

# From Underwear to Outerwear: The Influence of Machinery on Creativity and Garment Styling in the Scottish Knitwear Industry, 1920s–1970s

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To cite this article: Lin Gardner (2023) From Underwear to Outerwear: The Influence of Machinery on Creativity and Garment Styling in the Scottish Knitwear Industry, 1920s–1970s, TEXTILE, 21:4, 853-874, DOI: [10.1080/14759756.2023.2182042](https://doi.org/10.1080/14759756.2023.2182042)

To link to this article: <https://doi.org/10.1080/14759756.2023.2182042>



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Published online: 15 Mar 2023.



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of Machinery on  
Creativity and Garment  
Styling in the Scottish  
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## Abstract

**A**lthough machine knitted garments are ubiquitous today, they have only been manufactured for little over a century. The growing popularity of knitted outerwear and the demand for readymade clothing during the interwar period gave hosiery manufacturers an opportunity to diversify their product range using machinery and processes previously only used for the production of underwear. This case study uses the surviving design books of a single company, Peter Scott and Co. Ltd, based in the Scottish Borders to explore a little-known period of creative experimentation. The company

exploited two very different types of production during the years between the wars. A comparison of these, and the garment designs they yielded, offers an opportunity to interrogate the relationships between design, product, and process. An examination of the relationship between product and machinery reveals influence and opportunity as well as negotiation and restriction. This case study not only assesses the influence of machinery on garment styling but also serves to place design into the context of business and industry, which can reveal how business dilemmas, choices and challenges impacted its use.

**Keywords:** design; creativity; industry; Scottish Borders; knitwear; knitting machinery; ready-to-wear

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*Textile*, Volume 21, Issue 4, pp. 853–874

DOI: 10.1080/14759756.2023.2182042



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# From Underwear to Outerwear: The Influence of Machinery on Creativity and Garment Styling in the Scottish Knitwear Industry, 1920s–1970s

## Introduction

Today, we take for granted the wide variety of machine knitted garments available to us. We are faced with a plethora of styles in an abundant choice of colors, yarns and textures. But machine knitted outerwear has only been widely available for little over a century. Prior to its introduction, hosiery manufacturers concentrated on the production of knitted underwear. The growing popularity of knitted outerwear and the rising demand for ready-to-wear garments during the interwar period gave hosiery manufacturers an opportunity to expand their product ranges. To do so, they had to employ machinery and processes which they had previously only used for the production of underwear. An examination of machine knitted outerwear during this crucial period in the development of the knitwear industry in Scotland offers a rare glimpse of the experimentation that occurred, and an opportunity to interrogate the relationships between design, product and process. It also serves to prioritize the creativity associated with machine rather than hand knitting, which can highlight the vital collaboration between design and technical staff. The surviving design books of a successful hosiery firm, Peter Scott and

Co. Ltd, based in the Scottish Borders town of Hawick, offer a valuable insight into the use of two very different types of production process and their contribution to ready-to-wear garment manufacture. A comparison of these processes, and the garment designs they yielded, highlights the significance of the relationship between product design and machine.

Although there has been valuable contemporary analysis of the relationship between product design and technology in the knitwear industry by both design historians and practitioners, there has been much less historical analysis of this important relationship (Sayer et al. 2006; Bendt 2016; Eckert 1999; Affinito, Maria Conti, and Motta 1999; Pitimaneeyakul et al. 2004; Potočić Matković 2010 offers a rare historical examination). Moreover, the few design histories that focus on stylistic change in knitwear rarely have the opportunity to fully assess the interaction between design and technology that contributes to garment shape and style (Black 2002, 2012; Worsley 2006). Business histories of knitwear manufacture may acknowledge design but generally prioritize economic assessment (Gulvin 1984; Chapman 2002; Porac

1995). However, displacing design from the history of a business in which it plays an important role or viewing it in isolation fails to reveal the valuable interaction which both drives and disrupts creativity in a textile industry. A case study that focuses on the interaction between design and technology within a Scottish knitwear company not only assesses the influence of machinery on garment styling but also serves to place design into the context of business and industry, which can reveal how business dilemmas, choices and challenges impacted its use.

Furthermore, a consideration of the design and production of knitted outerwear also contributes to the broader history of ready-to-wear garment manufacture. Hosiery and knitted underwear were already successful and familiar ready-to-wear garments by the turn of the twentieth century, but the contribution of knitted outerwear to the development of the ready-to-wear garment industry is largely overlooked. The rise in production of ready-to-wear clothing was predicated on a blend of opportunity, technological advance, standardization, production efficiency, and consumer demand (Roberts 2022; Worth 2006; Wray 1957; Bide 2017; Rose 2009) However, this focus on the industry has primarily been concerned with the use of cut-and-sewn processes and the use of woven textiles. A consideration of the design and construction of knitwear offers another perspective on the ready-to-wear industry that highlights a less familiar creative relationship between product and process. The significance of couture to the design of ready-to-wear garments has been recognized and explored (Tregenza 2021; De La

Haye 1993). However, a consideration of the styling of knitted outerwear illuminates the challenge of reconciling fashion trends with production efficiency within the hosiery industry, which was familiar with its processes but entirely unfamiliar with how to respond to fashion.

