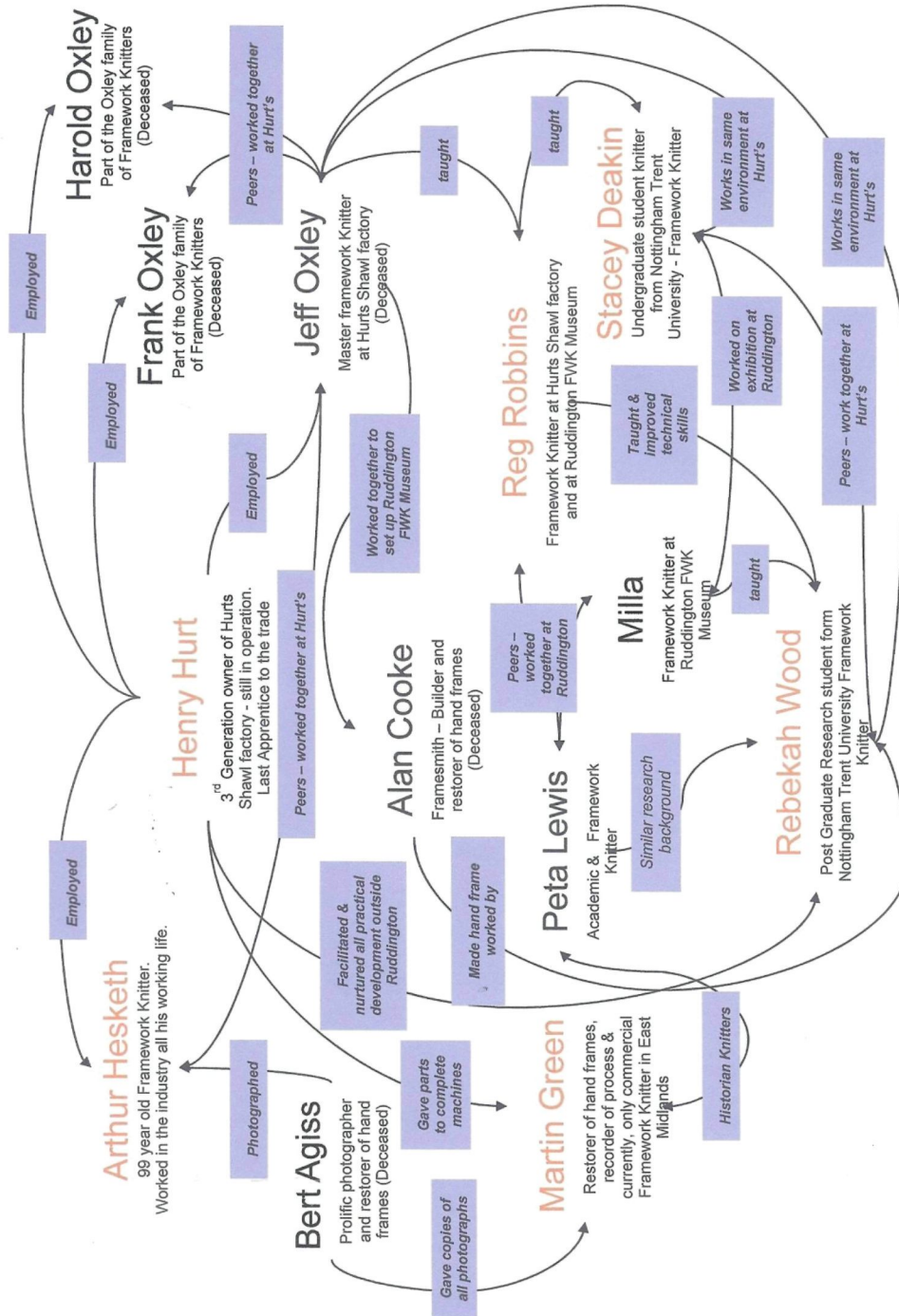
1804	Stockings are sometimes knitted lengthways on the frame so transfer work can provide patterns round the whole calf
1810	There are over 1,500 frames providing employment for 10,000 to 15,000 lace workers in Nottingham. These frames make edgings, insertions, borderings, flouncings, of anything from 1 inch to 30 inches wide, and veils ,scarves and shawls.
1811	Conditions for Stockingers were particularly bad. The Luddite Riot in Nottingham broke many frames, but only those making 'cut-ups'
1812	Some 40 distinct fabrics are still being knitted, but a vast number of frames once occupied on fancy goods move to plain hose work causing over production and subsequently a very bad depression
1818	Machinery existed to make lace, but handcrafted lace was still practiced in eastern Europe especially in the Baltic region.
1822	William Felkin takes up employment with John Heathcoat
1828	William Felkin chairs a committee of lace industry machine owners. The last 28 Point Net machines are sold as demand for the product completely ceases
1831	Gravenor Henson writes his 'History of the Framework Knitters'
1832	William Felkin goes into partnership with William Vickers to provide a middleman service and sell net lace on behalf of framework knitters. The partnership also begins to manufacture lace
1840	The opening of the London to Nottingham rail line quickens delivery times for the lace business.
1845	Report into the Conditions of the Framework Knitters.
1851	The Great Exhibition. is staged at Hyde Park presided over by Prince Albert. The exhibition brings together creative minds and is attended by the most fashionable people of the time. There are sixty exhibitors in the Lace and Hosiery section of whom four hosiers and ten lace firms win medals
1852	James Wood of Nottingham brings a lace hand knitted shawl used to cover a baby's head, from the Shetlands, to Hucknall. He persuades a local

	stockinger, Robert Widdowson, to copy it on the stocking frame
1854	Shetland woollen work begins to be made on the Stocking frame by Mr Thomas Hill of Nottingham. He makes experiments with fine grey woollen yarn, with a view to produce falls similar to those knitted by hand in Shetland
1862	Thomas Hill suggests to W. Farrands of Hucknall that shawls might be made of these fine woollen yarns (of a Shetland variety). Samples sell immediately in France and the manufacture of articles of utility and beauty for ladies dresses were used in Spain, South America and the United States. .
1867	William Felkin publishes his “History of the Machine-Wrought Hosiery and Lace Manufactures”
1885	German scholar Professor Gustav Willkomm illustrates and documents the working hand frame through a series of incredibly detailed mechanical diagrams. Translated into English by Rowlett
1907	The Lace industry has reached its peak, employing 40,000 people (one third of Nottingham’s population).
1908-1914	James Quilter and John Chamberlain produce text books and examination test questions through the Hosiery Trade Journal Office to ensure a high standard of knowledge of Framework knitting amongst the trade.
1912	G. H. Hurt & Son are established in an old seed warehouse in Chilwell, Nottingham. They chiefly manufacture lace shawls.
1922	Fashioned Ladies Combinations are popular, and the fully fashioned nature of the garments left non-decorative lace holes as a result of the shaping.
1960	G. H. Hurt & Son buy their first mechanised machine, bringing 48 years of knitting lace exclusively on the hand frame to an end.
1968	The Ruddington Historical Society identifies a collection of disused former Framework Knitters’ cottages and workshops. They petition to buy these building and convert them into a Knitting Museum

1971	Ruddington Framework Knitters' Museum opens its doors to the public for the first time
1970-1989	British Hosiery Industry declines against world competition and changing fashion needs.
1989	400 Year Anniversary of the Hand Frame celebrated in Nottingham with prestigious Gala at the Royal Centre and dinner attended by the Princess Royal and other Hosiery Industry guests
1990-2010	G. H. Hurts Shawl Company continues to adapt to new markets e.g. Japan and creates new products for new customers such as Next.
2011	Ruddington Framework Knitters' Museum celebrates 40 years with a visit from the Master of the Worshipful Company of Framework Knitters 2010, George Turner.

Appendix 2

Practitioner Relationship Diagram



Appendix 3

Technical definitions: What is a 'hand frame'?

The hand frame is a large free-standing machine, most commonly comprised of a wooden frame known as the carcass, to which the knitting carriage is attached and these are operated by a series of foot pedals. Over the last four centuries, the appearance of the machine has altered very little, and whilst developments have improved the quality of producible knitted fabric, the hand frame maintains a simplistic nature, through which hand operation produces the working action, creating a stocking stitch fabric.

This report refers to the 'hand frame' as the machine by which weft knitted products are created. In other literature, this machine is given a number of alternate names, including the 'stocking frame', the 'narrow frame', the 'wide frame' and also the 'shawl frame'. All these machines come under the overall title of 'hand frame'

Hand frames can be typically categorised as either 'narrow' or 'wide' frames. The narrow frames date from an earlier industrial time, where fully fashioned work was undertaken by skilled knitters and the quality of goods produced was of a specialist standard. The wide frame was a later adaptation dating from around 1790 which was introduced to promote cut-up work, whereby lower quality products could be made by knitting a single piece of straight fabric, which would then be cut to shape afterwards.

The hand frames that remain are a mixture of machine types and the variation in size between individual hand frames is vast. Rather than examining the width of the entire frame, this study has placed more focus on the width of the actual knitting area, and the specifications of producible fabric width. The width of a fabric produced is defined by the number of needles placed along the needle bed, either in a continuous line or in groups of needles.

A hand frame may be set up with a single yarn feeder that navigates across the entire width of the needle bed, or be divided into smaller sections of needles that all have their own individual thread carrier. A machine with a single thread carrier, known as a 'one-at-once' is capable of knitting only a single piece of fabric, but can be used to produce very large pieces of fabric, up to 72 inches wide when pinned out.

The main advantage of the hand frame over hand knitting was in its ability to create an entire row of loops at once, as opposed to creating them individually. The needles were placed in rows

which allowed a single loop to be created for every needle in place creating a stocking stitch fabric. As the new loops were formed, the fabric grew longer, and hung below the needles until it was the required length.

The working action of the hand frame was reliant upon a wedge-shaped piece of iron called a slurcock which was used to regiment the process of dividing the yarn evenly over the needles. Foot pedals otherwise known as treadles were used to direct the slurcock and to operate the Presser bar which came down onto the needle beards to close them. As the left or right foot treadle was pressed the slurcock ran under the back edge of the jack sinker, causing it to release. Jacks then fell between each pair of needles, dividing the loops and creating stitches of a uniform length.

A detailed description of the spring beard needle and sinker has been provided below, to highlight the difficulties that have been encountered in the practice of learning to use the hand frame. An additional review of the working actions of the hand frame has then been provided, to demonstrate the complicated knitting process and illustrate the actions that the knitter must be able to perform in order to create knitted fabric on the hand frame.

The spring beard needle

The ingenuity of William Lee's invention was not in his creation of the hand frame structure, but in his ability to fashion the spring beard needles, by which the looped stitches could be formed. This needle provided an entirely new way for looped fabric to be constructed, and as Henson's detailed description highlights, constructing the needle took an enormous amount of dedication and alteration:

'It is said that he was some months making and re-making these needle hooks, in various shapes, till at length, after many ineffectual attempts, he determined on making a groove instead of a hole, but the want of tools for the purpose greatly embarrassed him; his first attempt was to flatten the wire, and then, while hot, to turn the sides towards each other; after spoiling hundreds, he at length procured a three-square file, and thus cut a long groove. His needle was now complete, and his first essay was a pair of garters, made by the hand, on his twelve needles, stuck in a piece of wood.' (Henson 1831, reprinted 1970, p 40)

The needles were joined in pairs by being cast together into a Lead case. This was then filed down to fit into a groove on the needle bed where each needle would be separated by a sinker. The

needle leads would then be kept in place by a series of needle plates that run along the top of the needle leads and are held in place by heavy steel bolts.

These spring beard needle were configured in rows along the width of the frame, and remained open until they were forced closed by the application of a 'presser bar' that the knitter controlled via a foot pedal. ¹ The Presser bar is a long piece of tapered steel which is fixed in place along the entire width of the knitting carriage of the hand frame. When not in operation the Presser bar is held in place by a series of springs which hold it away from the moving parts of the carriage. The Presser bar is engaged by means of a central foot pedal which is operated by the knitter to bring the tapered edge of the Presser bar down onto the needle beards, forcing them closed. This then enables a new row of created loops to be passed over an existing row.



[Figure 93] The foot pedals that operate the knitting mechanisms.
(From left to right: The sinker treadle, The leftwards moving slurcock treadle, the presser treadle and the rightwards moving slurcock treadle.)

Spencer describes how newly created loops were formed by a process of manipulating the knitting carriage around the fixed needles, after which they could be '*drawn through the previously-formed loop as the latter is being released.*' (Spencer 2001 p 10) Palmer clarifies this through her description of the process by which '*the old loops supporting the fabric already*

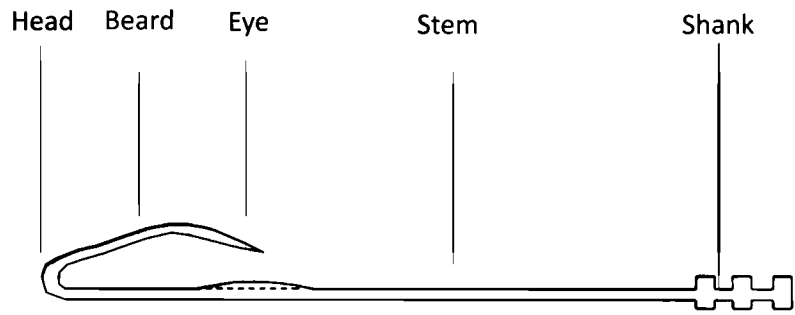
knitted could be drawn forward over the closed beard so that they slipped down to hang on the new loops contained in the beard.' (Palmer 1984, p 4)

The speed at which knitted fabric could be produced was greatly improved by the invention of the spring beard needle. As Spencer highlights; *'skilled hand-knitters could only form up to 100 loops per minute whereas Lee's first frame could achieve 500 to 600 loops per minute, and the later silk hose frame could produce 1000 to 1500 loops per minute.'* (Spencer 2001 p 10) In 1831, Henson listed the working parts of a *'twenty-four gage [sic] silk frame, fifteen inches wide'* which included 360 *'Frame needles, or Long hooks'* amongst the 2066 parts. This is a dramatic improvement to Lee's early hand frames in the late sixteenth century which were configured to knit only eight needles to the inch, meaning that although the speed of production was increased, the fabric produced was still relatively coarse in relation to the knitted fabric that could be produced by hand knitters. It was this fact that saw Queen Elizabeth I refuse to give Lee a royal patent for his machine. *'Lee responded to the Queen's comments and improved the frame by increasing the number of needles per inch from eight to twenty.'* (Knitting Together, 2002)

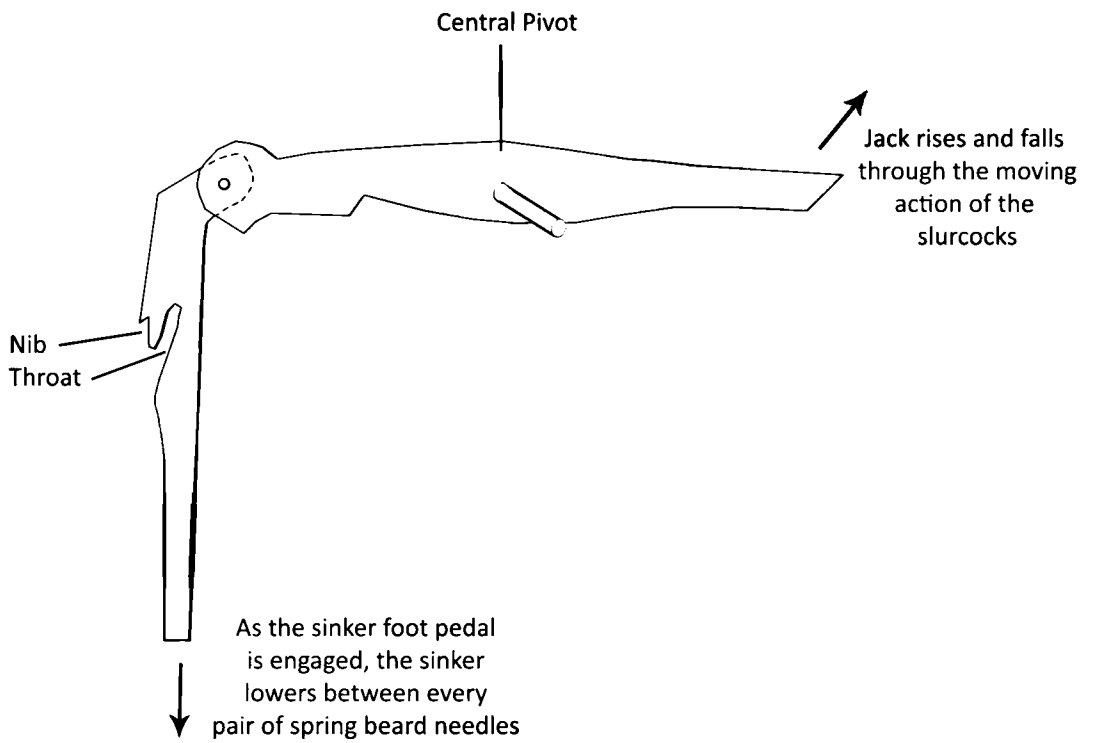
Lee's ingenuity with developing the spring beard needle would not be wasted, as later versions of the hand frame continued to use this form of needle. The hand frame that have been used for practical exploration within this study all use spring beard needles and the decline of usable hand frames is directly related to the loss of companies that can manufacture this type of machine needle. This is a significant problem for museums such as Ruddington, who cannot continue to offer machine demonstrations if the machines are without needles, and equally, a continued program of creative exploration will only be possible as long as the machines remain useable. Needle shortage is the main reason that existing working hand frames are currently inactive.

The Jack Sinker

Early eight-gauge versions of Lee's machine had fixed sinkers that would fall between each needle to create a regimented stitch length. The major drawback of this method was that it put an increased amount of stress on the yarn, and reduced the capability that the machine had for creating finely knitted hose. After Lee's death in France, his brother James Lee and former apprentice John Aston returned Lee's early machine version to England in around 1620 and after selling many of the old frames in London, they were able to commence building their own version, with specific alterations to improve the quality of fabric that could be produced.



[Figure 94] The Spring Beard Needle (Diagram by Rebekah Wood, 2011)



[Figure 95] The Jack Sinker (Diagram by Rebekah Wood, 2011)

Aston's main alteration to the hand frame was to change the knitting action so that when the slurcock was activated, a lead sinker would fall between every pair of needles, after which a dividing sinker may then be applied which would drop down and further separate the needle pairs. This regimented the stitch length in two stages rather than in one motion as Lee had done, and significantly reduced the stress on the yarn, therefore making it possible to manufacture hose of a finer quality. [Figure 30]

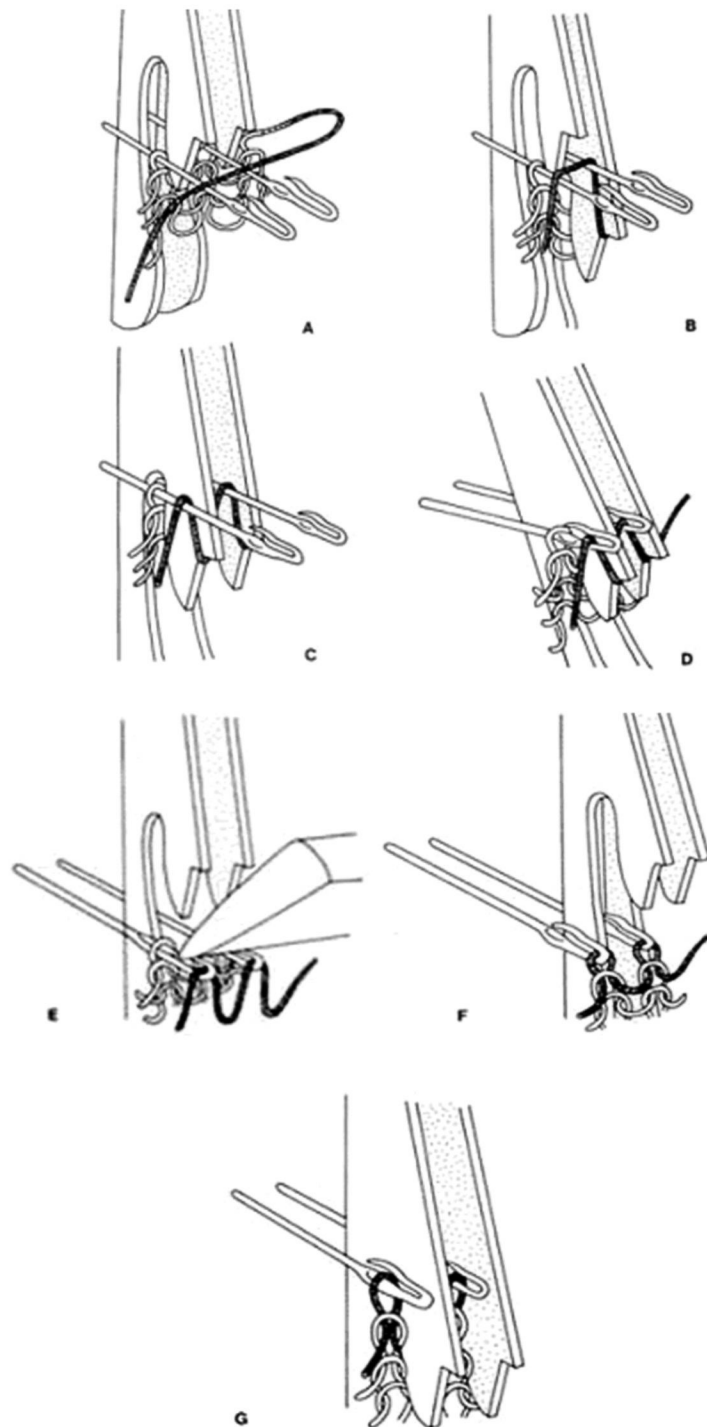
Blackner's description of Aston paints a very favourable portrait of a mechanical mastermind: *'One Aston, of Thoroton in this country, having been taught the art of framework-knitting by Mr Lee, before the latter left this country, and, being a person of considerable genius, had retained a tolerably correct knowledge of the frame.'* (Blackner 1815, p 214) Spencer suggests that the hand frame was so improved by the addition of Aston's dividing sinkers that after 1620 a gauge of 16 needles per inch were obtainable on a hand frame. (Spencer 2001, p 9) This had a hugely positive impact on the popularity of the blossoming hand frame industry and enabled the onset of significant changes to the way that textiles were manufactured.

Lewis talks specifically about the misinterpretations that have been made by many historians in thinking that the hand frame was *'born fully formed'* and that William Lee was the sole mastermind behind its complete technology. She suggests that *'this is because writing in the heroic tradition of invention, nearly all the industry's historians have attributed the whole credit of the development of the frame to its enigmatic inventor William Lee, turning a blind eye to its long period of gestation.'* (Lewis 1986, p 129)

The long period of gestation that Lewis refers to is not just limited to the mechanical developments of the machine but also represents the changing function of the hand frame as it is adapted from the commercial uses of the past to the creative uses of the future. Whilst the technology of the hand frame has now been eclipsed by the vast industry of electronic, and power driven machinery, its roots as a hand operated machine enable it to provide a unique dialogue between heritage and contemporary creative practice.

Appendix 4

Working actions of the hand frame



[Figure 96] [A-G] Sinker action diagrams (Palmer, 2002)

A breakdown of the working motions of the hand frame has been provided to show the series of steps required to create a single row of loops. [Corresponds to Figure 96]:

A. The knitter then operates the hand frame to create a new row of knitting begins with the knitter laying the yarn over the stems of the needles, either by hand or by means of a mechanised 'thread carrier'.

B. The knitter then releases the slurcock by pressing down one of the outer foot treadles, in the direction that the yarn has been fed. (On most hand frames the action of operating the directional thread carrier and the release of the slurcock is simultaneous) As the slurcock runs under the row of sinkers, a jack sinker is made to drop down in between every pair of needles. This causes the yarn to form a zigzag over the stem of the needle and under the nib of the sinker.

C. The knitter then presses in the thumb plates at either end of the carriage and presses down on the sinker foot pedal, which releases the remaining lead sinkers, which divide the loops that have already been created over every second needle by the jack sinkers. This ensures the length of the stitches is identical and reduces the stress placed on the yarn.

D. With the thumb plates and sinker pedal still engaged, the knitter brings the carriage forward, moving the new loops into the beards of the needles. The old loops formed on previous courses hang from the stem of the needle, behind the needle's eye, and under the throat of the sinkers.

E. As the sinker pedal is then released, the carriage lifts and the sinkers are removed from between each needle. This leaves the new loops hanging loosely at the head of the needle.

F. The presser bar is then engaged via a foot pedal, which lowers onto the beards of the needle, closing the hook and trapping the new loops.

G. The carriage is then pulled forward to force the old loops hanging on the needle stem to lift over the beard of the needle. At this point the presser bar is released and the old loops are knocked fully over the head of the needle to form a new fixed row of loops hanging inside the beard of the needle.

H. The thumb plates and sinker pedal are then reengaged as the carriage is pushed backwards into its original starting position, moving the row of created loops back onto the stem of the needle. This process is repeated to form as many courses [rows] as required.

Appendix 5

History and Production: Defining ‘Weft Knitted Lace’

There is a vast amount of literature that is already dedicated to the field of lace manufacture and design, however as the term ‘lace’ has become synonymous with a number of different forms of openwork structure, it is now more difficult to isolate particular references to lace made on the hand frame.

Earnshaw’s extensive literature on hand made and machine made laces (Earnshaw, 1982; 1985; 1986; 1989; 2009) provides a detailed discussion of the variety of construction processes and technical structure and definition of ‘lace’:

‘Lace, in its accepted definition of a slender openwork fabric made of threads, was derived from three sources: coarse functional openwork such as netting: techniques such as knitting and weaving, formerly used to construct only solid fabrics, and then adapted to the making of openwork: and surface decorations such as embroideries converted into a form where instead of being embedded in the base fabric they were made separately from it and could be added or taken off as required.’ (Earnshaw 1986, p. 11)

Whilst the term ‘lace’ can therefore be used to describe any number of openwork structures, for the purposes of this study it is important to define the principles of weft knitted lace, as being an adapted version of traditional hand frame knitting.

The looped structure that is referred to as ‘weft’ knitting uses a single continuous weft thread which is drawn horizontally over the needles. A ‘weft knitted lace’ structure can be created through the manipulation of the formed loops during the process of construction.

Weft knitted lace is a particular form of openwork fabric, created when loops are transferred during the construction process. Stitches are removed from the needle they were initially formed on, and placed onto an adjacent needle during the construction of the row [See Fig 1] leaving a space which then becomes a lace hole once additional rows are created. Stitches may be transferred in both left and right directions allowing balanced and symmetrical patterns to be created.

The knitted fabric produced was a series of interconnecting loops that are reliant on each other for their structural stability. As the fabric is made with one continuous weft thread, it will unravel

if this thread is damaged or cut. The durability of the weft knitted structure is far exceeded by traditional forms of bobbin or twist made laces. The low durability of the structure is also a likely reason why so few weft knitted lace artefacts have remained, as their structure is of such a fragile nature that knitted items that became damaged would often be wound back and the yarn reused in another garment.

Weft knitted lace made by hand

Whilst this project has focused on weft knitted lace made by machine, an understanding of the origins of knitted lace has also been required, to contextualise the development of lace and to highlight the differences between hand-made and machine made weft knitted lace.

Hand-knitted lace developed most prominently in small communities where skills and patterns were readily shared between fellow knitters. In Britain, the most notable examples of hand-knitted lace originates from the Shetland Isles where intricate lace patterns would be used to decorate large shawls which Waterman suggests were, at least in part, imitations of the woven Kashmir shawls that had been imported to Britain from India in the early eighteenth century (Waterman, 1998 p 7).

These complex hand-knitted structures would often take many weeks to complete and the intricacy of the designs demonstrated the accomplished skills of the knitters. An advantage of hand knitted lace over machine-made lace was that the hand manipulation of the yarn was done with extreme care, enabling the hand knitters to produce large and complex shawls designs using very finely spun yarn. These fine lace shawls became known as '*wedding ring shawls*' (Miller, 2006) as they were so fine that they could be pulled easily through the small hole of a wedding band. Fine yarn was easily damaged by the working mechanisms of the hand frame, meaning the fragility of this type of knitting could not be easily replicated by the early hand frames. The high quality and intricate patterning of the hand-made Shetland lace proved globally popular, and this type of lace became symbolic of good craftsmanship, skills and expertise.

Other lace-knitting communities developed separately. In Orenburg in Russia, (Khmeleva & Noble, 1998) particularly fine lace shawls were made from goat hair. A community of knitters developed in Haapsalu in Estonia (Bush, 2008; Reimann & Edasi, 2009) where there is now a museum dedicated to their history of lace knitting. There is another community in the Faroe Islands (Stahman, 2000) where the Faroese lace shawls can be easily distinguished by their unusual shape which resembles the wings of a butterfly.

Each of these communities has developed its own sub-culture with regards to lace pattern design and skill transfer between knitters. What is interesting to note is that through this research it has become apparent that this is also true of the framework knitting community, where new techniques and design tricks were shared only amongst a trusted circle of friends and fellow knitters. As the circle of practitioners has become smaller and smaller, framework knitting is now reduced to a sparse group, who are reliant upon each other for continued knowledge and practical support.

Weft knitted lace made on a hand frame

Innovation in textile machinery after 1750 provided a new way for lacy structures to be produced on the hand frame. The first significant addition to the basic hand frame was Jedidiah Strutt's 'Derby Rib' in 1758, which allowed a much wider range of ribbed fabrics to be produced. This also initiated a period of industrial innovation where mechanically minded inventors such as Morris and Betts, and Else and Hammond, (Felkin 1867, reprinted 1967, p 133-140) attempted to provide additional improvements to the hand frame, to allow it to create additional fabric structures. Blackner's account of knitted lace made on the hand frame uses the terms '*eyelet holes*' or in some cases, '*Oilet holes*' (Blackner, 1815 p222), to describe the transfer of knitted loops to form an open space in the fabric.

Much of the focus of mid eighteenth century mechanical innovation was to improve the quality of textile fabrics and to expand the types of mesh that could be created. This included the desire to create an open-work net which could be later embroidered to give the appearance of more expensive and desirable bobbin lace that was popular at that time, although Lewis suggested that the early attempts to create a lace fabric on the hand frame were '*only successful in so far as being able to ornament the plain knitted fabric, not the least resembling the construction of a true lace fabric.*' (Lewis, 1985 p 69).

Morris and Betts patented a machine in 1764 that was designed to make open work fabric. Lewis suggests that this machine was '*barely more than a modification of Strutt's Ribbing Machine, with the substitution of 'ticklers' instead of needles.*' (Lewis, 1985 p 72) These '*ticklers*' are long thin pieces of tapered steel that were fixed on pivots into a long bar stretching across the width of the hand frame and are used to transfer stitch loops from one bearded needle to another.

In Morris and Betts' case the ticklers worked with the tuck presser to remove and deposit stitches between needles, which Henson suggests was a highly flawed process which encouraged Arthur Else, a master framework knitter from Nottingham to '*devise an apparatus to remove the stitch by the tickler alone.*' (Henson 1831 reprinted 1970 p 283) Else and his apprentice, Hammond, made improvements to the tickler bar by fixing two '*slotted dogs*' to either end of the needle bar (Felkin 1867, reprinted 1967 p134). These were used primarily to hold the tickler bar in place, but also to allow it to be pushed forwards onto the needles when transferring stitches, and then removed and held away from the needles when plain fabric was being knitted. Henson refers to Hammond as '*the original lace-manufacturer*' (Henson 1831, reprinted 1970 p 296) due to his success in producing a fabric which became known as 'Valenciennes' lace which was made through a stitch called 'double cross stitch', which Hammond had perfected

The tickler bar attachment is still used on hand frames as it provides the most efficient way of transferring multiple stitches in a single action. The ticklers can be set out to fit any number of pattern configurations, such as one in every 6 needles, or one in every twelve needles. When set out at the desired intervals, the ticklers may then be used a number of times in each course to achieve the pattern required. As the ticklers were usually placed at regular intervals, patterns became regimented and easily replicated.

The tickler bar allowed framework knitters to vastly improve the speed at which they could transfer stitches, meaning that the production of openwork structures, and garments with all over patterning such as lace shawls became a commercial possibility.

Stitch transfer - by hand

Before the introduction of these mechanical alterations to the hand frame, all stitch transfer would have been undertaken manually. The hand tools used to transfer the stitches were usually made by the framework knitters, using a broken bearded needle. The needle was bent over and hammered to produce a small rounded tip and then the shaft of the metal would be driven into a small piece of shaped wood. This enabled the knitters to precisely manoeuvre their stitches. This type of tool was used to pick up dropped stitches, correct tucked yarn, and create lace holes through individually transferring looped stitches

The manual transfer of stitches was useful in that it provided the knitter with a way to create non-repeating patterns such as motifs or lettering, but it was a time consuming process which required the individual selection and movement of each individual stitch

Transferring stitches manually was therefore not a practical way to approach large scale lace patterning, and the use of hand transfer for weft knitted lace production was not a viable option in commercial framework knitting. Lewis supports this idea:

'It would have been impractical, for instance, to decorate an entire stocking or garment by hand manipulation as the labour required would not correspond to the value of the article; such was the slowness of the process.' (Lewis, 1985, p 70)

Lewis also suggests that the superiority of hand transfer over mechanical transfer was in the ability for the craftsman to create non repeating patterns:

'The workman, being able to select any individual stitch to form the pattern, was able to make the most complex figurative designs which could be asymmetric and irregular in character. The equivalent machine was never able to encompass this description of design, because, due to little provision being made for individual needle selection, patterning was always of a regular or repetitive nature.' (Lewis, 1985, p 70)

Transferring stitches by hand signifies is a way for the knitter to develop a personal interaction with the fabric, by independantly directing each stitch. This method provides a more personal approach to lace patterning, and can be used effectively to produce highly detailed lace patterns. The main drawback to this method is the slow process. It cannot be used to build lace patterns quickly, and as a result, it is not an effective way of ornamenting fabric commercially. It is however a useful technique to use in artistic practice. The items that are now created on the hand frame are not of a significant commercial value considering that modern machinery has revolutionised the speed at which knitted fabric is produced, so the speed at which the hand frame produces products is less important. Hand transfer allows stitches to be manipulated manually on the hand frame to explore non-repeating patterns in a way that would not have been a realistic option for commercial framework knitters.

Stitch transfer - by machine

The hand knitted lace shawls of Shetland were displayed at the Great Exhibition in 1851 and proved to be incredibly popular. Framework knitters who saw this form of intricate lace work were inspired to try and reproduce such patterns on their frames. It was in 1852 that Mr James Wood of Nottingham brought a shawl from the Shetland Isles to Hucknall (Lowe and Richards, 1989 p 83). He persuaded framework knitter Robert Widdowson to copy the lace shawl on his hand frame, and it proved so successful that hand frames were adapted to suit shawl manufacture, and the shawl industry in Hucknall was born. This eventually extended to other areas of Nottingham and helped to revive the hand frame industry at a time when it was very much in the doldrums, however this was at the unfortunate expense of the hand-knitters from Shetland.

The introduction of the sliding tickler bar in the late 18th century allowed for multiple stitches to be transferred in a single action but it was not until the middle of the Nineteenth century that it was actively used to produce weft knitted lace on the hand frame.[Figure 47] When stitches were transferred using the tickler bar the metal points (ticklers) were set out at regular intervals and used to select a series of loops which would then be transferred either to the right or to the left 'by a side motion of the hand, which the workmen called a *shog*. (Blackner 1815 p 222). 'Shogging' refers to the movement of the ticklers in either direction along the needle bed once the stitch has been collected and before it is deposited on an adjacent needle. The loops were then deposited onto an adjacent needle and the needle they had originally come from was left without a loop. As the next course was knitted, this space created the lace hole.

The ticklers can be set at any spacing so that as many as one in every two stitches could be removed across the width of the knitting. Once a loop had been selected and was held on the tickler, it could then be moved to the left or to the right to create an open space.

Whilst there are no rules governing the direction of stitch transfer in lace pattern design, the direction of stitch transfer should be balanced within lace designs as the fabric distorts if stitches are only directed one way. [Figure 48] In design terms, Quilter and Chamberlain suggest that '*the loops should be transferred in the direction where emphasis is required, and that in symmetrical designs loops shifted to the left on one side must be shifted to the right on the other side.*' (Quilter and Chamberlain 1914 p 119).

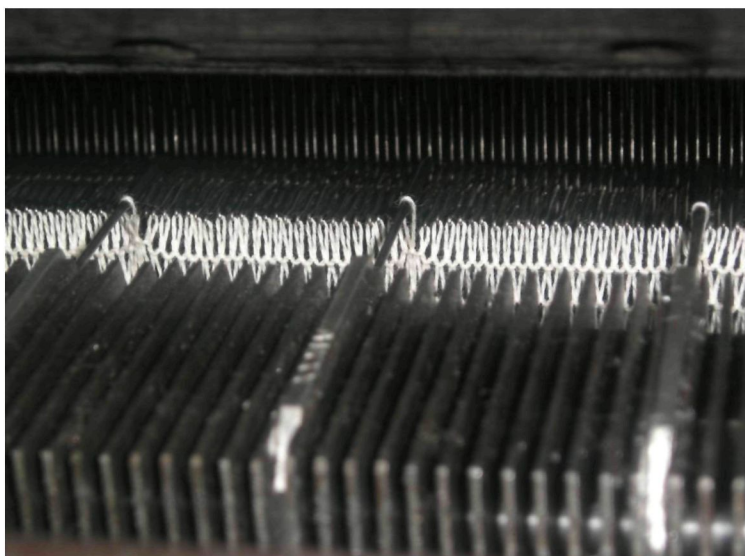
This suggests that uniformity of pattern is a desirable trait within lace pattern design, but also restricts the scope of design freedom within repetitive designs.



[Figure 97] Hand tool, sometimes referred to as a 'working needle'.



[Figure 98] Hand transfer of knitted I loops on the Lee hand frame



[Figure 99] Selecting stitches for transfer using the Tickler bar attachment on the hand frame

Appendix 6

The Oxley Family

Throughout this study, the 'voice' of the knitter has been one that conveys advice, knowledge and technical expertise. The interaction with existing practitioners highlighted that one family more than any other had left a meaningful legacy in the community of framework knitting.

The Oxley family, of Chilwell, Nottingham, who worked predominantly at G.H.Hurt & Son from when it first opened in 1912, were identified as important role models and custodians of knowledge. Over the years, a number of members of the Oxley family worked at G.H.Hurt & Son, of which three were of particular interest to this study. Frank Oxley, his son Harold Oxley and his nephew Jeff Oxley worked simultaneously as lace shawl knitters through turbulent periods of war, industry decline and technological advances. This family demonstrated the importance of individual specialist skills which enabled them to look at framework knitting from different perspectives;

Frank Oxley was a skilled lace pattern developer. His designs demonstrated a vast knowledge of shaping possibilities and overall shawl layout design. He was very particular about the 'balance' of the shawl.

Harold Oxley was an autonomous knitter. His knitting rhythm was so constant that observers often remarked that it appeared he had switched the machine on. His ability to keep to a steady pace ensured his productivity and that of others.

Jeff Oxley was a skilled framework knitter whose main passion was the mechanisms of the hand frame. He would regularly improve existing hand frames with attachments of his own design, and was often responsible for maintaining and rebuilding machines. In his later years he also became an exceptional framework knitting teacher, and openly discussed his love of the frame with anyone interested in acquiring the skills to use them.

These three practitioners worked daily in close physical proximity, creating an environment where specialist knowledge was shared.