Peter Scott and Company Ltd was characteristic of many of the hosiery manufacturers that made the Scottish Borders knitwear industry so successful. And as such, it provides a valuable case study to examine how manufacturers could exploit technology and skills to meet the rising consumer demand for knitted outerwear. Like many of its competitors, it began trading in the nineteenth century, and in 1898, it adopted the brand name Pesco for its products. Its expansion during the interwar period enabled it to increase production and successfully export its products around the world during the postwar period. The company eventually occupied a large factory space in central Hawick and was one of the town's largest employers. When the firm closed in 2016, company records, design books, price lists, and catalogues were rescued and deposited in the Scottish Borders Archive.<sup>1</sup> The breadth and range of these surviving records, and the period of production that they cover, offer a remarkable overview of both the company and the Scottish knitwear industry.

This examination will focus on six of the surviving design books produced by Peter Scott between 1932 and 1950.<sup>2</sup> These books contain garment sketches, product dimensions, instructions for machine use and garment construction. They were created by the design department to provide notes and information that would be

relevant to each department involved in the production process. They illustrate that the company experimented with two very different types of production during the interwar period, and a comparison of both allows an assessment of how the company chose to exploit and adapt existing machinery and skills to the production of knitted outerwear. In the absence of surviving garments, these books offer a valuable chronological overview of how design and production processes were used. In addition to the design books, surviving price lists, catalogues and company records also reveal how Peter Scott's approach to design continued to develop during the postwar period. Moreover, corporate minutes from two of Peter Scott's main competitors in the Borders—Innes Henderson and Pringle, which also experimented with the same production processes—offers additional contemporary commentary upon and evidence of the issues and challenges that the Borders industry faced.

### **Novelty to Ubiquity**

Machine made knitted outerwear was a novelty in the early twentieth century. Prior to its introduction and development in the 1910s, knitted socks, stockings, accessories, and underwear for men, women, and children were the dominant product lines of hosiery manufacturers across the UK. Peter Scott's surviving price lists and trade catalogues from the last decade of the nineteenth century described and emphasized the fit and quality of its knitted underwear.<sup>3</sup> These slim indexed volumes contain an assortment of underwear styles in a range of natural yarns including Shetland, llama, merino, cashmere, camel,

and silk.<sup>4</sup> Underwear garments were produced in a variety of fabric weights, which adapted to seasons and climates. Whilst a combination of style details—high or low necks; button openings; short or long sleeves; above or below knee—permitted manufacturers to successfully respond to the changing external silhouette of fashion.

Although knitted underwear—produced by hand on needles—had existed for centuries, by the nineteenth century it was predominantly worn by children of all classes and adults who worked on the land or sea. Adults who worked outside benefited from the warmth and flexibility that knitted underwear provided. However, by the turn of the twentieth century, these benefits had attracted a new class of consumer: men and women of a burgeoning middle class, with the income and leisure time, to enjoy outdoor sports and pastimes (Skillen and Beatty 2022). The warmth and flexibility of knitted underwear proved ideal for these pursuits and created opportunities for hosiery manufacturers to expand their product range. Moreover, before and during the First World War, there were significant changes to many women's lives (Rowbotham 1973; Langhamer 2000; Todd 2005; Buckley 2002; Kollnitz 2021). Greater freedoms and employment were accompanied by simpler more practical clothing choices, which further increased the demand for knitted garments. Men serving at the front also came to appreciate the warmth and practicality of knitted jumpers and cardigans. By the early interwar period, knitted underwear had become a wardrobe staple for most men and women.

Peter Scott introduced its first machine knitted outerwear garment—an “Athlete Sweater”—in 1899.<sup>5</sup> By 1926, it was devoting an entire catalogue to machine knitted outerwear for women.<sup>6</sup> And although hosiery manufacturers often continued to describe knitted outerwear as “sportswear,” designs within Peter Scott's 1928 illustrated price list show that knitted outerwear had become increasingly fashion orientated and could be suitable for a variety of social occasions (Figure 1).<sup>7</sup> In 1929, Innes Henderson—one of Peter Scott's main competitors—recorded that a little over half of its production was machine knitted outerwear.<sup>8</sup> In less than three decades, machine knitted outerwear had moved from novelty to ubiquity, from outdoors to indoors, and from practicality to fashion. The growing popularity of knitted outerwear presented hosiery firms with a significant opportunity. And the years between the two world wars became a period of experimentation as they exploited the skills, machinery and production process available to them to expand and diversify their product range.

### Interpretation and Collaboration

Although the Borders hosiery industry concentrated on fully fashioned production for its knitted underwear, during the interwar period Peter Scott added cut-and-sewn production to its manufacturing processes. Cut-and-sewn production was initially confined to the manufacture of a small range of underwear, but eventually Peter Scott, Innes Henderson and Pringle, amongst other Borders firms, adapted both fully fashioned and cut-and-sewn methods to the production of outerwear. The use of both these

methods, and the machinery and skills that accompanied them, proved significant to the design and development of knitted outerwear. Moreover, a comparison of how these methods of production were employed reveals that Peter Scott not only appreciated and exploited the merits of each, but also used them to complement each other. As hosiery manufacturers endeavored to navigate the frequently changing demands of consumers and retailers during the years between the wars, they experimented with machinery and process. The choices and decisions that they made in relation to design and production during this period would ultimately come to resonate throughout the industry for the rest of the twentieth century and beyond.