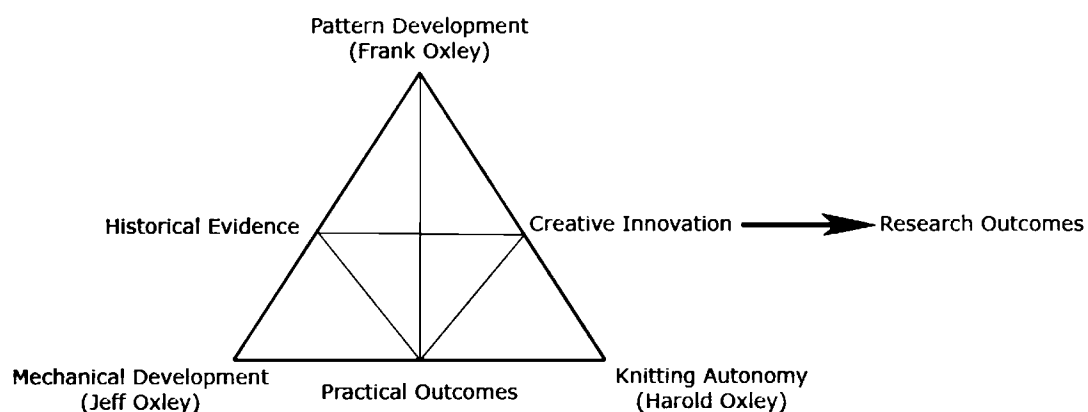
[Figure 100] Jeff Oxley featured in the West Notts and Derbyshire Recorder working the hand frame aged 78 (June 17th 1982)



[Figure 101] Chalk marks on Frank Oxley's frame, indicating the selection and direction of lace stitch transfer

The experiences of the Oxley family, initially allowed me to examine the different approaches that creative practitioners might take when developing their own creative practice. I designed a model to show how the skills of these practitioners could be used to examine the historical practical and creative directions of this study.

Oxley Model shows the three-way link between knitter, designer and the mechanic which not been identified before in relation to weft knitted lace, and therefore provided an original view of the interactions and subsequent outcomes of a collaborative study.



[Figure 102] The Oxley model (Rebekah Wood, 2009)

Appendix 7

Research Participant Information



Study Title

PhD Research Project: 'Framework Knitted Lace: Development, Machinery, Techniques and Future Exploitation'

This project has been devised as a collaboration between Nottingham Trent University and the Ruddington Framework Knitters' Museum to explore the history of the weft knitted lace industry looking in particular at the Lee Hand Frame with a view to identifying ways in which this technology can be used as part of future innovative design practice.

Invitation to participate

You have been asked to participate in this research study to provide information that may relate to the production, manufacture, design or history of weft knitted lace. Before you decide whether or not to take part, it is important that you have read the following information carefully so as to understand why the research is being done.

What is the Purpose of the Study?

The purpose of the study is to explore knitted lace from a contemporary perspective whilst maintaining links to historical and traditional textile production values. The information gathered

through practical interaction with the Lee Hand frame, combined with interviews and other data collection methods will provide the basis for this qualitative study of personal experience and design interpretation. This project is currently entering its second year and is due to last for a further 18 months. But your participation will only be required for the day of the interview.

Why have you been invited to participate?

You have been invited to participate in an individual interview because of your background knowledge or expertise in the field of knitted textiles that will help provide specific information to aid in the advancement of this study.

Do you have to take part?

Your involvement with this research is entirely voluntary. If you do decide to participate you will be given this information sheet to keep and be required to sign a consent form. If at any stage of the research you decide that you wish to withdraw from the study you may do so without penalty or reason.

What will happen if you take part?

You will be asked a series of open ended questions that relate to your specific expertise in the field of knitted textiles, and respond to those questions. The length of time you will be required to be in the interview depends upon the responses given to other questions which may lead onto other questions, An estimated time of one hour is expectable.

Will what you say in the study be kept confidential?

The data collected from the interview will be kept strictly confidential (Subject to legal limitations) and the information will be stored as a password protected audio document that is accessible only to the Researcher and will occasionally be viewed by the Supervisory Research Team. This data will not be shared with third parties. The data collected will also be subject to the Data Protection Act (1998) and Nottingham Trent University's Ethical Practice policy. This means that the data collected during the course of the research will be kept securely in a paper and electronic format for a period of five years after the completion of the research project.

What should you do if you want to take part?

By signing the consent for you 'opt in' for the study and agree to be interviewed as part of this research. If at any point you decide you no longer wish for your information to be used within the research then you have the right to withdraw without giving any reason.

What will happen to the results of the research study?

The results of this research will be used as part of a PhD Thesis due to be published at the end of 2010, and anonymity of all participants will be observed. If the participant would like to receive a copy of the published research then they should contact the Researcher. This is also true for transcripts of the interview.

Who is organising and funding the research?

This research is being conducted by Rebekah Wood, who is currently in her second year as a PhD research student at Nottingham Trent University in the School of Art and Design. The project is externally funded by the Arts and Humanities Research Council and works in collaboration with the Ruddington Framework Knitters' Museum.

Thank you for taking the time to read this information sheet. If you require any further information regarding the study, please do not hesitate to contact the researcher.

Rebekah Wood

PhD Researcher – Knitwear Design

School of Art and Design.

Nottingham Trent University, Burton Street, Nottingham, NG1 4BU

Date

Signed

Appendix 8

Example Interview Questions

Proposed Interview Outline – For interview conducted with Mr Reg Robbins

Section 1 – Company Specifics

i) Company background

Q – Please give a brief outline of how you came to work for the company

Q – How and why did you first learn to use the hand frame?

Q -What do you remember about your first experiences of knitting lace on the hand frame?

Section 2 – Design Inspiration

i) Pattern origins and influences

Q – How do the current design patterns develop from idea to product?

Q - Where do current shawl patterns take influence from old designs?

ii) Pattern database

Q - How are the patterns stored? Do they have a numbered system? And in what format are they used?

Q - What different types of lace patterns do you make?

Q – What are your favourite lace patterns and why?

iii) Influences on Shawl design and Products

Q - Have knitted lace fashions changed since you started working here? (i.e. what patterns are no longer popular but once were)

Q – What types of knitted garments can you remember this company making in the past?

Section 3 – Implementation of Technology

i) Machinery utilised - timescale

Q - What type of machines are used here?

Q – How much time do you spend keeping the hand frames in working order?

Section 4 – Future Development.

i) Framework knitters' impact on pattern development

Q – What memories do you have of the old framework knitters like Jeff Oxley?

Q - Who was responsible for pattern development amongst the framework knitters?

Q - How secretive were the knitters about their own patterns?

Q - How have original hand frame patterns been adapted for mechanised machinery?

ii) Reasons for maintaining tradition

Q – Do you feel that maintaining the knowledge of the hand frames is important? And if so, why?

Q – What framework knitting do you do outside of your job at Hurts? How did you get involved in that?

iii) Students and further training

Q – Are all the students on placement here offered the opportunity to learn how to operate the hand frame?

Q – Do you think it is important to keep teaching new people the framework knitting skills?

Q – How many people have you taught to use the hand frame?

iv) Fears for the future

Q – How do you feel about the future of lace knitwear manufacture?

Appendix 9

Interview Transcript #1 – Henry Hurt

[The audio recordings of all the interviews are available on the CD-Rom that accompanies this thesis]

Interview with Mr Henry Hurt Monday 12th January 2009

A set of example questions were sent to Mr Hurt in advance of this interview.

RW: Rebekah Wood – Interviewer

HH: Mr Henry Hurt – Owner and Director of G.H.Hurt &Son, Chilwell, Nottingham.

Interview held at *G.H.Hurt & Son, 65 High Road, Chilwell, Nottingham*

Audio Number DS400021 Part 1 – Duration: 36 minutes 03 seconds.

Audio Number DS400022 Part 2 – Duration: 1 hour 17minutes 26 seconds

START:

1. RW: Well the way I have structured the interview is into four main sections so you can talk a bit about the History of the company, moving onto, really, where your design inspiration comes for your shawls, because my main interest area obviously is the lace patterns, where they have come from, you know, how you come about them, who designs them, that kind of thing, so...
2. HH: Well do you want to read through the sheet?
3. RW: Yes, ok, well, 'Please give a brief outline of the history of the company'.
4. HH. Yes well we do have a brief outline that we do give out to customers who are interested in the historical side. Anne (Mr Hurt's PA) should have that, I'll just ask her to get it.

5. (Mr Hurt steps into the side office to ask Anne to find an information sheet)
6. RW: One of the things I have been quite impressed with is the notion of family that you have managed to keep going here, I know that with big business even if it starts out as one man and his dog it tends to end up being a global conglomerate of lots of people.
7. HH: International, yes. It's getting someone else to make your product for you now.
8. RW: Well that's what I have found interesting about your company, by keeping the family aspect going, and with Gillian obviously working here (Mr Hurts Daughter) You really get the family business 'feel' to it.
9. HH: Well I think you're right. Most of these things seem to come out in these questions that you've got. You've put here 'How has the industry changed since I first took over the company?' Well the big thing is the change from hand frames to machines, that's about it, but I suppose it might be contentious but you could throw in the biggest change in industry since I've been here is that the British thriving industry has been sacrificed to exploit world labour. And it's not new this.
10. RW: So do you feel that your business has suffered because of this change?
11. HH: Not particularly, no. Because we haven't. But 'Industry' is a wide word, the knitting industry I mean, not the hand frames particularly. The Lace industry used to be in the city of Nottingham, and they had union rules and the workers kept a tight grip, so the manufacturers did what they do now really, they just went out to where the cheaper labour was, and the rules were not so tight. And that would be Long Eaton! You see it would all be in the city and they came out to Long Eaton and Ilkeston and Beeston, to try and get away from the tight knit controls in the city. And so really the fact that the knitting industry's now gone to exploit cheap labour they've had to go further a field
12. RW: Do you feel that this exploiting of global workers has meant that the quality of the product we're now getting in the UK is sub-standard? Or are we getting a high standard? Or do you feel that your product is different because of its individual quality.
13. HH: Ours is just different. We're away from that. But no I think the foreign quality is quite good, I've no doubt about that,
14. (Anne in the office comes in with the information sheet)
15. RW: Yes that's great, well having been on placement here for a while I've started to pick up little stories about people, and I'm interested about why they came to work here, and how this company became a little framework knitting community, sort of a hub for people who still wanted to carry on the tradition.

16. HH: Yes, I mean, well there is still one bloke who is making a living out of the hand frame, just by knitting, Martin Green. But he's obviously an oddity, or a rarity! But if you want to mention about the lace moving out of the city, I'm not too sure on the details of this, but about the nineteenth century that happened, and now it's just happened wider a field. The world is now 'The World' rather than just 'England'. You have to remember people didn't wander far from the city where they were born,
17. RW: And I suppose transport links wouldn't have been as good as today, so I'm thinking that Industry would have been maintained by people that lived in your area, and you did employ people from the local areas, which you still do.
18. HH: Yes it was a big industry, it had all the yarn suppliers, [machine] part suppliers, and everything was around here (Chilwell)
19. RW: Do you think that is why your grandfather chose to have the company here?
20. HH: My Grandfather worked for Cooper & Roe, before he became manager of the Midland Shawl and Hosiery Company, and it was only in 1912, that this building was available. He lived in Barton in Fabis, locally anyway.
21. RW: Well as far as I am aware, this area, Beeston, Chilwell, Hucknall, were all prominent framework knitting areas.
22. HH: Yes that's right, Hucknall was probably stronger than this area to be honest. There were more of them there.
23. RW: Well I've heard a little bit about when the company opened, and when people heard that you were still using knitting frames, they wanted to be a part of it.
24. HH: Yes well one man did come from Macclesfield, he knitted silk ties there on the hand frame, and he heard that we were still using the frames so he and his wife came and she was head of the finishing department, and he got in his frame.
25. RW: So has it always been a family business? Not just for your family but for the other people that have worked here.
26. HH: Yes the Oxleys were a big family that were involved; in fact the Hurts weren't as strong as the Oxleys really.
27. RW: Would the company have suffered without having the Oxley's presence here?

28. HH: Oh yes, I was saying this they other day, If you get a group of people together and they're functioning well and it works, they feed off each other, its like perhaps when you were at school. What occurred to me when I was in school, there were six of us that were encouraged by the teacher to paint a lot. One or two of them were really, really good, but the rest of us were dragged up, by those good ones and even we became pretty good painters. And I've heard tell many, many years later that the best group of painters ever in the school was our group. But I wasn't the best by any means. You know it's like a football team, that's gets suddenly to the top of the league, it's because they all gel together.
29. RW: Do you think that your artistic, or creative nature, having come from a fine-art painting background, do you think that has helped you to be more creative with the [shawl] designs you have come up with?
30. HH: Yes I think it did influence me. My father was, he could paint as well.
31. RW: How did the Hurts name become synonymous with lace and framework knitting?
32. HH: Well the Nottingham shawl industry superseded the stocking trade, on the hand frame, because of the invention of the Williams Cotton Patent knitting machine. And so in about 1850 we started the Nottingham Shetland lace shawl industry which stuck with Shetland and Orenburg style knitted lace shawls. And it kept the frame knitters in work, and it gave a fresh lease of life to the frame. So that in the 1920's our Framework Knitters were earning above the average wage.
33. RW: So at a time where many people were facing unemployment and poverty...
34. HH: Well there were very few 'ups', mainly 'downs' I guess, but by copying the shawls and changing your frame to be a bit more slack and using every needle, productivity-wise it became more economical than doing a fully fashioned stocking.
35. RW: And because you had men working here who were here for a long period of time, there were also able to get to know their individual machines, so they knew how they would work best.
36. HH: I would imagine the stocking manufacturers would have been able to do that when they were at home, doing their own thing. So it's not exclusive to us, but I think that we've worked in the same pattern, that generations before would have worked,
37. You know, come as a young man and work through until you're an old man. But all I can say is that we became synonymous with lace and framework knitting because my grandfather employed the local framework knitters who were spread round the village, and he bought them all into this building so they could become more efficient.

38. RW: And because it was such a big building, and there were only a few frames in here, you can imagine it feeling not so much like a factory but more of a ...
39. HH: Commune?
40. RW: Yes, like somewhere that you went to work that you enjoyed working.
41. HH: Well for many years the men carried on like they had before, buying their own needles and their own oil, if they broke a needle they would have to buy their own.
42. RW: Where would they have bought their needles and oil from? Would it have been a local supplier?
43. HH: If you have a local business running you get people spawned all around, producing parts. You'd get sinkers from the Meadows, people in cottages there were able to make the sinkers. Needles came mainly from Loughborough, they were the centre of it, but that was probably only because the Cottons Patent knitting machine was being made there and so it made the needle trade thrive. So that was very handy for the frame knitters.
44. RW: So did it feed off the back of it?
45. HH: I suppose that would be the case yes, because the fully fashioned machine, putting them out of work it also made supplies for people in the new shawl industry.
46. RW: So how many framework knitters have been employed here and how long did that employment last?
47. HH: Well I would say they have been about 15 averaging 40 years each.
48. RW: Right, because that is kind of unheard of nowadays, especially within design jobs, and when you think that some of those men were working here over periods of war, that's quite impressive.
49. HH: Well they weren't all here at the same time. I would say 8 at one time would be the maximum.
50. RW: What reasons are there for the continued use of hand frames?
51. HH: Well the very first model of anything is a continuing lesson really, some are still in use because the product is unique, and of course they're used for sampling, if you want to run off a sample. And any hand frame still continuing in existence is becoming more valuable as time goes on.

52. RW: Well if you keep it in working order, it's going to continue to be usable, unless you get someone really bad on it that breaks it to bits like me!
53. HH: Well its like, why would anyone save a 1908 motorcar?
54. RW: I suppose it's the same principal. It is an example of the technology of the time
55. HH: Yes exactly. And you've got to remember it was knitting needles before the hand frame,
56. RW: Ok so just moving on now to the details of current staff roles, I know a bit already having been working here, but how many staff members are there working here?
57. HH: Well there are about 18, which includes Winders, Knitters, Over-lockers, Machinists, Washers...
58. RW: Do you give them an individual role, for example the people who work in the pinning out room do not tend to do any of the other tasks, everyone has their own department, and they become very skilled at that area.
59. HH: Those able to be flexible we flex sometimes, those who are happier doing what they're doing...
60. RW: Well it works as a successful production line, because you know what job you have to do and you know the person who will be taking on the next role, all the way through the finishing process.
61. HH: You don't want to have to think about each department all day long.
62. RW: I've noticed for example when Sylvia is off, Sam will have to do the tabbing, and you can see it throws her off because it's not her usual job. It works like a well oiled machine, and when everyone is here and working well it runs quite smoothly.
63. HH: You do think if one department is a bit 'iffy' for some reason, maybe the person is reaching a retirement age...
64. RW: Well you do employ a lot of people who are near retirement age, if not older,
65. HH: Well you can always use them you see, even for a few hours a day and if the orders grow, and you have to have a lot more people, we would probably go for

teenagers and 20 year-olds and probably give them 20 hours overtime, which we did when Laura Ashley were here. I mean Dawn and Siobhan are products of that era.

66. RW: That was the Laura Ashley boom of the 1980's?
67. HH: Whatever your boom, any industry, if it suddenly sells something that is in great demand, it can run its business properly, because you don't have to worry about if you have work for tomorrow. Or you don't have to change it, that when you can get a bit lazy, when you make the same thing all the time, whereas we're a bit more exciting now, we do make a lot of different styles.
68. RW: You have a wide variation now?
69. HH: Yes, we used to have to dress 30 or 40 boards with the same thing, and so it became more of a factory, but we try and keep away from the factory 'thing', you know, obviously you don't always succeed, but at the end of the day you should make a profit.
70. RW: So who is responsible for the designing of new shawl patterns?
71. HH: Well we've got a library of about 96 years and we refer to previous 96 years of archives, and they're adapted to customers design requests. All staff have some input, but Reg Robbins decides what is possible and what is not on which machines.
72. RW: Because he has the greatest mechanical knowledge?
73. HH: He has got to convert it, if he says 'we can't do that', we can't do that! So we stick within the parameters of what he is able to do. And my job really is to design the factory around the product. If you said that on a television interview someone would come in with a very awkward question there, but you do have to design your factory around what you're making, and that is how, over the years, this is all set up for doing what we do. We've moved it around a little
74. RW: So when you've had to incorporate larger machinery, you've had to expand your buildings to fit the machines in?
75. HH: Yes that's right, I mean we used to have the offices where we do the pinning, and the pinning used to be in here (the office) but we had a drying room across the yard, so we had to put a drying room closer to where the pinner were otherwise we spent half the day walking backwards and forwards. And so you gradually turn it round to suit. It didn't matter in the old days because time wasn't so important for some reason, but as soon as you look at time and motion... I think the building could be converted for other industries, but this is how we've set it up and it works. We don't like to diversify too much. We design the building round the products but sometimes customers ask for products that don't really fit in, things that need linking, or a large cutting department, or

auxiliary machines, and we don't do dyeing ourselves because you really need a whole department for that.

76. RW: Would that maybe be something you would consider expanding into if you had the money and the resources?
77. HH: I would love to take over the dyeing side myself. But you normally leave that to the experts. We're expert in what we do and other people are experts in what they do.
78. RW: So is it more advantageous for you to go to the experts rather than trying to do that job yourself?
79. HH: I think so, but you get...Smedley's are pretty 'vertical' as you'd call it. They buy their own yarn, spin it, I think, and dye it.
80. RW: They probably have their own sheep on the premises!
81. HH: You know they do everything there and I think Johnstons of Elgin. But as we've kept to being a small site we've kept away from normal knitwear.
82. RW: Ok great, well the next set of questions is on patterns, origins and influences, so I just wanted to talk a little bit about how the current pattern designs develop from the initial idea to the final product. So for example would you have a discussion with Reg about what the customer wants? I know we've covered this a little bit already...
83. HH: Yes well, each machine has certain restrictions, not every machine can do everything, but each machine can do something slightly different, its horses for courses in many respects. And we use the special ability of each machine to produce lace hand knit patterns. If a machine can't produce a lace hand knit pattern then it is not really of great interest to us. And each machine offers an opportunity to do something different, some are course gauge, some are fine gauge, some can do patterns you can't do on the other machines. And that's regardless of age, it doesn't matter how old the machine is if it can do something unique.
84. RW: That's where the hand frame becomes quite an interesting machine.
85. HH: The same thing applies there, it doesn't matter about age. I'm quite sure we could get hand frame knitters to produce something the other machines couldn't.
86. RW: How far do you liaise with clients to create lace pattern designs?

87. HH: Well customers often look at ten different patterns and their own logo and ask us to remix the standard pattern into something different.
88. RW: So you have a standard stock of pattern shapes and lace designs that you would then put together like a pattern jigsaw puzzle to create the new design?
89. HH: That's right, because they want to be unique themselves.
90. RW: I remember I was here one time when you were trying to perfect the cherry logo for the Bonpoint Shawl. And it came back and the leaf looked wrong, then the next one wasn't quite circular, or the text was the wrong size, and it was quite interesting for me that you could look at the design and know instantly what needed to be changed in order to make it right. Your experience has made that easy for you to see.
91. HH: Reg can see if the pattern is balanced as well, sometimes he is steeped in the technicalities of altering it and perhaps doesn't see things that others see, and likewise with me.
92. RW: Between the two of you, and through the finishing process, there are so many people that will handle and look at the product before it gets to the finished packed stage that you have a number of opportunities to see if something doesn't look right of if there is a mistake in the pattern.
93. HH: One customer said how they wanted a pattern doing, and while we were doing it we felt that we had a 'better' alternative, and so made it and put it with their idea and said 'just out of interest we thought we'd do this, what do you think?' Oh I like yours a lot better than ours, so you eventually finish up with your design, but the customer has got to put the idea there in the first place for you to do it in the first place.
94. RW: How far do current shawl patterns take influence from all designs?
95. HH: All of them! Well all of them are influenced by the history side of things, we like to be influenced by that rather than normal knitwear really.
96. RW: It's nice that you are willing to keep the old tradition going.
97. HH: Well you ask here how many shawls have been produced exclusively on the hand frame. I wouldn't know, but 5000 wouldn't be out of the question. As the dexterity of the hand frame allows the knitter to copy or adapt all lace stitches, possible with two knitting needles.
98. RW: So there are so many variations of lace hole, being placed to the left or to the right or being moved across multiple needles...

99. HH: It's hard to put a figure on it really.
100. RW: I suppose it is a mathematical thing more than anything else.
101. HH: There is one other question which you ask later on that I think is very relevant to that, how are the patterns stored, do they have a numbered system and in what format are they used? We numbered all our shawls up to 5000 and then started again, from 1 in about 1947, I remember my father had 0965, 0966, I mean that was 100 years after it had been started so the numbers went round the clock.
102. RW: I would be very interested to know how many shawls have been produced in the length of time the company has been going, what is the oldest lace pattern, and who has got an original example of a Hurts shawl. I bet there is one in somebody's attic. Can you describe the variation of lace patterns?
103. HH: Well its transfer of stitches in both directions by means of points, this can be done over a full bed of machine needles.
104. RW: Do you think there is a distinct difference between fabrics that has been made on the hand frame that has been transferred by manually with a transfer tool or point bar?
105. HH: Well they used to sign their name that way, or put 'VR' for Queen Victoria.
106. (Interview took a short break)
107. HH: It was in the early 1970's that we first discovered that we were interesting. Our old frame knitters were knitting there day in and day out and they didn't realise it was historical or hysterical, or whatever, and they just knew it as a job, they had done it all their lives, and it was only me who really started to promote some of the framework knitter's characters themselves, because they sold themselves. Once I suggested that the Women's Institute came round, and we organised a day and Jeff transpired to be rather a star, I'm sure that some groups came round just to see Jeff. 'Ooh have you been to that place where that bloke is' It got a bit over the top eventually, he didn't know where to draw the line. It all followed on and that's really where we got him on the British Empire Medal list, but it was only his love for the frame, He always said he would be happy to die in his frame if necessary, there or in his garden digging, because they were the two loves of his life.
108. RW: I think that's a really interesting notion; there are very few people who really love their jobs nowadays. You don't really get that now. It seems that the framework knitters were the last of a dying breed of person that loved to work.

109. HH: I think if they hadn't loved it, it wouldn't have carried on as long as it did. I think it was actually in the 60's that we must have had some clout because Ruddington got their museum back together about '72, didn't they?
110. RW: Yes,
111. HH: And that was after we'd been having a few bus loads of people coming to visit here.
112. RW: So Ruddington's popularity was fed a little bit by
113. HH: People were starting to take an interest in industrial archaeology. Up until the 60's anything old went out, the 60's were terrible for knocking old buildings down and putting up new blocks and doing away with the past.
114. RW: One of the other questions I wanted to ask you is 'what is your favourite lace pattern and why?'
115. HH: Well my favourite ones are pretty ones that are symmetrical and balanced. You can't say one particular pattern is good but some lace patterns that you see made elsewhere look as if the mechanic was just testing the machine's capabilities, and didn't have any idea about start and finish. You know, I've seen lace scarves where they've obviously tried to emulate what we do, come from Italy, and the patterns are really ghastly, and the only reason I can say they're ghastly is because they're not balanced.
116. RW: You need to know your pattern parameters.
117. HH: Yes it's awful when the pattern ends up nowhere. When they're designing patterns sometimes it ends up looking like they've just tested the machine to see what it can do.
118. RW: I suppose they don't have the same pattern database or the experience as you do.
119. HH: Lets talk a bit about the hand frame, I do remember sitting in my hand frame talking Jeff on his hand frame, I was in Frank Oxley's hand frame and I was knitting my B28 54" shawls, and I said to Jeff 'This is a lovely shawl Jeff, its goes left it goes right, you know where you are all the way through it' He said 'Yes that was one of Frank's patterns' he said ' I've often 'eard 'im knitting an order, Mr 'Urts given 'im, and he's said 'who invented this pattern? He's got me going left, left, left, left, and then that drops me a stitch because of that' Instead of going right, left, there's a way of being comfortable in the hand frame, so the pattern doesn't pull the fabric away, and it's nice and flat, but it made me think that not anybody can invent a shawl pattern, its got to be done balanced and symmetrical but it's also got to be done to suit the hand frame. And it's the same with any machinery that I have, you have all these different machines, but some patterns won't work, and

we discover them but we never tell anyone else. And it's a question of picking the right patterns, when we got onto the machinery, we found we could do things that we couldn't do on the hand frame, in addition, so that made us a little bit closer to the Shetland shawl, because the hand knitter's could do that, and I only had one machine to start with, and if I had an order I would have to do everything on that one machine, and for three years I kept this a secret and gradually increased the number of machines we had, and then one day I came in and said 'right we've got enough machines now', in case the customers go all over to this instead of that. It was really just putting a purl pattern in around the border, and we started that, then I went to a framework knitting union meeting, the Shawl, Fall and Antimacassar Trade Union, you've mentioned that before, we used to have meetings of the manufacturers, and meeting between the manufacturers and the unions, the five firms in Hucknall and us, and the first time I when they met together I remember one of them saying that one of the other companies in Hucknall had fully fashioned machinery, and they were getting worried that they couldn't keep up with them. This fella was quite progressive, you know, he got the William Cotton machine to knit, and then he bought a lot of old ones and really, he should have sailed away, but one of the other firms son-in law came into the business and he saw this and he got Cotton's to put a new machine in and employed a Cotton's mechanic, because he hadn't a clue about knitting, and so when we went to these meetings, people weren't too keen to say too much about what they were doing, and I do remember after I'd had these machines for about three years this fella said 'oh yes you'll be doing for us won't you with your pattern, how do you do that?' So I said that I use a Dubied V-bed machine, and he went and bought one, and he couldn't do a thing on it! Because it wouldn't work like that! It was just the state of having to keep things secret.

120. RW: Well it was the same wasn't it with framework knitters' pattern notebooks? Hiding what you knew and taking your knowledge to the grave rather than letting someone else steal your ideas or your patterns. They would have been very sacred to them, and I suppose if you have a business that you're hoping is going to thrive you don't want to be giving away ideas that could potentially be making you money.
121. HH: I think in one of your later questions I have answered that on the fact that we got on very well indeed, but we did not reveal, some of our customers or patterns to another manufacturer. But occasionally the orders were too big for one man to make, and often they'd share it round the firms so that everyone knew how to make that particular pattern, one example springs to mind, it was a scarf, Shetland type scarf, with stripes in, and lace, and it was a real winner in the 50's and 60's. But it wasn't ours, but he did ask us to produce it for him, and I've still got parts of that pattern running here.
122. RW: SO once you acquire the knowledge of how to do a pattern, you can continue to use it if it is a successful pattern and people are still interested in buying it.
123. HH: And another of the firms also had a beautiful that when you pulled it, it pulled loose in parts and tight in others and I always thought I'd like to do that, and when he packed up I bought one of his machines as well and I also inherited that pattern because he went bust about 1991. I have always kept fairly well in with

other firms, I didn't think we could learn much off them, but we were saying you're never too old to learn.

124. RW: The changing lace fashions must have impacted on your business, is this the case?
125. HH: Well were talking about the trade union's name, the Shawl, Fall and Antimacassar trade union, there is no need for 'falls' now, there's no need for 'antimacassars', but we do make the 'shawls'. And the shawls can be made into garments in a cut and sew principal, I would say there's not a lot of change apart from things going in and out, there's not been much change. We've made some gorgeous stuff through the years, and one that we did make that we can't make at the moment because the border was hand stitches on was a shawl used in the film 'Gone with the Wind'. Vivienne Lee wore it.
126. RW: It must feel like quite an achievement when you see something that was your creative inspiration, your design, your company's work go on and become something that is iconic through film or through television.
127. HH: Yes it's really a case of trying to pick your customers. We tend to pick the best stores we can, in every capital city of the world, because although we're a tiny firm, the market is small in its own way, but it's big if you add the world, we've always exported since 1912. Export is the thing, and times change, like they are at the moment, tourists might come in this year because they can afford the pound.
128. RW: How do you think the recession will affect business?
129. HH: You do have to watch things carefully because we do import cashmere from abroad and some other yarns, and they're likely to increase 20-30% because of the Euro being strong against the pound. But when you come to sell them all of a sudden your customers are going to get a discount on what you sell them, so its come to the time where our prices which have remained unchanged virtually for years, have got to go up again, but it won't affect the people who are buying and getting a 20% discount, even though the prices haven't changed. The pounds has been very strong in the past, you just have to keep an eye on that. If the pound stays on a par with the Euro, for any length of time, then manufacturing in Britain could show a real improvement. But to be honest we don't really rely on price, we rely on quality. If somebody wants to buy what we make, they normally don't ask the price, 20% wouldn't make a lot of difference to them.
130. RW: I suppose if you are selling in bulk as well, if you're making a product for a client, it makes it cheaper for the buyer.
131. HH: If they want say, 2000 and ask for 5% discount, if they're already getting a 20% discount because of the currency change, they're not going to ask for the extra 5%. And so we have at the moment a lady who has done very well in America with a scarf, she's now asked for a change on it but it means we can only

knit two at once instead of three at once, and it's a bigger scarf in its manufacture although it is pinned out on the same board. But it's just the way she wanted a wider scarf, to relax wider, she's asked 'can we do anything on the price' because of that, but I think more and more people are asking that, but if you can't you just have to say no. Otherwise we wouldn't still be here next year. It requires a little bit of skill,

132. RW: Could you give some examples of the types of knitted garments that this company have made?
133. HH: Apart from shawls of course, we make jumpers, bed jackets, ballet wraps, skirts even beanies, we've done leg warmers at one time. We started off in dresses and mini dresses in the 60's when the mini came in, stockings were stockings when the mini first came in, and it was a long time before they realised they really needed to make tights, and so when the tights came it, that improved the sale of the mini dresses. And so we decided to knit, well somebody asked us if we'd knit a mini dress, in lace with mohair and lurex, with a tassel around the bottom, probably my grandfather had been asked to do the same thing in the 20's, and we made the dress and added the tassels, and they phoned up and said 'No, no, no, its far too long, the tassel is the skirt to the dress!' so of course the top had to go above the waist up almost like a top, and at first nobody could believe that anybody could wear anything like that, because tights weren't in. Stocking manufacturers in Beeston latched on to this and realised they had to join the legs together and make them a bit longer.
134. RW: How hard has it been for yourself, your father and your grandfather to manufacture women's accessories and clothing?
135. HH: Well it was ingrained. My Grandfather in about 1910 I think took home a pair of stockings that he had knitted, because they used the hand frame knitters to knit stocking at that time at the Midland Shawl and Hosiery company, and he laid them on the table and he said to his wife, my auntie, 'they're made out of a tree', and it was the first viscose. So instead of silk stockings there were viscose stockings, but of course it was like the first invention of Orlon, which you know as acrylic. I remember when everything was wool or mohair, and a little cotton, but when acrylic came in, our frame knitters quickly turned to doing our most fabulous 72 inch shawl, I remember, and it was beautiful white which you couldn't get on natural fibres. There was no argument against Orlon, like there is now, because we've learnt a lot, but I remember I thought I must have a best shawl for my son born in 1962 and we had this B16 72" that Jeff had knitted in Acrylic, that we've still got but of course it's gone from white to grey. They did tend to go a little bit grey. And we still have a customer Judith Noaks who has been making up her silk lined jumpers and bed jackets since the 1930's, well not her particularly, but her firm. And she said 'can I have two cones of Orlon please' knowing people haven't heard or Orlon for years. But you know, she knows it as Orlon.
136. RW: Do you find it quite exciting when there is a new type of yarn on the market? For example if you heard about a new type of yarn will you inevitably try it to see if it'll work?

137. HH: We do get a little bit nervous when Italy puts on its yarn exhibition at the beginning of the year, or whenever, because then all the spinners have about ten different yarns and tell people about it, and you find they're telling customers about it, who don't knit, the shops like Harrods and Liberty's, people like that, and they come to you and say 'Can we have a scarf in this new yarn?', and it's probably bouclé with loops that catch in your latch needles, you can't do it on a bearded needle. And so sometimes we have to say no as its unknitable on our machines. But we do go to massive lengths here to go to the nth degree with a machine. If someone comes in with a very fine yarn, most knitting companies would say 'we'll put four ends together', but we try one end and we can, on a course machine knit one end, providing we wind it, and wax it, and prepare it. If the yarn is properly prepared before you knit it, not just by the spinners who send you cones of yarn, which they may have forgotten to put wax on, but it's the preparation. And we do have other means of supporting the thread which will wash out afterwards. So we cant say we don't try, but it's the very course yarns that require a machine 2.5 gauge, that's a needle every 2.5 inches, we can't do that
138. RW: Well I was here a few weeks ago when you'd bought some Japanese paper yarn and you were talking with Phoebe about it. It had a really strange texture to it, like a string inside with a silver coating on it, but you were trying to see if would work on the machines, and I think Ann tried it on the Griswold machine to see if it would work. It was seemed totally impractical, and you couldn't get a nice finish off it, you couldn't see any use that there would ever be for it.
139. HH: Well some people can lay things over on a weave, where they don't use needles, so they can cope with those yarns. Yes, or they can knit with spaces, if it's an extra strong machines.
140. RW: What are your most successful product lines?
141. HH: Well from 1912 to 1975, Mohair scarves and baby shawls, Jaeger mohair shawls but baby shawls really were the most successful, from 1975 to about 2008 we had a Laura Ashley era, but baby shawls have always sold as a steady bread and butter. I suppose Laura Ashley have been our most successful customer ever, but that was putting all our production into one customer.
142. RW: I suppose it's much better for you as a company to have a wider client base instead of relying on just one, if they hadn't renewed their order...
143. HH: We have actually had customers who take more than 50% of our production who have packed up for some reason or other, and you quickly have to bend with the wind, and move on. Once we went into the American market more viciously than we had done before, to see all the buyers, and that was when the pound was in full force against the dollar, and of course we were very attractive to all the buyers, and that was when America had stores, instead of Malls. If you look at people in the Malls now, they don't wear clothes; they wear sort of overalls of different quality. The idea of clothes went out the window somehow in the 80's, I don't know, even American ladies were wearing zip up trainer type suits, well we would have called them overalls for working at the weekend, but if you made

them pretty enough, cashmere or something, you could call them clothes. But fortunately people like Paul Smith brought the suit back, and Armani and all those sort of people, bought the suit back, otherwise men would have gone entirely that way as well, you know, T-shirt and jeans and that's your lot. With a pair of trainers on, I don't know whoever said a pair of trainers was attractive.

144. RW: Do you tend to follow fashion trends? Or do you...
145. HH: We tend to create a fashion, we've done that once particularly which was very successful in the 1970's, we sold these shawls to a particular shop in Paris, and she sold them so well that all the other shops started buying them off her, and that year the catwalk in Dior and all of them, nearly every one had one of our shawls on them. It was too popular, we couldn't cope, we didn't have enough machinery, and we went to Griffins in Spalding in Nottingham, and saw one made in Japan there, to our pattern, so it was other people copying us. They had seen them in Liberty's, it has started in Liberty's really and then it went to France, because this lady was married to a 'Liberty' and Laura Ashley opened a shop dead opposite her and she liked them as well, and hence our best customer arrived all the way from this shop in Paris, who was connected to Liberty in London. Well you hope that the things sell themselves that way rather than incorporating a big sales department which we don't have. We expect the goods to sell themselves if you put them in the right areas.
146. RW: What innovative measures have you taken in regards to lace manufacture? That just means what steps have you taken to come up with new ideas.
147. HH: Innovative measures, well we try to avoid being dragged into making ordinary knitwear and stick to what we know and what we can do best using the various capabilities of each machine. So we have to be innovative on a machine, we only had hand frames until 1968 and we had the first machine after the hand frames. You see none of our machines are making what they were designed for; all that we want is the ability to transfer stitches and make lace. So you have another question just underneath it, 'please can you describe the different machinery that has been utilised here since the company opened'. Erm, you see it was one man per hand frame, and one man to about seven machines. So naturally that's a sort of advantage, you see our hand frames were designed for knitting stockings, other machines were designed to knit cables, and other machines were designed for knitting fully fashioned twin sets and the like, and we had to look at them to see how we could change them to emulating the hand frame. What we did was try and change modern machinery to do the hand frames job better,
148. RW: Well what I have found interesting is that as I've been looking around the building and taking photographs, I saw the way in which different people have customised their machines to make them do the job better, or faster. You've got little knobs to turn to slacken the knitting off, its things they've done themselves to make the machine do what they want.
149. HH: Yes my farther told Jeff, 'Go and get a nice matching off Cooke's at Ruddington and we'll get it renovatd up to date', and get it so it will do the feather pattern and various things, and he had all the sinker eyes cut out a little

bit higher than is the norm which meant that we could do this feather pattern which was very desirable for ladies jumpers and our best customer had a lot of that fabric, but the other knitters didn't really like to knit the pattern because it wasn't quite right for the machine, but he [Jeff Oxley] adapted the machine, and what he put in was a 'Shogger', it has two big screws at the side at the top, if you want to change the size of the stitches that you make. The sinkers drop onto a plate and it's adjusted with two screws so that the lower you set it the bigger the stitch. And he was making these B1 Shawls, we must've brought that number and in 1947 after we'd finished with the 5000, and Harrods in 1948 phoned my dad and said that the Queen had just bought two dozen of these B1 shawls for Prince Charles being born. We did wonder if he used them all! She had more children after that so she probably used them. The thing is about these shawls is that they had a plain centre, and a patterned border. And the plain centre, his instructions were to knit a border then knit the plain centre but screw up your tension so you got a tighter plain bit in the middle and it would pull into the middle and look a perfect shape. Oh he got fed up screwing these things so he put a long strip of metal in so that when he shogged it to the left it raised them, and if he shogged it to the right it lowered them. And that's not an innovation on any of the machines except his.