### Cut-and-Sewn Garment Production

During the interwar period, several Borders firms chose to invest in the cut-and-sewn production of underwear because it could produce good quality products at a lower price for both manufacturer and consumer. Fully fashioned underwear required the simultaneous production of garment shape, fit and knitted textile, whereas cut-and-sewn production only required knitting lengths of good quality fabric from which garment shapes could be cut—a task that was simpler and less expensive to do. Although cut-and-sewn production was relatively new to Borders firms, it was a standard method of construction for the clothing industry, which had spawned a variety of occupations and machinery from which Borders firms could benefit. (Wray 1957). The sewing machine had been introduced in the mid-nineteenth century (Davies 1969; Godley 1996; Hounshell 1984;



Figure 1

*Pesco Underwear, Sportswear, Hosiery and Boys Jerseys, Autumn 1928* (SBA 512/7/66, Scottish Borders Archive (SBA). Photograph by author, used with permission of Scottish Borders Archives).

Cooper 1979). And by the 1920s, Singer—one of the world's most successful and prolific sewing machine manufacturers—had developed a range of manufacturing models specifically designed for the hosiery industry (Gardner 2019).<sup>9</sup> The overlocker, developed in the late nineteenth century, was also specially designed to prevent knitted textiles from unraveling when cut. The growth of the ready-to-wear garment industry provided tools and production methods (Chapman 1993) that the hosiery industry was willing to adopt.

In 1918, Peter Scott acquired Wilton Path mill in Hawick, which was to become a separate site for its

production of cut-and-sewn underwear and later, outerwear. A separate site proved practical because in addition to machinery, occupations vital to clothing production had also been established. Pattern cutters interpreted garment designs to create pattern pieces. While cutters used these templates to cut the garment from the chosen textile, and machinists stitched the garments together (Wray 1957, 71–88 provides a descriptive breakdown of these roles). Peter Scott invested in a separate site to prevent disruption to fully fashioned production at its larger factory on Buccleuch Street in central Hawick. Although several border firms set up separate

sites for their “cut up” trade—Innes Henderson acquired the Kumfy factory in Hawick for the same purpose—this type of production still represented a small percentage of their total output. However, the growing popularity of knitted outerwear persuaded firms involved in cut-and-sewn production to expand its use to the manufacture of outerwear. Peter Scott devoted an entire catalogue to knitted outerwear for women in 1926, which included cut-and-sewn garments; while Innes Henderson began production of cut-and-sewn outerwear in 1930.<sup>10</sup>

Hosiery manufacturers who adopted cut-and-sewn production could not only borrow technology and

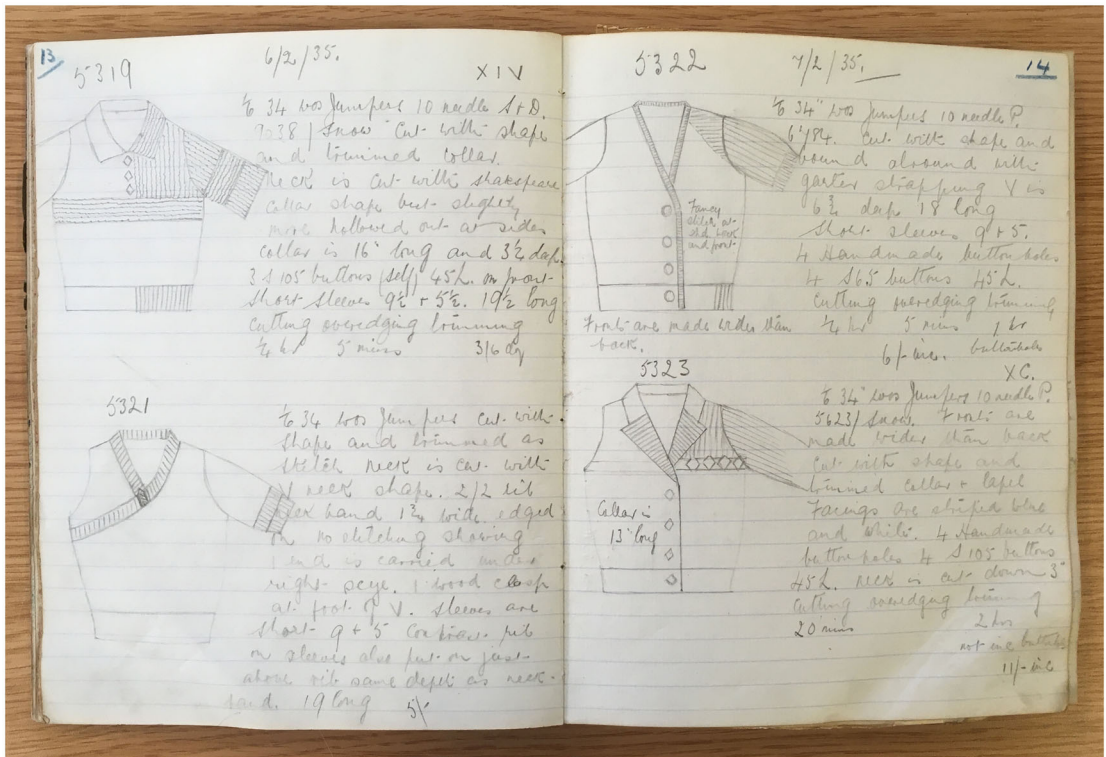


Figure 2

Design of cut and sewn collar styles, February 1935 [SBA 512/5/4/4 Peter Scott Design Book. Photograph by author, used with permission of Scottish Borders Archives].

skills from the clothing industry but also a lexicon of stylistic ideas associated with fashion production. The styling and shaping of dresses and separates could employ tucks, pleats, darts and gathers. Collar and cuff shapes could be rounded or pointed. Pockets and belts could be added and garments could contrast patterns, colors and textures. Hosiery manufacturers took advantage of this stylistic range, and a survey of the garment sketches featured in three of the design books which concentrated on cut-and-sewn production illustrate the diversity of styles used in the 1930s.<sup>11</sup> Each page of these books has two to four designs, many accompanied by a pencil sketch and a description of

how the garment was to be constructed and finished. The garments were made in limited numbers of six to twelve, which suggests that the books were recording the production of stock samples for agents.<sup>12</sup> A single book, dated from July 1932 to November 1933 shows that over 300 designs were produced within a sixteen-month period.<sup>13</sup> The range and number of styles suggests that Peter Scott was experimenting with the versatility and flexibility that cut-and-sewn production could offer, while also gauging customer response to its new range of products.

Sketches in these design books record a variety of garment styles and the use of contrasting knitted

patterns and textures. For example, entries across two facing pages illustrate four different types of collars. These include a simple one-piece collar in Design 5319; an edged asymmetric collar stand in Design 5321; a bound V-neck with buttoned front in Design 5322; and a two-piece lapel with striped facings in Design 5323 (Figure 2).<sup>14</sup> Four more examples illustrate a further variety of openings and sleeves as well as the use of knitted textures and patterns. Design 4619 contrasts a simple rib with a knitted texture and a neckline decorated with a narrow bow, while Design 4624 contrasts a check with ribbing and a pair of bows (Figure 3).<sup>15</sup> Design 4623



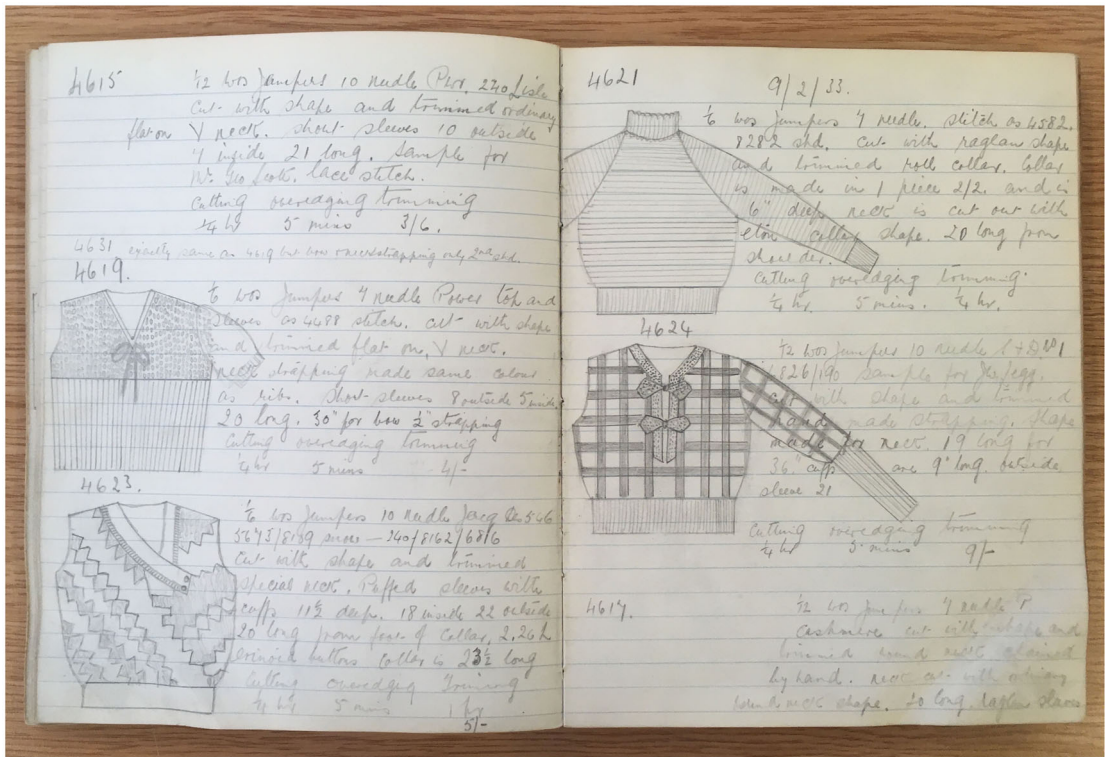


Figure 3

Examples of garment shaping and the use of patterned and textured knitted fabrics used in cut and sewn production (SBA 512/5/4/2 Peter Scott Design Book. Photograph by author, used with permission of Scottish Borders Archives).

features a knitted jacquard pattern with an asymmetric collar and Design 4621 uses an all over texture on a jumper with raglan sleeves and a roll neck (Figure 3).<sup>16</sup> Designs throughout the books also feature both handmade and machine made buttonholes and a selection of different button types. The diversity of styles reflects the creative versatility of the process and an effort by the company to interpret contemporary trends.