150. RW: It seems as if he [Jeff Oxley] was a master mechanic really. He knew exactly how his machine worked, what it did, how it felt, and what he could do to it to make it work better.
151. HH: As soon as he got in a hand frame, he knew what was wrong with it. He could feel it, and we even perfected noise, I know on one or two of our frames because we had the Noise Abatement System, removed, but it made the whole factory a lot quieter when you started adding in strips of rubber...
152. RW: Because if you had a large number of people working on a loud machine it could get quite deafening. I know when we're in the workshop and all the machines are going at the same time, I know it is quite blissful when they all come to an end at the same time, and you've got a moment of silence.
153. HH: Yes, some of them wore ear plugs, before Health and Safety dictated that it was necessary!
154. RW: I love some of the Health and Safety that were outrageously flouted like the gentleman who kept his pilot light on so he could light his cigarettes, bearing in mind you have to use both your legs and both your hands to operate the machine, I don't know how he...
155. HH: It had to be automatic, and he lived to be....working to be 84 and he was as fit as a fiddle.
156. RW: Well the next section is 'Implementation of Technology' and I know we've talked a little bit about the different machinery and the way in which it has improved. You mentioned that you had only hand frame up until 1968, what was the reason for you deciding to move over to other types of machinery?

157. HH: Well I have to say that J Buck & Son in Hucknall had started with their Cotton's patent knitting machine conversions, and I went to Cottons to have a look at their machines and they were £6000 and I don't think we were in a position spend that much money in 1965 and I discovered through various reasons, a machine that could do what they did and a bit more besides that hadn't been tickled on yet, so I found a machine in Ireland and bought it second-hand for £3000, it took my 5 years to pay for it. I had it in the office and I even taught my secretary to work on it while the hand frames were working away about our heads. But my 84 year old man wasn't too well and we feared he might pack up at any moment, and I had to go up and knit on the hand frame to keep the production going myself, and it was getting stressful in that we were having to work far more hours, because the orders coming in we couldn't cope with. So that's why we had to have a machine, and we just got it going when the 84 year old man finished. And we managed to get his fabric on the machine and continue with the silk lined jumpers that were being made. We had nobody spare to do what he was doing, your saying could we move it to another frame knitter, well we couldn't really, and it saved us on that item, so then we thought that we'd better do this again, and so I bought another machine and then another one from various places, and we started very slowly, whereas our Hucknall compatriots tended to produce a lot all at once on their Cotton's machine. So we quietly produced less, but slightly, well a lot better really.
158. RW: So you focussed on the quality rather than the mass production?
159. HH: Yes, yes. One of them made a lot of money for a short spell, with his high production. But one of my machines couldn't produce as much as the hand frame could actually. If you kept it running long enough hours you did. Anyway it was a saviour, and the firm could have finished around that time, with the hand frames finishing, if we hadn't changed to power. It was forced upon us really.
160. RW: But then you were able to make a transition into more mechanical methods, and that's where it's taken off...
161. HH: Yes it took off. We were able to keep introducing lines that our competitors couldn't and it eventually got to them because they've all packed up now. Well I didn't pinch anything from them; I just like to think...We had Jeff! And our attitude. He often...
162. RW: The secret weapon?
163. HH: Well yes!
164. RW: Well that makes me feel proud as I'm a... well third generation Jeff-Oxley-taught framework knitter. Jeff has taught Reg, then Reg taught Milla, then I've been taught jointly between Reg and Milla. So it's nice because I feel that I'm descended from him.

165. HH: Frank Oxley who wasn't Jeff's father but he was that generation, led his family from the top, and his patterns were always the best, well at least they were to him! And so he was the one who decided if the pattern should be altered for the benefit of the hand frame knitter so they could produce more, or it made it easier or they wouldn't drop as many stitches, or make as many mistakes.
166. RW: So would he have an overall eye out for the other people knitting patterns?
167. HH: Well his family helped Jeff learn, and Jeff was the only one amongst all the family that decided that the mechanical side of the frame was more important than being a knitter. Or 'you can't *knit* if you don't *know*'. So a lot of the knitters didn't have any mechanical know-how at all, they had a bit obviously that they'd learnt over the years, but they could always call on Jeff. Allan Cooke's always called on Jeff if they were making a hand frame for other people. They called on Jeff just to go over it and tell us what's wrong with it before it goes out. And Ruddington museum, the very first frame that they had put in, Jeff went to see it was working, He was a bit of a deliberate knitter. We had better Knitters, but not people who understood what was happening. His Cousin Harold Oxley was the best framework knitter. He had such rhythm, and as soon as he'd finished his 60 scarves a day, you know it was time to go home. He stopped. People often asked him if he'd switched it on because it sounded so rhythmical. Like a machine. They didn't believe that he drove it himself.
168. RW: So you have Frank Oxley who is the 'pattern' expert, you've got Jeff Oxley who is the 'master mechanic', and you've got Harold Oxley who was the best knitter. So you had different generations of the same family who all brought different skills to the process so between the three of them, you had a really refined product.
169. HH: Yes we refined it better than some, who didn't have that sort of background.
170. RW: How are you continuing the framework knitting skills? Obviously me being here is a big part of that, being able to pass on knowledge.
171. HH: We cooperate with Trent, Ruddington... Ruddington Museum helps us a lot and we help them. It's a sort of reciprocal thing, and if people continue to be interested, then we continue.
172. RW: Because you have quite a success at the local Heritage Day, the one I helped you out with, it was so wonderful to see so many people who were quite enthusiastic about having a look and seeing the way in which the machinery works.
173. HH: It's teaching the converted really because they're heritage people, and when Barton's next door had their heritage 100 years, we agreed to open with them and I think they came over because the bus shelter was cold and we were warm!

174. RW: Well going back to what you were saying about Jeff Oxley going to Ruddington and helping them set up their machinery, in 1972 when they were setting the museum up with 'old' machinery, yet your company were actually still using that machinery in regular production. There is a real transitional period there between the last days of the framework knitter...
175. HH: I think you'd have to say that 1986 was the last time we used them fully commercially, so we were the last, no actually there is one man in Kirby Buxlow who is still making a living out of using it. I mean if I had a hand frame knitter who was a 'Jeff' I would still...you know. It can be done, it depends of the level of ability and enthusiasm.
176. RW: I suppose with mechanical advancements you become less of a knitter and more of a mechanic when you're operating a machine. So you do lose the skills and it's trying to keep those alive which I feel is quite important.
177. HH: The apprentice for being a hand frame knitter was seven years. And that meant you had to learn how to build a frame and dismantle it.
178. RW: Seven years is actually a really long time, I mean people learn to be doctors in that kind of time. So you can imagine that the skill level you needed to get to was quite a high one.
179. HH: Well they were just put in the machine and they knitted simple stuff, a lot of the time, but I think I was the last framework knitter's apprentice. I had an indentation to be a framework knitter. I suspect my dad really did it to postpone my national service. I think it was submitted to the board and they rejected it, because it wasn't an apprentice miner or apprentice...something else. So I had to my national service at the proper time.
180. RW: So just going on to future development, which is more about how things are going to move from here on. So we've already covered a bit about who was responsible for pattern development between the framework knitters
181. HH: Well mainly F. Oxley, but maybe G.L Hurt, my dad as well, known as Les. If it hadn't been for him the other blokes wouldn't have functioned. He ran it, so it was due to his nature, I suspect my dad was more hands on than George Henry, his dad, who started the firm. I think my dad was more hands on, on the hand frame, in a quiet way.
182. RW: Because you were quite young when you had to take over the company...
183. HH: Yes it was 1956. My father really ran this company from the end of the First World War, and he carried on until 1956, and it was a vital period because it took in the First World War, the 20's the 30's, the Second World War. He had the worst run of anyone. They just got started before the war and then it got stuck because the knitters had to go to Eriksson's to do their war work. And back at the frame if they were too old.

184. RW: How secretive were the knitters about their patterns?
185. HH: Well between six firms each apprentice approaching the same market, they tried to out-skill each other. And sometimes, if they got an order that was really big they did actually share it out amongst themselves. So there was a certain amount of secrecy, far more than there is these days. Because the fella up the road can't nick your idea. We sit here and we think, 'what can we do new this year?' how can we put a new impetus into it. We come up with various ideas, well if they all do it at the same time, although it's strange...when there were more hand frame knitters doing it, the market was bigger. The market diminishing has reduced the number of people doing it. It isn't as if the last one [company] left is going to do six times the amount of work. It never works like that. It's just that we've managed to absorb all their best points.
186. RW: How have traditional hand frame patterns been adapted for mechanised machinery?
187. HH: Stockings came off the hand frame and went onto the Cottons patent, so all the Cottons patterns were adapted from the hand frame. Underwear went onto circular machinery, which couldn't adapt quite so well, but it could do other things, they were less embellished I guess. So circular machinery and Cottons patent machinery, adapted directly off the hand frame.
188. RW: Do you feel that maintaining the knowledge of hand frames is important? And if so, why?
189. HH: England is an innovative country, copied by the world. It was, is. This is one of the first examples and it happened in 1589. What could be more important than that really? It one of our first innovations, people would point out thing before, but from a mechanical perspective, it comes before the Industrial revolution. It's the fore runner, and surely that's more important than any of the others like tank making, train making, and weaving, spinning.
190. RW: And with the frame, as it has grown as an industry, many of the larger cities that exist today are only there because of the growth in the textiles industry.
191. HH: China would be short of work if we'd never started wouldn't they! Well they might have found another way perhaps but they've all pinched ideas off the hand frame.
192. RW: What can we learn from historic pattern books and artefacts? I'm thinking more of workman's notebooks.
193. HH: How the man works really.

194. RW: You can see the progression of ideas, how he's started out, how he knows how big the piece will be with what pattern.
195. HH: Well I don't know about artefacts, but I like to look at the tapered bolts (on the hand frame) so the knitter can pick up any size spanner he wants and turn those bolts, whereas nowadays, machine made bolts, they're all the same. And the man has to hunt for a spanner to fit it. And I haven't seen tapered bolts on anything since the hand frame. I'd love to know if they're being used elsewhere...
196. RW: Tapered bolts? I'll look into it for you...
197. HH: Tapered bolts is the biggest innovation to me, although ball bearings on the wheels was a big innovation I guess, instead of being held in with a pin. I mean tapered bolts! Why don't we use them!?
198. RW: How far do you think modern knitting practices rely on the knowledge of traditional design?
199. HH: I've just put 100%.
200. RW: I agree with you, I really do, it seems so important. What do you think a student gains from learning these skills?
201. HH: We always found an experienced hand frame knitter could adapt to knitting machines. Take the example of doing Latin at school for languages. It forms a basic principal
202. RW: Well the two key students who have been learning the hand frame within the last year are myself and Stacey, and now Stacey has gone back to university to do her final year, and she's really using the knowledge she gained, the skills of the hand frame, in her current design practice. You've trained someone up and given her a set of skills that she wouldn't have been able to access elsewhere, and now she is going on and continuing to utilise those skills. I think that's something to be commended really.
203. HH: Well that's very nice. I do remember when we put in the first fully fashioned machine, because it had beards, sinkers, slur cocks, which the hand frame had, Harold Oxley who was the best hand frame knitter could see how everything was working and what we should do to make it work, you know. And he wasn't the mechanic. I mean Jeff was good too, but Harold just saw the whole picture because of everything he had learnt on his hand frame. I notice that a lot of knitters are not really knitters, they're more mechanics than knitters. And it's knowing how the different yarns react, and what you have to do to counteract the bad things
204. RW: It's being quite intuitive...

205. HH: You get very close to the fibre when you're a hand frame knitter. You can interact with it. Its difficult to 'feel' it on a machine, you try lots of things if something goes wrong, and one of them will work.
206. RW: We've mentioned the heritage day before, but one of the final questions is 'You've been participating in local heritage days, what can be done to increase the awareness and knowledge of these ancient machines?'
207. HH: Well the only thing left really is to do a full blown film about the Luddites, which would work wonders for Nottingham and Australia...and the history of the hand frame. Because they would have to know the history of the hand frame before they could write the story of the Luddites. There has been a fictional story about Luddites, living in Nottingham in Blidworth, and it was written at the time of the Luddites I believe. You'd have to have a proper workshop, you couldn't play at it.
208. RW: You wouldn't be able to employ an actor to play at being a knitter, you would have to train an actor to be a knitter.
209. HH: There's a pub down in Beeston which is still there, and some framework knitters were talking about some Loughborough machinery, probably Heathcoats, but some machinery anyway, and a lot of people seem to have altered the story to 'cut up ' stockings, which it might be, but they decided to go and smash some frames there, because they'd gone on foot you see, and by the time they got to Loughborough they'd gone through a lot of framework knitting villages, and created quite a little army. And they invaded this place, and a bloke got killed. And they say that the last two hung in Nottingham marketplace were a couple of those framework knitters. They found it was easier to hang them than send them for seven years to Australia. That story could be enlarged upon. John Calladine who used to work here, he liked to drink and to smoke, whereas some of the framework knitters like Harold never did either, but he go to the Hop Pole with his bottle every day to get it filled up, and they took pity on him at the Hop Pole because it was such a filthy bottle, and they washed it, and he was up in arms because his beer tasted different, it was no good at all. One of the Oxley family relatives told me about that not long ago.
210. RW: Fabulous story.
211. HH: Did I give you the VHS 'Man made the Slave'?
212. RW I think there's a copy at Ruddington
213. HH: It's about the Chartists of Leicester in 1844. It was done by the Leicester Mercury. That's the only film that we've been involved with. Which was done by the BBC, very efficiently I must say. I've admired the BBC ever since. I must try and find this VHS before it becomes obsolete.
214. RW: There must be a way of transferring VHS onto digital?

215. HH: Anyway there is a terrific story untold, but nobody has time to do it. But maybe all your information... all films have to be pushed forward don't they.
216. RW: It would make a fabulous costume drama.
217. HH: Well the story about how they were paid with candles, at one stage called 'trucking' , and instead of money I'll let you buy cheap ten candles, and candles were important,
218. RW: What scares you about the future of lace knitting manufacture?
219. HH: What manufacturer in England is not scared? We've overcome problems since 1912, the desire it there, we shall try to continue to make desirable clothes. It's like painting, music, food, sometimes we produce a winner, and when circumstances are favourable, its like selling a nice piece of food or playing nice music or painting a good picture, they're all things that the human desires. And it can be overcome if you produce something that everybody wants. Really what you're saying is 'Are there enough left of us to survive?'
220. RW: I can't imagine that there will be a time when nobody anywhere in the world produces lace...
221. HH: There's always a difference between Nottingham pillow lace and our knitted lace, which is, our knitted lace came in first. And then Nottingham Lace came later, but the ordinary man in the street can't differentiate between...
222. RW: The term 'lace' is too loosely used I think....
223. HH: But I mean whatever you manufacture you're scared, because if you manufacture well and you take on a lot of staff, you're scared in case the amount of the order diminishes and you've got to make people redundant. So it's a question of not being scared and taking it all on the chin. And if circumstances are right then it'll continue, and if not they'll die like nearly the mining industry.

[END]

Appendix 10

Interview Transcript #2 – Reg Robbins

[The audio recordings of all the interviews are available on the CD-Rom that accompanies this thesis]

Interview with Mr Reg Robbins Monday 9th November 2009

A set of example questions were sent to Mr Robbins in advance of this interview.

RW: Rebekah Wood – Interviewer

RR: Mr Reg Robbins – Employee of G.H.Hurt & Son, Chilwell, Nottingham.

Interview held at *G.H.Hurt & Son, 65 High Road, Chilwell, Nottingham*

Audio Number DS400029 – Duration 31minute 19 seconds.

[START]

1. RW: Interview with Reg Robins on the ninth of November two thousand and nine. Hello Reg!
2. RR: Hello.
3. RW: Right ok, shall we just go the rough the questions that I've outlined for you already?
4. RR: Alright
5. RW: Um, do you just want to give a brief outline of how you came to work for Hurts?
6. RR: Well my mother was an outdoor worker, she had been for a few years and I got to that stage where I was ready to leave school and I didn't know what I wanted to do. So I...My mother sort of said 'I'll ask Mr Hurt if there's any jobs going', and I said 'well it will do until I've decided'. And then I came um, for a couple of years just before I left school just in the school holidays and after work,

in fact when I was doing my exams I was still working here, and Mr Hurt used to let us have time to do our homework before we had to get on with the work...

7. RW: So what sort of things were you doing for him at that kind of stage?
8. RR: Mainly cleaning and just watching the machines and looking for dropped stitches, and things like that. Nothing really...Interesting but...
9. RW: But it got you interested in what happened...
10. RR: Yeah.
11. RW: Um, so how did you first learn to use the hand frame?
12. RR: Um, it was because I wanted to learn it. Um. I hadn't been here that long and I used to go and stand and watch the frame knitters, and I thought how easy it really looked so one of the chaps just said 'Oh, sit in the frame and have a go'.
13. RW: Who was that?
14. RR: That was Harold...no that was Frank Spray. And he sat behind Jeff [Oxley] and it was Jeff's frame he was talking about. Unfortunately the first time I touched it I broke a load of needles. [RW Laughing] And I thought that was going to be it, but Jeff saw that I was interested so he decided to teach me.
15. RW: Did you find that having Jeff as a teacher made it quite easy to learn?
16. RR: Um, unfortunately I got him when he was getting older, and his patience was very thin. Saying that he was the most experienced person you know, in the area, and he just sent the best way to learn. And it was a little bit trial and error, but we got through it.
17. RW: Were you the only person learning the frame at the time?
18. RR: Yes.
19. RW: So it was one-on-one tuition?
20. RR: Oh yes.
21. RW: So was he able to spend a lot of time with you?

22. RR: Well unfortunately we were both working on the modern machines at the time, cos Jeff was doing that transition period where we got a couple of machines in and he became the engineer for those...
23. RW: So what sort of year would this have been?
24. RR: About 1972 or 3
25. RW: So I know you've said a few bits already but do you remember about your first experiences of knitting lace on the hand frame? Or just knitting on the hand frame in general.
26. RR: Um, I enjoyed it, I think, It was a little bit of a novelty because I knew that that there weren't many people that could actually knit... so I wanted to do it, and it... the first thing I ever made completely was a baby shawl for my son.
27. RW: So something that had a real poignant value to it because of what it was?
28. RR: Oh yes. I've never knitted anything that's equalled it.
29. RW: Have you still got it?
30. RR: It's all in holes now. The moths have got it.
31. RW: What a shame. How...just moving on a little bit, how do the current design patterns develop from idea to product?
32. RR: Um well normally if it's a bigish buyer they'll have their own designers and they'll have their own ideas. They'll give the firm some sort of details and then I'll work it out from that.
33. RW: Do you translate it onto the Jacquard cards for like the modern machinery?
34. RR: Well yeah, mainly now we use the computer machines rather than the mechanical machines because we can't get jacquard to make...we can't get them cut.
35. RW: One of the questions I've got here is 'where do current shawl patterns take influence from old designs? I'm just thinking about, I mean you know the old data base of old shawl patterns, I mean how often do you use those kind of things for inspiration?
36. RR: Well a lot of... I should imagine...I should imagine virtually every pattern possible has already been made. So it's easy to take parts of old patterns and

adapt them. I mean if you know you're making a shawl that's got a border round the edge, you've got to...it's got to weigh itself up. If it's busy on the outside, you tend to make it simpler on the inside. And you look through the patters for...you know, just for a balance, and that's the way you make it.

37. RW: Um, How have knitted fashioned changed since you started working here? What sort of things did you used to make that you don't necessarily make anymore?
38. RR: Well sort of silk-lined jumpers and err... bed jackets, things like that have gone now. But the majority of the things are still traditional, you know, you make a shawl, you make a stole, you make a scarf. Its only the yarns, you know, we don't sort of...
39. RW: What sort of yarns have changed?
40. RR: Well there's not so much mohair, um [pause] things like camel hair, angora, things like that. You don't seem to use those as much. There was such a lot of different mohair when I first started. One of my first jobs was winding yarn for the hand frame knitters, and the majority of that would be mohair. But now, yarn such as cashmere seem to be easier to knit so you don't get the wastage and err,...I think they are... in relationship to other yarns, I think they are slightly cheaper than they used to be so people will buy them.
41. RW: When you're working on the hand frame what sort of yarn do you prefer to use?
42. RR: Um, I would say wool. It's... Mohair's a little bit rough, it's a bit brittle, and the only way to knit that really is by damping it down, or using some sort of oil. We don't knit man made yarns on them anyway.
43. RW: I suppose it's that tradition thing isn't it, the fact that they were never used on it.
44. RR: Yeah. I mean you set them up for the yarns really, so they all run better on wool.
45. RW: How are the patterns stored? DO they have a numbers system and in what format are they used?
46. RR: Yes, there's a numbered system. We store them nowadays...there's always some written copy of every pattern made, and nowadays its all stored on computer tapes or disks.
47. RW: So if you wanted to go back and have a look through the pattern database its easier to access...

48. RR: Oh it is now yes.
49. RW: How many patterns do you think there are? Hundreds? Thousands? Millions?
50. RR: That we've got, probably a couple of hundred. There's not much...
51. RW: So lots of different patterns then?
52. RR: Yes, well you've got probably two or three versions of one pattern. A lot of shawl patterns are adapted to make scarves and things like that, and parts for...
[Inaudible]
53. RW: Yeah. What are the names of some of the different patterns you make? Do they have names?
54. RR: Well there are some styles, you mean what we do like 'Fan & Feather'?
55. RW: Yes. That's where it's transferred...
56. RR: That's where it's transferred out. Normally the top of fan and feather patterns is a fan of holes, and then where they come together between them, that's your feather. It distorts the fabric.
57. RW: Is it like a ripple that you get from fanning it out?
58. RR: Yes. There aren't really a lot of...most things are called by their actual number.
59. RW: SO you design a pattern and it stays with its number as opposed to having a 'fern leaf' pattern name.
60. RR: Yeah, I mean there are others like, more the older patterns that've got nicknames, there's one called 'Church Windows' and there's one called 'Cat's Paws'.
61. RW: What does the 'Church Windows' look like?
62. RR: Um... its where you transfer blocks in together so your holes are actually on the outside but you feather into the centre probably blocks of four and then you make a diamond or a 'V' or and inverted 'V' at the top and it actually looks like a stained glass window.

63. RW: And what was the other one sorry? Cat's Paws?
64. RR: That's just little dots in a circle. And they used to say that was cat's paws.
65. RW: One of the patterns that I've seen that I really like, I think it's the one that you do for the John Lewis Shawl is that little butterfly. It's so simple, just a couple of little holes. What are your favourite patterns? Do you have any that you like more than others?
66. RR: Not really. I suppose I like the majority of them. I like the older ones better.
67. RW: Are these ones that were made on the hand frame?
68. RR: Yeah. Because of the... because of how complex they were. Although nowadays with a computer you can do far more complex patterns but the detail looks special on an old shawl.
69. RW: I suppose as well you know that every stitch was transferred by the man not by the machine...
70. RR: Oh yeah.
71. RW: It's got that kind of special quality to it hasn't it?
72. RR: Yeah
73. RW: We've talked about knitted garments already so... what types of machines are used here?
74. RR: Um. Well there are straight bar fully fashioned machines, there's a couple of those. The rest are all Purl machines or what we call flat bed knitting machines. Do you want the makes too or..?
75. RW: If you know them!
76. RR: The Purl machines are all Stolls, and the straight bar fully fashioned machines are Schella ...that's S-C-H.
77. RW: So how many hand frames do you have still?
78. RR: There are twelve.

79. RW: There's twelve hand frames? But they're not all in working order at the minute are they?
80. RR: There's probably...there's only two or three that aren't. That you couldn't actually get to work without putting bits on...
81. RW: Yeah. I really like that this is one of the few places where the technology has kind of been kept, and nourished and nurtured and it's not been forgotten. Because they're sitting there in the workshop all the time, you're part of it.
82. RR: Oh yeah well I mean the idea is, if you're not busy doing anything else you can always go back and you know, do something on one of them. The idea is to keep them maintained and then if you need them for anything you haven't got a big job to get them up and going again.
83. RW: How often do you get to play around on them?
84. RR: Well it depends; I haven't really... maybe a couple of times a year. Springtime...you have a couple of months where there's all the fashion shows and things like that so people aren't ordering, or January February time, that's about it.
85. RW: How much time would you spend keeping the hand frame in working order? Are they difficult to keep working?
86. RR: Well they are because really they should be knitted on all the time to keep them working, but we can't do that so... I mean when I first started learning to knit, if I was learning a new pattern I would go and do it on the hand frame first.
87. RW: How come?
88. RR: Well because I could see it. Well if you wanted to say make a diamond pattern, its far easier to go knit it yourself and then write it down or draw it for another machine than to try and draw it out first and waste time sort of thing...
89. RW: Do you always recommend just sitting on the machine and feeling how the stitches work
90. RR: Yeah and seeing what it's going to look like
91. RW: Now that's an interesting way of looking at it because a lot of the time, especially with design thinking, you would go and organise what you wanted to do first and then go and knit it, but it's really interesting that you do it the other way round.

92. RR: I like to see what I'm going to make.
93. RW: I suppose that means you're able to be more creative as well because you're not limited by the design you've already written down.
94. RR: Yeah. The thing is, when you're setting up a modern machine and it takes... every time you make a new sample it costs hundreds of pounds just to make that sample up. You know that time, and cards if it's a mechanical machine, well mainly the actual time. If you can leave that machine knitting on a pattern that it's already doing and go and sit in a hand frame and have a play and get your pattern, you're actually ready to go and put it onto the machine before you make the pattern. Do you know what I mean?
95. RW: Oh that's really interesting. How do you think the framework knitters have impacted on pattern development?
96. RR: Well as I say, I don't think really that there's any new patterns, they had already made them. We've adapted them and altered them, stretched them, took bits out and put bits in but the original patterns have all been used.
97. RW: How much variation is there in unusual yarns? Do you every try anything a bit crazy?
98. RR: Oh yes we do try a lot of the yarns, but we're restricted to the machinery that we've got. A lot of yarns are for too thick for our gauge machines although buyers still want you to try them and a lot of the yarns are far too fine. We do have ways of adapting, of getting round it, adding yarns like Solveron which we wash out afterwards for fine yarns. We try anything that anybody gives us.
99. RW: So you would use Solveron with a really, really fine yarn to support it while you were knitting it?
100. RR: Yes. Well they used to pay us years ago when they first started with Solveron because we always used to knit it with Mohair. When you had difficult yarns, your competitors couldn't knit it so it paid you to add another yarn even if it was going to cost you twice as much, because nobody else could make it.
101. RW: So you'd actually be able to get a product out of your mohair as opposed to not being able to.
102. RR: Oh yeah yeah yeah.
103. RW: What memories do you have of old framework knitters like Jeff Oxley.

104. RR: Oh a lot of fond memories. They were all individual characters and they were all larger than life because I was at a young age where I was influenced a lot by people, especially people who knew what they were talking about.
105. RW: Did they have a good camaraderie between themselves?
106. RR: Oh yes, they were very close knit. I don't know, it's funny... it's... They were close and yet they weren't.
107. RW: They still maintained their separate space?
108. RR: Yeah
109. RW: How far did they talk to each other about their work and what they were doing and their patterns, things like that? Did they share patterns or were they a bit secretive?
110. RR: Unfortunately I didn't come in until the end when there were only two of three left and Jeff used to do all the...the Oxley Family had always done all the patterns and designing and [inaudible] I suppose with it being a factory instead of lots of different cottages, things like that, there was no rivalry or anything like that, they all shared... When we eventually came over onto modern machinery it was the hand frame knitters that transferred the thing over, sorry, when we came over to the straight bar knitting machine which is nearest machine to a hand frame, it was the Oxleys that adapted the patterns and that, although they'd never worked on modern machinery, they knew how the needles and the points worked and where the holes should be...
111. RW: What's the gauge difference between the machines?
112. RR: Well the machines that they changed over to they're 21 gauge, whereas the hand frames...ours average about 30, 32.
113. RW: So they had a totally different structure of knitting?
114. RR: Yes it was finer on the hand frame. Its even courser now.
115. RW: You did mention this before but one of my other questions was 'Who was responsible for pattern development amongst the framework knitters?'
116. RR: I assume the majority of it would have been done by the Oxleys. They were the only people that I've ever known that were that way inclined really. Knitters were knitters and they had their own life outside of work I should imagine. They came to work, they earned their money, they went home.

117. RW: I suppose it takes a certain type of mind as well to work out how a patterns going to work and how it's going to look. So I suppose they weren't very secretive about their patterns because they were working for a company. How have the hand frame patterns been adapted for modern machinery?
118. RR: Well originally they took the simplest patterns that the hand frame did and transferred them over onto the machines. And then as we've got better machinery we've gone back and we've done more complicated patterns. Its like, the majority of the first patterns we made were very simple, six or eight holes, small repeats, but now, with the latest machinery...with the computerised machinery we can knit a shawl that's got a border on that hasn't had to be sewn on by hand. It just looks like it's been put on, we seem to have transferred over and done the easiest things the frames ever did and got more complicated...
119. RW: DO you feel that maintaining the knowledge of the hand frame is important?
120. RR: Oh yes. Well its part of your heritage and its part of the history of... there are virtually no textiles firms left in Nottinghamshire and Leicestershire, let alone the ones with the real history. And the main part of that history is the hand frames. And once it's gone it's gone.
121. RW: Do you feel like you have a responsibility to help pass that on?
122. RR: Oh yes. I feel that I have a responsibility to anybody that's every taught me anything. Not just the hand frames, but the first mechanical machines, the electronic machines and even the computerised machines. Because everyone I've ever known who ever did them is either dead or retired now. If I don't show anybody then it has gone.
123. RW: I feel sort of similar now. Now I've learnt the skills, it would be a shame if I didn't pass them on to somebody else.
124. RR: You feel responsible. It's as if someone has handed you something and said 'Do what you like with it', but... it's a responsibility
125. RW: Over the years how many people do you think you've taught to use the machine?
126. RR: Not really that many. Not those who can properly knit. Only about four or five.
127. RW: So those four or five are now the ones that hold that knowledge
128. RR: Unfortunately I don't think any of them are actually doing anything with the knowledge. But you never know. I hope that if you teach a student, they'll go through, finish their course, go and do a job and then eventually turn round and

think to themselves, 'oh I've got this bit of knowledge maybe I ought to go back and use it'. So hopefully someone will come back in another ten years and turn round and say 'can I work the frame?' If you teach enough people, surely somebody's got to come back.

129. RW: Definitely. It's a case of trying to get as much knowledge out there as possible then at least there will be the chance for someone to remember it. What framework knitting do you do outside your job at Hurts? I'm thinking about Ruddington.
130. RR: At the moment, knitting just at Ruddington.
131. RW: How did you get involved with Ruddington?
132. RR: Well in the 70's I used to take Jeff originally to Ruddington when they were first getting the machines ready in the museum and then it got so I was stopping a little bit and I was doing some, and eventually Jeff had finished and when the museum opened I was still going for a while. And I just lost it over the years, you have children and your life changes, again I got to a certain age where I decided that everybody was dead and it was time to put something back into it. I mean the Industry's been very good to me, it's kept me employed for the last 30 odd years.
133. RW: I suppose you're quite unusual in that respect because with all the other knitwear companies and textile companies closing in Nottingham, working for Hurts has sort of been quite lucky really!
134. RR: Oh yeah, yeah I mean originally I had wanted to be an electrician but I would have been one of many, even today.
135. RW: You're a one off, you're unique
136. RR: There's not many of us left.
137. RW: When students come to Hurts on placement are they always offered the opportunity to learn the frame?
138. RR: I offer everyone the opportunity to do anything they want to. Whether it's the hand frame, making socks on the Griswold's, the hand operated machines, even the computerised machines. They can make what they like. It's only fair to give them a certain amount of time. It's up to them as to what they want to learn. I like to give everyone a go at everything and let them decide what they want to do.
139. RW: Have you found that people that you have taught the hand frame to have really got really interested in it, in the same kind of way that you did?

140. RR: Um, only a couple. Some people find it easy to learn the initial part of it, but to actually understand the knitting and go on further there's very few that are willing to put the time and the effort into it.
141. RW: So someone like Stacey [Deakin, former NTU Student] is very rare.
142. RR: Yeah, well there was one before her, Amy, she wanted to learn it. Unfortunately she was very very small and very very weak which didn't help her.
143. RW: So the physical action of the machine was too much...
144. RR: Yeah.
145. RW: SO just one final question really. How do you feel about the future of knit lace manufacture?
146. RR: Um, I think someone is always going to be knitting it, it's just a matter of who and how they knit it. Women like to look pretty and fortunately lace does make them look pretty. It's the same with baby shawls. A baby shawl always looks better if it's got a lot of lace in it. The baby falls through the holes occasionally but ... [Laughter] I think it'll always be there.
147. RW: So you feel quietly confident at the moment?
148. RR: I think someone will be knitting it, whether it's the Chinese I don't know
149. RW: it's not likely to stay in this country indefinitely is it?
150. RR: No when someone actually realises that we're still doing it and we're probably making a profit out of it, they might decide to try and make it quicker and faster or cheaper.
151. RW Well thank you very much!
152. RR: It was my pleasure!

[END]

Appendix 11

Interview Transcript #3 – Arthur Hesketh

[The audio recordings of all the interviews are available on the CD-Rom that accompanies this thesis]

Interview with Mr Arthur Hesketh on Wednesday 10th February 2010

RW: Rebekah Wood – Interviewer

AH: Mr Arthur Hesketh – 99 year old former framework knitter from Hucknall.

SB: Mrs Sandra Bodill – Daughter of Mr Hesketh

Interview held *at the home of Mrs Bodill.*

Audio Number DS400032 – Duration 1 hour 42mins 56 seconds.

[The audio starts as Mr Hesketh is discussing a woman who formerly worked as a framework knitter]

[START]

1. AH: To us she was a novelty
2. SB: Yes she would be, so how long ago is that dad?
3. AH: Ooh that's ninety years ago. Well eighty years ago
4. SB: Well eighty, yes when you first started.
5. RW: So when did you first start then? How old were you when you first started?
6. AH: Well I was at pit. Did my time at pit, well 1929. 1929 when I started to work the frame.
7. RW: And how old would you have been then?

8. AH: I should be eighteen.
9. RW: Gosh it's young to start isn't it?
10. AH: Well I must have been. You know it was 1928 and it was 1911 [the year he was born]
11. SB: Did you ever go down the pit first?
12. AH: I did two years down the pit. And two years on top. So I had four years at the pit...
13. SB: Before you went into the frame. Yes so you're talking...well dad's ninety-nine in March. You're talking ninety years ago.
14. RW: Brilliant! So what first made you go and change your career and be a framework knitter?
15. AH: All me beforehand, they were all framework knitters. We've traced 'em back to seventeen-summot, and the last one we traced back he had two men working for him in the frames.
16. RW: So it was a family tradition then?
17. AH: Yeah my great, great, great grandfather was a framework man. Me grandfather, right down like.
18. RW: What do you remember of your grandfather knitting? Or was it too far back?
19. AH: Oh I can't remember him, he died when I was about five or six. I can just remember him like, but... They were all stockings. They make stockings then they didn't make this kind of thing [Talking about a lace shawl] But I had one of the stocking frames and I transferred it into a frame... and I could make six of these at once [referring to narrow lace scarfs] Where did you make this on?
20. RW: Well that one was at Hurts, G.H. Hurts. Well Mr Hurt, he's in his seventies now, the chap who runs it, and he's very much... really wanting...
21. AH: Tell me his first name.
22. RW: Henry Hurt

23. AH: I used to get the frame direct from them like. They used to, they used to...I don't know if it was Hurts that built the frame, I'm not quite sure, there was a family out there that built the frames up.
24. RW: Was it the Oxley family by any chance?
25. AH: Yeah
26. RW: I knew you might have heard of them.
27. AH: Yes, yes that's the name.
28. RW: Their name crops up a lot.
29. AH: Yes I remember them yes. He was the union man at that time. And he came to Hucknall and I met him at Hucknall
30. SB: Dad always worked at the factories in Hucknall you see.
31. AH: But the ones I've got in my...[referring to lace shawl] that are dropping to pieces through age like, were mohair scarves. They're lighter than this one.
32. RW: Well this is my first attempt to try and do something. And it's the first one that I've managed to get all the way through so that there's no dropped bits, and the pattern is right and it's all finished alright.
33. AH: It's two forty wools like.
34. RW: It's only a light lambs wool
35. AH: Oh yeah I know it is.
36. RW: I love the mohair ones
37. AH: It's what they call a five plain made on an eleven plain. You've got five there and if you'd gone out with what they call and eleven plain it would have met at the top of that one and made one bigger one.
38. RW: So that's what they called an eleven plain? That was what it was called? SO you would have it like a big zig-zag all the way across?

39. AH: They would touch each other if you had five plain down... three... two.. one there.
40. SB: (Inaudible in the distance talking about an old shawl she has found)
41. RW: Well the research that I'm doing is looking at the frame and trying to see if... [Sandra Bodill enters with the old shawls] Oh wow look at that pattern!
42. SB: Look at this. Would this be a hand frame one dad?
43. AH: Oh no this is a hand... no a machine made one [Referring to power knitting machines]
44. RW: Aren't they gorgeous though. So beautiful.
45. SB: What's that one? Is that one of yours?
46. AH: Er... this is the width of it. Look at that compared to yours! Compared with... that's the width of it!
47. RW: Would that have been made all across on one frame?
48. AH: All across on a 'one-at-once'.
49. RW: I suppose when it's on the machine it looks a lot thinner.
50. AH: This was made on a 'three-at-once'. I think I can remember making something like this and I made it width-for-length if you get me, I made it on a wide frame. I only went a short way then chopped it off and then dressed it like a shawl. You know how they make shawls? This is a shawl frame 'cause you make shawls on. But it's made very very short. You see how long this is? It would only be so far as that on a wide frame.
51. SB: You know what I think this is Dad? I think that's my stole you know what I had when Den my brother got married? And it's been washed so you'll probably find it need dressing out again.
52. AH: He always threatened us with that. The owner Frank Buck. He always threatened he'd throw us out of work because he'd get one of these machines [referring to the power machines]
53. SB: This is where the machine did the patterns whereas dad used to...

54. AH: They used to have one at Calladines and they used to be churning these off twelve at a time.
55. RW: I suppose it was putting you out of business.
56. AH: Yes he said he'd put us out of business. He threatened us like, I don't know whether we went in for a rise or what but he...
57. SB: [Interjecting] These ones have got labels on.
58. RW: See that's what I like about the shawls made on the hand frame, they're got that personal touch, you know a man has sat and spent hours making it.
59. AH: He used to come to me to ask to make a sample like and you used to wrack your brains and you'd used to look at the wall like, and you used to use picture to make the wallpaper, patterns like, and sometimes it would give you ideas.
60. RW: Do you think you're quite a creative person?
61. AH: I was with that like, I created quite a few new patterns, and I wasn't very taken up with the gaffer, he didn't like me at all. I used to talk Christian to him and he wouldn't have nothing to do with me.
62. RW: I see.
63. AH: And he thought I were a Goonie like. And it used to put his back up like so when I made this sample, and I was supposed to have the income, if there was any income like, from the sample, I was the one who was supposed to have the benefit of it. The orders that came in, if I'd made the sample, I had privilege, like.
64. SB: Because they made their own patterns.
65. AH: I was, I was just teaching my son to work the frame, and instead of giving it to me, he gave it to him, and then came boasting to me afterwards that my son was a better man than I am.
66. SB: He wasn't very nice was he dad?
67. AH: And I said to him, I thought I'd shake him, I said well when he gets the money it all goes into the same purse.
68. RW: So did you get a lot of...I'm trying to think of the right word... friction in the industry? Were there a lot of people who were not out to help you?