Although very few garments produced by Peter Scott during the 1930s and 1940s have survived, advertising can offer a glimpse of garments sketched in the design books. These

photographs illustrate the accuracy of the garment sketch and the choice of garments the company sought to promote. One example of the versatility that cut-and-sewn production offered Peter Scott is its design style, Julia, advertised in *The Tatler* in 1933 (Figure 4). Although it is described as a jumper in the design book, it represents a bold and fashionable interpretation of this garment style and features the juxtaposition of plain and striped knitted fabrics (Figure 5).<sup>17</sup> Striped knitted fabric could be combined vertically, horizontally or on the diagonal to striking effect in a single garment, and in Julia even the plain sketched in the design books. These

been turned on its side to create a subtly different surface texture. Although the garment is part of the company's "Sportswear" collection, the text of the advertisement describes the garment as "chic." Peter Scott is clearly aiming to promote the fashionable rather than the practical advantages of knitted outerwear.

Despite the number of designs featured throughout the books, there is also evidence of a re-use of garment shapes and a balance between simple and more complex construction. For example, Design 4621 requires the use of the "raglan shape" (Figure 3), while the entry for

No. 1664, MAY 17, 1933]

# JULIA



● **"JULIA"** Pure Wool in purl and plain stitch; collar, short sleeves and waist in contrasting two-colour effect with Tie at neck and waist. Innumerable colour combinations. Pleated or Flared Skirt also obtainable.

Brevity is the soul of chic where jumpers are concerned at present. The "Julia" jumper is short and almost sleeveless, but it is without a rival in the amount of chic it boasts to the square inch! The woman with a flair for choosing what is refreshingly new, yet never eccentric, will unerringly select this jumper.

*Obtainable from all high-class outfitters. In case of difficulty write for illustrations of current Pesco models and names of nearest agents.*

**Pesco**

**SCOTTISH SPORTSWEAR**

*Also Pesco Underwear, Bathing Suits, and Hosiery for Ladies, Gentlemen and Children.*

PETER SCOTT & CO., LTD. (Dept. 27), HAWICK, SCOTLAND

Figure 4

Pesco advertisement for "Julia" style jumper, *The Tatler* 1933 (Image © Illustrated London News Ltd/Mary Evans).

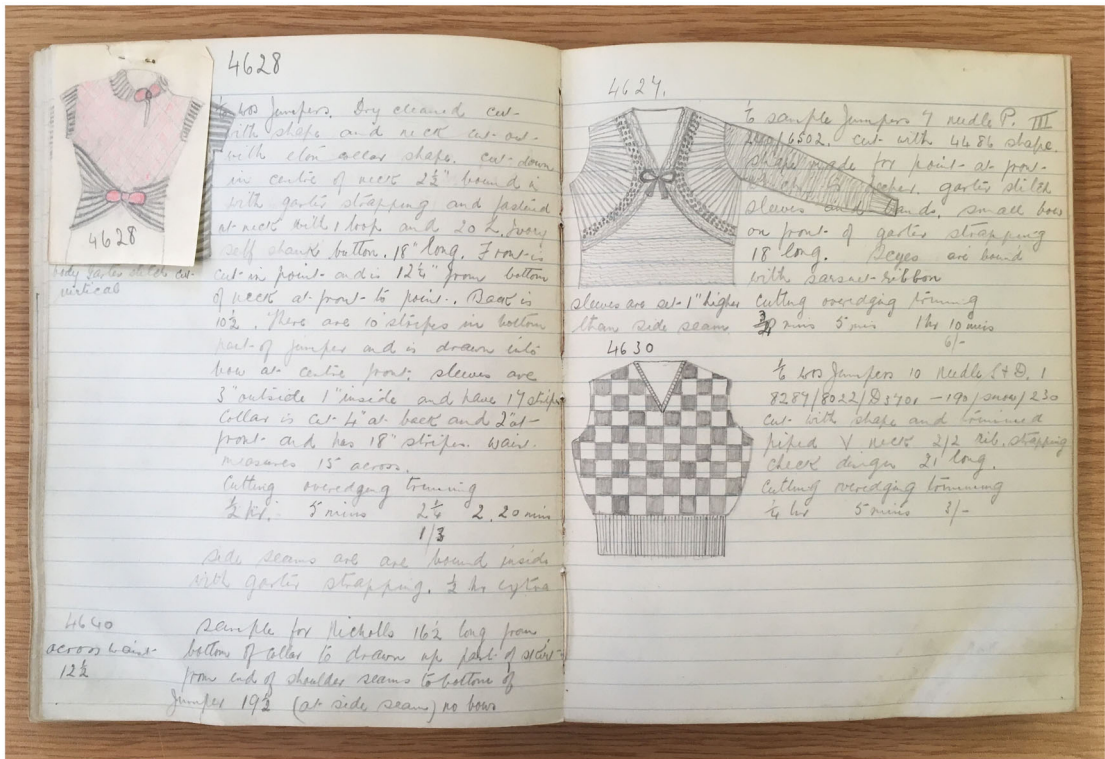


Figure 5

Garment sketch for “Julia” style, top left [SBA 512/5/4/2 Peter Scott Design Book. Photograph by author, used with permission of Scottish Borders Archives].

the “Julia” style uses the “eton collar shape” (Figure 5).<sup>18</sup> Entries throughout the books also often reveal variations on a theme. The same collars, sleeves, and body shapes are recombined in different yarns and textures. Designs 4632 and 4633 show the use of contrasting textures and different necklines but similar body and sleeve shapes (Figure 6).<sup>19</sup> There is also evidence of the company striking a balance between simple and complex construction. The complexity and number of seams of Designs 4632 and 4633 contrasts with the simplicity of Design 4636 (Figure 6).<sup>20</sup> Each design entry also records the time taken to cut out and make up each

garment. Unsurprisingly, the timings illustrate that the more complicated or elaborate the style, the more expensive the garment was to produce. The fact that the design books capture these costs means that the company was aware of the expense associated with complex cutting and construction. However, the company also knew that these complex designs were much less compatible with its fully fashioned production process. Peter Scott clearly appreciated the versatility of cut-and-sewn production and took advantage of this to balance its product range by creating styles that complemented its range of fully fashioned garments.

### Fully Fashioned Garment Production

Despite the adoption of the cut-and-sewn process by many Borders firms, fully fashioning garments remained their primary method of production. This method represented over half a century of investment in buildings and machinery and differed considerably from cut-and-sewn garment manufacture. Fully fashioning garments involved the simultaneous knitting and shaping of garment pieces—fronts, backs, sleeves—before joining. Once the garment pieces were knitted the seams were joined by linking rather than being stitched together by

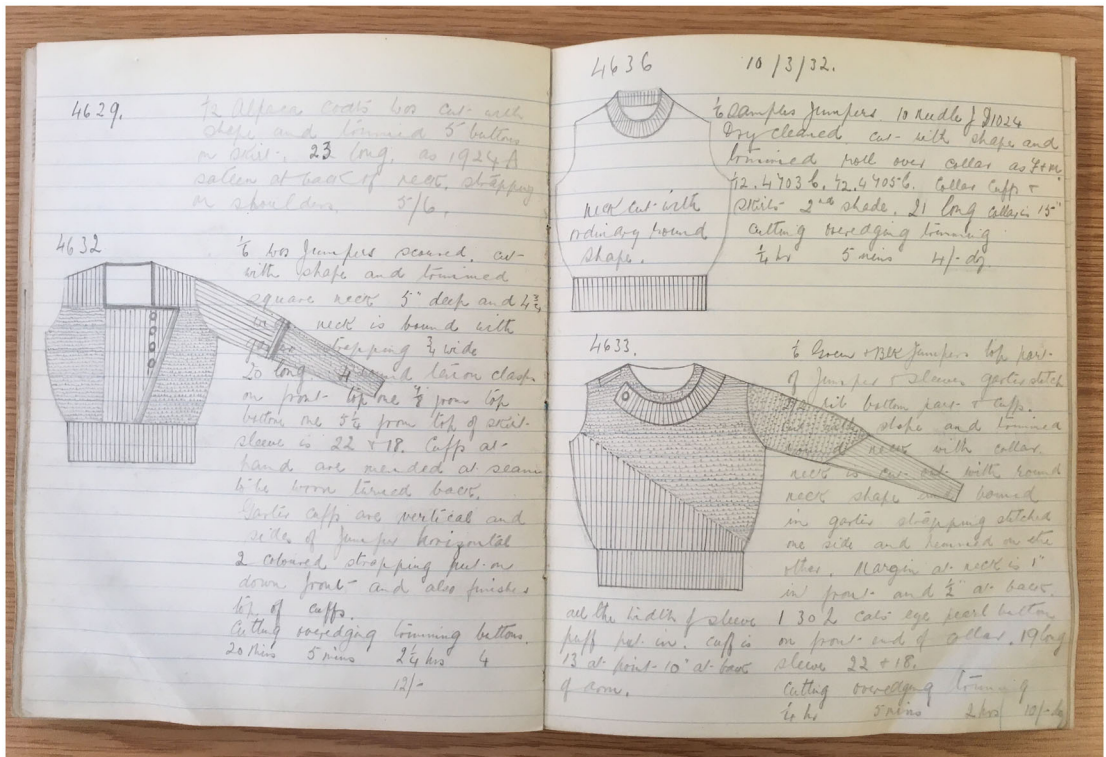


Figure 6

Variations and balance between complex and simple construction in cut and sewn garment styles (SBA 512/5/4/2 Peter Scott Design Book. Photograph by author, used with permission of Scottish Borders Archives).

sewing machine. Linking was a skilled occupation that involved putting every loop or stitch of the garment pieces to be joined over the individual needles of a linking machine before joining them.

Machine knitting has a long association with ready-to-wear garment manufacture as fully fashioned production began with the hand and foot operated stocking frame, which had been invented in the mid-sixteenth century (Harte 1989). However, this was replaced by automated machinery as it became more consistent and reliable during the nineteenth century (Wells 1972; Felkin 1845, reprinted 1967). Cotton's patent type machines or frames, which automated both the

knitting and shaping of garment pieces, became the industry standard by the start of the twentieth century (Nutting 1999). They were first powered by steam and then later by electricity. Several frames could also be linked together and tended by a single operator. Each frame had a single gauge of needle, which meant that a variety of frames with different needle sizes were needed to knit different weights of yarn.