69. AH: Well this is one, he used to be one of Mr Bucks's builders, and he married the daughter of the frame [owner] and that made him the gaffer and he thought he knew the trade right from the beginning. And he's never even touch or seen a hand frame 'til he got married like. And then he used to come and commandeer us and tell us what to do, you know. He used to cause a lot of friction in the shop what with being domineering.
70. RW: You just wanted to get on and make your patterns didn't you!?
71. AH: [Laughs] Yes
72. SB: Well if I remember rightly you had like a separate workshop where all the hand frame knitters were, and then he had power machines in another workshop.
73. AH: Yes, yes, he threatened us! He had a second-hand power machine and it kept breaking down, and he kept coming up to us and started... and er... he determined when he anticipated having this power frame he began to threaten us, then when he got the second-hand power machine it kept breaking down and it wasn't working properly. The pattern...it used to throw such a lot of stitches off that he used to have all his staff working on mending the what-do-you-call-it... power frame. And he used to neglect us and then if we dropped a stitch he used to come up and tell us about it. I used to be definite with him like, the others weren't so forthright with him. I said to him 'You've got this power frame that's taking all the ladies off our work, they did ours before, and you didn't mind that. And now you've got that power machine you've got all your menders mending that power frame,' I said, 'The ladies used to be able to do it in a second.' You used to have to go downstairs to him... I said, 'You've fetched me out of my frame, down three flights of steps, you've kept me here, and I've got to go back again and I sharn't be able to take up the pace I was working.
74. RW: You get out of sync with it don't you?
75. AH: I was losing time like, and you keep telling us you're in the red and I said 'You're the person who's putting yourself in the red, you keep fetching all the men down when they've dropped a stitch... I said, to show it 'em, and I said you're losing time, we're losing money and you're losing money.'
76. RW: So did you always work on the same frame then? Did you have your little spot and that was the machine you used all the time?
77. AH: Oh yes, I mean I used to work in all the frame shops in Hucknall, you know there was Buck's, Hardy's and so on, and if one didn't have work you just used to go to the next firm. He sacked me like, he sacked me for being so forthright and I was walking out of the door and the union men said 'Come on men, com on' and they piled at the back of me and they all walked out!
78. RW: Ooooooh! [Laughing] You started a little revolution there!

79. AH: And then he said, the union man said [to the Gaffer], you don't like them telling the truth you like, and he [the gaffer] thought better of it and sent me back again. The next time he was short a worker he let me back on.... And I got work at Calladines and I was working for Mr Buck, his name was Buck like, so I went straight out of one frame at Calladines to the next one. I actually already had the other frame knowing I was going to get the sack, I had a frame ready for me like. It was all because he was so stubborn and he was determined to have his way with all of us like. It wasn't just me, it was the other men as well.
80. RW: What were the other men like? Were there a lot of you that worked together?
81. AH: Oh in one room yes, there'd be a dozen of us like.
82. SB: The frames used to be line up in twos, it was a small attic room we used to go and see dad and we used to have to climb the stairs.
83. RW: So you had quite a small space to work in then?
84. AH: Well one of the time I went to a house with Calladines, he'd got a man working in his own home. And he sent me there and this man had got two machines in his house like, and we got just two of them working together, so you weren't always... well I had four frames myself at home in the garage!
85. RW: Did you!?! Were they all working?
86. AH: Well I got them all working! Two, Three and Four-at-once like.
87. RW: Have you still got them?
88. AH: No I gave them away, when I was 80. I still worked until I was 80.
89. RW: Who did you give them to?
90. AH: A man at Mansfield, either Mansfield or Leicester. He came and showed me that he's been able to make one work and sent me something he'd made like.
91. RW: There's a man called Martin Green who's still working them, he's got a beard was it him?
92. AH: Well he wasn't bearded then.
93. RW: There's a chap who's making a living out of working on the hand frame.

94. AH: This one was repairing them and working them. He's got quite a few and he invited me back and he showed me the frames that I'd given him working like.
95. SB: Where was that dad? Where was he?
96. AH: I think it was Leicester, Leicester I'm sure. But it might have been Mansfield, Barry Clarke took me up there. He was a friend of Barry Clarke's. He took me up too this place and he'd got quite a few frames
97. SB: Dad helped set up that museum, is that museum still going in Calverton?
98. RW: Well the Calverton museum is only open.... [cut off]
99. AH: I used to work at Calverton, well I used to demonstrate the machines you know when they had an exhibition. And there was a seventeenth century machine in and I tried to get it working and I got a course on it like. But it was an old stocking frame like. And it was French-made and it was so much wood that had been metal in my frame. It was different altogether but I got it working.
100. RW: I think the small museum in Calverton may be open once, every other Sunday, only a very small amount of time.
101. AH: When I come out of the Army I worked for a firm called Hardy's. And when I got back there was a man called Taylor in charge who'd bought the firm like, and the same men were working there as I went for my job back that I had with Hardy's and he said 'no I can't', and on the shop floor there were half a dozen frames all in little bits. Then men used to go and fetch a spare part if they wanted one, there were all bits and bobs like.
102. RW: How come that had happened?
103. AH: I said to him, I said... He said he hadn't got a frame like, well I said 'I could put a frame together, I could put a frame together out of what you've got on the floor'. He said 'You couldn't'. I said 'Yes I could. If you'll give me employment I'll put a frame up and work it like.' And he did do, and I thought...bit of crafty again like, I'd put a frame up with four-at-once. I'd seen one of the men and he's got some good work, easy work, and quick to make, and I thought I'd build this four-at-once that would make this work. And I built it, and when he saw it he marvelled like, but he gave me orders like. And then...I don't know. He gave me the order that he gave my friends in the... and they went into complain that he was giving me the order that they were meant to have. The good pay orders, you know. And they complained so he took me off it and put me just on ordinary work. I'd built it for the purpose of making the best work like, but he made me make this [simple] sort of work like. We used to have truckloads of Russian orders, you know a little bit for a dozen. I don't know what it was but it was coppers for dozens like and you could make them quick. Five courses to an inch, and this pattern [He indicates my simple patterned scarf], you wouldn't make anything better than that.

104. RW: Just something small and simple?
105. AH: Cheap, very cheap. And I was on them like, but you know, it was a living. More than I could earn at other places.
106. RW: What do you remember about the first time you learned to use the hand frame?
107. AH: Well it came so easily I didn't know it was in my blood. I just went on, and the man, he wanted paying for teaching me, in them days, I forget how much, 5 pound a week. It was a lot of money when I first learned. He charged me 5 pound a week and I found I was earning twice as much in three months. In three months I was earning twice as much as I did at the pit like. Because it was only little patterns, came as you said you learned. But I learned it very quickly and was able to earn quite a lot of money compared to what I'd been earning.
108. RW: When I first started to learn it I came home and my mum was like 'what's the matter with you' and I said 'my thumbs hurt'. And all the muscles on my hands hurt because I never use that particular muscle for anything except holding the thumb plates in!
109. AH: Where they went used to fit on the hand frame, on my hand I've got like holes...
110. RW: Where your hands have moulded to fit round the machine?
111. AH: Well their all arthritic now, I'm not sure I could ... I wonder if I should still be able to work one like. But it's history like.
112. SB: David [Elson] said he might be able to take us over to Ruddington one day.
113. RW: You should come over to Ruddington
114. AH: I should like to see that.
115. RW: It's really quite something. When you walk in, you have to go upstairs to the top workshop...
116. AH: Oh I've always gone upstairs. At Hardy's when I started they used to complain because the stairs were wooden and old and they used to creak and that. And those that used to work at the bottom and those that used to work at the top used to complain that I used to take them two at a time, you know run at them.. bash, bash, bash! And it used to rattle them like, and they used to complain about it!

117. RW: Well at Ruddington they've got about twenty hand frames.
118. AH: Still got twenty?
119. RW: Unfortunately there's only about five of them that are properly working that you could get a full garment off, if you wanted. Some of them are older than others, I think the most modern one was made in the 60s. Quite new.
120. AH: Well I did something with the hand frame that's not done generally, we made these sort of things, jumpers and run a rib on. We had a rib made, on the ordinary flat machine and then transfer it onto the what-is-it machine, and make a short... about ten to the inch. They were very stiff and full of pattern. And the lady, Mrs Hardy it was, that got the orders, she used to give 'em us and we used to make three times as much on these. Running the ribs on cost 8 shilling a dozen like, well we got the ones that made the ribs to make a very slack course, and.... And about ten courses, and we could shove the thing onto it.
121. RW: So you had like a bit of waste yarn in between so that you could unravel it?
122. AH: You got twenty courses to the inch then you had one that was five...er four courses to the inch, you had one course and then very stiff underneath, and the slack course used to slip lovely onto the needles and we were getting 8 shilling really for just running it on, well we weren't running it on, we were just pushing it on and then taking it from there.
123. RW: So what sort of patterns did you used to do? [Mr Hesketh doesn't hear this question]
124. AH: We used to get score of dozens American they used to be like, they used to send these Shetland jumpers and cardigans.
125. RW: So have you made products for all over the world then?
126. AH: Yes we would do yes, she was a very good business woman. The old man died and we were still Shetland, but when she took over from him like, she had this bright idea that we could make proper blouses and things like that. She used to talk to us a lot and she used to say to us ... 'I'll leave you all in my will', like. She was going to leave all her money to the workmen, she promised us faithful that she would.
127. RW: [Laughing] I bet she didn't did she?
128. AH: [Laughing] No she didn't!

129. [Laughter all round]
130. AH: We used to go and see her in bed when she was poorly, we used to go and see her to have orders and that...
131. RW: I bet she didn't stop giving you orders even when she was poorly...
132. AH: This isn't talking what you want...
133. RW: Well that ok, all this is interesting because it gives you some kind of idea of who was running it, and the kind of people you were working with because that is the bit that gives the overall context. That is the bit that you can tell us that history books can't.
134. AH: I was telling you about this young man who was obstinate, and the first gaffer he was...he was more or less a Baptist minister. He was what they call a lay preacher and he was just the opposite to his son-in-law. Yeah.
135. RW: So did you... sometimes really enjoy your work? Was it a job that you really enjoyed doing?
136. AH: Oh yes I always used to enjoy it, well as I said I took four frames of my own, like! I didn't buy them old, I bought them in, you know, couldn't work state. Built 'em up.
137. RW: You built them back up to working order?
138. AH: I could get the parts from any firm where I knew they were loose, like. I worked for them all and the loose parts were always shoved to one side, like. You could always get what you wanted.
139. RW: And everybody knew who you were because you'd worked for everybody.
140. AH: Yeah
141. RW: Brilliant... So what were the worst... kind of... aspects of the work that you did? I mean did you get back ache, was it tiring, was it low paid?
142. AH: No, you used to fit into them [the hand frames]. I mean the seats... you've seen the seats, how moulded they are, I don't think I ever noticed anything like that. [Back ache]
143. SB: I think Dad is as fit as he is now because he used to work them, I mean it's like lifting weights.

144. RW: Definitely.
145. SB: Because it's always been quite physical, working the frames
146. RW: Well there's quite a few tales, from the research that I've been doing, about people who got to retirement age, should have retired but didn't want to.
147. AH: Well at Hardy's 80 was the average on one side of the shop! It was amazing! I mean they let them work at their own pace, to earn just as much as they could, didn't used to bother them, like. But this young man, as I say, he's have them out right away if they didn't earn a lot of money, if they were a bit slow or anything like that. He wouldn't keep them on, he'd sack them, and the Union man used to speak about it to the Union meetings, like. If they didn't earn the... the Stamp, [Sandra indicates he means the equivalent of National Insurance] they used to call it, you know, as you paid off. If they didn't... if they didn't... I mean they used to have to pay so much towards it, the Stamp, at one time. I mean if they were earning two or three pounds when another man could earn ten pounds.
148. RW: So as soon as you got too old they tried to push you out a little bit but no one wanted to go!
149. AH: [Laughing] Yeah. I mean the difference in the gaffers at work, like, some would keep the old men on all the time, even if they could only earn a pound, it wouldn't matter. An old man named Mr Radford he worked to be eighty five or eighty seven, and he used to work is so simply, like, but slowly, like, it was so rhythmic. It was a lovely rhythm, it used to make me wonder like... I used to hit the pressure like whonno [slang word meaning with a lot of energy] He used to just touch it and he seemed to put his foot down steady, and it came over with a rhythm, it was a lovely rhythm.
150. RW: I can imagine, if you've got a room all full of men knitting, I could imagine you starting to pick up the pace of the man sitting next to you. And you'd end up knitting at the same time because it's...you know,
151. AH: Well they didn't used to like my way, I used to bang at the pressure, and another man would just touch it, tip it, like. He would meet it in the perfect rhythm style, but I was quite...
152. RW: I'm quite like that! I'm a bit heavy-footed with my sinker pedal and stuff... So what kind of lace patterns did you used to make?
153. AH: Ooh there were some... I don't know whether you know the tuck pattern.... She's got one over there... [Indicates to a pink scarf being held by Sandra] The tuck patterns, you could make anything without a hole... oh this is back stitch, this is made different altogether, this is a power job [Indicating that it was made on a power machine not a hand frame] I don't know if you've seen a lot of patterns

but have you ever seen the common pattern that they have on thick woollies?
The cable stitch they call it. It stands out nice.

154. RW: Just a nice little twist going up?
155. AH: Aye.
156. RW: Well I've got another one [Scarf]...well this is the one I've been wearing today
so
157. I do apologise, it's on Black and it is a modern one so it's quite new
158. AH: Oh I used to do a lot of this. I used to add the glitter [Lurex yarn] golds, silvers,
blues...
159. [Looking at the scarf]
160. RW: I like the end bits because they've got the nice detail on.
161. AH: That's what they'd call a seven-plain. Seven-plain not eleven... oh wait it
might be an eleven-plain... one, two, three, four, five... yes that's eleven-plain
[This refers to a V-shaped pattern that repeats over eleven stitches]
162. RW: Is that because you have eleven holes to make the 'V'?
163. AH: Between you've got one point down and five back, five back with eleven-
plain, three back with seven-plain and just one back with...
164. RW: So you know when you're setting up your bar with the points, would that be
one every eleven, or twelve?
165. AH: No you'd have five in between [Because each point facilitates two needles]
It's be one and you'd say ten, five down like. [Describing one central lace hole and
five holes down either side] There was three-plain too of course where you could
only do one dot, tie-up dot, that would be a three-plain like, but you could wiggle
that about so you could make wonderful patterns. It was just one every other
point down, like.
166. RW: What's your favourite thing you ever made? Did you ever make a pattern you
were really pleased with?
167. AH: Yes the cable stitch. You start with a tie-up and then you feather and you have
eleven-plain, one, five down and one up, first you tie up then you feather to the
other tie up, then you feather from the next one, you've got to keep feathering.
And then the next one, the eleven one, you take it right over to the further centre

at the other side, and you divide it so you can take one from that side and put it back. And that makes the cable stitch.

168. RW: it's very mathematical isn't it? You have to have a very logical to do this kind of work because you have to remember where you are in the pattern.
169. AH: It went very quick because you used to make one movement, and then you can make seven, five, three... whatever... courses and then make another one and it would make a wonderful pattern. And you'd got all the plain courses after you'd done this you see, it used to take up so much this big wrack-over, eleven-plain, what we call a wrack-over. And it used to make a wonderful cable stitch. You couldn't tell from... I made so many different patterns with tucking and that kind of thing, what you call a tuck stitch you don't move from one needle to another, you just press it on the one...you've seen them make tuck stitches? Press on the one then you can wrack it where you want it, like.
170. RW: You'd use your points and you'd hold it down so that when you knitted it, that particular stitch didn't go anywhere.
171. AH: Yeah that's right. You had a plain garments but it was still wrack-overs. There's so many ways that you can wrangle these patterns, like. In tuck... as I said, in wracking, that's the thing that makes this a very open pattern... the other would be very... You'd have to make it twice as long to stretch you see, if this was a scarf with a very open ended pattern, with a tuck pattern you'd have to make it twice as long
172. RW: Because you wouldn't get the same sort of stretch...
173. AH: You wouldn't get the stretch, you'd get just the opposite you see.
174. RW: You'd have to counterbalance that...
175. AH: You'd have to have a wider machine.
176. RW: So I suppose if you were doing a tuck pattern it would take you longer because you were having to do more rows?
177. AH: No, you put your machine on and you pressed it and you could wrack it.
178. RW: So you were just continuously knitting, then holding it, continuously knitting then holding it.
179. AH: Yeah. I used to make patterns that wouldn't stretch on the boards, like. [Pinning out boards for dressing the shawl] Unless you had a very wide frame you couldn't make these wrack-over patterns. You'd have to have a two-at-once at

least to have any chance of making it. I had all kinds, I had two-at-onces, and I went... I made myself a one-at-once, like. One big lot...

180. RW: I bet you could get some really nice big pieces of fabric off that.
181. AH: When I got the ones I had on my own, you know, the ones I had in my garage, I could play with them. I used to amuse myself making different patterns, like.
182. RW: Do you think if you still had one of your hand frames you'd still be tinkering around on it?
183. AH: I think about it often. When I gave them away at 80 I'd had a slight stroke and I thought that was the end, like. So when this chap came to look at them he said he'd got some and I said 'You can take that one away', like. He jumped at it, like. Ooh he was eager to get it away. It was the same with the others, I gave all of them away. And I thought, I wish I hadn't done.... I used to put them in my greenhouse, well it was a conservatory, and it was only five or six foot wide, but it used to have a hand frame in, close to the wall, like. I used to come out of the back door and hop on the seat. I used to play allsorts with them, like. I could build them up, I put my woodwork up, then I could go to work on them, like. I could make whatever width I wanted. If I wanted to make scarves like yours... I should make a six-at-once or a four-at-once. Whatever, like.
184. RW: I suppose because there's so many working parts in a hand frame, there's so many, you know, needles and so many sinkers and pedals... it's a complicated machine.
185. AH: Well I had truck-loads of spares, like. I mean needles, I had six at one time, I made a six-at-once out of a stocking frame. Ooh I did enjoy that, I could make six of these at once! And that's what it used to look like, it used to be just like this [Indicates the like scarf I made on the hand frame] Only I'd make six at once!
186. RW: Well I made that on a three-at-once but because I had to concentrate on what I was doing, if I had to do three-at-once the other two would be going horribly wrong! So I had to just concentrate on the one. I thought once I've got one done I can have a go at doing three-at once, maybe a little bit later when I'm a bit more well-practiced...
187. [Pause]
188. So what I've been looking at for my research is who still knows about framework knitting, because there seems to be so few people now who do. I mean, because I've been working at Ruddington, at the Framework Knitters' museum there and you do come into contact with the odd person who knows a little bit about it, but it seems so strange that there was once an industry that employed vast amounts of people, for a long period of time, and yet we haven't got any information about it and it seems so strange. If you talk about, you know... Nottingham Lace, you get the complete wrong idea, you don't

189. AH: Well Hucknall always has been, even before mining was. In 1569 [Mr Hesketh is actually referring to the invention of the hand frame in 1589] it was invented at Calverton, like. I don't know how long it took it to get to Hucknall but there was hand frames in window bottoms in Arnold, like. I mean my grandfather worked in his own house with his hand frames, and when you got to these places like Calverton and Woodborough, you see these little window panes where they used to put the frames...
190. RW: Well actually, last summer, my mum and I decided we'd go for a Saturday afternoon out, running round local villages trying to find old framework knitters' cottages. I feel terrible because I must have run into people's gardens, taken photographs and run back out again!
191. AH: Well Lambley, we used to have them come from Lambley, Woodborough, all over, round about here [Epperstone] This is the centre of the trade really. Calverton... it branches out from Calverton. I always look at the windows, old windows in the villages and think to myself, there was a frame in there somewhere!
192. RW: Well I was in Nottingham town centre not long ago and I was just walking up past some shops, and I happened to look up, and I've never looked up at this particular shop before and I saw the long windows and I thought, I've walked past that shop a hundred times in my life and I never realised that was a framework knitting window until I knew was is was I had to look for. I think in the future I'd really like to live in a house that has one.
193. AH: You can see the green bottle and the gas light. I mean when I frst started it was gas light and green bottle [referring to a globe of liquid that hung over the frame to maximise reflected light].
194. RW: Did you used to have the little globe, balls, I've forgotten what they're called...that you shone the light through?
195. AH: Well yeah! I did the first time I went to Hardy's. it was like that there, yeah.
196. RW: So did you make your own little transfer tools and that?
197. AH: Ooh, the main tool in one of the machines... you're not going to believe this... was a feather!
198. RW: No! [Laughing]
199. AH: Yeah a feather. You could oil everything in that hand frame almost, with a feather. You've got your carriage and wotsit, you just get a feather and dip it in and wipe the top with a feather, like. When you were coming over you'd just

wipe all the little what-is-its with the feather, like... I forgot what they call 'em now. I should know them if I saw them, like....it was everything wiped with a feather.

200. SB: [Reading from a book] It says here 'In 1844 there were 301 shapes containing 815 frames which were being worked.' There's quite a bit on the history of the hosiery trade, it's on Hucknall.
201. RW: Oh I haven't seen this one. That's absolutely amazing.
202. AH: Ooh I used to go to Mr Beardsmore! [The author of the book being discussed] I used to sweep his leaves up and he used to give me some little crab apples. I remember Mr Beardsmore.
203. SB: Well it's all about the history of Hucknall, so if you want to borrow that you're very welcome.
204. AH: He used to live on Beardall Street! Ooh I an't [haven't] seen that before Sandra, Ooh I should love that. Oh yes I knew Mr Beardsmore.
205. RW: I think that's the thing, please excuse me, but when you're as old as you are, you know everybody because you're been around so long and you've so much time to interact with people.
206. AH: But there was another lad in Hucknall as wrote the history of Hucknall, I forget what his name was...I can see him now like...but he wrote the history of Hucknall but this one goes back long...long before he was born like...I an't [haven't] seen Sandra
207. SB: Well I've had it a long time... [indistinct]
208. AH: I've looked for something to read there often and missed this yes...but I've perhaps not missed it but I've not thought about it...I'd be interested in anything he'd probably write about the stockings...
209. SB: Yes there's a section on the hosiery trade altogether
210. RW: So...sorry...so how old were you when you stopped working...when did you give it up or did you not want to?
211. [Laughs] When I gave my frames away I was 80...81 or 2
212. RW: So you'd been working all the way up to that time?

213. SB: You didn't do the frame up to retirement though did you Dad?
214. AH: And then after that...
215. SB: Dad actually packed in at the factory ...and you had a few years at the Coal Board, gardening before you retired didn't you?
216. AH: I worked a few years at the Coal Board...cos we was out of work like
217. SB: Yes cos, Dad found his eyes...you know when he was doing close work all the time...all day long
218. RW: Yes I can imagine...
219. SB: ...so you had your last few years...you retired from the Coal Board and went to The Coal Board and just did some gardening... but then after he retired...
220. RW: carried on...
221. AH: they gave me £68 a quarter when I retired and now it's £600 a quarter
222. SB: Cos that's from the Coal Board
223. RW: That's amazing
224. AH: Yes it's coming up to 600...585 it was this time when cost of living goes up it varies
225. RW: Oh definitely...well I was having a look and the National Archives have got a...on one of their websites...have got a currency converter so if you know something was worth three million pounds or whatever in 1860 you can work out how much that would be in modern money and you wouldn't believe about the kind of money...the kind of pay you would get as a knitter was just not enough...you just can't work it out but I suppose the cost of living was less though, wasn't it
226. AH: Mm...oh dear...yes
227. RW: What do you think about students nowadays learning the handframe...do you think it's important.
228. AH: Well it's rather strange you talking about that...Sandra took me to the eye people and just as we were at the door, there was an old man coming towards me

and I'd seen 'im before like and I said 'Hello there, I've seen you somewhere before' and he said 'Hello Arthur' and he couldn't believe his eyes like...and he was the one I taught when he were younger like...a young lad like.

229. SB: Every now and then he'll bump into someone...
230. AH: But there are so few now...we don't see 'em now...I don't see 'em now...but gradually they're disappearing altogether...
231. RW: Well that's the problem...
232. AH: Well the trade's forgotten in Hucknall and it ought to be same as you do
233. RW: Well you think that when it was such a big industry it should be remembered more because it's how...it's shaped British history
234. AH: Yes well the trade was in Hucknall before mines came into being like...
235. SB: I mean Hucknall in my lifetime was a mining town...it's got all the textile companies ...it had Vedonis, Viyella...we did Damart outwork...I worked for a company called Gibson's as well they did all the different types of underwear...the sort of... and then there was the stocking frame...the lace...the Shetland company as well...and you know it's all gone...everything's gone...there's isn't one factory...[indistinct]...and the pits have gone too
236. AH: Calladine's...we've still got them...at Calladine's he's still got the machines
237. SB: He's still got some there?
238. AH: but he hasn't got any workers...but he's got the power frames still...he had when I went last time to get his spare...all his off-drops of spare wool and that to keep me going with my frames...I used to go to two or three gaffers as 'ud let me 'ave the yarn...that which were done wi'...the colours and that...and one day when the gaffers were meeting 'he's knitting these things...where's he getting his wool from?' and the others had to be quiet like... the ones that were feeding me like...
239. RW: [Laughter]
240. AH: And I used to buy all the runs that were...that had stitches dropped and everything...I'd unwind me and...
241. RW: Use them again...
242. AH: and knit them like...

243. SB: ...
244. AH: I've still got it...the machine to backwind them with...
245. RW: Amazing
246. AH: a power machine...you'd plug it in and whip it off onto a cone in no time
247. RW: You're very thrifty using it all again...I mean how many...have you taught people to use the handframe?
248. AH: Yes, lots of people
249. RW: Yes, how many people do you think you've taught?
250. AH: There's one that was the minister at the Baptist church...I remember him, cos he used to come to see gaffer and used to stand and watch me like...and I had him and it weren't long before he we' like you knitting...knitting them like and I went to his church once, not so long ago...five years ago perhaps and he told his congregation all about me like
251. RW: Arrh [Laughter] I suppose you've been quite responsible for passing on some of the knowledge then and your skills
252. AH: Yeah...I have like...my own son...thinks he could work one like...he's down in Bournemouth...
253. SB: oh he's older than me and had to do the National Service so he actually went in the catering corps as a chef so after he'd gone and done his National Service, he never actually came back into the trade...he didn't enjoy it as much as Dad did
254. RB: What a shame
255. SB: He found it really hard work...I don't think he was as strong as Dad to be honest
256. RW: I think you have to be very physically strong to do it...
257. AH: Pardon
258. RW: You have to be very physically strong...

259. SB: I don't think our...was as physically strong as you
260. AH: I was wondering if I was strong enough like to do a course
261. RW: Have you ever taught anyone to knit who was just absolutely hopeless...just couldn't do it all? Or do most people take to it alright?
262. AH: No I don't think I've come across one that's not been teachable, no
263. SB: Perhaps people wouldn't go into it... you only really ask if you want to go into it
264. RW: You wouldn't really...
265. AH: You know as far as money is concerned, they've dropped it because they could earn something more at one place than another like...that's the reason for what they've gone out the trade is they couldn't earn as much as they could outside the trade like
266. SB: I don't suppose there was ever so... [indistinct] Dad...he can hear better ...
267. AH: It all depends on... some could take to it and be going in no time like...but when you think about all the movements there is and the time it takes you when you're quick like, it's unbelievable, in't it?
268. RW: Oh it is...well you have to pull it forward...
269. AH: There's about nine movements in a second like
270. RW: It's very quick...you can almost imagine someone losing a finger or something because it's going round so fast
271. AH: Yes...
272. RW: because they're not paying attention
273. SB: Did anyone have any accidents, Dad?
274. AH: Pardon

275. SB: Did anybody ever have accident with them? ...can you remember anybody ever getting hurt?
276. AH: Oh I can remember accidents yeah [Laughs] with that machine
277. SB: [to RW] Have you done with that cup Rachel, whoops...I'm calling Rachel instead of Rebekah...
278. AB: Well the machine
279. SB: ...my daughter's Rachel and when I had her I didn't know whether to call her Rachel or Rebekah and I read this book so I chose Rachel
280. RW: Well my Mum and Dad were actually trying to choose between Rachel & Rebekah when I was born and they said 'she looks like a Rebekah'
281. SB: Well Rachel was very dark, that's my daughter, I've only got oneand she'd got very dark hair so I chose Rachel [Laughs] funny isn't it?
282. AH: Oh there were accidents when you were teaching them...I mean they'd put the machine in and come forward...fifty beards [bearded needles] would all go flying!
283. RW: Oh... go flying... and then you had to change them all
284. AH: Oh yeah, there were quite a lot of them like
285. RW: Well at Ruddington...they had a... at the Museum...had a grant from the Passat Research Fund...or somebody...who kitted them out with like a workshop for mending all the machine parts and stuff ...and they've got what you melt leads down in so I've done some casting lead with my little...put my needles in and cast my little lead...
286. AH: It's amazing how quick it sets...you can open it right away
287. RW: But I tell you what... you don't want to put it anywhere near water, when it's melted like that because it just goes...
288. AH: Ooww...I have done that...I have done that [Laughs] yes...accidental...oh it's terrific the water and the hot metal
289. RW: When you think about the Health and Safety nowadays...and the kinds of things they don't let you do and you think about Framework Knitting ...it was like everything...they broke all the rules, didn't they

290. AH: They did, yes, yeah, yeah
291. SB: I think most of the old industries...like the pits and that...
292. RW: Yes,
293. SB: and now we can't breathe can we...it's gone from the sublime to the ridiculous
294. AH: But I'd got these four frames at home and a lot of spares and I went into the museum at Nottingham...at the Park...at Wollaton Park...at Wollaton Park and they'd got machines there
295. SB: Was it at the Castle, Dad?
296. AH: I said to the curator or what he was 'I could find you all the parts and make that frame perfect like and he didn't want to know
297. RW: oh it's such a shame
298. AH: no interest at all in them
299. SB: I say...they used to have one in the Castle, [Nottingham] didn't they...at one time...I don't think it's there any more is it?
300. RW: I don't think so... I haven't...
301. SB: We used to have a stocking frame in the Castle as part of the display
302. AH: As well as the Castle there was another place they had 'em...they'd got work on them...
303. SB: What... down in Brewhouse Yard?
304. AH: In where?
305. SB: Down Brewhouse Yard...down in the bottom [below the Castle] they've got Museums and ...perhaps they're down there?
306. RW: Yes it might be actually...

307. SB: yes...
308. AH: Well I remember going in and seeing the handframe...a three-at-once, with work on like and I thought 'ooohh I would like to continue working there like...just get in and follow the pattern and so...but I forget where that was
309. SB: That would probably be...you know where the Castle is...you know down round the bottom
310. AH: Yes
311. RW: Near to the 'Olde Trip to Jerusalem'...down there
312. AH: Yes that's where it would be
313. SB: They call it Brewhouse Yard and they've done a lot of those...and I bet it's down there you know
314. RW: They've got it as like a heritage kind of thing...kids go round it to learn about life at the time...yes it's quite an interesting little place
315. SB: Cos I've taken him up on the Castle
316. AH: Well they'd got lace machines as well as knitting machines if it's the same place
317. RW: Oh I think ...I know what you mean about Wollaton Park...because in the side stables there's a stable block and they had the Industrial Museum there
318. SB: yes they did, I'd forgotten about that
319. AH: But that not the place I'm thinking of
320. SB: It might be Wollaton, Dad, you know when we went in
321. AH: No it wasn't
322. SB: No I don't mean in the Hall, it was in the Stables you know as you walked through the stables...they'd turned part of it into an Industrial Museum...can you remember...it might have been in there but as Rebekah's said...they've closed all that

323. RW: There was a big petition to try to keep it open and they just couldn't get enough people...it's just there's nobody who knows how to care for the machines anymore, there's nobody who really understands about the history anymore and it's such a shame
324. SB: Claire said I think they'd lost the funding...yeah, yeah
325. RW: ...and not enough people coming to look at it...it's such a shame... we've lost all of our actual working machinery and now we're losing all our heritage because the places that have taken care of the machines and artefacts...because I've found it really difficult to get hold of examples of old patterns because I don't know where they are...I can't find them...because people didn't keep them...because they're shawls and not fancy lace...people didn't keep them.
326. SB: No, No Well we used to have one or two and I've got another one, but heaven knows where it is...we used to give them to when people had babies
327. AH: Quite a lot of people tell me they've still got them like...a friend of mine went onto Mansfield market where all the Shetland [Lace shawls] was being displayed...and said 'oh I've got a friend who does this...who used to knit ones like this' and they said 'Is it Arthur Hesketh?' when she said Hucknall...and she said 'Yeah, it is' And they said 'oh I would like to see him...I worked with him once...' and I don't know who it was like...but he sent me his what is it [Card? Address] but I never got in touch with him...I had a slight stroke at the time and I lost caring about anything...it was only slight but it knocked me off any knitting or anything...and then I got better and I thought 'I wish I an't given me frames away' I'd love to have a...
328. RW: I really think if ...what David Elson said...come to Ruddington
329. SB: Yes we'll bring him over
330. RW: cos we've got five machines that are working and one of them in particular they let visitors have a practice on...
331. AH: Do they really?
332. RW: Like when they have, local secondary schools and local junior schools that come round and the chap who...
333. AH: well I taught a lad like that in my garage
334. SB: a neighbour...

335. AH: Yeah, he was a lad who didn't mix because he stuttered so much and he couldn't you know talk proper conversation...and his mother said 'come on , let's see if Mr Hesketh will let you'...you know...and he come to me, because I'd got two kinds of frames...I'd got the flats...you know the flats...as well as the others and I made me Shetland on the flats as well...I set the patterns out the same as I would like and instead of being thin wool, I could work it as thick as I liked.
336. RW: oh that'd be lovely
337. AH: And the pattern...come out just the same...
338. RW: I've got a machine like that at home
339. AH: First I learnt him the flat and because it amused him...I put him on seat board...and I thought he teks to it well like...and in weren't long before he were knitting like and I took him to Calvin [the church?] and he did a display to the people as were here like and I took his photo on the frame and I've got it home somewhere, but I don't know where...and his mother still comes to see me because she was thankful, I took him and taught him this trade like.
340. SB: And he's married with children now isn't he?
341. AH: And he never did work the real...
342. RW: But it was the fact you gave him some confidence...you gave him something he was good at.
343. AH: Afterwards I got him...I built a church and I got him bricklaying and all sorts of things like.
344. RW: Isn't that wonderful.
345. AH: Well I say I built a church but it was fifty five years ago and it's better now than it was...I'd got a lot of children at the time... the Sunday School...and my wife kicked us out cos the children were ripping the house to bits
346. RW: [Laughter]
347. SB: When Dad first came back...
348. AH: When I came back I started to look round and I bought a piece of land and we built a building on it...I'd got a hundred children to finish wi'... only started with a house full like... and then it turned into a church and now it's just beginning to blossom again.

349. RW: That's a lovely thing to have been involved with...something that's your passion that you've helped put together.
350. SB: That's his first passion and knitting's his second.
351. RW: Well my first passion is singing and then my second is...
352. SB: Oh where do you sing?
353. RW: Well my dad is a Methodist Local Preacher and he has got a friend who has started a small singing group singing mostly Christian music...but [laughs awkwardly] it's full of old people, excuse me, full of old people and they wanted someone a bit younger to go along just to have a different sound
354. SB: Sound, yes
355. RW: So I've joined and we're doing little gigs at Bulwell church hall and things like that
356. SB: Oh that's lovely
357. RW: So I'm doing that, which I really love and you know when it's something you are really passionate about...but yet again knitting is my second passion.
358. SB: My friend's daughter sings...[indistinct] in London...
359. AH: That's been our trouble...we're very old fashioned at our church and the young people are too 'hands and knees and bumps-y-daisies'...
360. RW: Oh yeah [Laughter]
361. AH: and we can't get used to it...and they don't try to get used to us, but we've got three at the present, three quite young people as are taking to the old people's way of life like...it's amazing...we've never had it before like.
362. SB ...how many ... Dad
363. AH: And from three we going to thirteen this last three months like so it's beginning to brighten me up now...
364. SB: They're all coming back so

365. AH: So it's reminding me of the beginnings like...the children bought their parents and then the parents stopped behind like and we formed a church like with the parents...it develops into a church from a Sunday School and it's been a church for over fifty years now...Still just beginning to blossom
366. RW: Arrhh... sometimes it takes a while for it to get established
367. AW: These young 'uns are learning the old ways...Sandra's laughing at me look... she's a young un like
368. SB: Oh yes...I'm a young old lady...ask Daniel, that's my grandson, about me being an old lady
369. RW: But I sometimes feel like a young, old lady... I'm still in my twenties
370. AH: in your twenties [Laughs]
371. RW: but you know if I say to my friends, 'Oh I can't come out tonight, I'm knitting'...they look at me funny!...like what you doing?? [Laughter] but that's what I like doing
372. AH: [Sighs]
373. RW: Are you tired out from talking to me now? All your old memories have come back...
374. SB: So are you at Ruddington all the time then?
375. RW: No not all the time...normally Fridays I'm in...they are closed at the minute...because during the winter...they don't open...
376. SB: David [Elson] said we'd take Dad done but we'd do it in the Spring
377. RW: Yes it's usually after Easter that they normally open. So I'm in on a Friday is my usual day but if you were going to come particularly...it's only open Wednesday, Thursdays, Fridays and Saturdays so if you wanted to come over on a Wednesday say...as long as I know, I'll come and be there at the same time...give you a guides tour...
378. SB: I'll talk to David when he's back from...he's off to Marrakesh...
379. RW: Yes he's always off on fabulous holidays...absolutely always

380. SB: I was just retired last week and I said, we need to take... a few leaves out of David's book...cos we said... 'where could we go to get some sun for a week and then David said he was off to Marrakesh...so we said 'We'll go to Marrakesh to go and find some sun.
381. RW: [Laughter]
382. AH: Where does the gentleman live that goes to your church?
383. SB: who, David?
384. AH: yes the one that's got the machinery at...
385. SB: Ruddington
386. AH: oh it is at Ruddington...
387. SB: Yes 'cos that's how David gave you Rebekah's name...
388. RW: Yes he's my supervisor...he lives in...
389. SB: He lives in Woodborough...
390. AH: Oh Woodborough...
391. SB: Yes just up [indistinct]
392. AH: He hasn't got a frame at Woodborough though has he?
393. SB: No, no, no...Dad, David's a textile technician but he's involved with Ruddington Museum
394. RW: he's like one of the Chairman at Ruddington
395. SB: but he doesn't do knitting
396. RW: No... he's an ideas man...he can tell you how to do it...but he's more modern machinery.
397. SB: He wouldn't dirty his hands would he? [Laughter]

398. RW: No... he's far too gleaming and in his suit...
399. SB: David wouldn't dirty his hands, Dad. But he was very interested and when he met Dad, he said 'oh I know a young lady who'd like to chat to you'
400. RW: Oh definitely
401. AH: Stop me if I'm wrong like but...you sink the back...you bring it forwards
402. RW: Yep...I've got to close my eyes else I'll forget...
403. AH: You let it go up and then you put your presser down and pull over.
404. RW: Yep. That's the one...you've done it
405. AH: The you've drawn a course [row] and so on
406. RW: You see you never forget it once you've learnt it
407. AH: But I can do it automatically like
408. RW: I'd love to see you back on a frame just to see...so were you 80 when you last went on one...so that's nearly twenty years ago
409. AH: Nineteen years
410. RW: Nineteen years but it would be really interesting to see if the second you got back on a machine
411. SB: I think he'd be able to do it...I'd be very surprised if he couldn't. Would it be too heavy for you...
412. AH: Pardon
413. SB: Would you be alright cos it's quite heavy isn't it...could you still?
414. AH: Well there's some frames that are heavier than others like...it's surprising what a difference there is in frames.
415. RW Well I've seen some children do about ten rows

416. AH: It's how they're sprung like really...
417. RW: Then it's much, much stiffer
418. AH: There are two main springs at the top of the frame...[indistinct] well the man that taught me, he'd got a short leg and he had a big heel on it...on his shoe and he just used to tip...tip the [] over and it'd come over and be so silky and he's be like that all day long like and his frame would be so light that if I got in it...I'd be shot at it like, bearing in mind the [] went up quick like...and it made it jerky...but not his like
419. RW: I suppose it's just like the pressure you use, how tight ...
420. AH: That's where I fall on...if I get on a light frame and sink it that's where you and your [indistinct]
421. RW: well we've got an old frame at Ruddington that when you sit on it it's really soft and I've got another frame that I work on that's a slightly more modern one
422. AH: Iron construction...they came in when I was...
423. RW: Yes and that's tough...and I go home and my legs are aching from pressing it...but then when I go on the other machine, again, I forget that it's lighter and nearly break the pedal off and I forget and go for it too hard.
424. AH: That's what I mean like...there's them that can adjust just to know what's needed but I never did...and you know the iron structure, the full iron ones, they were heavier than ever...terrible and awkward like
425. RW: There's something nice about the old ones...the wood...the wood and metal together...they smelled nice...I know that's silly, the metal and the oil and the wood
426. SB: and the wood and the wool... when I was a child, especially when Dad worked at Bucks, he worked in the back...you went through the factory and there was an older building at the back...and the stocking frame bit was at the back...so I could nip and see him without going through the modern bit and I remember climbing up those stairs and the smell used to hit you and it's like you said...wood, metal, oil, wool...and the noise
427. RW: and it's always like a warm environment, you know because everybody's going and it's heavy work and it's getting all warm and their taking their jackets off...it's a really energetic environment which

428. AH: What I've never understood is the coal miners, they get the dust on the chest and yet you'd work a frame until you got an inch of fluff on it like and it don't worry you. For a start nobody used to clean the fluff off like and it'd mount up and it comes down all the time into your lungs...you'd think it would affect you...but I've never known anyone...but miner...I've worked down't pit and miners who were terrible like.
429. RW: but you'd have to get your feather out to clean it all off [Laughter]
430. SB: But for something like that in the [] they'd probably have a suction thing to draw it off
431. RW: yes they do
432. AH: There's every part of a handframe you can oil with a feather...to finish with we used to have little hair brushes, paint brushes like...but we always used to look out for a feather, the stronger the better like, the bigger and stronger the better...
433. RW: I can imagine you going for a little walk going 'oh yeah, that one'll do'
434. AH: Often...and still do like it's amazing...you always think about the handframe when you see a feather on the floor
435. RW: Arr isn't that lovely
436. RW: I think I'm going to have a go with a feather...you've got something going in my brain now...
437. AH: Oh yes, get a nice big feather
438. RW: But it's clean and such a lovely thing to use...it's such a good tool
439. AH: and you know the springs at the back, you just wipe it between the springs at the back and you can oil them little things at the back and then when you're drawing a course just layer it with a spot of oil with a feather. You don't use a lot of oil...it doesn't drip and that
440. RW: It's just enough to give you the movement that you need, but doesn't clog it up
441. AH: whereas with an oil can or anything you'd waste it on most of it...but we didn't have it for the joints in the four corners

442. SB: ...and we've just had a pheasant on the back...I'll be chasing round for you to get feathers
443. RW: Ohh! [Laughter]
444. SB: Dad...the pheasants been on the back...shall we chase him round for the feathers
445. RW: [Laughter]
446. AH: It'd be nice that would...
447. RW: I'll have to borrow my friends dog and take it for a walk round the lake and see if I can get any
448. AH: Just try that feather, you'd be surprised...it just wants wiping just like you'd wipe anything...and we used to use Neatsfoot oil...they don't use Neatsfoot oil do they? We used to buy it in a quart a bottle and by the time you'd got halfway down, the stench, the stench of the oil used to be terrible like... terrible like.
449. RW: Where did you use to buy your needles from? And things like that?
450. AH: Down at near the Yew Tree Hotel... just by the...there used to be a frame-smith's shop there – Swiss – he used to build them like originally, that's where we always went...not Ruddington...we'd got two brothers who were 80 and 90 and they used to fit them up and I don't know how but the one that did the finest work of needles and everything...that was a terrible job setting a row of needles and he used to have a big end of his thumb...a massive lump of flesh on his thumb and yet he could do this setting the needles
451. RW: cos it's quite a fine job isn't it? They're so delicate and...
452. AH: Yes that's what I mean with my eyesight...I don't know whether I'd be able to do you know do such things as setting the needles...or they'd be a bit off.
453. RW: Oh I don't know...I can barely do it and I've got good eyesight
454. AH: Wiping your sinkers...getting the kinks out of them
455. RW: Yes if they're bent a little bit and they catch on your needles
456. AH: oh there are things like that and you could easy break a lot of needles if you didn't pull your sinkers right

457. RW: If you lose concentration for just a split second on the wrong moment and you've done the wrong thing and you're not quite where you need to be...have you ever had any...
458. SB: Press off?
459. RW: Yes ohhh
460. SB: Is that when you press off Dad and it all comes...
461. RW: yes and it all comes flying off!
462. AH I shouldn't be able to run along now
463. SB: But your eyesight's not too bad is it?
464. AH: No I can still read a book without me specs...I can read that without...
465. SB: I think your eyesight is better than mine, cos I can't
466. AH: Yes I can read that without my specs yes
467. RW: that's very good
468. AH: so I don't know, I might be able to...the needle bed like... see it
469. RW: I bet as soon as you got back on a machine it would all come flooding back
470. AH: It does like now, like, without the machine like
471. RW: Just talking about it
472. AH: I could visualise it...I could set the machine out...well I think so...when I dream about it , I think I could still set the machine like, same as I used to do
473. SB: He dreams about it...
474. RW: Aaww

475. AH: All the parts and the way that they handle and everything such as ...you've got your sinkers at the back like...and then you've got your draw...I don't know what to call 'em like ...but that knocks the sinkers down
476. RW: Oh yes, I know what you mean
477. AH: and all that kind of thing and the setting up of the wheels with the string like...I think I could manage all that like...if you was catching your needles with your whatisits...I could set it right like...all that kind of thing comes back to you like...you think you could...I think I could do it now like
478. RW: I suppose you did it for so many years, you really get involved in it because it's such a personal thing cos it's you and your machine
479. AH: yes, yes,
480. RW: Well thank you very much for talking to me...
481. RW: I mean ...I'm not sure there's...I think you've covered quite a lot of stuff actually. I wrote out some questions I thought I might like to ask you but I think you've answered them all without me having to ask you [Laughter] so it's brilliant...I'm just trying to think if there's anything else
482. AH: This is going to be interesting...I'm going to be interested in this...but I really would like as you say to try the machine...
483. SB: Once the Museum is open Dad, we'll go a run over
484. RW: After Easter it should be open again...if you really want to come before Easter, we can arrange it for when it's...
485. AH: I'll leave it with Sandra
486. RW: closed...we can get it open for the day because there's a couple of members of staff who are there even when it's closed...
487. AH: Does it still make the orders for anybody?
488. RW: Who, Hurts? Yes he still does baby shawls for Harrods and for...there's a couple of other companies he used to work for...
489. SB: Laura Ashley?

490. RW: Yes he was big in Laura Ashley in the Eighties...he had a massive...I think at one point, 75% of his work was all for Laura Ashley and had they not taken on that...had ordered that much I think the business probably would have gone under...I think Laura Ashley, singlehandedly, saved Hurts' business...but I don't know, when did Bucks close? When did Bucks finish?
491. AH: Oh I remember them finishing...he died...I remember he died and Derek, Derek, his son took over...
492. SB: he died quite young, didn't he...the guy who used to be your boss? Frankworth [?]
493. AH: Frank... he was a knitter...there were three brothers ...from Ruddington...used to come to Hucknall to work like, one family, whole family...Holdsworth their names were
494. RW: Holdsworth
495. AH: Yes there was Harry, Lewis...Lewis was the old one and I forget the one as worked at Bucks...but Harry and his brother, his second brother, worked at Bucks together like...well they all did at one time...the three brothers did...I can remember them coming...two of them came to Hardy's first off...the old one used to come before he had his breakfast and there was a stove in the middle of the shop and he used to cook his bacon and eggs and sausage...all the lot
496. RW: [Laughter]
497. AH: He used to sit and have his breakfast at work...that was Lewis there was Harry at the youngest and then there was ...Frank... Harry, Frank and Lewis
498. RW: So were those kind of brothers were they good at different things?
499. AH: Yes...Frank was the foreman at Bucks...he was different altogether to the other two like...Lewis...when I had four frames at home and if there was something that I wasn't sure about, he'd go to the factory and bring Lewis home to me like...
500. RW: because he'd always know what was wrong
501. AH: Yes, yes, there was families in it...yes but the Holdsworth Family were yes...fancy coming from Ruddington all the way to Hucknall
502. RW: It's quite a way to come...just for work...'cos I mean Ruddington was quite big for Framework Knitting itself,

503. AH: I wonder why they don't work there
504. RW: Maybe just...maybe the work just wasn't there you have to follow where the work is see
505. AH: Most times like I say, I worked at all the firms because of that...one firm had work and another hadn't, so you just skipped over... but Harold Calladine it's not long since he died...it's only a year or so
506. RW: Yes
507. SB: Cos he was a similar age to you wasn't he Dad,
508. AH: Pardon?
509. SB: I said Harold would be your sort of age wouldn't he?
510. AH: Yes, yes, a bit older than me Harold was...well I say he was but he couldn't have been...he wasn't a hundred when he died...and he's been dead three or four years...
511. SB: yes I think he'd have been a similar age
512. AH: I must have been younger than Harold, I never thought about that before...[silence] but it's amazing the different kinds of gaffers that you did have like...they were different altogether
513. SB: I'm sure that still applies
514. RW: Yes absolutely...it's like with Mr Hurt...he's the kind of...because it's his family business and it's something that was his father's and his grandfather's before him...it's really personal to him and he wants it to work because it's his family legacy and it's not the same as if he was just managing someone else's company...he has a real...I mean...I think he got awarded an OBE in the New Year's Honours last year and in the newspaper he was thanking his workers, because he was like 'I couldn't do any of this without my workers' And you think, that's the kind of boss you really want...one who really appreciates what you do.
515. SB: So do they still manage to get enough work to
516. RW: Yes they're actually quite busy, because...because unfortunately because of companies like Bucks and Calladines and all the rest closing...there's no...if you want this type

517. AH: No competition..
518. RW...this type of shawl you have to go to Hurts, they've sort of monopolised the business now...there isn't anywhere else you can go to get it...so Hurts are doing quite well because anyone who is interested in the heritage side of things...the history of textiles... are really into it
519. AH: There is this... this other...this chap that makes on my...on my machines...he's still doing it but he's only one person
520. RW: one person yes
521. AH: Not the same as Hurts like...
522. SB: Not a proper sort of limited company just a
523. RW: Yes just one man and...
524. AH: I should be the same I expect if I'd still got mine...I could still be pedalling...I'm quite sure I should
525. RW: You could have made yourself a bit of pocket money on the side
526. AH: Well I used to give them away... 'cos I used to make hundreds of them, dozens really, shawls and that...any old people's place I used to let them have then 20p each a bit above what it cost wool like...I used to love making them like
527. SB: He used to sell them... [indistinct]
528. AH: I used to make hundreds and hundreds of scarves but I never made nowt [anything] out of it. I didn't want to.
529. RW: you just did it for the enjoyment of the job
530. AH: Yes, pass time as well like...
531. SB: The worst bit was... when Mum was alive, they used to have these wooden frames... you know, that they propped all around the house
532. AH: Now I went to doctors and I saw a book on the subject I'm really taken up with like... so I bought...there were three together... three for a pound from the doctors surgery and I bought these home...and then when she saw me reading them...she got on the internet and two more of the same author like and then this

Christmas I've had three more so I've got eight of the same author...and I'm reading for the third time... I've got eight books

533. SB: Googled it and found three more... I got him some for Christmas and he'd read them in about...

534. AH: I didn't come out of the house before I put a book in my pocket...Here's the bag like and there's the one I'm reading for the third time

[END] I hour 27 minutes, 27 seconds

Appendix 12

Interview Transcript #4 – Martin Green

[The audio recordings of all the interviews are available on the CD-Rom that accompanies this thesis]

Interview with Mr Martin Green on Thursday 08th July 2010

RW: Rebekah Wood – Interviewer

MG Mr Martin Green – Commercial Framework Knitter of Shawls

Interview held at *Mr Green's workshop, Kirby Muxloe, Leicestershire*

Audio number DS400034 – Duration 138 mins 5 seconds

Audio number DS400035 – Duration 12 mins 20 seconds

[START]

1. RW: Hopefully that'll be working... so hopefully...
2. MG: Do go in, I've got the door for you...
3. RW: Oh lovely... Oh wow, this is fabulous...
4. MG: Yeah...
5. RW: Gosh it's your own private museum, isn't it?
6. MG: Well...yeah...
7. RW: ... it's amazing!
8. MG: Except this one works...

9. RW: That's brillia...Well I was going to say...
10. MG: If you know what I mean...
11. RW: Yes I know exactly what you mean...
12. MG: Yes...I'm not a museum, I'm just a workshop really...erm...and so I've got...so this is actually the machine list here of the framework knitting machines and so there's seven in the workshop...to the gap...which is in here
13. RW: I see
14. MG: And then I've got erm the parts of four more...
15. RW: Oh right
16. MG: of which...erm... that's the Hesketh machine
17. RW: I see... No.8?
18. MG: That's got parts missing...you know
19. RW: yes oh I can imagine
20. MG: It wasn't complete when he gave it to me, so when I bought more and more machines...it was one of the machines that is now in the shed over there now dismantled, which is a little bit sad. I've got three other machines that are dismantled in that shed...erm...that came from Bert Aggis...who used to collect machines...
21. RW: Oh right?
22. MG: ... and renovate them and sell them but he never sold them as working models he sold them as like features for the foyer of the knitting factory...
23. RW: Oh I see
24. MG: and so he made them look beautiful, and he did, he cleaned all the parts up how they never would have been, but they obviously looked good in the reception of a factory
25. RW: Oh I can imagine...totally
26. MG: They went to places like Hong Kong and Japan and Italy
27. RW: Fascinating...this is brilliant

28. MG: So the first...I don't know ...what you want to know? I can tell you all about the machines.
29. RW: Yes, tell me all about the machines and then I'll come back and ask you a bit more about how you got involved with them and things like that.
30. MG: I collected them approximately in the order as you go along. So this is the first machine I collected, and it came from Woollett's of Hucknall, who were a shawl manufacturer, one of the Hucknall manufacturers. I bought it in 1979 and it's a 34 gauge machine and obviously a four at once machine as you can see. And it is really my best machine...I don't use it that much, but it is in beautiful condition
31. RW: So it's the one you find you produce nice smooth work on?
32. MG: It's had a recruit recently...well when I say recently [laughs] ...within a hundred years
33. RW: [laughs]
34. MG: It's had a recruit so it's not worn out at all so it's in good condition, I think the reason for that is that Woollett's' bought it and never used it.
35. RW: Was there any reason for that?
36. MG: I just don't know, because this came from Bucks of Hucknall, it's got their number on it...
37. RW: I see!
38. MG: '9T Top Shop'...which was the upstairs and I bought...erm I've got erm ...I think four, from Bucks, that have these... have got these numbers on, I can show you on here, this is the 9T, 10T, 11T and 8 is actually...he didn't put T on it, but I think that was supposed to be...
39. RW: Supposed to be...
40. MG: ...I don't think it was in the 'Top Shop', No.8, so it wasn't T you see, it was just No. 8, and that was downstairs [Laughs]
41. Oh I see [Laughs] so if it was...were there differences between what was upstairs and downstairs? Was it...
42. MG: I think the older ones were upstairs; No. 8 is a more modern machine so it was downstairs. Yeah. So that's my first machine, got it in 1979, took me nine months to get it to go...
43. RW: [Laughs]

44. MG: ...had no frame...
45. RW: So had did you go about starting to kind of making it work again? Was it a lengthy process or was it something that ...?
46. MG: Well obviously, I was really in uncharted waters with my first machine, I had no idea what I was doing really. And it hadn't been used, Bucks had bought it fifty years or however long ago before, and it hadn't been used and it had just been left ...in the knitting room, so it was just... it was absolutely covered in dust and rubbish and it was solid...you couldn't move it.
47. And so...it was...you could say it was a bit of a bad buy really, but in fact in that it had had a recruit before he'd [Bucks?] bought it, it was a good buy when I got it going, but it did take me nine months to get it going. I had to make a ...the frame is an old frame that came from Woollett's Yard. It was outside, in a big heap
48. RW: Oh lovely ☺
49. MG: There were no complete frames...so it's got one rail...the foot rail as you can see is a foreigner ...it doesn't actually match...it was 4 and a half inches too wide, I had to cut 2 and a quarter inches off each joint.
50. RW: Yeah I suppose a lot of the machines are like cannibalised from other machines these days aren't they?
51. MG: Yes...well obviously any industry that's in decline rather than buying new parts, they'll just pinch a part off another machine, which is a terrible thing to do...but that's life isn't it?
52. RW: Mm mm, yes
53. MG: Well that's the four-at-once machine and this is a two-at-once machine, again came from Woollett's' when they bought from the receiver when they went out of business and I got that with the help of the Kempton's', you know?
54. RW: Yep, Russell Kempton, yes, yes, he's lovely isn't he?
55. MG: He erm...bought the whole bank...because I tried to buy this machine, I wanted this machine, because I needed a shawl machine and the receiver wouldn't split the row of machines up, he wanted to sell them all at once. And I couldn't have bought them, I wouldn't have had anywhere to put them but Russell Kempton luckily bought them all and let me have this one. And in fact I've been...I started renovating that two years ago and then other things happened, and I'm still renovating the machine, which is a bit of a sad story, but it's a nice machine.
56. This machine I use all the while, the three at once machine. I make squares on it like 36 and 42 inch, then wide, long like, 'wraps' I call them, 80 by 30 inch wraps and...
57. RW: How long would it take you to make a piece, a garment like that?

58. MG: A wrap...that's a really, that's one of the biggest garments I make erm...I can't remember offhand...but if I came in, I'd allow myself an hour say to knit a set so you get three in that time so it's twenty minutes per wrap if you want tobut it's not...but I'd have to look that up...I will have it written down.....well I don't make many wraps but if you asked me on the scarf machine how long it takes...I'm on that all the while...
59. RW: Are we talking minutes then? [laughs]
60. MG: [Laughs] I know to the second how long it takes, yeah. Also with the machine I don't use too much, which are all the ones we're talking about now, there's a bit more setting up time...that's just some waste yarn up there, so I've got to put the proper yarn up and run it through and then I haven't used it for some time so you've got...there's some setting up... to get it all going you have to go slowly to start with.
61. MG: This is another shawl machine, a much more modern machine, the green machine. Ruddington has the black machine, they only made two like this,
62. RW: Aarrhh right, you have...you have the sister?
63. MG: I have the other, yes. This is painted green so it doesn't take much to work out the other is painted black
64. RW: Yeah
65. MG: Then they made the tin-sided ones...you know
66. RW: Yes that's the one I'm actually working on at the minute, which is a bit of a shame, because I'd like to be working on one of the very, very old machines, but they're just so temperamental, I can't...I can't make them work for any great deal of time without something going...
67. MG: Going wrong?
68. RW: ...going a bit wrong...So I use the green tin one we've got at Ruddington
69. MG: Do you?
70. RW: I think our black iron one is being renovated hopefully so people can start using it
71. MG: Arrrhhh yes.
72. I went across to Ruddington once...I don't know whether I'll be able to find it [walks away down workshop looking for something] and err, and err, what was his name...Cooke?
73. RW: Alan Cooke?

74. MG: Yes, Alan Cooke came round and said 'Oh I've found a part for your machine', and he gave me this piece of metal, beautifully made and machined and so I said 'oh thank you very much', and then I came home and I still don't really know what it's for [Laughs]
75. RW: [Laughs] have you ever found out?
76. MG: No! Well I know what it is and I've found its mate, [Looks for it in workshop] I don't know where it is, I can't believe I can't find it ...can't believe it...got to be in the box somewhere...but I found a...a similar piece of metal...the same but different on the machine...and er...but it's to do with the quality of it...I think I took a photograph of it [shows photos]
77. RW: Are these photographs of you in...er various stages of...?
78. MG: That's just the machine as I bought it...
79. RW: Oh in pieces
80. MG: Yes...it was dismantled and in pieces when I brought it home. I built this part of the shed around it. So we put it on the concrete base...which is that bit there and then I built the shed round it
81. RW: Amazing!
82. MG: If you see what I mean. Yes. Now obviously we clean it all up before you put it all back together again...hopefully it goes back together
83. RW: How long did it take you to put it all back together from having it dismantled?
84. MG: It was a bit rusty!
85. RW: Yeah
86. MG It took...of course I'm trying to do other things at the same time. One of the biggest worries when I was putting it back together...it took me...well I'm carrying on with my normal life...it takes me months...because it does
87. RW: Naturally
88. MG: One of the biggest worries when I built it up was that I couldn't work out when I'd got the top on, how I was going to line up these...that bolt that comes through into here and this one because they're ever so precisely made...and I got the top on by...it was in the middle then...I built it in the middle then shunted it across... and I put the top on by using a hydraulic jack and bricks and lifting it up like a brick at this end and at the top...and then I lowered it down onto the top...I must have put a bar...I can't remember what I did...but anyway I lowered it down at the top and obviously then I'd put some oil on these two plates and when it landed on the top when I took the jacks away, you could just...it

was...it was so beautifully machined it just like floated on the cushion of oil and it was so easy to line these bolts up. And this I'd thought was going to be a major problem. Yeah

89. RW: It's a very good piece of engineering then really isn't it? Yeah...it's easily dismantled and easily...
90. MG: And it was the only machine I got with a seat.
91. RW: Oh so you had to make all the seats yourself?
92. MG: Every seat is mine except for that one. Yeah. Then this one, a four-at-once machine...
93. RW: I love the colours that you've got on there.
94. MG: It's actually pure wool, but it is some old yarn that I've got, and the colours are always a little bit subdued, aren't they? ...and rather nice.
95. So this is another one that Russell Kempton was involved in...that batch that I've got now and I've only had this for a year or so, but I have got the original pictures for this one from Woollett's....this is that machine when it was in Woollett's in the 1970s
96. RW: Gosh...So who would have been this chap using it? Whoever was working it at the time?
97. MG: Yeess, I can remember him. I didn't take these photos, they were taken by Bert Aggis, I didn't get into this until mid '70s...but Bert Aggis gave me copies of all his photographs so you can see the working conditions with all the fabrics and things around. It's amazing isn't it?
98. RW: They're absolutely amazing!
99. MG: And then these are pictures of the work, I've done. I'd dismantled it completely had to do some welding on the bars and...
100. RW: You're very good at documenting your process, aren't you? Like how you go along.
101. MG: Well, it was...when digital photograph came along...it was like a watershed wasn't it? As regards...it must be the same in the museums...because there's a limit of...on the old photography, you couldn't afford to keep taking hundreds of photographs...and then of course digital photography came along...you don't have to print them out. I take hundreds just to print out a representative selection.
102. RW: Oh fabulous
103. MG: So I've only had that one for a year and a half. Then this machine...this is a Bucks machine again, it's 11T, I think, yep 11T, which came from...is it 11T?

104. RW: Yes it is
105. MG: And so...But this machine actually came from Ruddington. This machine went presumably from Bucks to Ruddington, and then Ruddington erm...wanted to use the frame ...it was in poor condition...they wanted to use the frame for another machine and it had got parts missing and they offered it to me and so I made the whole frame for this one...
106. RW: So it's all been built...you've built it all up...
107. MG: Yes, the end pieces and the back pieces came from Hurts' cellar. God bless Henry Hurt
108. RW: Arrhh yes
109. MG: And then I made the rail...can you see the rails are all new, so I made the rails and so this is the most documented machine. It's got a whole book full of photographs....because it was really my baby...
110. RW: Oh I can see
111. MG: That was it how I got it in Ruddington, that's how it was before I started anything on Ruddington and in my...I keep a...er...an inventory of all the machines I've seen and that is the picture of this machine when it was at Ruddington, when it was not dismantled and still got its original frame...erm
112. RW: So this was
113. MG: They were made on that machine. And so again it's just the story of the machine. That's how it was, I took all the needles out, dismantled it completely and then built the frame and cleaned everything up as you do.
114. RW: If you come across for example one of the metal parts that is either not working or is damaged...how would you...would you take a part from another machine or would you...I suppose there's no way of having a new one...
115. MG: It had got one handle missing and so I made a handle as best I can with the facilities I've got...it hadn't got any frame bolts so I buy threaded rod and then..
116. RW: Cut them yourself to the required length?
117. MG: I thread a bit of metal and cut it square and weld it on one end...that's the bolt you see and I do the same at the other end but leave it threaded and you can just make a bolt to fit. There's my rails being made and I had to make a foot pedal and it had got no...you know for the slur wheel...bearings... it just hadn't got any because they would have been with the rails that were lost

118. RW: Yeah, yeah I see, so you've got to...
119. MG: The wheel and the rails are all part of the frame and weren't kept with the head
120. RW: Why did they split it up?
121. MG: I don't know why they did...but they always did and didn't keep them together...absolutely amazing isn't it?
122. RW: Absolutely
123. MG: So this is when I managed to buy some needles... some frame needles
124. RW: Oh brilliant...so where did you get those from...did they...
125. MG: They came from erm...'Bearded Needles' in
126. RW: ...Kempton?
127. MG: ...from Coalville
128. RW: Well that's one of the other problems we've got at the minute
129. MG: ...Greaves
130. RW: Greaves...?
131. MG: ...da dum [shows some evidence?]
132. RW: Oh yes, that's it
133. MG: Oh ... are they still there?
134. RW: I don't know...Russell Kempton was talking to me about it a couple of weeks ago because I think he was the person at the museum who was maybe trying to get...
135. MG: He used get the needles for us...Kempton's in the old days bought them ...so he knows more about it than anybody.
136. RW: I think one of the main problems will always be once we get to a situation where nobody is manufacturing them at all anymore...
137. MG: Yess...where are you going to get needles from?

138. RW: And then you are only going to be able to have so many breakages before...
139. MG: Yess...but the first thing Ruddington said 'We want all the needles' [back?] so I had to take all the needles out the machine so hence my machine's got all new needles in it.
140. RW: Arhh well that's probably better for you though. [Laughter]
141. MG: It is fantastic...you know on all my other machines...when you go to put a new needle in they're always too wide you have to file them down...you don't on that machine.
142. RW: They all fit?
143. MG: Perfectly... so when you keep clamping them down...you know the clamp you bolt the needles in...it just squeezes them...
144. RW: It squeezes the lead that tiny bit...
145. MG: ...so over the years they [the clamps?] all get fatter
146. RW: Occasionally when I've broken a needle on my machine and I had real trouble getting it out...it's so fixed in place
147. MG: It's glued in and when you come to put the next one you can't get it in and ... I end up emerying [filing] them down to make them thinner to fit them in which is time consuming and annoying. But with this one you don't have to...it is...so they are built to gauge but what happens is they obviously...I think it's with clamping them...over-tightening you know that leather, ...the clamp that holds the leads into position...
148. RW: Yes
149. MG: ...I think if you keeping doing it up a bit tighter each time...you know what I mean...your squeezing them...
150. RW: 'cos you've got this soft lead that...
151. MG: Yes it is soft...
152. RW: that doesn't hold well up against other bits of steel and bits of...
153. MG: And so...it took me a long while to... Ruddington didn't want...better not talk about Ruddington
154. RW: it's okay
155. MG: ...but they didn't want to give me the moulds for the machine... oohh

156. RW: Which means you can't make...you can't make...
157. MG: So eventually I managed to swop ...I'd got moulds for machines that had been scrapped years ago, so I managed to swop...all they wanted was some moulds because they always kept that one to show people...and so we swapped them in the end...but at a later date I got the moulds for the machine.
158. I got the seat...that is original [the wood base?] but it had got no seat on it so I made the seat...but the actual piece of wood was badly cracked so I had to put a support underneath it but it is original [Laughs]
159. RW: I really like how you've tried to keep as much of the old machine as possible ...but things that no longer existed obviously you've had to...had to improvise...
160. MG: Yes I had to make the claw you know on the ratchet on the take down ...I had to make that because I hadn't got one...and that bolt...that goes on the...that hook that goes on the foot pedal...I had to make that as well.
161. And when we got the machine it was a 'three-at-once' machine so I rebuilt it as a 'three-at-once machine...It's boring but it all takes time
162. RW: No no
163. MG: So I rebuilt it but only put the centre section in and knitted on it to make sure it worked and it did take me quite a bit to make it work...I couldn't make it work for a long while and it wasn't until I lifted the needle-bed by...can you see there are two spaces in there?
164. RW: Yes...just even that little half a millimetre?
165. MG: Yes...I tried to make it work without doing that...and I just couldn't do it...and so it was wrong, now I don't know why I've had to do that but once I'd done that it had changed completely and everything started to work
166. RW: Yes so you've given it that half a millimetre of space almost...
167. MG:and I don't understand why... but I did that and it worked then.
168. RW: I suppose they're very individual...they're as individual as people aren't they?
169. MG: Yeass...
170. RW: ...treat them in different ways and they behave better?
171. MG: I wish I hadn't taken all these out and recast the needles... it takes quite some time doesn't it?

172. RW: Absolutely
173. MG: So then when it was going ...the centre panel of the 'three-at-once'...'cos I wanted to change it to a 'five-at-once' you see...so I then dismantled the whole machine...
174. RW: So your 'five-at-once' here... is this the one you use to make your scarves?
175. MG: Yes, the narrow scarves...they're twelve to fourteen inches wide...they're a really narrow scarf, yes, whereas the end machine makes scarves that are twenty inches to twenty four inches
176. RW: Yes, yes so they're more like a small shoulder shawl...
177. MG: like a stole...yes, yes... the evening stoles that I make are twenty-two inches wide which is perfect on that machine
178. RW: ...and your second one along is the 'two-at-once' that can do the really big ones
179. MG: Yes the shawls on that one...the 'three-at-once' makes squares ...thirty-six and forty-two inch squares. And this is another shawl machine...and this is another scarf machine like the first machine but I don't use it.
180. So I had to make five new slur cots[?] the original bars for this machine are hung on the wall there
181. RW: Oh alright yes I see them...
182. MG: The 'three-at-one' slur bar and the 'three-at-once' feeder bar but I took feeders off it and made a 'five-at-once' feeder bar and made a 'five-at-once' slur bar.
183. RW: So that just means you can just move the needles into a 'five-at-once' position and it's...
184. MG: It's the 'five-at-once' slur bar is much longer so when you're doing five ones you're not moving far whereas when you're doing three-at-once there's quite a bit of movement so a much longer bar so then I set it up at 'five-at-once' ...makes it sound so easy
[Laughter]
185. RW: You make it look easy!
186. MG: Well the first time I made five-at-once...oh and that was the new handle I made...not forged...I can't do that so I cut bits of metal and then weld them all together to make it look similar...
187. RW: Fantastic...

188. MG: Once you've got the bits of fabric wrapped round you wouldn't know that it...the left hand one is mine and this one is an original...it only had one handle
189. RW: Brilliant
190. MG: And that's the first scarf I made on it. So that's the one I've spent the...because I've changed it from 'three-at-once' to 'five-at-once' it's the most documented machine...
191. RW: And yes it's the one you've spent the most time with...
192. MG: Yes, it took me about nine months from start to finish to do...this is another one from Russell Kempton...
193. RW: Yes
194. MG: ...and this is a very special machine because I've got loads and loads of frame spanners...you know these little spanners and I've also got quite a few machines but this one is the only one that *has* its spanner!
195. RW: Oh it came with it?
196. MG: Yes, no it didn't come with it...I've had this spanner for years but when the machine came along from Russell Kempton I got the weirdo here with No. 25...I couldn't believe it.
197. RW: That's a stroke of luck!
198. MG: So there you are! The proper spanner hung on here...because they didn't take care of everything as the trade went into decline so ...with the spanner... see this is a picture of that machine with
199. RW: So where did you get hold of this... [the picture?]
200. MG: Bert Aggis again...
201. RW: arrhh I see
202. MG: All these pictures came from Bert Aggis and he was really into photography
203. RW: is he still alive?
204. MG: No he died...he lived across Oadby [Leics?] way when he lived in Leicester and then when he retired he moved down to near towards Bristol erm...north of that but across that side, way, I went over there and I got those three machines from him that are now in store...and one of them he'd got built up...was just about finished but it's in store now...it's just sad really...yes there's another picture showing that machine...this is him again and that is that machine in Woollett's' in 1972.

205. RW: When did Woollett's' close?
206. MG: When I bought that...I think it was 1983
207. RW: so beginning of the Eighties it was all starting to go?
208. MG: Oh yes the trade was in severe decline, yes...so that's that one
209. RW: Fascinating!
210. MG: ...oh these had been in Russell Kempton's stables up at his farm and then he'd moved to a smaller house so they'd weren't in that good a ...they weren't heated you see so it wasn't that good a condition ...one of them had to need re-needle completely
211. RW: Do you mean...do you find that makes a big difference so if you're trying to work in winter do you find the machines are slightly more...?
212. MG: They need to be heated
213. RW: That's one of the things I've found at Ruddington because upstairs theirs is...it has central heating but...
214. MG: it's cold
215. RW: it has central heating but because it's an artificial form of heating if you do put the heating on and turn it up, the machines do take a long time to get warmed up and there really is nothing worse than sitting with your back against the very freezing wall trying to knit when the machine...when the metal is cold.
216. MG: Yes, I won't knit if it's below 65° say and then when it got to 78° yesterday I had to stop...
217. RW: Yep too hot
218. MG: So I keep a thermometer here...I do...I use that all the while...I won't work until the machines are warm and then I put the heater which normally lives down there actually, but it's got a time switch on it so when or if we go away for anything... in the winter I leave it on a timer so it comes on for so long each day
219. RW: so you're not leaving it...so it's like having a car and keeping the engine running
220. MG: Mmm You've got to keep it warm...the leather will if you leave it...the damp and cold...things start to go mouldy...and it's just not nice
221. RW: and you end up with a brittle seat that when you try to sit on it again, it's just not going to do the job it was meant to do...I suppose with these type of machines...they're so good when you use them all the time and keep them up to date

222. MG: Yess...and then I've got a heap of these Griswolds...I started collecting ... but I manufacture on these as well
223. RW: Yes what do you make on these?
224. MG: Scarves
225. RW: Oh yes like little like snoods and things like that?
226. MG: Yes and I take one to the show...you know I do these shows...so I take one of these and demonstrate making scarves at the shows. These...the boards are all from... I've got William Lee here contemplating before inventing the machine and Matthew Townsend on the end of this one just here, inventing the latch needle
227. RW: Oh I see... brilliant
228. MG: ...1847...now these are all ex Leicester Museum, 'cos I work as a volunteer at the museum so if they're skipping anything...[putting in a skip]
229. RW: Then you've got first dibs?!
230. MG: Cos when they change things, they can't save everything, well you know at Ruddington...you have to ditch things don't you...
231. RW: Absolutely...it's physically impossible to hoard.
232. MG: But if there's anything of the slightest interest going I say 'Oh I'll take that' and stick it up on the wall in here.
233. RW: What about this photo...this image here? I don't think I've seen that one
234. MG: That's Matthew Townsend again...
235. RW: And that's when he invented the latch needle!
236. MG: And that's when he invented the latch needle again, yes with the hand frames in the background...it's a good big picture isn't it
237. RW: That's amazing...really lovely
238. MG: I mean... 'cos they're obviously artists' impressions, but you just don't know do you?
239. RW: One of the things I've come across, having started this project, is so few people who work even in the knitting industry...unless you have a knowledge of hand frames the

spring beard needle is something that very few people know or care about these days. It's such a different form of knitting...it's a different process.

240. MG: It's all latch needles now really, isn't it? When I got into the industry, I worked in my training at Rowley's Factory in Oadby...Sanders Street, Oadby, which was a fully fashioned factory and it had got Monk machines...fully fashioned machines, bearded needle machines and I worked there for two six month spells and so that's back in the early sixties and there were plants everywhere then...fully fashioned plants...but they're all gone now.
241. oh you know you mentioned Arthur Hesketh...
242. RW: oh yes
243. MG: well I dug out the pictures...
244. RW: oh AMAZING! Arrhh brilliant!
245. MG: This is Arthur Hesketh in supposedly 1924 but I talked to him..
246. RW: Arrhh Gosh...
247. MG: No but it's not 1924 I think he said it's more like 1934 but far be it from me to change it...
248. RW: I think, from when I interviewed him... after he left school he went down the pit for two years and then did two years up top, so he'd have been at the pit for four years after he left school, so I don't think he started framework knitting until he was about...about...eighteen and he was born in 1911 so...1938 /9 so maybe a bit before that so...
249. MG: but even then they are beautiful old pictures and that's Arthur Hesketh there...
250. RW: I can't believe it
251. MG: ...on there... I mean he doesn't look young on there, does he?
252. RW: No, not at all
253. MG: So this is...this 1924 is wrong... and this is 1988 and then he came to my workshop in 1999
254. RW: Arrhh they're amazing
255. MG: Aren't they amazing!
256. RW: They're absolutely amazing

257. MG: A picture of my WWW 25...
258. RW: That's brilliant
259. MG: But the spanner that's hung there isn't...if you get the original out you can read it its no. 24 HJ Story so they got all the spanners mixed up then
260. RW: Where did you get these particular...
261. MG: It was Bert Agiss again
262. RW: Bert Agiss yes...where would all the original photos, be? Have you got some of the originals?
263. MG: Nooo
264. RW: Where would the originals be?
265. MG: I know this one came from the Hucknall Paper
266. RW: Oh right
267. MG: You know there's a Hucknall paper
268. RW: A local one?
269. MG: Yes and that one definitely...he told me that one came from there...a beautiful picture of the sock machine and the shawl machines and...
270. RW: ...and the lady working on the Griswold as well by the side there
271. MG: I was next to a clog maker at one of the shows and he said ' oh yes' and he told me all about these clogs that she's wearing and the areas that that type of clog...you can't believe from that little picture there...he knew the area that they would have been made in and worn in and the story.
272. ...and I don't know if you've ever heard the story about the boots?
273. RW: No ?
274. MG: Jeff Oxley when I first started sitting with him in Hurts... and he said to me

275. *'When you find a good pair of boots, lad, (he presumed everybody still wore boots)...
'When you find a good pair of boots, lad, don't use 'em for anything else, leave 'em next to
the machine'*
276. RW: ...and so the boots are there next to the machine
277. MG: The knitters had like their 'day' boots that they went to work in and then they had...
278. RW: they had special ones ?
279. MG: like 'knitting' boots . [Laughter]... but if you didn't know that you might think 'I
wonder why that old pair of boots are next to the machine?'
280. RW: I suppose it's like any kind of footwear if you use it outside, you wear it down more...
and it doesn't
281. MG: I chose it with these...with certain...certain soles slip on the pedals and others don't
282. RW: Well, being a girl, I've worn many ridiculous pairs of shoes to try and...
283. MG: what, flip flops? [Laughter]
284. RW: well, not flip flops but because of the Health & Safety and risk of losing a toe!...well
things like this...
285. MG: I only use certain...it's changed over the years but now these are the only shoes I ever
knit in and have been for the last few years...say five years...haven't knitted in any
others...I will not knit in any other shoes than the ones I'm wearing...because...I know they
don't slip...it's the devil you know...
286. RW: You can just work better and faster...
287. MG: I used to wear trainers and they are fine...it's got to be something that sticks to the
wood...especially if it's wet outside and you walk in and you don't want to have to wait ten
minutes for your shoes to dry, no.
288. That's Woollett's [shows photograph?] ...it's still there...the building is still there but it was
empty the last time I went by. When they shut down, it became a fabric factory, but that
went out of business. Then it became empty the last time I went by which is a long, long
while ago...it was empty. And that's Woollett's as well. In the old days it would have been
a yard with stabling...he was very wealth, Woollett's was.
289. RW: I love this...this picture looks like there's loads of 'fluff' from the wool
290. MG: It's from Mohair

291. RW: Arrhh, I see, as you've been knitting the Mohair it's built up on the machine so you've got...
292. MG: We used to in there sometimes and it was just beyond belief
293. RW: inches thick?
294. MG: Yes, literally.
295. RW: I suppose it was difficult because you have essentially an oily machine with...and... fibrous yarns...that sort of don't really mix very well together
296. MG: Well the machines...if you start cleaning it...bits get into your fabric...so you basically leave well alone, when you change colour or change yarn, then you clean it out...it's the same in the big factories...you don't clean down in the middle of an order...you wait till the end of the order or the end of that run or that colour and so they were just the same [the big factories]
297. RW: Well when I spoke to Mr. Hesketh, I was asking him about his machines and about what machines he still has and he basically said he had, he'd sold them after having a stroke when he was about 80 and he couldn't believe it when I said 'Was it Martin Green that you sold it to?' and he said 'Ohh yes it was' and it was amazing
298. MG: So that's the get up of my scarves
299. RW: it's beautiful
300. MG: I print the leaflet on an 1890's platum press at the Museum of Technology in Leicester...so it's got a history
301. RW: so it's got an historical label as well!
302. MG: It's obsolete, that website...it's quite old... well it is my website, but it is obsolete,...
303. RW: How do you go about finishing them?
304. MG: Oh it's just an over-locked edge like at Hurts
305. RW: yes it's exactly the same
306. MG: Yes...nothing scientific about it...but yeah... and that's my stand at the shows...that's a picture at Hatfield House, last year, and so...I take a sock machine with me on a stand...I've only got one stand...
307. RW: so you do little demonstrations?