The engineering of frames continued to improve throughout the twentieth century. Frames were developed for different speeds and different scales of production. Finer needle gauges were also introduced to knit finer weights of yarn. Although the

engineering of the frames continued to develop and improve, the method of production remained the same. Photographs taken of the Peter Scott factory shortly after its closure in 2016 show that despite the introduction and adoption of electronic knitting machines, automated knitting frames still dominated the factory space.<sup>21</sup> Automated knitting frames made a significant contribution to the manufacture of ready-to-wear garments and remained a vital part of the hosiery industry until the early twenty-first century.

Frame knitted underwear focused on fit and quality of textile rather than constant stylistic change, and this had significant implications for the



**This Illustration**

Shows the ordinary High Neck, Short Sleeve Style in Ladies' Combinations.

Please note we make the following Specialities at the following prices :—

Ankle Length Legs,	6/	per doz.	extra.
Fronts, open all down,	2/	„	„
*Cycling Shape,	7/	„	„
*Smocked Knees,	13/	„	„

\* These extras apply to Summer Weights only.

**MEASUREMENTS.**

**Figure 7**

Knitted combinations featuring elements adapted to style frame knitted outerwear, *Peter Scott Price List 1910* (SBA 512/6/2/24. Photograph by author, used with permission of Scottish Borders Archives).

styling of knitted outerwear. As only modest changes to underwear garment shapes occurred, hosiery manufacturers' use of the automated knitting frame favored volume production rather than versatility. Several frames linked together could knit multiple garment pieces of the same shape simultaneously. Therefore, if knitted outerwear garment shapes remained relatively unchanged, this could make the most efficient use of the production system. Consequently,

hosiery manufacturers transferred many of the structural elements associated with knitted underwear to knitted outerwear. An illustration of a woman's combinations, featured in a Peter Scott price list published in 1910, shows some of the elements that were successfully transferred to outerwear (Figure 7).<sup>22</sup> For example, the short sleeve with ribbed cuff, the round neck opening, and fitted body shape could all be used to style a jumper.<sup>23</sup> The button opening could

also easily be extended down to create the opening for a cardigan. These elements, amongst others, derived from underwear styling formed the structural basis upon which outerwear could be designed.

Information recorded in design entries for fully fashioned outerwear reflects the different type of information required to perform the unique process of knitting the fabric and shaping the garment piece simultaneously. Design entries for fully

fashioned garments had to provide the dimensions of the garment shape—length of shoulder seam, sleeve length, body length, armhole size—because, unlike cut-and-sewn garments these could not be transferred from a template.<sup>24</sup> The inclusion of needle size and weight of yarn also emphasizes the construction of fabric. Another important aspect of these entries is the mention of finishing processes. The simultaneous knitting of fabric and garment shape means that the fit, style and handle of most fully fashioned garments could not be assessed until after it was joined, washed and pressed. Throughout the three design books which concentrate on fully fashioned designs, entries mention scouring (washing), brushing, milling and boarding.<sup>25</sup> A survey of entries also show the variety of yarns that could be used. Cashmere, angora, merino and Shetland wool are all mentioned in the design books. Frame knitted styles also show less variety than cut-and-sewn designs. Often, only a brief description of the garment is given without a sketch and “standard measurements” is written instead of dimensions in inches.<sup>26</sup> The sparse details underline the technical input and innate knowledge and expertise required to frame knit fully fashioned garments.

However, the technical ability to “engineer” the textile and garment shape of underwear was not sufficient to successfully style fashionable outerwear garments (Nyburg 2022, 50). Input from designers, even those who did not fully understand how the garments were technically constructed, could improve their shape and color. The use of luxury yarns like cashmere also gave fully fashioned outerwear additional depth and

dimension. For more than half a century, Borders firms had boasted about the fit and handle of their knitted underwear. The creative appropriation of production process and elements of garment shaping gave them the opportunity to transfer these desirable qualities to outerwear.

### ***The Influence of Flat Bed Knitting Machines on Production Processes and Garment Styling***

In addition to frame knitting garments, hosiery manufacturers also used individual flat bed knitting machines, which offered further design opportunities. Like frames, these came in different needle sizes and several were needed to knit different weights of yarn. Flat bed machines—depending on the model—could knit textures and patterns in addition to shaping garment pieces. They could produce lengths of fabric from which garment shapes could be cut as well as shaping textured or patterned garment pieces that could be linked together. They could also be used to add variety and decorative detail to fully fashioned frame knitted garments in the form of trimmings. Pockets, belts, and bindings could add pattern, texture or contrasting colors to enliven and vary frame knitted garments. Design 5550 is described as a “full fashioned 2/20 shetland” jumper, with the instruction to add a patch pocket and belt with wood slide.<sup>27</sup> On the same page, designs for three more fully fashioned jumpers have additions of ribbing and piping around the neck.<sup>28</sup> And Design 5553, a sleeveless cardigan, calls for the addition of flapped pockets, a belt, and machine made buttonholes.<sup>29</sup> The addition of machine stitched trimmings allowed the production efficiency of the knitting frame

to be enhanced by the versatile detailing produced by flat bed machines. And this combination remained an important aspect of garment production in the Borders throughout the twentieth century and beyond.