308. MG: Aww yes, so I demonstrate all day I make scarves all day...you see these are the snood things I make on the sock machine...you can put it on as a scarf a cowl or a hood...it's just a long open tube
309. RW: Yes it's just
310. MG: And then I have a display here, which you can't see because it is end on but it's got two sides to it...on one side it's all about framework knitting and on the other it's all about the circular sock machine so it's the two stories...so that's like the display ...oh and there's pictures of my workshop and my machines ...'cos obviously I can't take framework knitting machines... on the board there.
311. RW: Well, it's great because it means someone who is coming to the show sees a scarf and they're able to understand a little bit more about the history of it and the provenance of why and how you've gone about making them in the way that you have.
312. MG: I print an order form that I give away with each garment, trying...like a mail order form but it's on the internet as well. So you fill it up and post it to me.
313. RW: So say for example I wrote down...I filled in an order form and said I'd like a...
314. MG: a whatever...
315. RW: Whatever...how sort of long would it take you...what's the sort of turn around?
316. MG: Well, I know what people order...as always...because most people order the same thing
317. RW: Yes yes
318. MG: so I keep those in stock and normally it goes straight back. But I do put on the order form I have, to allow 15 days for delivery..I have to in case we're on holiday
319. RW: Oh of course...because you might...[Laughter] you're allowed to be
320. MG: You're right and that's why at events... we don't do that many events, I think I'm doing ten this year, so that's my events list. So we've just done...where are we? May...
321. RW: Woburn Abbey
322. MG: Woburn Abbey was the last one we've done and the next one is in August at Sandringham so...I tend to do these big houses because...I like them because it's very easy loading and unloading because they're in marquees ...you reverse up to where you are... your spot, and just unload everything and you can stay, I've got a caravan at the back here, and you can stay on the site for free in the caravan.

323. MG: Which if you do indoor venues, which I used to do years ago, you end up staying in hotels or some distance away in your caravan and it's like work then, you're going backwards and forwards everyday and it is like work.
324. Whereas if you're on site, half the time you don't need two people on the stand so it takes the pressure off and one can just...
325. RW: Definitely
326. MG: ...watch the tele [Laughter]
327. RW: Brilliant
328. MG: I think it should be more interesting to you...
329. RW: It's fascinating
330. MG: ...with the business side of it, in that you...Ruddington can't tell you anything about the business side of it, because well they don't do they?
331. RW: Well it's a totally different, totally different form of knitting
332. MG: It was a bit of a hobby when I started getting interested in this and I started keeping an inventory of every machine that I'd 'met' over the years so this started a long while ago...with just bits of...
333. What I'd like to do, if I ever had time, is...these are my machine numbers now obviously they're the initials of the manufacturer so William Woollets is the WW, William Woollets No. 33, and then I & R Morley, that one and Allan Solly...it is Allan & Solly
334. RW: Yes
335. MG: It wasn't a first name was it? It was a Mr Allan and a Mr. Solly [Laughter] And then what are the others? John Smedley and Son, JS&S...I found it on the internet the other day...they've got a website
336. RW: Yes they're still going, yes
337. MG: ...and it's got their history on it and I read all through the history and at one stage it was called John Smedley & Son and I've got JS&S 2C
338. RW: So you know where it was?
339. MG: Well I don't know if it *is* but I bet it is. Yes...It's my two at once machine...this one so I think that was a John Smedley machine...I could email them couldn't I? and say 'oh by the way I think I have your machine'

340. RW: I think they'd be fascinated to know that...to know someone is still actually using it and still making it work
341. MG: Better get it going again hadn't I ? [Laughter]
342. and so if someone could find out what A&R, S&S, & WPC & an MJCWD... I know that's William Woolletts, CW, I don't know why he put the C in front. The C isn't in front it's on top but I think it is William Woolletts because we got the machine from William Woolletts
343. RW: Yes
344. MG: So then I've got like this entry...my idea on my old computer was...I had this list of the frames that any one person's got...and then I had a separate card for each machine you see
345. RW: So you've done like a little inventory of all the machines
346. MG: Yes so K1...so they should be linked together so when you change this it change that but I never got to do that...but it's now on the old computer and I've tried to sort of
347. RW: Transfer it?
348. MG: Yeah but ohhh so it's still on the old...but I still run the old computer so there are my machines
349. RW: So are they mainly sort of 32 guage, 34 gauge that sort of ...that sort of gauge?
350. MG: Not all of them yes, that's Hesketh...
351. RW: Oh Hesketh yes, a 38 guage?
352. MG: Yes a very fine gauge...a six at once stocking frame
353. RW: Gosh, can you imagine...
354. MG: Yes yes,
355. RW: That's so fine!
356. MG: Yes but the needles are in a very poor state on it...it's so much work...and then I started doing an inventory of the moulds and spanners that I'd got so you know those initials ? Well of course there's more! Here N&M, Nottingham Manufacturing Company, who's S&S? I'd love to know
357. RW: I don't know but I could try and have a look for you ...I'll see what I can find out

358. MG: So I took pictures of all the moulds and spanners and then my sock machines, no, well, all the other machines and this includes flat machines like this one and then there's two more up at the back there hidden away. This is scrap actually. I've just bought it down from the loft, because we're having the bathroom done, which is on top of the bathroom so I had to move it...and what am I keeping that in the loft for?
359. RW: It fits better in here doesn't it?
360. MG: I haven't decided what to do with it...but it's bar's missing but everything works on it but it is scrap really which is a bit sad, but that's how it is
361. RW: I suppose if you...
362. MG: The needles could be worth something...I've got two more Harrisons...and if you can't buy the needles, they are the original needles...they're a bit rusty but I think they're recoverable
363. RW: Absolutely...yes definitely ...just a bit of WD40 and I'm sure they'll be fine [Laughter]
364. MG: And you can see the diameter...oh no they are all sock machines, aren't they? Harrison Flat machines...well there's three flat machines
365. RW: How do you go about...are these not necessarily all ones you own?
366. MG: Oh yes they're all mine
367. RW: They're all yours
368. MG: Yes I've got every one of these
369. RW: Are you the sort of person that comes home every week and tells your wife 'I'm really sorry but I've bought another one'?
370. MG: Oh no , I can't buy any more [laughter] no I really can't, they're everywhere all around the house
371. RW: So you've got plant pots on...[Laughter]
372. MG: Yes, it's dreadful...well you saw the box when you came by the door...that's a Griswold sock machine box...it's just outside now but wait until...can't throw it away...wait till it falls to pieces and I have to throw it away
373. RW: Or have a shed extension I suppose 😊?

374. MG: I've just built that second shed, last year...I can't have any more sheds...they're everywhere in the house so it is embarrassing...they're hidden away because I have got so many...there's only about...I don't know...ten or twelve here and I've got twenty odd you see.
375. RW: Gosh
376. MG: So they're all the sock machines...there's some beautiful machines...I use them all the while...oh the ones that go to the shows
377. RW: It's really great that you do document things the way that you do, because I suppose one of the reasons that the research I'm doing has come about is because there hasn't been as much of this happening in the past as there should have been. And now, machines that have been donated to Ruddington or other museums...there's no history and no provenance of where they come...
378. MG: from...no...Where have they come from before they were there?
379. RW: Even if, when they were donated, we did know, the people who were responsible for them at that time, because they're no longer with us...a lot of that information has been lost. So we're now left trying to do a lot of guess work.
380. MG: Did you record your talk with Arthur Hesketh?
381. RW: Yes, I did...
382. MG: I should think that...
383. RW: Oh I could forward a digital copy of it if that would help?...an audio file?
384. MG: Oh that would be fantastic because I went up there and talked to him at length...more than once...
385. RW: He talked for nearly two hours! A two hour long...
386. MG: I didn't record him...I just made a few notes, you know how you do but I felt so annoyed with myself because I hadn't got a means of recording him any way
387. RW: I 'stole' this [digital recorder] off my dyslexic brother because he gets it through the University [Laughter]
388. MG: So just to finish this off...That's Wigston...the Wigston Frameshop...they've got those machines there
389. RW: So did you say it's only open on a ...on a Sunday?

390. MG: Yes a Sunday afternoon but if you phone up Peter Clowes the curator...he lives just down the road...he's retired, he's not very well...he's got problems with his hips and legs...but he's been the assistant curator from since it started...no... honorary curator from when it started and he's be only too pleased to take you round at any time almost. Although I'm saying that...so long as he's well...the machines they've got there are all glove machines except...oh they've got an ex-Cora machine there and this one did sock tops oh and that one did. A couple here...It was really a glove shop...that's Wigston, it's changed a lot since...it's a very old photograph ...they've got a thing over saying museum and all sorts...
391. RW: Is the whole building the museum, or is this actually not the museum and someone's house?
392. MG: The whole thing is the museum...they were wealthy people in his time and it obviously was two houses or a house and a shop and it was two storey once and they put the top storey on...and that there is an added frameshop...that little bit there, along the back and that's the new frameshop and on the other side of the footpath, behind there, was the foundations of the old frameshop. When they built this in 1890, they took all the machines out the old shop and put them in there. They've now built another frameshop, a modern one on the top of the foundations which they call the 'Yarn Room'...and it's just a room off...and before that they had lots and lots of very little rooms so they built a...so there are the machines at Wigston [shows photo]. They're all in very poor condition.
393. RW: Are any of them working or are they...
394. MG: Just one that's been put in there, this machine, NC&S, could be from anybody it's a 16 gauge probably a Leicester machine , a 16 gauge, a coarse gauge machine... here it's Nathaniel Corer
395. RW: Yes, Corer would make sense
396. MG: But that's upstairs though... a couple of modern machines yeah.
397. MG: This is Ruddington...this is your...
398. RW: Yey
399. MG: Machines
400. RW: Let's have a look and see which one's mine...
401. MG: Is yours a tin sided machine?
402. RW: Yep
403. MG: So how would we know that? [Looks at photo] here's the black machine
404. RW: 'Old iron' as they call it!

405. MG: Oh do they?
406. RW: Yeah
407. MG: There are the Russell Kempton machines which presumably Ruddington's keeping are they?
408. RW: I think so...Russell...when I saw Russell last...we had...the Knitters' Library that we've got at Ruddington...they had an opening event because they've named it after Jack Smurfit so they've done like a little opening event and Russell Kempton came to that and I volunteered to sit and demonstrate the machines whilst everyone was over having the ceremony, and Russell Kempton came over to me and sort of didn't really want to leave so sort of missed most of the ceremony because he was too busy talking to me about the machines and he was jumping in and out of them like a child and he was so excited about them.
409. MG: And that's Peta Flynn, have you heard of her?
410. RW: Yes I have
411. MG: Peta Lewis as she used to be, and she was a bit of a whizz kid on these machines
412. RW: Yes I've seen some of her...
413. MG: Some of these machines have never been as good since she left...she had all the machines really in nice condition
414. RW: Yes
415. MG: ...never been as good...there's one of the tin sided machines...that's downstairs isn't it?
416. RW: Yes that is
417. MG: Alan Cooke of course
418. RW: I was going to say...how long ago did he die? It can't have been that long ago, I suppose?
419. MG: I took a tremendous series of pictures of your machines...the metal sided ones...when I was rebuilding these...well we'll gradual get to your...[flicking through photos]
420. RW: Is my machine that one there? Yey [Laughter]
421. MG: Yes that's it!

422. RW: Arrhh! Hurray, Let's see what it says
423. MG: Still in the same position?
424. RW: Inventory No. R22
425. MG: Just means Ruddington 22 ...it was just the 22nd photograph I took...it's really complicated [Laughter]
426. RW: No actually, the thing is, this sort of inventory is something that I think really needs to be made much more of...because it's the only, as far as I'm aware, inventory of what is left.
427. MG: Of course it's only where I've been and these are around...I went to Harwick and looked at their...they've got a couple of machines...Wollaton Hall of course have got some machines, Calverton...the museum, Oadby...there's one at the Worshipful Company of ...the Framework Knitters' Cottages they call them and there's one there Godalming Museum on display...
428. RW: And Hinckley's got one...is theirs working then at Hinckley?
429. MG: They've just had it renovated...I've never seen it since it's been renovated but there's no one to run it anyway...so how can you work it?
430. RW: I suppose I might just turn up and say 'oh by the way, please may I have a go?' [Laughter]...I don't think they'd let me but
431. MG: It's a narrow frame in very rickety condition. Cromford Mill, they've got a proper shawl frame there, a wide frame...
432. RW: Arrhh.
433. MG: I went up there on a Monday, not knowing the museum didn't open on a Monday so I got talking to people and eventually dug out the curator and he went and opened the museum...
434. RW: Good for you [Laughter]
435. MG: ...on a Monday! But it was embarrassing. They had one at Hinckley Technical College and I got that going because they wanted to demonstrate that in 1989 for the 400th ...
436. RW: Yes
437. MG: And it's closed now and it's gone so I've no idea where ...it's somewhere but where I don't know. Macclesfield has got three silk frames along the back of the Paradise Mill. Doncaster, I've never been there, they've sent a photograph of one once to the Leicester

Museum asking for information about it. Harwick, I went there, Smithsonian, I went over there in Washington they've got an old French machine...an amazing machine...

438. MG: There's this museum in France isn't there? The Bonneterie in Troyes specialises in Framework Knitting... *[In Troyes, opposite St-Pantaléon, is the Hôtel de Vaullisant (16th century), housing the Musée de la Bonneterie (development of the hosiery industry in Troyes). The Musée Historique (13th and 14th century sculpture, coins, prints, costumes) is in the same building].*
...so if you're ever going through France... you know I went with my parents but we had no interest in it...we stayed there and I've got pictures of...and I was a child and who would go to...and it's annoying that I've been there and
439. RW: And you didn't realise how important it was [Laughter]
440. MG: Yeah...and at Derby they've got a machine on display at the museum and Nottingham Lace Museum that's gone now, hasn't it?
441. RW: Yes all gone...I wonder where some things are actually, I suppose some of them have ended up Ruddington way
442. MG: This is Leicester Museum's collection of handframes of which the Snibstone ones have mostly come back to Leicester now
443. RW: At Leicester...?
444. MG: At the Albie Pumping Station at Leicester...has a good number...a lot of them...probably most of the handframes and then they've got a storage depot in Freemans Coleman in Leicester. I've never been there but there will be ten frames there. I started doing...it was Leicester Museum's collection of handframes, they're in really poor storage...
445. RW: Will they still be at Snibstone's?
446. MG: No, No they're mostly at Leicester, now they've brought them all back, because Leicester and Leicestershire became all one Authority at one stage and then we split up and Leicester has kept the knitting machines.
447. So this is Henry's...
448. RW: Ohh Henry Hurt... I'm trying to work out which is the one I would have worked on ...cos I've got a ...I work on...
449. MG: Well we could work it out better from the pictures because you can see 'location: Hurts'...from Hardy's
450. RW: I don't think I can...

451. MG: Isn't that it? well he will have told me that...from Hardy machine that's not been used at all
452. RW: In fact I think this one here, above it there's an old gas pilot light that hangs down from the ceiling and Mr. Hurt was telling me that the chap who used to sit on it, used to sit there with his fag in his mouth...
453. MG: Under the gas? [Laughter]
454. RW: Yes and he just used to lift his cigarettes up and light them off this pilot light and carry on smoking them all through the day.
455. Yes this is the one...this is one of the ones I've had a go on...
456. MG: Yes it says working [on the photo]whereas all the others it doesn't say working
457. RW: Yes some of them are rather dusty
458. MG: You see that one hasn't been used for years
459. RW: Is it that one...one of Jeff Oxley's old ones...
460. MG: Yes that's a working machine...
461. RW: Yes this is
462. MG: That's a four at once...and a three at once
463. RW: Yes there's been a student called Stacey Deakin who was working at Hurts last year who managed to make a cardigan on that machine...it's beautiful...it really is
464. MG: Really?
465. RW: It's beautiful, she's very skilled
466. MG: That's a working machine...Jeff's machine...
467. RW: Yes...and that machine works lovely...I've done a couple of demonstrations on that one at Heritages Days when people have been coming round to...
468. MG: [reads off a photo]... sold to Johnsons of Harwick
469. RW: Brilliant...I know there's a machine he's got in his like erm second workshop

470. MG: This one? [shows photo]
471. RW: Erm...it might not actually be that one but
472. MG: That one's gone I think now...
473. RW: No, I think he was going to sell it to a lady in America but in the end it didn't go and I can't remember why it didn't go...but there's an additional one in there now that I've knitted on, because I knitted a little scarf on it. Although I will tell you I am much, much slower at knitting than you
474. MG: Shall I give you a quick whirl on the machine?
475. RW: Yes that would be brilliant
476. MG: And show you how I work...
477. RW: And if you don't mind I might take a couple of photographs of you...if that's okay?
478. MG: No I don't mind. Now everybody does it their own way and I've worked on my own so I've had no tuition or anything
479. RW: This is absolutely fascinating
480. MG: I've knitted five scarves on this machine this morning so it should work alright...I don't really need that light on we can leave that out the way. So I have just finished the scarves so I'm not doing anything now. You know when I demonstrated to someone like last week, Wendy Freer...there's a new video on the Leicester Industrial Society website...an eight minute video that she's done...and. she's not a framework knitter so I feel very at ease in front of her, like playing the piano in front of someone who can't play the piano...
481. RW: Well don't worry about knitting in front of me because my skills are so minimal...
- [MARTIN STARTS KNITTING]**
482. MG: But when you're playing in front of someone who knows how to do it...you start being ...oh I'd better do this right
483. RW: Well that's what's so interesting...I've only been learning for just over two years and I really am not quick in the same way
484. MG: I'll do a bit of transfer...

[KNITTING SOUNDS]

485. RW: What amazes me is how quick you are at producing the lace patterns...because one of the problems I've got on the Ruddington machine is everything is ever so slightly out of kilter so when you go to pick up the stitches, every so often they just don't quite meet and you end up accidentally sheering through your wool and end up breaking it
486. MG: Breaking it yes... oh needles and yes
487. RW: I think part of that is probably my inexperience...
488. MG: But it happens to us all! [Laughter] It really does!
489. RW: It's fascinating
490. MG: What I do do...and it tells you on this...so I might as well not tell you... because it's on the video if you look at Leicestershire Industrial Society video, but I do what Jeff Oxley did and that is I don't divide...and the only reason I do it is because that's how he was knitting, so I do that **[Demonstrates]** and normally divide it like that and pull that dividing stitch underneath and it's a stitch...but I don't and Jeff Oxley didn't either...
491. RW: Oh sorry...show me a bit slower...
492. MG: **[Demonstrates]** I form a stitch and then I just rest the sinkers on the top of the loops and then you divide there
493. RW: Oh I see
494. MG: There's no divide you see
495. RW: You're barely even pressing your sinker pedal down at all
496. MG: Yes if you press and make like a quarter divide
497. RW: Just enough
498. MG: Things start to go wrong so you've either got to divide fully and not divide at all so you've got to be really gentle...and just rest it on top see I haven't divided
499. RW: But you've got a great length of loop hanging now...
500. MG: Yess...but it divides here doesn't it
501. RW: I see...when you split it ...

502. MG: And Russell Kempton...when I first started knitting, I was using yarn that had been given to me...really coarse yarn that was not nice and when you do this then you get tramlines down it...
503. RW: Oh how exciting...
504. MG: Because the yarn is so coarse it doesn't equalise the stitches so he saw some of the... well these tramlines look quite effective sometimes...so he thinks all my knitting is a bit like that...which it is...but I know now if you've got a coarse yarn to divide but I didn't know that then...I just did what Jeff Oxley did...and he would do the same if it was a coarse yarn...he would have to divide...but if it's a nice fine yarn and you don't need to divide, he didn't.
505. RW: Well it saves a lot of time and saves a lot of effort on your left leg...to be pressing down the sinker pedal all the way to the floor
506. MG: I think the time was the...
507. RW: Yes it cuts it down the speed
508. MG: You knock quite a bit off your knitting time
509. RW: Oh I'm going to have a practice...I'm going to break so many needles trying to replicate that ...but I'll have a go.
510. MG: Now when I set up a new machine, I go incredibly slowly, because...and in fact...I set up a new machine and when I put the points in I don't pull them right to the front to start with because that's when you break the needle...so you just pull it...and push the fabric up to the...and then if there's a needle that the beard's gone over the edge you don't break the needle it just bends it fractionally if you don't pull too hard and then you can bend it back. Do you know on these machines...because this has got all new needles...there are no old needles in this machine...well they do break, but very rarely...they bend, whereas old needles obviously go brittle and the beard goes shooting off
511. RW: I've got them in my eyes and all sorts
512. MG: Do you know when I started wearing glasses...I didn't start wearing glasses till I was about 45 and actually it was rather nice that I can't get any ... stuck in my forehead [Laughter]
513. RW: Self-made acupuncture or
514. MG: And so yes when I'm setting the machine up...I won't [baby cries down monitor] that's Joel...my daughter normally works today so we would normally haven't taken care of the children this morning but she hasn't worked today...she's working Thursday and Friday this week so we haven't been on duty today so she's just come...she lives just up the road, so she's come round to see us now. But Joel doesn't cry very much so he'll have fallen over. He's very ambitious...he's climbing...you know how young kids are.

515. RW: Do you think when he's older you might try and persuade him to learn how to use the machine?
516. MG: I taught Annabelle, my daughter to knit on the machine but you couldn't encourage her to spend any length of time learning how to do this...because...well...you know...it's...there's no finished...I don't think you going to make a good living at being a Framework Knitter so it's a difficult one isn't it?
517. RW: Yes
518. MG: So I didn't encourage my...I've got two daughters...I didn't encourage mine to go into Framework Knitting so I don't know really.
519. RW: Have you every taught anyone else to use the machines?
520. MG: At the museum in Leicester, we've had lots of...no a few volunteers...years ago but that was when we had all the machines there and then when they had Snibstone, they took all the machines up to Snibstone, so that was the end of it then. I now demonstrate the printing machines in the museum...you don't learn much doing knitting when you're on the printing machines [Laughter]
521. They have put one machine on display at the Abbey Pumping Station but there is more interest in the printing because everyone has got a printer on their computer and we've got the old print shop there with the uppercasing and all the type all laid out and so I demonstrate the printing machine most of the day and then for half an hour in the middle of the day when we have an open day, I demonstrate the knitting machine. It's a three at once machine ...a beautiful...in beautiful condition...but it works very badly because I never use it ...just now and again...it just needs using lots and lots and lots and then it'll end up as a good machine.
522. RW: That's amazing...So I just wanted to talk to you a little bit maybe about the lace patterns that you design...what sort of lace patterns do you do and...?
523. MG: I made a note of what Jeff Oxley was knitting and basically changed it a little and so they're all ex Jeff Oxley [Laughter] But he told me the names of the different patterns. He did much more intricate patterns than I ever do...yes he told me the names of all the different patterns and so on and I wrote them all down and then went home and just simplified it...you've got to...

I never do more than two transfers per row, I only do transfers on every second row maximum and through the body of the scarf... you know ...in the middle, every fourth row [Laughs] Minimalist!
524. RW: But I suppose that's the easiest way of getting a scarf that's going to have a good strength to it as well?
525. MG: No, it's purely if you want to sell something, you've got to make it in a really short time

526. RW: So it's speed
527. MG: Yes ...purely...you've got to put the minimal amount of transferring in but so as to give the effect of a lacy scarf. When it was in 1989 when it was the 400th Anniversary of the invention of Framework Knitting, I made a really intricate design, thought I'd really go over the top...did it as a numbered addition and all that...and do you know when I started running out of colours on the 400th Anniversary edition...the public...you know I could sell the ordinary one that had got half the transferring in...they weren't bothered at all...which is a bit sad isn't it? I'd got transferring on every course right through the garment do you know what I mean, the whole thing was absolutely over the top and I put the price up accordingly...so when it came to an end and I started...no, no, no, that's... they didn't query the price it didn't matter ...you know what I mean? Unfortunately the pattern, unless you're a purist doesn't really matter that much ... and I've done what I call the 'Daisy' pattern, this one with daisies all over it, what I thought for the younger person and everyone really wanted the...the majority of my customers wanted the more traditional one, so I stopped doing that...cos once you bring a new pattern in you've got to have...I keep stock of everything...
528. RW: So if someone wants that particular pattern you've got to have it in bright purple so you have to be able to get hold of it. That's fascinating..[metallic sound]
529. MG: Good eh? I've put all white ...all cream up so it looks as if...but I never ever knit all cream
530. RW: You like to have a different...
531. MG: What happens if you knit all cream...when you knit dark colours it's nice to have a pale colour in the middle...the one you're actually watching
532. RW: Because it's easier to see your lace transfer on lighter colours...
533. MG: Yes so I put the dark colours up on the ends and the pale colours in the middle...in means I work out what I need from this machine in any particular size and then by putting the colours up in a certain order you get the longest run without changing anything as possible... do you see what I mean ? So if you wanted a dozen of each colour...five colours...if you put one colour up at each head you can then knit a whole dozen without changing colour, without changing anything and that's good for production...
534. RW: Definitely
535. MG: Whereas if you knit a dozen of a colour every time you change you have a problems...don't ask me why...
536. RW: So it's easier
537. MG: You just do, the colours are all different...I did an order for Past Times, you know the store called Past Times, and they only ordered two colours and they were stoles off that end machine, so I put black on the outside, black and cream, black on the outside, cream in the middle and then knitted for three months and what was staggering to me, because nothing changed then, and obviously you kept adjusting the machine, getting it better and better and do you know my production...I couldn't believe how many I could make

because knitting the same thing all the while, the machine gets better and better all the while but when you keep chopping and changing the colours, I'm sure it's the same on power machines as well, the different colours of yarn, dyes...you have different weights...only a fraction but it does make a difference and slows you down.

538. MG: That's it... that's a story...my grandfather's radio 1939 McMichael [Laughter]
539. RW: Still working...keeps you going and keeps you entertained?...
540. MG: Works perfectly ...Cos of course they're getting all digital...it's going to be scrap in two years isn't it...after seventy years
541. RW: This is the sort of problem with technology...
542. MG: I need a set top box for the top of my radio so it can change into a digital radio
543. RW: It's such a shame though, because those beautiful radios ...
544. MG: Let me show you the two Harrisons...they're hidden away here you can hardly see them...I'll put the light on here...can you see I've got two small Harrison flat bed machines...I've never ever used...I've got them going but just put them at the back there...just never done anything... these are the transfer bars and that's the six-at-once needle bar, there, for Arthur Hesketh's machine...
545. RW: Gosh that is fine, isn't it
546. MG: I won't put the delicate bits in the shed because they're heated in here...so that's the six-at-once needle bar and I've got no needles...and I don't know if I've got the needle mould even.... But it has a transfer bar with it and it's...self-widening...you press this button on the transfer bar and the points go out ...you know if I'm making the stockings so it's an automatic... so you press the...every time you press this button it moves the transfer points out so when you're shaping the stocking you don't...yes it's like semi-automatic
547. RW: That's fascinating...gosh... I love your machines...you've done such a good job of keeping them all in a way that...really keeps them in their best...best working order
548. MG: Obviously the best way to keep the machine working is to work it and obviously I'm working on the machines all the while
549. RW: Which is your favourite machine?
550. MG: Well that's the machine I use all the while because orders are these narrow scarves, that's the fashion...you can't change it. When I got into this...ohh they're my wrong glasses...I use stronger glasses for knitting because you're so close to the...you won't know this yet... but when you don't wear glasses, you don't realise the glasses only...you work for a certain depth of... of threes which I need for knitting...for reading I wear two and a halves and I have got vari-focals for when I go out...so I can wear one pair just for everything but they cost £200 so if I wear them in here I'm breaking them all the while

551. RW: Well one of the only problems I have with the machine is I'm reasonably tall but I've got relatively short legs...my legs aren't particularly...but my body is really long so I sit on my little seat and I have trouble reaching the pedals because I've got these little stumpy legs that aren't particularly long but then because of how tall I am and how tall my back is when I'm trying to look at the needles, the presser bar is directly in my line of sight so I end up with terrible backache from crunching down so I probably need to be altering the seat height
552. MG: It would seem I'm just the right height [Laughter]
553. RW: It just fits you perfectly
554. MG: Yes I can watch the...I can sit there working and the needles are straight there in front of me which is funny ...but...did you know they used to change the seat height?... on here...[points to some part of the machine]
555. RW: Oh I see
556. MG: Now I don't know on that machine you're doing...it's a metal sided machine
557. RW: So it might be difficult to change it around.
558. MG: It's got slots in it...that one has so you see
559. RW: Oh it has...
560. MG: See here and here they are at their lowest at the moment...I've never changed it...I know that a lot of...I know when you watched Arthur Hesketh when he was knitting... in those photographs...you can see him stretching can't you... their necks. I can remember watching the knitters do this like they're end up stretching their necks [Laughter]
561. Yes so all the seats...the height is adjustable
562. RW: I suppose this is the point though isn't it ...a lot of these machines are made to fit the man...the man manoeuvres things and changes things
563. MG: Oh you know the knitters made their own seats, yes you know that... and so not only would they have made their own seats they'd adjust it how they made it so as to suit them... so if they were short, they'd make sure they got a good blocks on there and if they were tall...
564. RW: Yes there's a couple of them that have got...at the museum...have got like two blocks on so you can tell it was probably a short man or someone with slightly longer legs than his upper body so he's tried to make a little bit more space so he's got a bit more room for his legs

565. MG: I've adjusted the side when I've been setting the machines up...I haven't...because the end...that machine I put the seat on it so I had to work out how high the seat was going to be...and where I've rebuilt the frame...there's two machines I've rebuilt the frame...so I've set the height of the seat...have you cast needles?
566. RW: Yes...no...I haven't cast needles, I've cast leads for the needles, no I haven't cast the needles themselves.
567. MG: No...no...no...no they don't cast needles ...when I say needles I mean leads
568. RW: Yes we've got a...you know...a melting pot at Ruddington..
569. MG: Yes I told you on the phone...I have my pan
570. RW: Oh yes [Laughter]I actually did some for Hurt's... I did some for Hurt's...Mr Hurt gave me his mould and basically said 'I'm trusting your... with your life
571. MG: Oh did you take it to Ruddington?
572. RW: Yes, I went to Hurt's, he gave it me...I took it home in my oversize handbag and all the way home I was thinking 'I hope I don't get my handbag robbed'... It's more than my life's worth to get my handbag robbed with Mr. Hurt's mould in it.
573. MG: I made the mould for one machine...this one...it had no mould and ohhh...not an easy job! What I did was get a mould that was the wrong mould and then file a bit...I couldn't find one that...every part of it was too small...it's very easy to file them away and make them bigger and obviously ...but I found one that was only one little bit that was and having the facilities at the museum, our engineer down there, John Ween, he braised a piece on to this mould which I then... and then it was too small so I just filed it down by trial and error...it was the right gauge...it was a 32 gauge mould...all I had to do was make the bits of metal that had to be removable in the mould, the right shape and so I made the mould for this machine...out of an old mould, yeah.
574. RW: It's great that you've got the knowledge and experience to be able to do that...
575. MG: It's just patience that is because you just keep filing away...and keep casting and keep filing away and casting until you've got two things that...cos I knew what I needed to achieve...cos I'd got needles in the machine but there was no moulds.
- I keep all my moulds on the boiler in the house on the house boiler
576. RW: So they're always nice and warm so if you decide to go and make new...
577. MG: If there's any moisture...even if...it's in the...any damp in the workshop here that air gets into ...
578. RW: Everything affects it

579. MG: Yes it needs to be as dry as a bone
580. RW: It's fascinating how these machines...one day they can be very well behaved and do everything they're told and then other days they just won't work for you...it's little tiny change in temperature, I suppose
581. MG: Because I use them all the while, do you know, some days it's just not a good day I do think it's...I think it's you and some days it's best just to call it a day. If things start going wrong...if it's a bit cold it does affect the machine so it's not a good start...but some days I just don't get on with the machine and it's a good idea not to introduce something else...I've got lots of other things I can make up...other things I can do...it doesn't happen that often but it does happen to me.
582. RW: It's a bit like writer's block I suppose it's getting past that stage when you...
583. MG: I think your knitting action changes all the while, especially when you move from machine to machine. I normally won't knit on...I'll only knit on one machine on any one day...because when I change machines it's a good time to be...if you change in the middle of the day...there's a certain urgency then you're trying to go too quickly. But when you change machine you've got to go really slowly to start with until you become accustomed to the workings of that machine. And all the machines have a different...they are different when you are working them...the knitting action on every machine
584. RW: I suppose it's like driving any car...it's the slightly different bite point
585. MG: Yes!...absolutely!
586. RW: And how you react and how hard you press the pedals and things like that
587. MG: If I go from this machine to the end machine, because I set them both up myself
588. RW: So they're geared and calibrated to your...
589. MG: So I set them up the same but I haven't set up all the other machines...but this machine's my fav...it was the end one...so everything here is set up to copy that end one...so I can actually go from those but I won't do it, I'll normally

I use that machine quite a lot, that end one...I've borrowed the yarn off that side but its...this end machine...do you know there's two different types of running off?
590. RW: No...will you explain them?
591. MG: On all my machines I use a metal bar like this...is that what you've done?
592. RW: Erm... no I normally...
593. MG: Do you run it through holes? Or do you have a run on cloth

594. RW: Yes,
595. MG: That's what this is...
596. RW: Yes we've got like a calico...I changed one for Hurts not long ago what I did was I ended up pulling out a couple of threads on top...
597. MG: In effect I've put a bit of frayed ribbon and pulled out the what do call this stuff like whatever it is like curtains... like bias binding
598. RW: Yes that's
599. MG: Yes and I've pulled out the fourth and fifth row or something and I do that on this machine because I've always done it like that on that machine but on every other machine, I run this metal bar through...now this was done by the different manufacturers
600. RW: So it's just a different form of weighing it down to start off
601. MG: So what you do is you never take the fabric off so that one, when you finish your run ...you knit a bit of waste and press it off and you've got your scarf...but these I never press the machine off so when I want to take the fabric off, I knit a piece of waste put a draw thread in and then knit six courses do a whole row of transfer holes and thread the thing through, then wait till the fabric comes down to just there...and then yes...take the weights off
602. RW: And you can draw the thread off?
603. MG: Put it all in a bag...I've got a calico bag and I put all the work in but it's still attached to the machine and then you take the rod out from the end and thread it through that hole. Then you pull the draw thread out...then you hook these bits of string...one in the middle...you have to thread that one between threading through the two garments and put the weights on the string
- ...and it means then that if you put a running on cloth on these because the machines aren't absolutely perfect, you end up with sinkers coming the wrong side of the needle and but with this system that doesn't happen because you just keep knitting.
- You have to be careful, when you start knitting again now, you've pulled this out so it's pulling directly in there... so the take down is even across the machine...but that's how I do on all the machines...I have that metal rod that I've made into a point at one end.
604. RW: It's a really effective way of making...of bringing your work down...it doesn't seem to be a...
605. MG: You know on your machine that you're working on now and doing transferring...so that's got this sort of presser bar, has it?

606. RW: Yes a similar one...actually very similar to that...in fact quite a large proportion of the machine is reasonably similar...
607. MG: So I had real problems when I was setting this machine up because I found it very difficult to adjust the transfer bar to match up with the needles and I was forever undoing these things here and once you've undone it, it's everywhere...you put it back and it's still not right...so what I did was I made an addition to the machine by the addition of these...there's one at each end...which is a little nut so I never undo this bolt or anything else...I only shog this from side to side...if I want to adjust how far it goes to the left and to the right, I turn that little bolt...my little, secret little adaption
608. RW: That's brilliant
609. MG: And so if you turn it anticlockwise, this will move and you can turn it like a thousandths of an inch...now I can adjust it and I've got one just here just the same...what I did when I tapped, 'cos there's no locking nut on it at all, when I tap them, I tap them 'badly' if you want to put it that way, so it wasn't fully cleaned out the thread so when you put the nut in it's very stiff...so you never need to lock it, it'll never move!... You'll need a good size spanner to move it...
610. RW: Yes to actually get it out
611. MG: so it's locked all the while like...exactly the same at the other end so it means it's so easy to adjust for the shogging...so that's how far it goes to the left and until I did that I couldn't get this machine to work at all.
612. RW: I mean a lot of the time with mine...if I do shogging...I think partly the issue is the distance between the actual pivot between like here and here [shows on machine] is quite far on my machine so they've got a little bit of wood that's been put in that first bit there to stop it coming back quite as far
613. MG: Do they all do that?
614. RW: Well because the wood is...[researcher gets oil on her]
615. MG: Are you oily?
616. RW: Yes don't worry...oh I often go home when I've been at the museum [Ruddington] and realise I've got oil...
617. MG: On your face?
618. RW: Oh all over me [Laughter] Oh I've done it so many times
619. MG: Well because I work at the print shop in the museum [Leicester]so I get ink on my face...every time...if you scratch your nose ...touch your ear...

620. RW: Yes gets everywhere and you see people walking past you and going [pulls a face?] If they're nice they'll tell you and if they're not nice they'll let you suffer [Laughter] and go home on the bus for an hour
621. MG: You see that little movement there?
622. RW: Yes that tiny bit of movement that gives you...
623. MG: It doesn't look good does it?
624. RW: Well it doesn't but..
625. MG: It doesn't do it at the other side...
626. RW: But if that tiny bit of movement is what gives you the flexibility that allows you to manoeuvre...manoeuvre your stitches...so sorry I'm totally going back to the beginning...I know you mentioned on the phone when I called you about how you got...how you first got into Framework Knitting...
627. MG: Yesss...I visited the Abbey Pumping Station with my family who were just little children, just as a visit, I don't know why we went there to be quite honest and then walked round the knitting gallery...which I didn't know was there...which we found...which obviously had got all these amazing knitting machines...it wasn't very well designed, the knitting gallery...they'd just put all the knitting machines in the room in the gallery so they weren't signed very...well a lot of them hadn't got signs on them.
- MG: ...and there was a, well he was actually a museum employee, that was demonstrating one of these machines and it was a narrow frame, 16 gauge...machine and I was...having worked in a fully fashioned factory it was amazing to be in...to see a bearded needle, hand operated machine working and got chatting to the man and he said you should come down and join our volunteers if you'd be willing to help run...because I knew quite a lot more about the more modern machines...they'd got in there...so I did.
- MG: I joined the Museum of Technology Association in the mid-1970s and initially worked renovating and demonstrating the more modern machines like the machines from the 1930s but learned then how to use the old handframes...I'd watched him working and I'd worked with the machines in industry...because the powered versions... and learned how to use the handframe...
628. RW: And some of this was... you teaching yourself to operate this
629. MG: Yes ...well he disappeared this chap...it's a bit of a funny story... but he was actually a man then but then he had a sex change...
630. RW: Oh right!
631. MG: And it's automatic in Leicester City Council they move you department when you change... so that...

632. RW: Oh?
633. **[Intercom beeps and lemonade appears!]**
634. *I thought you'd be exhausted out here...*
635. RW: Oh thank you so much oh that's lovely...
636. *...I don't know...*
637. RW: oh that's beautiful!
638. *You can have another one if you want?*
639. RW: Thank you so much
640. MG: And so I never saw him again... so I thought he'd be able to help me but...well I did see him again because he came back ...or
641. RW: She came back...
642. MG: Yes, she came back about three years later and I was demonstrating a machine on Open Day and then he said oh do you remember me I used to...and I said no...and he said yes and then she by this time and after about five ...went into telling me he'd met me and so on and then I suddenly realised that it was this chap you see...and it took a long while for him to get me to realise who he was...he was very patient...
643. RW: But it's not something you come across everyday
644. MG: I did never see him again...so basically he left when I joined but I'd seen him doing it so you've just got to get on with it, haven't you? And then I was demonstrating and I thought no one else did it in the world and then a visitor came in and this was a few years later about 1979 and said he was in a factory at Hucknall where they were using these machines in industry. And I went up there the next day, that was the Sunday and I went up on the Monday and bought that machine at the end there...I couldn't believe it...they were still using these ...and they were...there were rows of Framework Knitters working there in 1979
645. RW: Which company was that?
646. MG: That was Woollett's... yes that's where my first machine came from
647. RW: Oh of course yes so ...when did you become acquainted with Hurts?

648. MG: Well then of course...I'm trying to think what happened then...the order of things...yes...I got in touch with Bucks and Hurts then...and then started doing my inventory bit...that was the excuse to go and see them. Never ever went to Hucknall Manufacturing...have you ever been to Hucknall Manufacturing?...Mr Secretan?
649. RW: Ohh??
650. MG: Everyone you went to see, they told you about this gentleman..
651. RW: Was he quite fierce?
652. MG: [Laughter] I've no idea...I never ever saw him... I'll leave that till next month...I never ever got to him...the story was that all his machines had been dismantled and were in 45 gallon drums
653. RW: Oh right? [Laughter]
654. MG: These stories go round, obviously a load of rubbish but you don't know do you? They're still in manufacturing now...are they on the internet? I know nothing about them at all...if you go on the internet for Hucknall Manufacturing and they have lace, mohair, lace and beautiful things that you can buy on the web so they still manufacture so there's Hurt's and Hucknall Manufacturing...I presume...I don't know of anybody else... I don't know...I know Hurts make scarfs ... they're not made in Hong Kong but that is the only factory I know anything about...and you know more about them than I do. So how is Henry, does he still work full time?
655. RW: Yes he does...yes he's very much still...still going...
656. MG: ...the boss there...
657. RW: Yes I think he'll go till he drops probably
658. MG: I phoned him up before we went on holiday last year...we go to down to Australia...my wife is from Australia so we go down there each winter for three months so I phoned him in November it would have been...if I've not been in touch with him, I phone him once a year...
659. RW: To let him know how you're getting on
660. MG: Still alive [Laughter] so the last time I spoke to him...I didn't visit him...so I spoke to him last year which is a bit sad really because I'm not doing much...because I didn't go to Ruddington last year and I haven't been this year, which is terrible...
661. RW: Well you've got your own machines to deal with here so it's not always...it's not always...and there have been a lot of changes at Ruddington anyway what with Jack Smurfit passing away a couple of years ago
662. MG: Oh of course...

663. RW: It has changed the atmosphere...
664. MG: Has it?
665. RW: because you've gone from having someone who knew a massive amount about Framework...I mean obviously a lot of the other trustees know a lot but...like David Elson, Russell Kempton,
666. MG: But he worked in the trade, he knew everything...
667. RW: And he also...because he was my supervisor...
668. MG: He was with HETRA wasn't he?
669. RW: Yes for a long time
670. MG: Yes in the old days when I was working I used to do research...we all paid a levy you know... to HETRA...that's how it was financed. If you had over so many people you paid these levies...a minute amount... a fraction of the percentage of your turnover...but I went up there quite a few times for different things...it was an amazing set up...and so his knowledge of the industry...working there where they did research work...all the different branches of the hosiery trade...it must have been unbelievable
671. RW: Mm yes
672. MG: Of course I used to talk a lot to John Millington...John Millington was the editor of Machine International for years and he lived in the village here...of course he died...which is inconvenient when you need some information. Jack Smurfit's gone, Alan...Cooke's gone...
673. RW: Jeff Oxley of course
674. MG: Yes of course...yeah so it's fantastic that you are doing this, especially with Arthur Hesketh
675. RW: Mr. Hesketh is the most interesting old chap I've ever met...he just has...you sort of...like he started talking almost before I could get my Dictaphone out of my bag so I was trying...trying to record him and he'd already gone halfway through a story he was telling so the audio footage I've got of him, he's already telling me about this woman he knew who used to be a Framework Knitter. And sort of as soon as you started the machine, he didn't stop...it was like a passion in him that had never quite died that was ignited again when he started talking about it.
676. MG: The person that introduced me to Arthur Hesketh visited a craft show, I told you this on the phone, at the NEC in Birmingham...I was really doing it keenly...and he...I don't know what relationship he was...I think he worked with him...I think...he was obviously

much younger...but I'm sure he was a Framework Knitter as well and lived in Hucknall...and you've not been in touch with him?

677. RW: No, not that I've heard of...I mean I got in touch with Arthur Hesketh because
678. MG: How did you get..?
679. RW: Because David Elson, who's one of the trustees at the museum, he knows him, I think he knows his daughter...I think he was chatting to her and his daughter was saying...it was a rather augmented way of doing it but obviously David, David put me in touch with Arthur...
680. MG: What an opportunity...because he's like...with the age that he is...he can go back to well...the Thirties and Forties
681. RW: Yes he was telling me about the 'Gaffer' at his place and about one day he had an argument with him because he wasn't doing what he was told...and Arthur was being a bit of a rebel and the gaffer said to him 'if you don't buck your ideas up, you're going to be out on your ear' and he was like 'Fine' and just stood up and walked out and all the other chaps were 'Fine, if Arthur's going, we're going too' and they all walked out and this manager is stood there thinking 'Right I've got no workers now, I think I'm in trouble!' [Laughter] so I think Arthur's a very likeable character and that shines through even though he's as old as he is.
682. MG: It reminds me of the hosiery days in Leicester...I worked for this hosiery company in Leicester...a knitwear manufacturer and you're always having trouble getting over-lockers you know...you need them for even with a small factory... a whole...it's very labour intensive, over-locking and they move round...company to company...trying to get a better deal...you know...and we made it a policy in the end with this company if there was more than two girls came for a job as an over-locker, we wouldn't employ them...we wouldn't tell them, but we wouldn't employ them, because we'd had one...Six girls came...they were all really good workers and then had a bit of a hiccup with one of the workers...and they'd all walk out which of course you've lost six! All in one go and so it's too high a risk factor isn't it
683. RW: Definitely
684. MG: So we had this policy then we'd employ two girls that came together but never more than that...it was a small factory...we had a hundred and something employees you know...yes we wouldn't employ a big group 'cos basically they'd got too much power, hadn't they... they could drop you in the cart...yeah...so this is a problem that went on in the old days...yeah
685. RW: I think there's a lot of like stories like that about the camaraderie between the...and yet also the complete opposite and that immense secrecy and although they'd probably call themselves friends they couldn't tell them anything about what they were doing they'd be so secretive about their patterns.
686. MG: Do you know, that when I went round in...and found out in 1979 about how these Framework Knitters were working...I went round then to Hurts, to Woollett's and to Bucks and it's only Jeff Oxley who would really open up. He told me...don't matter what I asked

him, he told me...do you know the others would talk about football and other things but at Bucks and Woollets, they'd...

687. RW: Try to distract you?...

688. MG: Yes, they wouldn't talk about Framework Knitting and wouldn't talk about their jobs...

689. RW: Mr Hurt was telling me...I probably shouldn't say this, but Mr Hurt was telling me they'd managed to do this brilliant new lace pattern, a long time ago now, and it was really quite exciting and I think they'd done it using some new yarn or something along those lines and basically someone from a rival company had asked him to his face 'How did you do that?' and he fibbed and told them he'd done it on a Doubea and this chap did no more than go and buy this blooming Doubea and shelled out for a Doubea, trying to replicate this pattern and it never existed because he'd done it on a totally different machine and he's fibbed about how he's done it...but that's how! [Laughter]

690. MG: But that's business isn't it? But with the Framework Knitters, there were rows and rows of machines in 1979 but they weren't all full of knitters and the new ones that were coming along were getting out the trade because they could still then... and the only ones that were left were the older ones, that it was too late for them to learn another trade. The writing was on the wall [about the trade] but it was in their blood but they couldn't change themselves could they?

691. RW: No

692. MG: But it was ingrained into them you don't tell anybody the tricks of the trade so thank heavens for Jeff Oxley. I looked it up after you phoned, I've still got the notes that I wrote down in my book that he told me...on the back page of this book it's all like in shorthand...you couldn't read it

693. RW: or photocopy it

694. MG: Because...it was just...you forget these things don't you? You're firing questions at them, you forget and think over some of the ...you forget some of the things you've talked about so I used to make notes when I was talking to Jeff Oxley...I used to write down everything, all the patterns he did...because now...he must have thought I was mad! But I know now...you can do any pattern...why worry about it...but I didn't know that at the time...he used to do incredibly intricate patterns with endless transfers on one row...

695. RW: I can imagine him being really quick...he was doing it so quickly that you could...it takes longer for your brain to register what he's done than it takes him to do it.

696. MG: He had points set out... there's only one every seventh, you know... I put every third point in action on every machine...that's it, that's what you get because I used to have one that I...it depends on...the end machine when I bought it was set up to every fifth transfer point in action...every fifth and I had some patterns like that but I've changed it so every third one now...every sixth needle gets transferred on every pattern I...you can't miss a row can you whereas Jeff, I think it was every seventh point was in action and to make a lacy fabric you have to do lots and lots of transfers

697. RW: Yes with big gaps between them...

698. MG: They'd do these transfers where they'd make these like shell designs so to transfer that stitch...
699. RW: I suppose it's the feathering isn't it...so you've got three...three needles across at once...
700. MG: Oh dear...how on earth can you do...but they look beautiful don't they
701. RW: I suppose it's the intricacy that makes them...
702. MG: But it's not commercial...it is on a power machine...one man runs six machines
703. RW: Exactly...they're churning them off and once the jacquards are going through you're just getting the...
704. MG: Mine are incredibly simplified versions
705. RW: I suppose you are totally right...that's how you keep it commercial and how you keep on top of it...if you were going to spend hours and hours doing multiple transfers with lots of feathering and lots of different transfers per row...you're pricing yourself out the market...the amount you'd have to charge for something like that would not be...
706. MG: You couldn't sell it and then of course if it wasn't that I actually retailed them myself...the business would not be viable, because I make more money, if you want to put it that way, by retailing...that's where the money is ...the money isn't in making them...I could make more money if I bought them in from India...I get emails from people in India, because they see my website and say we can make those for you and ...keep emailing me...because it defeats the whole object... they're supposed to be made by the craftsman at the show...but I'm afraid at these shows a lot of stuff is not made by the person...they come from China...
707. RW: And I suppose that's what makes you unique and makes your product unique
708. MG: They're not from China! [Laughter]
709. RW: And I suppose this is the issue we've got with the whole of the movement of the textile trade out of this country, we're at a situation where all of the...the majority of the...
710. MG: There isn't anything left!
711. RW: There really isn't, Hurts is such a rarity
712. MG: He's an oddity isn't he?
713. RW: Really is...

714. MG: One of the Scottish manufacturers ...I can't remember which one like Macey, expensive fully fashioned golf jumpers
715. RW: Oh and Pringles...
716. MG: I think it was Pringles or someone like that...it's true but at least fifth hand...that they knit the blanks up there now and then ship them to be made up in China and then they come back and have the labels put on and they're 'Knitted in Scotland'...well they are knitted in Scotland and then they ship them across to America and really because make up is so labour intensive, what do you do?
717. RW: I was going to say...they haven't got a very low carbon footprint have they? If you're talking about a product that is locally sourced, locally manufactured and locally sold then what you are doing is...
718. MG: That is, that is the way...we were going to Australia and stopped off in Los Angeles on the way there and I tend to go round the ladies knitwear departments in these stores [Laughter] and there was ladies fully fashioned knitwear there and it had got Xenia Berafa, who's a very well-known spinner in Italy and I buy my wool from them...they'd got Xenia Berafa swingers on them so the yarn from Xenia Berafa comes normally from Western Australia. So the yard had come from Western Australia to Italy to be spun, knitted in China and then sold in Los Angeles...so your carbon footprint for that. .it's gone more than once round the world
719. RW: Absolutely
720. MG: There's something not right is there? There is something crazy...
721. RW: It seems such a shame that there isn't that kind of 'Let's make it, manufacture it, process it' all within a very small area any more...that just doesn't exist anymore...I suppose it's you know maybe a hundred years ago you'd find you would be able to get some locally sourced yarn and you would be able to find a locally sourced man to knit it for you and you'd probably sell it locally or all over the world but...
722. MG: Well when I got into the textile trade...it was surprisingly... do you know after the war...during the war nothing changed as you can imagine... everything in the 1950s was identical to what it was at the end of the 1930s...the war came in 1939 and so the company I was with wouldn't sell to retailers...this was Rowley's, one of the biggest knitwear manufacturers in Leicester, wouldn't sell to retailers...we would only sell to wholesalers, and that's how it was by tradition.
- And we sold to...if I can think of the name...S.E Larkin's in Birmingham, one of the big four wholesalers...four big four...Bell Nicholson's and Lunn's, there's all these, Smiths, these wholesalers in London and Birmingham and that's who we sold to and Tesco as it was then, they created this wholesale company and I don't know how I was involved in it but I was involved in it and we started supplying this wholesale...but this wholesale company that Tesco created, which was in...I can remember where it was...I can't remember, I used to be able to remember, but it was solely created to buy to supply Tesco
723. RW: So they could get out of the loop of...

724. MG: Yes this ridiculous thing that you couldn't...we couldn't supply them, so we used to supply this wholesale company but all it did was buy to supply Tesco, but obviously the other wholesalers couldn't complain to us that we were selling direct to retail because we didn't, we sold to this wholesale company and it shows how old fashioned...and that was show it was after the war ...it was really strange...yes...it was business. Whereas now really retail and wholesaling ...it doesn't happen anymore does it
725. RW: Well it's a totally different set up...it's a totally different set up of how products get to your shops now
726. MG: And of course now in the textile trade now it's changed again because the design function has to be here [in the UK] because the Chinese are all minimalist... their body size are hung...they can't design for us...they can't believe the size we are [Laughter] so the design has to be done by here in England but then of course, obviously
727. RW: It can be outsourced
728. MG: It has to be made in China at the moment because of this...
729. RW: It's the labour...cost of labour
730. MG: The cost of labour at the moment in China...they've just...in certain provinces they've just all had a 20% rise haven't they?
731. RW: Oh?
732. MG: Yes because textile workers are on the minimum...they've increased the minimum in one province...it was in the paper a couple of months ago...they increased the minimum wage by 20% which doesn't affect a lot of people but it does affect textiles because they tend to be the lower earners and so the prices will start to creep up in China...but it's a massive place
733. RW: So there will always be a lot of the under-cutting anyway
734. MG: Oh it'll take generations, well what'll happen...just as before...Indonesia is a bit of an untapped resource and so when China does put the prices up because if their wages go up then Indonesia could step in and of course India is sat there with loads of people and very cheap labour...and so you can't really see the textile industry coming back to this country, can you? At least not in the foreseeable future [Laughter]
735. RW: Umm I don't know whether or not we've ...we ever will unless there's much more of a move towards erm if people are much more...going back a little bit towards craft based products...there's a lot more people who are interested in...I want to buy something that's locally made and locally sourced...I don't want to buy something that's commercial and...
736. MG: And because if you're going to have it made in China you're going to have thousands upon thousands of them to make it viable. Shipping it all the way
737. RW: Instead of having something unique and...

738. MG: And how a lot of people, especially if you're in the limelight...and there are photographs are taken...you don't want to be seen in the same...
739. RW: ...as everybody else!
740. MG: So there is a real market there?, isn't there, for short runs of things and then China then falls out of the picture doesn't it?
741. RW: Because you don't get the same kind of handmade, craftsman's quality...I suppose that's where your products come in as well...you've...
742. MG: In fact yes you could... I did actually sell to...now what are they ... Daks...have you ever heard of Daks? Daks in Australia is like a slang word for trousers but an English company used to wear trousers and it stuck down there and people call them Daks, yes trousers.
743. MG: But Daks is a manufacturing company, they're still in business now and it's their company name and they've got...they make menswear really obviously, most of its imported but they've got two flagship stores...one in the West End in London and one in Edinburgh and they have a ladies wear range...and they actually bought from me...which was quite surprising... and very short runs...very small orders and obviously I make something...they found me on the internet...they only ran me for two seasons...that was it...you know what I mean...in and out...something different...they were okay...they paid for everything and they didn't send anything back
744. RW: It's always a good sign [Laughter]
745. MG: Anybody that's making...I manufacture in Alpaca for this Australian company, they found me on the internet.
746. RW: The internet has completely revolutionised the way that we are able to do trade now
747. MG: I've been doing business for this company...it's only got two craft shops...it's not a massive company...She's got a craft shop in the middle of Melbourne and then one up country where the Alpaca farm is...and she grows Alpacas and you can go and have stuff made in her yarn and you can go into her two craft shops and buy them. It's not cheap, she ships the yarn over to me and I make shawls in it and it's not 100% Alpaca because to spin down to my count is too fine, she spins down to two 60s which is very, very fine and it's nearly all shawls off this machine and 54 inch square shawls and she only orders a few and it's silk the other...so it's 70% Alpaca and 30% Silk and it is amazing yarn
748. RW: It sounds like it's perfect
749. MG: And she...and I ship the products and send them back by airmail back to her.
750. RW: It's fascinating...doing it all over the world

751. MG: Yes, and we've been doing that for about five years...I've actually been there and visited the farm because we go down to Australia, and she's been here
752. RW: Oh that's amazing
753. MG: She came up because she was going to a conference in South America about alpacas and it was just as cheap to fly via London as to go direct from Australia to ...I don't know...Lima? ...where the alpacas are...because you can get really competitive flights from London everywhere
754. RW: so it was a good job...
755. MG: Yes whereas if you fly from Australia into Lima or South America you pay the price because there's no competition because there's not enough people travel to have this very expensive... so she came to England and saw me and a few other people that she buys from...and came here and the following year we made a point...she'd invited us because she knew we went down there because I'd talked to her about it...but somehow I felt it was odd...but after she'd been here I felt OK about going there. Beautiful craft shop and all these alpacas everywhere
756. RW: Brilliant
757. MG: Amazing things
758. RW: Would you mind very much if I took some photographs of Mr Hesketh's photos if that's okay because...
759. MG: Yes, yes
760. RW: Because that way...I want to show my supervisor...the images are...
761. MG: There's a story there isn't there...
762. RW: Absolutely...
763. MG: Shall I take your glass and put down here...for my better half's... we can pull the photographs out
764. RW: I always forget to delete the old photos from my camera and end up running out of space
765. MG: Because I think if you pull it out you'll probably get a better...do you want the door open to get some natural light?
766. RW: Yes that might help
767. MG: Sometimes it helps, sometimes it doesn't

768. RW: Might help, let's see...I've got a macro feature on this camera so sometimes it helps because it stops the shake
769. MG: With my camera you have to be surprisingly close to use the macro and I've had a lot of problems with it
770. RW: That's fascinating, he's amazing...
771. MG: so that's that one
772. RW: These are absolutely...
773. MG: I wish I knew the names of these people
774. RW: The chaps...the Woollett chaps it's just amazing you've managed to accrue so many good...good copies of
775. MG: Because these of course are on my computer, they're not originals...I scanned them from...I borrowed the photographs from Bert Agiss but I didn't get them when he died you see. Because you can't really ask them for photographs, can you?
776. RW: I presume they're...presumably a member of his family still has the original copies unless they've been donated to a museum...it's a shame if they've not been donated to somewhere that can use them
777. MG: You know I went down there and his daughter married into a very wealthy family with a lot of lands down there which is why they moved down there...ermmm ...yes [silence]
778. RW: So did you say...Mr. Hesketh is this one down here
779. MG: Third from left hand side, there Arthur Hesketh... supposedly...
780. RW: I need it to focus...that's amazing it's fascinating that there's this evidence that shows someone using a machine that is now effectively sitting...sitting here in your
781. MG: Oh yes I've got some of the machines...I don't even know where.. what frameshop that was which is a bit sad isn't it
782. RW: It would probably...probably been Bucks oh I don't know actually because he worked for
783. MG: No...it's not Bucks...
784. RW: It could have been Calladines maybe? Calledines he worked for as well...

785. MG: Did he?
786. RW: He worked for Calledines, he worked for...
787. MG: There was this company called Rhodes
788. RW: Might have been ...I don't know whether he mentioned it but he definitely mentioned Calladines
789. MG: Well you've got pictures... Hmm, yes that's the Wigston frameshop
790. RW: You should do a Ph.D. yourself about this...you know more than anybody...you no far more than I could ever learn in three years
791. MG: [Laughter] I don't know...ha...no obviously it's been my hobby
792. RW: Oh I would say it's more than a hobby
793. MG: Well a hobby because when I bought this machine, I hadn't got any ambition to, at all, sell anything...just bought it to play with...and then it was really quite a surprise to me, that I could make something that people wanted
794. RW: That people were actually interested in and you've clearly got a market for it you knowbecause I suppose if you had a lot of competition because if there were a lot of other people doing the same thing then you might be in difficult territory, but
795. MG: But I don't think there's anybody that makes on Framework Knitting machines I don't think
796. RW: No there isn't anybody that I've come across...I mean Hurts have got to the stage now where although they still have their handframes in the workshops...,
797. MG: They're not manufacturing...
798. RW: They're not manufacturing on that at all.
799. MG: In a company like that where you've got tremendous overheads, it's just not practical is it?
800. RW: Not at all
801. MG: Whereas with me, I have minimal overheads
802. RW: And you can do smaller runs

803. MG: And basically we're back to this retailing...there is money in retailing still so if it wasn't...you know how I used to do the trade show and sell them to shops...I had to drop that, you couldn't do it...I couldn't carry on because it just wasn't on...the prices they wanted to pay...were willing to pay me wasn't right. So to run a retail company now you need to have a big margin so therefore the manufacturer has to be able to sell the stuff at an incredibly competent...competitive price
804. RW: I can imagine...
805. MG: Which isn't realistic and so because I retail everything really except these bits to you know to Australia...but she actually pays full price...she pays the retail price because I went to...well it doesn't cost me any less to make it for her as to make it to sell to someone at a craft show so yes...
806. RW: I guess she bumps up the price to sell it if she's selling at a very exclusive
807. MG: It's on the internet...her website... and yes they're hundreds of pounds for the big shawl, they are...well not hundreds it's over a hundred pounds... I can't remember ...I think it's two hundred and forty dollars, Australian, which is like a hundred and twenty pounds
808. RW: But for a really beautiful, nicely made shawl that's Silk and Alpaca
809. MG: Alpaca and Silk
810. RW: I wouldn't even...I know that Hurts make a cashmere shawl that's a relatively simple little cable pattern that they sell I think to Harrods at that sells for well over a hundred pounds, although it's made of cashmere it certainly isn't...it certainly doesn't cost them a hundred pounds to produce so there is a ...an avenue there for making some decent profit if ...
811. MG: I did make a range in cashmere. I bought it from Scotland, two hundred pounds a kilo...it's expensive yarn
812. RW: Gosh yes
813. MG: The normal cashmere was half that price but I wanted it half the thickness so it doubled the price...you know with yarn if you gradually spin it out cos you want half the thickness, well it's twice as long!
814. RW: And twice as much spinning as well
815. Yes
816. RW: You'd think the more yarn you have the...I suppose it's much less fine...
817. MG: Well you're paying per kilo so you're getting twice as much for your money really

818. RW: So how fine would your yarn need to be...on these machines?
819. MG: These are 2 48s ...this is from Hurts...the raspberry and the purple... and the gold, are all from Hurts
820. RW: That gold colour is my favourite
821. MG: He lost all his stock when they had the fire, of course
822. RW: He's lost a lot of it, yes...
823. MG: I lost my stock as well...because I bought my yarn from him...so it was really disappointing
824. RW: Yes I suppose when you have a small community of people who are doing this...one negative thing does impact very heavily on everybody
825. MG: You know...[Listens] it's an intercom this so old, when my children were small, my wife used to go out to sing functions and I needed to be able to work, but my children were in bed at night but I just needed to know...
826. RW: Know they were alright...
827. MG: And in those days you couldn't have a phone in here...oh I did have a phone eventually...there's the remains of it somewhere...oh that's the holes where the phone was...but now I've got this remote one...and you couldn't hear the front door bell so it's just a listening device...
828. RW: Because you'd obviously need to go back into your house...I really want to get myself a big shed in my garden now...if you were ever interested in selling a machine, I'd be very, very interested.
829. MG: But Henry sells machines...
830. RW: Yes he does...I wouldn't even dare ask him how much they cost because it would be far more money than I could ever afford anyway...but I feel like I'm in a similar boat to you...to what you were in the Seventies...my passion's just been ignited for this...
831. MG: It's ever so difficult to put a price on...you see the sock machines, they're on ebay all the while so you can put an exact price on those...one went for a thousand pounds you now, about a month ago...it had got a stand...stands are rare...yes
832. RW: Stands are rare yes
833. MG: She put it in for auction or buy it now for nine hundred and fifty pound and it went within twenty four hours...a thousand pounds!

834. RW: I know there was a woman who was...I don't know if she came to Ruddington to get some advice on what to do with hers...but she had an old Griswold, had had it completely stripped down, all the black taken off it...and she had it repainted with this like lacquered finish...it ended up being white lacquer and it looked disgusting...it had taken away any charm, any character, you know what I mean? I mean part of the niceness and interesting factors of these machines are you can almost see little brush strokes where they've been painted originally...they've got that real quality of what they looked like what they...
835. MG: They've aged...they look right. So how far...is it a three year course you are doing?
836. RW: Yes, I've been doing it...this my third year ...I think the problem was my first year took a lot of time out of my research process because I had to learn the machine...I had to...I mean I have a history...I have a background in knitwear design, that's why I came back, I did my undergraduate degree at Winchester School of Art and then came to Nottingham Trent to do my 'Masters in Textile Design & Innovation' but then when I started the Ph.D. ...well one of the things you're going to do is go and learn the handframe so Milla at Ruddington taught me...
837. MG: The basics...
838. RW: Yes the basics... and Reg Robbins at Hurts has been showing me little additional bits.
839. MG: Has he ever worked as a knitter?
840. RW: Reg? not...
841. MG: Because he's an electrician, isn't he?
842. RW: Yes he is...
843. MG: Or is he?
844. RW: Well I think he's a bit of a 'jack of all trades' He's the one who maintains and manages all of Hurts machines
845. MG: Does he?
846. RW: So he keeps all of those going and in check and comes in and
847. MG: He could take Hurts over...
848. RW: Don't think it would be a bad idea...I think it would be very exciting
849. MG: Cos I've met him a few times...I don't know him really...but he knows how everything ticks doesn't he...because it would be terrible to see Hurts disappear, wouldn't it?

850. RW: Absolutely awful
851. MG: I don't think his family are into it are they?
852. RW: No, but he's got his daughter Gillian who works at Hurts...
853. MG: Does she? What does she do?...is she in the office?
854. RW: No...she does a lot of the mending
855. MG: Does she?
856. RW: Oh and I think she's quite into the sales side
857. MG: I don't know her, I can't believe it
858. RW: Strawberry blonde hair, really softly spoken
859. MG: Really
860. RW: Yes, she's very nice
861. MG: Oh I didn't know that
862. RW: And he's got a couple of grandchildren who I think at the minute aren't interested but they're not old enough so they're not interested. I think that's one of the reasons maybe he's carried on as long as he has because who does he pass it on to?
863. MG: And it's so unique isn't it? Well it's like me and this lot
864. RW: Well I think Mr. Hurt was saying that like in the early Forties and Fifties when he was basically...he was an apprentice...Jeff Oxley...he was one of the final apprentices and Jeff Oxley was his teacher. So what Mr. Hurt knows about learning from scratch and going through that whole apprenticeship scheme...is not being learned anymore...it's not the kind of skills so even if his daughter wanted to take over the company in the future she doesn't have the same background and the history so it's a big burden...a big knowledge burden...to carry
865. MG: It's half a museum as well, isn't it...half a museum and half a factory...it really is an oddity isn't it?
866. RW: It is.
867. MG: If you had a whizz kid come in, they're going to say you've got to get all these old machines out of here

868. RW: I suppose if the old machines are out, you could double the amount of space you've got for storage or tables...
869. MG: Then you could double production...yes you could transform it really. But on the other hand, Hurts is what it is, because of how it is, isn't it?
870. RW: Yes, I mean it's great because...I know you were showing me the pictures of your all the handframes you've been documenting...the one that was Jeff Oxley's machine upstairs, I think other people in the past have used it as well. Because it got next to it, like old pairs of glasses and things like that...that this chap has clearly just left on the side...then gone away and died and not come back and moved them and Mr. Hurt's not moved them either so you've ended up with this sort of living museum...where everything is covered in a very fine layer of dust and then there's like a little chest of drawers that sits right next to the handframe and I was having a nosey through the drawers...just cos you know I could and there was an empty packet of cigarettes that he'd had stored in there and then like a dentist appointment card from 1957 or something like that
871. MG: It's unreal, really isn't it?
872. RW: But it's great because it shows when the last time this was being used...it can date it so well
873. MG: You see when Wigston became a museum they went in there with the help of like Leicester Museum Service ...helped the people that took it over which was...the Council to start with, bought it...and then they got these Trustees together and eventually the Trustees bought it...an independent...but Leicester Museum's allocated them one person to show them how to accession everything...to record everything...because you can do it badly and like everything else you can do it well and if you're going to do it, you may as well do it properly the first time and then you won't have to keep doing it and so on that day that they started accessioning everything we noted down everything that had happened...but of course Hurt's has never done it, has he?
874. RW: No Not at all
875. MG: So it's actually...he's got less records possibly than I have
876. RW: Well it's because it's carried on working as a working establishment
877. MG: Yes it's a proper factory isn't it
878. RW: Yes it would be great to get in there and may be document a lot of the machines, a lot of the processes
879. MG: Did you learn to knit really at Hurts rather than Ruddington?
880. RW: I learned to knit on the machine at Ruddington initially, but then I went and did like a six month placement at Hurt's as well, so I worked in all the departments... so I pinned out in the pinning out room...

881. MG: Did you?
882. RW: Yes... pinned out all day...my back was killing...
883. MG: Oh you learned the lot
884. RW: Yes pinned out in the pinning out room... and then they've got some shawls that are large and have got lace holes all the way round the outside with a little floral pattern in the middle and they all need threading with ribbon so they had ribbon threaders so I sat there with my big needle threading ribbons and I've learned how to fold a shawl properly so they're all identical so when you put them on the shelf they all look...
885. MG: I do that for every one...[Laughter]
886. RW: So I've learned the whole manufacturing process from how they wind the yarn off the hanks onto the cones and then actually knit with it and then how that's taken off the machine and then how that's overlapped and then how that's ...the whole process
887. MG: Tremendous
888. RW: But what is good about Hurt's is because it's got the handframes there as well...Reg is in the Knit workshop working all the other machines and I'm...and I can sit on the frame in the main workshop and knit away and it's like the 21st Century is next to...
889. MG: Literally next door...
890. RW: 18th Century and 17th Century depending on how old the machines are...it's such a fascinating experience to see these two time periods juxtaposed against each other and how important it is...or how important I feel it is to keep that...keep it maintained
891. MG: But obviously your contribution is you will have recorded it...all these things and nobody else has done what you've done. You see Peta Flynn...she was fantastic at the machine and the engineering side of it and working and making things but I don't think...you've recorded all these things...so what you've done is I think pretty unique...contribution
892. RW: It's a nice process, unfortunately I'm not as much of a practitioner as I would like...I would like to be better at knitting...but I think mainly as well...I would need to spend a lot more time knitting in order to get good...and I can only really...
893. MG: Well Henry will know this...how long's it take from somebody coming in the door ...when they were apprentices to actually?
894. RW: Well I was having a look through...there's an account of the 'Working Conditions of the Framework Knitters, 1844'....they've got a big copy of it in Ruddington Library and I was having a look through the other day and there was somebody moaning about...the sub-standard work being conducted by people...people on the cut up machines so he was moaning basically 'these people who...they've been coming in and only doing it two years and they think they know everything'

895. MG: Just plain fabric...just straight fabric?
896. RW: Yes just plain fabric and basically someone who had two years' experience was considered to have no experience...was considered...so even having spent the best part of the last two and a half years learning the machine I am still...they would consider me to be very inexperienced...so my skill level on the machine is always going to be, unless I do the full seven years apprenticeship, for Framework Knitting ...I don't really stand a chance in getting up to that standard.
897. MG: But people ask me how long would it take to learn and I don't know what to say...which is why I was asking you [Laughter]
898. RW: If I was honest, you'd have to dedicate...I don't think you could learn and be really good unless you spent at least one to two days a week for five years easily
899. MG: It sounds crazy doesn't it
900. RW: It does but...
901. MG: Unless... you end up discounting it to make it sound sensible until in the end you keep knocking it down until...until you know, you're not telling them the truth...you tell them what they want to hear [Laughter]
902. RW: Well when I first started to do it, Milla wouldn't let me use any yarn on the machine, 'No you'll break the needles, No you're not allowed to use any yarn...so just' ...till he showed me all the movements and I must have sat there for three weeks just doing the same...it was brilliant because it becomes autonomous [automatic]...because once you've done it over and over again you get that sort of sense of repetition and you know how hard you have to press and you know how much you have to pull forward and you...you know how much your jacks are going to jump up again when you let go of it so it's a great process but time consuming.
903. MG: So...yes where are you going from here then...what happens at the end of your...or haven't you decided? How long have you got to go now?
904. RW: Well, basically this is the end of my third year , most of the time they expect you to finish within three years but all lot of...
905. MG: But it doesn't have to
906. RW: But it doesn't have to... it can go over into a fourth year...I would like to submit by Christmas if I can
907. MG: So you've got six months left then

908. RW: It's a lot of writing but that's why doing a lot of the interviews now is kind of crucial because it's...it's bringing together all the...for example if I'd come and interviewed you two years ago
909. MG: You wouldn't have known what to ask?
910. RW: I wouldn't have asked the right questions and I also wouldn't have understood everything you said...and it wouldn't have made any real sense to me....whereas now everything you say to me...
911. MG: Well you know how Hurt's works and how a business works
912. RW: And I know a lot of the people...you've heard of too
913. MG: Yess, Arthur Hesketh...it's unbelievable
914. RW: He's a fascinating character
915. MG: The background that you've got now over the last two years, three years would be incredibly valuable though...if you went into fashion design or something because it's a really unusual set up this that I do, and that Hurts does and I've worked in the knitwear trade for twenty odd years and it's not the normal run of things at all...and I think it's really good background knowledge, yes
916. RW: It just gives you a different angle to approach knitwear from and I think as well I would probably like to work within the heritage sector, I'd like to be someone who is...who helps Framework Knitting live on a tiny bit longer
917. MG: To me the perfect thing...people say 'what are you going to do with your machines when you can't knit anymore?' and what you want is ...what would be fantastic is if you could have...but is there such a thing in any trade as a working museum that actually makes things or is there such a thing
918. RW: It would be great if there could be...
919. MG: Rather than this static...
920. RW: I would be...
921. MG: Rather than machines sat there doing nothing
922. RW: It's all about...how much...it breaks down to money...how much money we can get to pay people to learn to do it. Essentially somebody like Milla is pretty much the last person apart from myself really who has been taken on and has been taught framework knitting and has actually works in that trade years later on. We get a lot of students who as a part of design degrees come and spend a year or two learning the machine but then once their course has finished and they've gone off and got a job...framework knitting is the last thing on their mind...and it's all about making the memory last a little longer and making people

remember it and care about it, I suppose... because it's when you stop caring about it that these machines get rusty and get old and get completely forgotten about.

Brilliant... I'm going to write Mr Hesketh a letter. I said I would and tell him that I've spoken to you and I've seen part of his machine.

923. MG: If you can send me a... you know
924. RW: I've contacted him exclusively through his daughter just because he's so old
925. MG: Can you send me a copy of the transcript?
926. RW: What I'll do is I'm partway through transcribing the interview because it's a long interview
927. MG: Have you got my email?
928. RW: Yes I think so...is it on your website?
929. MG: It is yes. Underneath the address...some people can't find it.
930. RW: I'll forward you a copy of that...
931. MG: That would be fantastic
932. RW: I'll also forward you a copy of this transcript when I finally get round to...I'll hopefully do it as quickly as possible. But that's absolutely fantastic...thank you ever so much for your time...it's been so informative...
933. MG: And you said there might be a chance of my seeing your finished work?
934. RW: Yes, definitely, well I don't know whether it's easier to give you a hard copy or email you a pdf of when I've finished it...I don't know whether you want to
935. MG: Well that wouldn't cost anything would it?
936. RW: Yes
937. MG: That would be fantastic
938. RW: I'll be sending it out to everyone...my grandmother...my mum [Laughter] everyone who wants a copy

939. MG: I was worrying about the cost of the paper... will just be a few pounds but the printing costs will be high
940. RW: To be honest I think the fully bound, beautiful leather covers...I think they're about seventy quid each
- [Discussion moves on to family matters]**
- [Final twelve minutes]**
941. MG: One person names a part one thing and then somebody else names it something...
942. RW: Yeh...
943. MG: ...different And so I have done and then printed a sheet out with the names...I should have put it in here but I didn't...I don't think it's in the back of that book...it ought to be...
944. RW: I suppose you learn the name of something through what however your teacher tells you it is and if they have a name they've invented themselves ...there's lots of little sort of...
945. MG: I've given copies to lots of people...the sheet that I did eventually...I think I've given one to Hurts...Henry...but I don't know who I have given copies to...but I did spend quite a bit of time doing that
946. RW: Yeah...
947. MG: They've got all these...you know when they set up Leicester Technical college in Leicester they had all these... they had to teach them from these translated German books because these were the only books that...
948. RW: The Willkomm ones?...yeah
949. MG: I'm not sure what they were called but this was in the 1800s
950. RW: I think Wilkomm was the German, the German chap who did a lot...I think it was translated by Raulett or something...I'm trying to remember
951. MG: And so I've gone all through that and tried to find the names of all the different parts of the machine and then just got it all onto one sheet of paper sort of thing...which is another thing I did...
952. RW: But that's a great step in helping...essentially you are a researcher.
953. MG: Yes that is doing research work really isn't it...?

954. RW: Yes that's exactly what you are doing...you're finding the original sources and building them into a process that...
955. MG: Oh yes, yes,
956. RW: ...means you've got information that is actually useable
957. MG: Yes I never thought of that really...but it was because I was having problems talking to people...because everybody...people were not knowing 'what this bit's called' and 'what that bit's called' and so on...
958. RW: And I suppose even between machines...if you look at... you know...a piece of the machine...and you know if you extracted it from the machine and you examined it against an identical piece on another machine there are so many slight variations
959. MG: Yes they're all different aren't they?
960. RW: So you're looking for this piece here, but this piece here does the same job but looks entirely different.
961. MG: This has been...this looks a bit agricultural...this welding here to strengthen...this is the norm like all the others obviously
962. RW: There's a little point there...that one is really unique, it's really different
963. MG: Well I think that's been added on both sides because it must have been...it must have cracked or bent and so...
964. RW: So this is it you've got a piece of machinery that after a while...
965. MG: I've never really looked at it carefully but if I cleaned it down a bit you might find if there's a crack in it and this is... well that takes most of the weight
966. RW: ...most of the weight... yes that's fascinating because that's just been completely welded on to it because the rest of them have got that little point on
967. MG: Yes it's absolutely non original, that bit
968. RW: And then you move onto this machine and which is so completely different to the others
969. MG: Oh this is the 1950s...
970. RW: Yes ...it's just the way you've got the same...the same knitting principle but the structure of the frame is just...

971. MG: Oh, yes, I don't know whether you've heard the story of this...well the story of this is, straight after the War, the old machines were wearing out, the trade was still very buoyant so they decided to build some new machines and this was...well they built it in the old style and he was telling me, Alan Cooke, that that there...that bit of metal, the outside is actually 2 map ex W, ex War Department map cases
972. MG: [Laughter] It's unreal isn't it?
973. RW: It's sort of all been fashioned together...
974. MG: Obviously they used any of the materials...this was built, I understand, just after the war and they used any materials that were available but they only made two of...I can't describe how heavy
975. RW: Sorry was this Alan Cooke?
976. MG: Yes Alan Cooke, he told me about the machine. These end pieces...they're like they're like the material you can make pound weights of...
977. RW: absolutely...there's no way
978. MG: There's no way you can pick that up...not a normal person...you can just walk it you know what I mean...
979. RW: shuffling along the floor [Laughter]
980. MG: And when you look at the machine it shows how heavy it is and there's no cross bracing at all whereas when they went to the tin sided ones, they weren't stable and they put the cross bracing at the back, didn't they?
981. RW: I mean even like all of these you've got...
982. MG: Well I've put...
983. RW: To keep it?
984. MG: They always had one on one side, but on the other side they had these metal bars that went...at Ruddington and at Hurts they've got them
985. RW: To bolt to the walls so...
986. MG: Yes but obviously I can't do that, because I've got no wall. So I've put, well not on this one, but all the others and at the museum in Leicester because we don't have them bolted to the wall there, I've put a bar on the other side as well. But that's not traditional, they had a bar on one side but not on...there's another thing that's noticeable, I thought about

it when we were looking at the pictures...those pictures from the twenties or thirties they never had yarn stands on the machine, they were always hung from above

987. RW: Yes...
988. MG: And it wasn't until after the war, that every time they want to move a machine...the yarn stands...'cos the beam above it where they moved it to wasn't in the same place...so they had to make a new yarn stand and so someone had the idea 'why don't we bolt it to the machine and then when we move the machine...', because they were always moving machines, '...it goes with it' and all these stands, all made by one company up in Hucknall, and there you can see it's galvanised metal, very, very post war...and this is one company, that's a standard galvanised one, so that one, but this one isn't, but even then...
989. RW: Someone's had a go at doing it himself?
990. MG: Yes this was made by someone else, and that one...I think the one on the...that's a galvanised one
991. RW: It's all curved to fit...
992. MG: Yesss, well, course, Alan Cooke, they were machinists...absolutely amazing stuff
993. RW: It's brilliant
994. MG: Yes the thing that he gave me...was ...if you look in here...you see that rod there...bring your head round...can you see that rod there
995. RW: Oh yes
996. MG: Well that's a particular length, and he gave me a set of rods just identical to that, but of a different length, but I don't know what it was for...I still don't...I should have asked him... I never got down...you know how you forget these things...it'll be in the box there underneath... that box there...that box came with that machine...I haven't got any other old boxes...it's got all of the bits in of the machine...the spares
997. RW: It's great how you keep a running sort of commentary on everything that's going on...
998. MG: Yes every one's got its book you see...
999. RW: So it's like a little log book
1000. MG: Yes but as you go back in time [laughs] unfortunately there's a lack of pictures there isn't there [laughs]
1001. RW: But you have got a picture...

1002. MG: Yes but I bought this ...that was 1979...this would be 1983 and so...well I'm afraid I wasn't into...well the book is there for the next one...
1003. RW: But wouldn't it be great if you taught someone to knit on one...
1004. MG: ...by the time this one came along...which was 1985...1995
1005. [Laughter] the new machine... the green machine the No.8 oh no... these were proper photographs... aren't they? Wasn't digital!
1006. RW: oh gosh
1007. MG: Yes that would have cost me...
1008. RW: well that's it you don't know when you are taking a normal photograph whether you've got it in focus, you don't know whether or not you've properly done it
1009. MG: yes yes but by that time I could afford a decent camera at least
1010. RW: I suppose the only good thing about old photography well sometimes...
1011. MG: Well the new photographs don't last, do they? These digital ones... If you get any moisture on them...and they fade quickly. I don't know what happens if they're in a book, but if they're out of a book just on a shelf somewhere, they fade don't they?
1012. RW: Definitely
1013. MG: But on the other hand...
1014. RW: and also if someone nicks your computer...ohhh
1015. MG: Ohhh
1016. RW: Everything you've ever taken a photograph of has disappeared in one go
1017. MG: Well I've saved every SD card I've got, from day one, and I've never used an SD card which is expensive and I've got them and with the old computer and I've put them all on CD I must say since a year ago I bought a new computer... you get lazy don't you...just got a damn great...
1018. RW: I've just bought a new laptop and I haven't transferred everything...
1019. MG: I've just backed it up...but now you don't need to, do you? With the old computer it had only got 13 GB I bought it in 1999 so it was ten years old. And each SD card at that time was a GB, so if you didn't take them straight off it was full...so I used to put them straight down onto CD and now I don't. With the new computer oh dear...you can write to all these different sorts of CDs and you're not quite sure which CD or what type of DVD...ohh it just gets complicated doesn't it

1020. RW: Absolutely
1021. MG: I've put all my old programs onto the new computer and you know they don't work. I've just taken off some of the old programs now...you see they're all Windows, you'd think they'd be compatible but this is from Windows 98SE the old computer to Vista...they're not compatible
1022. RW: Well I've just got a Windows 7 on my new computer...I only bought a new laptop at the weekend and I have no idea how to use it...
1023. MG: They say that 7 is better and that Vista has got a lot of hiccups with it
1024. RW: I'm sure I'll get used to it but it's just different...different programs
1025. MG: The biggest problems I've had, now I look back to when I started on the computer was nothing to do with the computer but it was to do with...I'm with O2 broadband. At the same time as I bought the computer I went onto broadband and I had problems with the router but I didn't know because it was a new computer and a new router to me and I struggled for three months. And then I kept getting back to them and back to them...and oh dear...it was causing all sorts of...you can't imagine the problems and eventually I got a new router...which I didn't know they could have problems with them...and then all of a sudden everything worked...
1026. RW: Brilliant...
1027. MG: But...I'm still disappointed...these pictures are all in Publisher which I bought...it cost me £100 for the program for my old computer...and £100 ten years ago was quite an expensive bit of kit...and it won't work on the new computer.
1028. RW: Oh dear
1029. MG: What I haven't tried is...I've got Office which has Publisher in it
1030. RW: It's so expensive
1031. MG: Don't know whether I can load the programs written on Publisher98 if or whether they will work on the latest Publisher.
1032. RW: I'm not sure...I mean I've got Adobe Photoshop on my desktop computer, which I use all the time and I would like to have it uploaded onto my laptop but unfortunately I would basically have to pay for it again...to get it uploaded again
1033. MG: Ohh it's not on is it
1034. RW: So I just have to do everything on my desktop if I want to...

1035. MG: Well I've still got the old computer there, so that's what I'm doing ...I'm using that...I haven't brought these [the photographs] onto the new computer, because it's easier to leave them on that one because everything works on it.

1036. RW: OK.

[END]

Appendix 13

Interview Transcript #5 – Stacey Deakin

[The audio recordings of all the interviews are available on the CD-Rom that accompanies this thesis]

Interview with Miss Stacey Deakin on Saturday 10th July 2010

RW: Rebekah Wood – Interviewer

SD: Stacey Deakin – Former Placement student at G.H.Hurt & Son

Interview held at *G.H.Hurt & Son, 65 High Road, Chilwell, Nottingham*

Audio Number DS400037 – Duration 18 minutes 29 seconds.

[START]

1. RW: So how did you first come to interact with the hand frame? What was the first, sort of, time?
2. SD: Coming to work at Hurts was the first time I'd ever seen a hand frame!
3. RW: That was during your placement year?
4. SD: Placement year yes. For university.
5. RW: Was it something that you were interested in and you decided that you would try and learn, or was it something that you were encouraged to have a go at?
6. SD: I didn't really know anything about the hand frames before I came here. Nothing at all! And coming here with all the heritage that there is, is just, you know. That's what made me interested, so interested, when I got here.
7. RW: You said just before we started the tape that this is your 'Happy Place'. What makes you so happy to be here?

8. SD: I just loved working here, and I loved everything that I learned here about the history. I never thought I'd be interested in the history of knitting and everything like that, but I dunno, I just got so absorbed into it. I just loved it. I loved the hand frames. I love how they work, and I love the stories behind them.
9. RW: Did you find it a difficult machine to learn, obviously coming from a Design School background where you already know how to use other different types of knitting machine? Did you find the hand frame harder to use?
10. SD: Yes and No. Yes it was different. It was very different and you had to get used to it. I loved how manual it was, and I enjoyed that, so I think that's what made it easier
11. RW: Because you've got an interaction with the machine in a much closer way.
12. SD: It almost feels natural because you can feel every stitch going into the loops, and its...you know what you're doing.
13. RW: So what do you like about making patterns and things like that? I mean do you think you get to be quite creative on the hand frame?
14. SD: I think it's difficult to be creative, well I found it a bit difficult sometimes, using the... pointers, everything has to be a repeat pattern obviously. But once you've got used to how they work, because they can be a bit tricky I've found.
15. RW: Oh yes, definitely! I suppose every so often when you're using it, one won't want to quite work....
16. SD: Yeah! You have to really watch what you're doing.
17. RW: Because if you knit a row before you realise that you haven't transferred...
18. SD: Yeah and it's not so easy to undo either...
19. [Mr Hurt enters the room to check everything is ok]
20. HH: Anything you want to do just carry on, or ask me...
21. [My Hurt leaves]
22. RW: Obviously I knew you from when you were working here, but what kind of products did you make on the hand frame?

23. SD: I made a shawl on the hand frame. And I also made some fabric for a cardigan
24. RW: What kind of patterns did you use for those?
25. SD: A lot of geometric zig-zag lace patterns, things like that. A bit of colour. A bit of colour in striping.
26. RW: I suppose because that a bit different from what you would expect to use on the hand frame, because you expect to use a very muted colour, or plain wools, so using something a bit...
27. SD: Well I remember when I was doing it and Reg was helping me out with it and we were trying to do something that was an old shawl, made in the same way with the borders stitched together, but a bit more modern. So bringing a bit of a newer twist on it if we could.
28. RW: So how did you go about making it a bit more modern?
29. SD: Mainly to do with the pattern and the style of it really, because we wanted it to be...we thought about linking it together but I wanted to hand stitch it because I wanted to make sure it was done the way that they'd [the old framework knitters] done, spent hours doing it...
30. RW: So you've got that heritage element coming back in?
31. SD: Yeah, exactly yeah.
32. RW: So is the history of knitting something that actually inspires you in your own design practice?
33. SD: Yeah it really inspired my final collection.
34. RW: SO what kind of things did you do for your final collection?
35. SD: It turned into...the ideas was basically moving knitwear forward, moving from the heritage, and the going on to newer things now. But you know I couldn't have figured the end product out without the beginning. But it was a lot of circular design and stuff like that. It did turn out quite modern, but I could have got to that point without knowing all the history. The concept behind it was all about the history.
36. RW: So you've found that that has inspired you massively in your future work?

37. SD: Yes, definitely, and I love the idea of using all the fabric that's left on the machine, that's been there for like, twenty years. I've still got some of it and its something I want to use for something and put it into something.
38. RW: For those that don't know about the hand frame you can unwind it so you've got this chronology...you almost have 'this man's knitted this part' and then it's been wound on, and then another man has knitted a little bit more, and then another man has knitted a little bit more, you could wind it all out and have a history of everyone that's ever used the machine.
39. SD: Exactly. And I think especially here, with so much... they've left so much on. It's really fascinating to unravel. I left my own little mark on this one you know...
40. RW: What did you put on it?
41. SD: I put something like 'Stacey was here' or 'Stacey used this machine' something like that.
42. RW: So in years to come when they unwind it, that'll come out! [Laughter] Well I think that's it, putting your mark in text is something that's quite modern. You can imagine it's a bit like graffiti, it marks your moment on that machine in a historical sense, so in years to come they can look back. So was it Reg [Robbins] that taught you to use the machines?
43. SD: It was yeah.
44. RW: What sort of learning process did you go through there?
45. SD: Well he [Reg Robbins] took me to Ruddington, an I learnt first there, you know to use the hand frames there, and then I was allowed time [at Hurts] I think it was Monday mornings, to come and use the hand frame as much as I wanted, and just experiment with it.
46. RW: So you had free creative licence to have a 'play'?
47. SD: Which is great on a placement, because a lot of placements don't let you do anything like that.
48. RW: So as well as getting to do something commercial you get the chance to do something completely un-commercial and for your own fun.
49. SD: Exactly, almost irrelevant, but it wasn't in the end.

50. RW: Because it totally inspired everything that you went on to do in the year following.
51. SD: Yeah exactly.
52. RW: So how has your experience of using the hand frame changed the way you think in general terms of design, now that you've graduated and now that you're working? I mean is it difficult to apply that sort of belief system when you're working in a commercial environment with trends and all that...
53. SD: Yeah. At the moment you just do what you're told a little bit, you'll get brought something, and they want something like that, and a lot of it's rip-off. So it is hard. I don't think you do translate it into what you do at work really. It's just your own personal stuff that you do it in really.
54. RW: When you say something is 'rip-off' , I suppose a lot of what current design is, is.... [Drowned out]
55. [Mr Hurt's daughter Gillian Taylor enters the room]
56. GT: Morning!!
57. RW: Hello Gillian, how are you?
58. GT: I'm ok thank you.
59. RW: Do you feel that the hand frame is something that's much more unique?
60. SD: Yes definitely, definitely. And I think using the hand frame has just made me fall in love with knitting even more. I mean I always loved it but it totally made me fall in love with it. I mean everything about it, from hand knitting to machine knitting to hand-frame knitting. This is what made me ...[Makes loved-up face]
61. RW: Can you think of why that would be?
62. SD: I think it's knowing the history and knowing how far it's come, I think that's what makes all the newer stuff so amazing
63. RW: And also I would assume that now you're someone who knows how to use these machines, you're put into a very small group of privileged people who've got the knowledge and the experience and know how to operate them.
64. SD: I think that feels special.

65. RW: Because it make you unique as well, it make you unique as a designer. Especially in a twenty-first century context where there aren't many people who even know what a bearded needle is for example.
66. SD: And I really believe that to move anything forward, knowing the history helps so much. Knowing a little bit of the background history is fine but to go far back and know how it all started, I think that's the way to push forward even more. Go right back to the beginning.
67. RW: So do you feel like you've got something in common with the old men that used to work on these machines in the past?
68. SD: Yeah, yeah definitely, I think, because they obviously loved it, because they spent so much time doing it, but it wasn't just a trade for them I think. It was, you know...and that's what I got out of it.
69. RW: So there was something more... a passion there for it, not just a job.
70. SD: Yeah exactly
71. RW: I mean some of the work that I've been doing I've been looking at whether or not these men consider themselves to be craftsmen, artist, designers, or you know, what kind of term would they label themselves with? And 'craftsmen' and 'workmen' just come to mind, they didn't necessarily consider themselves to be designers or artists, or practitioners, it's more of a commercial trade, but I understand what you mean about there being that underlying love there that totally drives their ambition and their design skills. I mean you are very unusual, as am I, in that we're female framework knitters. I mean if you look back in history it's not a historical thing to have women was a framework knitter
72. SD: It's quite ironic really how knitting is now seen as a feminine thing to do. Men don't knit now, you know general people's concept of it, you know their perception of it [Framework knitting] I don't think they think it's a woman's thing, because they think of hand knitting don't they? Yes well it is, well it *was* a man's craft wasn't it.
73. RW: Yes. Well I suppose because hand knitting is something that is so manual, but without a lot of mechanics involved I would link that to why it would be considered more feminine. Because this is a big metal machine and you have spanners and screws and oil, it's like that boy's toys, 'don't let the woman go near my machine in case she breaks it' scenario isn't it!?
74. SD: The women used to sew for them didn't they? They used to sew the shawls together.
75. RW: What do you think Jeff Oxley would think of you knitting on his machine?

76. SD: Oh I don't know! I wonder! I wonder if he'd be happy that some woman's knitting on his machine!
77. RW: I can imagine he's happy that *somebody* is knitting on his machine rather than nobody.
78. SD: Don't ruin my machine! Or something like that.
79. RW: I think it's one of those things thought because they don't want to die because they don't want to leave their machine to somebody else.
80. SD: I think that's a definite thing with the hand frame, nobody wants them to die. Everyone who's got one like Mr Hurt and anybody else, like Ruddington, they just want to keep them in any way that they can, and keep them relevant in any way that they can.
81. RW: Now that you've learnt to use the hand frame, do you think at some point in the future you'd like to either continue working with them or maybe be responsible for maybe teaching somebody else, like a future generation?
82. SD: That would be...yeah definitely, I think that would be interesting. Especially at places like Ruddington where people can go and learn. A lot of people don't know about it. I think it should be more...taught in... like knitwear at universities and things. A little bit about the history because nobody...I knew nothing about it.
83. RW: You're going with a very forward thinking view of what we're going to do to innovate design, but how can you innovate design when you don't know the history of where it's come from? Or what's already been done.
84. SD: Exactly. I think there should be a little bit more mentioned about it, in education.
85. RW: So are you really glad you came to Hurts because it's given you this opportunity?
86. SD: Yes definitely.
87. RW: I suppose it's like I said before, it's put you in a position where you are completely unique, and you have a skill, so that when you went back to do your final year at university, nobody else had that skill.
88. SD: Yeah and nobody knew about it really.

89. RW: And even though they'd all been working in a placement for over a year, nobody else had that skill. Which meant you had a completely unique perspective of how to put together your project.
90. SD: That's right yeah.
91. RW: So what do you really love about the hand frame? When you sit here what things do you like about it?
92. SD: I used to love lining up the needles, although it could be frustrating. Because they get a bit worn and they move. I used to love lining up the needles and I used to love lining up the points for the...
93. RW: So you could set up your pattern?
94. SD: yeah so you could set up your lace pattern. Oh and the handles!
95. RW: Oh the handles are nice aren't they!
96. SD: They feel brilliant. They're so...they wear you out after a bit. And your thumbs, they really hurt your thumbs.
97. RW: That's the same sort of experience as I had, I went home and had massive thumb muscles! You could really win 'thumb wars' after working on a hand frame. And I love the smooth wood [of the handles]
98. SD: I love the dints in the wood as well where you can see that the...
99. RW: The man's thumbs been pressed in it for so many years...
100. SD: Yeah, and the worn seats, things like that that you can see its been used.
101. RW: I think you know, it gives it that second hand charm and you know that somebody has been here before you. It's the little notches, you know where they put their transfer tool year after year after year and it's made a little hole.
102. SD: It makes it beautiful. Look at the little notches on here [Indicates the sliding tickler bar] to mark their patterns and things.
103. RW: So say you were going to start and just design a lace pattern, how would you go about it? Would you write it down on paper first or would you have a play on the machine?

104. SD: Er... I'd probably have a go first and then plot it out, and then just do it from a sheet of paper. That's how I would probably do it. 'Cos I'm a bit of a planner when it comes to my designs. Yes that's probably what I would do.
105. RW: So you find that it's better to be prepared and organised before you start, rather than have a go and hope for the best?
106. SD: Yes, although I do like to just play around with the pattern first, before any plan or design. You just play around a little bit first.
107. RW: I think that's how Reg works as well, it's a very similar description of the way he said he designs. I suppose until you see how transferring two stitches on the same row looks, once you've knitted a couple of rows, you don't know whether or not it's going to work in the design
108. SD: And even things like the direction that you transfer it, makes a difference to the whole pattern. I think. It looks subtle but it makes a difference I think. Every transfer should be planned in that way
109. RW: You know how you said you'd left some text, a little text message, how easy was that to plan?
110. SD: I did that by hand, because with it not being a repeat you really do it on the...
111. RW: So you did it all manually?
112. SD: Yes I did it all with my transfer tool.
113. RW: You've got a really big grin on your face....
114. SD: I'm dying to unravel it and see if it's still there.
115. RW: Well shall we unravel it then? I'm sure we can. We just have to wind it up again after.
116. [Start to unwind the fabric from the hand frame]
117. SD: I wonder how far it will be.
118. SD: Wow it's been knitted on quite a bit hasn't it?

119. RW: Yes.
120. SD: I'm not sure I can find it, I hope it's on here
121. RW: After all that!
122. RW: Oh look here it is, that says 'Hello', but it looks like it's got a little bit of a ladder unfortunately. That's it, upside-down, 'Stacey Say's Hello'
123. SD: Oh yeah I think I did...
124. RW: SO you've left your little mark on this hand frame. Brilliant...So now you're working in industry and you're not working on the hand frames on a daily basis, do you miss them?
125. SD: Oh yeah! I really miss them.
126. RW: So if you could get a job where you could just sit and play on handframes all day...
127. [Laughter]
128. RW: Would that be your dream?
129. SD: And still earn money?
130. RW: Yes and still earn money!
131. SD: It would be brilliant, yes,
132. RW: So hopefully if we can somehow find a way to reinvigorate the hosiery industry to use hand frames all over again, we might get to the stage where you can have your dream, dream job.
133. SD: Yes. Somewhere I could be happy.
- [END]**

15mins 21 seconds

Appendix 14

Glossary of Terms

Term	Definition	Reference
APPRENTICE	<p>A trainee FWK working for a master FWK</p> <p>‘a new Charter was drawn up by which ‘all persons having served seven years apprenticeship shall be one fellowship of the art and mystery of framework knitting’</p>	EARNSHAW, P. (1986) <i>Lace Machines and Machine Laces</i> , London: B. T. Batsford Ltd. p 15
ANTIMACASSAR	<p>The Antimacassar originated in the 1830’s as a practical covering for chair backs to protect them from being soiled by the macassar oil men used in their hair but it increasingly assumed a purely ornamental role in the home</p>	MCEWAN, A. (2006) <i>The antimacassar in fact and fiction: how textual resources reveal a domestic textile</i> . In: HAYWOOD, M., & KRAMER, E., ed., (2006). <i>Textiles and Text: Re-establishing the Links between Archival and Object-based Research</i> . Postprints. London: Archetype Publications. p. 213
BACK	<p>See TECHNICAL BACK</p>	
BINDING OFF	<p>See TURNING OFF</p>	
BODGING ON	<p>Replacing a knitted fabric on the needles irrespective of stitch. Used on low cost goods</p>	RAPLEY, J., 1975. <i>The history of hand frame knitting, with special reference to the</i>

CAST OFF	The needles, at the same time, release, (<i>cast-off</i> or <i>knock over</i>) the old loops so that they hang suspended by their heads from the feet of the new loops whose heads are still held in the hooks of the needles	<i>development of patterning and garment shape</i> . MA thesis, The University of Nottingham. SPENCER, D. J. (2001) <i>Knitting Technology: A Comprehensive Handbook and Practical Guide</i> . 3 rd Edn. Cambridge: Woodhead Publishing Ltd. p.16
CLOCK OR CLOX	Hand transfer would have been used to ornament small areas such as the sides and instep of stockings	LEWIS, P. (1985). <i>The evolution of the hand stocking frame 1750-1815</i> . MPhil thesis, University of Nottingham.
COTTONS PATENT MACHINE	“...in 1864, Wm. Cotton produced a patent of revolutionary quality...a multi-headed machine able to operate at faster speeds than previous models. This model took the modern name of ‘straight bar’ machine”	NUTTING, T. (1999). The British Hosiery and Knitwear Machine building Industry since 1850. <i>Textile History</i> . 30 (2), pp. 207-233
COURSE	A course is a predominately horizontal row of needle loops (in an upright fabric as knitted) produced by adjacent needles during the same knitting cycle	SPENCER, D. J. (2001) <i>Knitting Technology: A Comprehensive Handbook and Practical Guide</i> . 3 rd Edn. Cambridge: Woodhead Publishing Ltd. p.16.

Term	Definition	Reference
C.P.I.	'Course Per Inch' (Number of courses or rows per inch of knitted fabric) see COURSE	
CUT UP WORK	" enabled wider pieces of fabric to be produced...it was also possible to cut stockings from this fabric and seam them up the back...without the need to adjust the frame for the narrowing and widening necessary to fashion hose.	PALMER, M. (1984). <i>Framework Knitting</i> , Aylesbury: Shire Publication Ltd. (Reprinted 1990) Shire Album 119
DRAW THREAD	Also known as a' lacer' ...an inlay thread that can be pulled out easily and acts as a separator between narrow strips of lace.	See EARNSHAW, P. (1986) <i>Lace Machines and Machine Laces</i> , London: B. T. Batsford Ltd. p 61
EYELET OR OILET HOLE WORK	See Also OPEN WORK 'Hand frame knitted lace ...made by whole or partial loop transfer from one needle usually to the adjacent needle to the left or right. The resulting fabric shows small holes where the loops have been removed'	LEWIS, P., 1985. <i>The evolution of the hand stocking frame 1750-1815</i> . MPhil thesis, University of Nottingham.
FACE	"The <i>face side</i> of the stitch [] shows the new loop coming towards the viewer as it passes over and covers the head of the old loop. It is referred to as the <i>right side</i> in mainland Europe."	SPENCER, D. J. (2001) <i>Knitting Technology: A Comprehensive Handbook and Practical Guide</i> . 3 rd Edn. Cambridge: Woodhead Publishing Ltd. p.43

FALL	A decorative panel of lace smaller than a shawl that is usually a covering for a baby's head. (Could also be used to cover the front of the hood of a Victorian pram to shield baby from sun and insects).	See references to "The United Wool Shawl, Fall and Antimacassar Trades Union of Hucknall and District". Available at http://www.hucknall-torkard.com/shawls.html [Accessed 12.12.11]
FASHIONING	"It could only produce a flat piece of material, not a tube of fabric, but by increasing or decreasing the number of loops made it was possible to follow for example the shape of a leg. This was then taken off the frame and seamed up forming a fully fashioned stocking	PALMER, M. (1984). Framework Knitting, Aylesbury: Shire Publication Ltd. (Reprinted 1990) Shire Album 119. p.6
FRAMEWORK KNITTER (FWK)	The actual knitter, usually a man, who had trained for seven years. "...a piece worker, being paid so much a dozen for the hose he produced, and entirely dependent for his wages on the master hosier."	PALMER, M. (1984). Framework Knitting, Aylesbury: Shire Publication Ltd. (Reprinted 1990) Shire Album 119. p.13

Term	Definition	Reference
FRAME	The machine, consisting "two great collections of parts: the carcase [] and the carriage.[]. (Also known as a STOCKING FRAME or HAND FRAME)	See QUILTER, J.H. (1908) <i>Framework Knitting: Questions and Answers</i> . Leicester: "Hosiery Trade Journal" Office.
GAUGE	Number of needles per inch. Also acts as a description of	See QUILTER, J.H. (1908) <i>Framework Knitting: Questions</i>

	different machines. e.g.34 gauge	<i>and Answers</i> . Leicester: "Hosiery Trade Journal" Office
HAND TRANSFER	"...using a hand-held instrument called a 'working needle', with which the workman would transfer the stitches one at a time according to the desired pattern...used to ornament small areas"	LEWIS, P., 1985. <i>The evolution of the hand stocking frame 1750-1815</i> . MPhil thesis, University of Nottingham.
HOSIER (MASTER /MERCHANT)	Usually a merchant and the owner of the frames that were rented out to the knitters. Also employed middlemen to act as intermediaries with the knitters	See PALMER, M. (1984). <i>Framework Knitting</i> , Aylesbury: Shire Publication Ltd. (Reprinted 1990) Shire Album 119. p.13
JACK SINKER	" ..small metal plates, called <i>sinkers</i> , hanging vertically between the needles. These were attached at the top to levers or <i>jacks</i> which were pivoted in the centre... and by means of one of the treadles the jacks were released and the jack sinkers fell one by one between every two needles..."	See PALMER, M. (1984). <i>Framework Knitting</i> , Aylesbury: Shire Publication Ltd. (Reprinted 1990) Shire Album 119. p.4
JOBGING ON	See BODGING ON	
KNOCKED OVER	See CAST OFF	
LACE	" a slender openwork fabric	See EARNSHAW, P. (1986) <i>Lace</i>

	made of threads...	<i>Machines and Machine Laces</i> , London: B. T. Batsford Ltd. p 11
LUDDITES	Frame wreckers under the supposed control of a Ned Ludd, .protesting about the increase in the cut-up trade	See LOWE, D. & RICHARDS, J. (1989) William Lee and Lace. Nottingham: Nottingham Lace Centre Ltd. p 20-21
MASTER OR STOCKINGER	See FRAMEWORK KNITTER	
MIDDLEMEN	Acted as intermediaries between FRAMEWORK KNITTERS and MASTER/MERCHANT HOSIERS Also known as Bagmen.	See PALMER, M. (1984). Framework Knitting, Aylesbury: Shire Publication Ltd. (Reprinted 1990) Shire Album 119. p.13

Term	Definition	Reference
NARROW FRAME	The early frames used for fully fashioned stockings, usually narrow in width as only one garment made at once.	Researcher's observations at G. H. Hurts
ONE-AT-ONCE	See NARROW FRAME	
OPEN WORK	See EYELET HOLE	
PINNING OUT	The process of finishing a shawl once the material is taken off	Researcher's observations at G. H. Hurts.

	<p>the machine. Dampened, the shawl is stretched out on a wooden frame with pins around the edge and attached to create a scalloped edge. Then allowed to dry in a drying room.</p>	
PLAIN	<p>Refers to knitted fabric that is NOT ribbed..."Only one set of needles is used and all the loops formed on the needles lie in one direction, i.e., on the face of the fabric."</p>	<p>See QUILTER, J.H. (1908) <i>Framework Knitting: Questions and Answers</i>. Leicester: "Hosiery Trade Journal" Office.</p>
POINTS	<p>See TICKLERS</p>	
PRESSER BAR	<p>Controlled by hand or foot levers , the presser bar closes the bearded needle so the new loop is held while the old loop passes over its head</p>	<p>See EARNSHAW, P. (1986) <i>Lace Machines and Machine Laces</i>, London: B. T. Batsford Ltd. p 13</p>
RECRUIT	<p>To recondition the machine...usually done by a frame-smith checking all the machine parts are working correctly</p>	<p>Interviewee testimonies</p>
RIB	<p>"... Certain types of Rib had specific names. One and One Rib (1 x 1) where alternate loops knocked over to the front and back respectively."</p>	<p>RAPLEY, J., 1975. <i>The history of hand frame knitting, with special reference to the development of patterning and garment shape</i>. MA thesis, The University of Nottingham</p>

RIB (DERBY)	Patented by Jedediah Strutt in 1758, the Derby Rib was an iron attachment that hung in front of the ordinary stocking frame to aid the construction of different types of ribbed effects. Rather than 1x1 the Derby Rib was usually 6 x 3	See EARNSHAW, P. (1986) <i>Lace Machines and Machine Laces</i> , London: B. T. Batsford Ltd. p 61
SHAPING	See FASHIONING	

Term	Definition	Reference
SHAWL	A shawl is a large scarf worn over the upper part of the body.	See references to "The United Wool Shawl, Fall and Antimacassar Trades Union of Hucknall and District". Available at http://www.hucknall-torkard.com/shawls.html [Accessed 12.12.11]
SHETLAND LACE	Very fine hand knitted lace shawls and falls which inspired the development of new patents to enable Framework Knitters to produce shawls and falls of similar quality	See LOWE, D. & RICHARDS, J. (1989) <i>William Lee and Lace</i> . Nottingham: Nottingham Lace Centre Ltd. p 83
SHOG/SHOGGING	To shunt or move sideways	See SPENCER, D. J. (2001) <i>Knitting Technology: A Comprehensive Handbook and Practical Guide</i> . 3 rd Edn. Cambridge: Woodhead

<p>SINKER</p>	<p>Thin plates of iron made to pass between the needles in order to: a) make the loops across the needle stems. b) bring them under the needle beards and the web already made to the needle stems in the same action. c)bring forward the web over the needle beards , and, d) take the web back</p>	<p>Publishing Ltd. p.37</p> <p>RAPLEY, J., 1975. <i>The history of hand frame knitting, with special reference to the development of patterning and garment shape</i>. MA thesis, The University of Nottingham</p>
<p>SLACK COURSE</p>	<p>One in which very long loops are sunk and is used when BINDING OFF, TURNING a WELT, picking up the last course or RUNNING ON.</p>	<p>RAPLEY, J., 1975. <i>The history of hand frame knitting, with special reference to the development of patterning and garment shape</i>. MA thesis, The University of Nottingham</p>
<p>SLUR COCK</p>	<p>A wedge-shaped piece of iron that lifts the outer edge of a pivoted jack to cause the sinker to descend.</p>	<p>See SPENCER, D. J. (2001) <i>Knitting Technology: A Comprehensive Handbook and Practical Guide</i>. 3rd Edn. Cambridge: Woodhead Publishing Ltd. p.10</p>
<p>SPRING / BEARDED NEEDLE</p>	<p>“...the first type of needle to be produced...fixed to move collectively with the straight needle bar...the beard... separates the trapped new loop inside from the old loop as it slides off the needle beard.”</p>	<p>SPENCER, D. J. (2001) <i>Knitting Technology: A Comprehensive Handbook and Practical Guide</i>. 3rd Edn. Cambridge: Woodhead Publishing Ltd. p.21-22</p>

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Term	Definition	Reference
STANDING RENT	“when frames began to be grouped together in shops rather than worked at home, employers often charged standing rent for the frames on their premises, and some even went so far as to charge standing for a rented frame in a knitter’s own house.”	PALMER, M. (1984). Framework Knitting, Aylesbury: Shire Publication Ltd. (Reprinted 1990) Shire Album 119. p 15
STOCKING FRAME	The first knitting machine or <i>stocking frame</i> , invented about 1589 by William Lee was based upon the principle of a fixed needle with a second moving one which formed the loops and drew them through the set of loops last made.	PALMER, M. (1984). Framework Knitting, Aylesbury: Shire Publication Ltd. (Reprinted 1990) Shire Album 119. p.3
TECHNICAL BACK	Reverse of TECHNICAL FACE	RAPLEY, J., 1975. <i>The history of hand frame knitting, with special reference to the development of patterning and garment shape</i> . MA thesis, The

<p>TECHNICAL FACE</p>	<p>The side of PLAIN fabric towards which loops are pulled through previous knitted loops</p>	<p>University of Nottingham</p> <p>RAPLEY, J., 1975. <i>The history of hand frame knitting, with special reference to the development of patterning and garment shape</i>. MA thesis, The University of Nottingham</p>
<p>TEWKSBURY SYSTEM</p>	<p>1765 Act requiring goods to be marked with an equivalent number of eyelet holes to indicate how many ends of yarn had been used to make it. Only needed on fabrics made of three or more threads. Came about because knitters in Tewkesbury passed off two thread yarn as better quality than it was.</p>	<p>See FELKIN, W. (1967) History of the Machine-Wrought Hosiery and Lace Manufactures. Centenary Edition Newton Abbot : David Charles p.119</p>
<p>TICKLERS OR TITTLERS</p>	<p>Originally a fine rod of metal pointed at one end having two grooves cut at that end, one at the top and the other underneath, to fit the head of the frame needle. It was simplified, by having only one very long wide groove, which covered the needle beard.</p>	<p>RAPLEY, J., 1975. <i>The history of hand frame knitting, with special reference to the development of patterning and garment shape</i>. MA thesis, The University of Nottingham</p>
<p>TREDDLES OR TRADDLES</p>	<p>Foot pedals used to move and</p>	<p>See PALMER, M. (1984).</p>

	release the jacks.	Framework Knitting, Aylesbury: Shire Publication Ltd. (Reprinted 1990) Shire Album 119. p.6-7
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Term	Definition	Reference
TRUCK OR TRUCKING SYSTEM	A practice where MIDDLEMEN (Bagmen) paid the KNITTERS 'by truck' in goods other than wages such as bread and even bricks	See FELKIN, W. (1967) <i>History of the Machine-Wrought Hosiery and Lace Manufactures</i> . Centenary Edition Newton Abbot : David Charles p.456
TUCK STITCH	" a variant of a held stitch [] The needle loop instead of being "knocked off" the bearded needle by the formation of a new loop was retained...weft thread passed not across the back of it , but into the beard, which thus held two threads and both were carried up to the next course."	SPENCER, D. J. (2001) <i>Knitting Technology: A Comprehensive Handbook and Practical Guide</i> . 3 rd Edn. Cambridge: Woodhead Publishing Ltd. p.18
WALE	A wale is a predominantly vertical column of intermeshed needle loops generally produced by the same needle knitting at successive(not necessarily all) knitting cycles. A wale commences as soon as an empty needle starts to knit.	SPENCER, D. J. (2001) <i>Knitting Technology: A Comprehensive Handbook and Practical Guide</i> . 3 rd Edn. Cambridge: Woodhead Publishing Ltd. p.16
WEB	"The entire width and length of the lace or net fabric as it	EARNSHAW, P. (1986) <i>Lace Machines and Machine Laces</i> ,

WEFT KNITTED LACE	<p>accumulates on the machine”</p> <p>“ the disadvantage of all these [weft-knitted] nets was that being made by the looping of one continuous thread across the machine they were liable on being broken , to unravel”</p>	<p>London: B. T. Batsford Ltd. p278</p> <p>FELKIN in EARNSHAW, P. (1986) <i>Lace Machines and Machine Laces</i>, London: B. T. Batsford Ltd. p. 22</p>
WELT	<p>An attractive and secure edge of a knitted article that helps to prevent laddering or unroving of a structure.</p>	<p>SPENCER, D. J. (2001) <i>Knitting Technology: A Comprehensive Handbook and Practical Guide</i>. 3rd Edn. Cambridge: Woodhead Publishing Ltd. p.179</p>
WIDE FRAME	<p>An improvement on the original narrow frame, allowing for different articles such as shawls etc. to be knitted. It also allowed for more of an article to be knitted at the same time, hence three-at-once machines.</p>	<p>Researcher’s observations at G. H. Hurts and Ruddington FWK Museum.</p>
WINDER	<p>Usually children... “ his wife seaming the stockings and, together with the children, winding the yarn on to bobbins for use on the frame”</p>	<p>PALMER, M. (1984). <i>Framework Knitting</i>, Aylesbury: Shire Publication Ltd. (Reprinted 1990) Shire Album 119. p.13</p>

Term	Definition	Reference
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WORKING NEEDLE	A hand held instrument made from a broken needle bent to form a small lump at the end which would be mounted in a small piece of wood. It was used to manually transfer individual stitches from one needle to another. 'Workmen would transfer the stitches one at a time according to the desired pattern'.	LEWIS, P., 1985. <i>The evolution of the hand stocking frame 1750-1815</i> . MPhil thesis, University of Nottingham.
WORKSHOP	A communal space in which framework knitting practice occurs for a small number of knitters, usually owned by a middleman.	See PALMER, M. (1984). <i>Framework Knitting</i> , Aylesbury: Shire Publication Ltd. (Reprinted 1990) <i>Shire Album</i> 119
W.P.I.	'Wales Per Inch' (Number of Wales in an inch of fabric) see WALE	