Several design entries also reveal that Peter Scott could use flat bed machines in a hybrid form of production that saw shaped garment pieces joined by machine stitching rather than linking. For example, the design entries for two cardigan jackets from women’s suits have swatches and garment dimensions but are also accompanied with specific construction details. These details relate to cut-and-sewn techniques rather than linking as they include turning and hemming edges, tucks and darts, binding, and the construction and attachment of belts and pockets (Figure 8).<sup>30</sup> These construction details would have given the garments a soft tailoring which could not be achieved by linking. The decision to shape the garment pieces rather than cut them may have represented a more economical use of yarn or to give the interior of the garment a better-quality finish. Evidence that the company could combine cut-and-sewn and fully fashioned production techniques illustrates that it was prepared to creatively exploit both the design and production potential of its machinery. It also reveals that ready-to-wear garment production in the Borders knitwear industry during the interwar period was by no means straightforward.

### **Design Staff**

Although the surviving design books illustrate the design creativity at Peter Scott during the 1930s and 1940s, very little information about who was responsible for this remains. Evidence

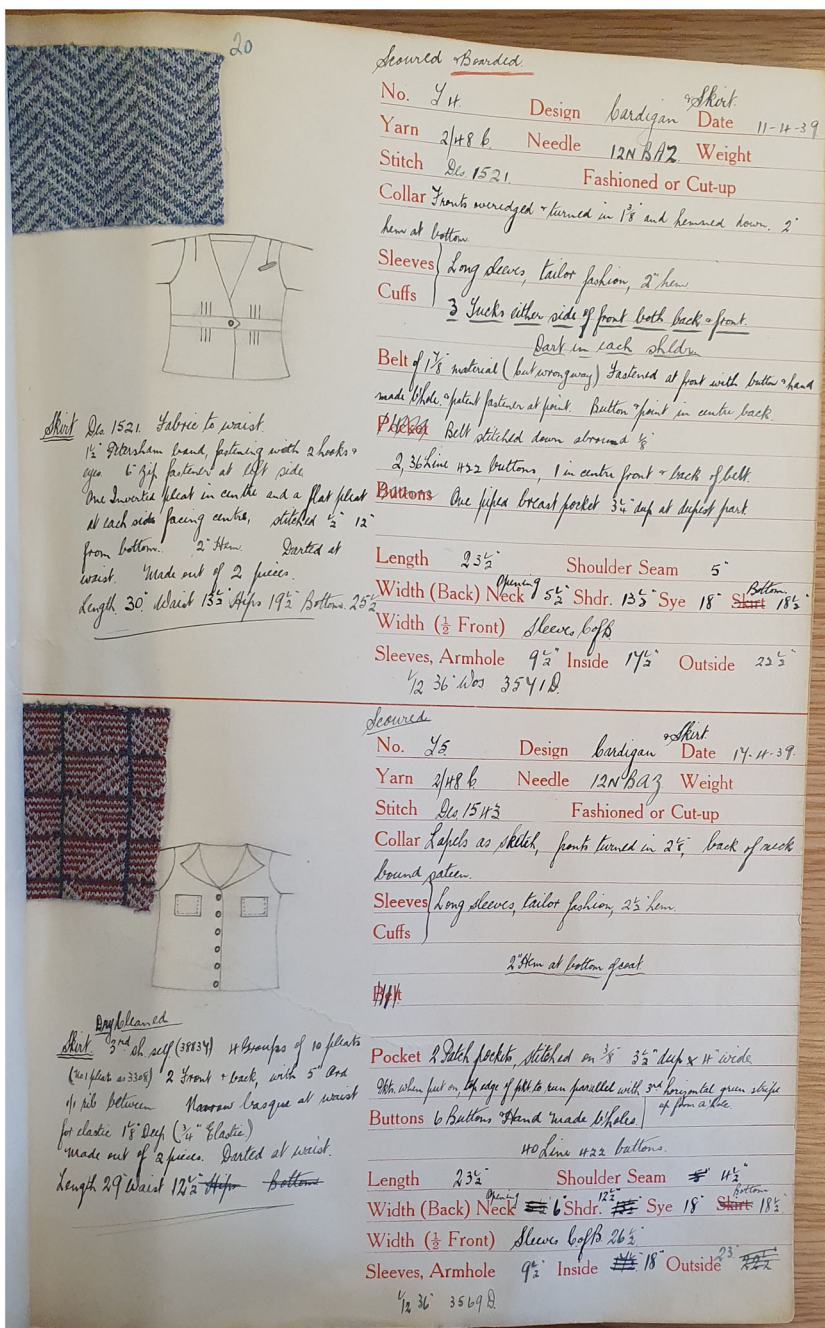


Figure 8 Examples of design with shaped garment pieces stitched together by machine [SBA 512/Peter Scott Design Book 1939-1940. Photograph by author, used with permission of Scottish Borders Archives].

from the design books, especially for cut-and-sewn garments, suggests that the company employed or commissioned clothing designers. Knitted outerwear was very much a new product during the 1930s, and no formal training for a knitwear designer existed. Therefore, the hosiery industry looked to clothing designers to help design and develop their product range. Hosiery manufacturers benefited from the growth of the ready-to-wear industry which had generated both training and employment for designers, cutters and makers. (Wray 1957; Worth 2006). Although the expansion of the ready-to-wear industry encouraged the professionalization of roles for clothing designers, entry to training and employment could often be hampered by class and local availability (Bide 2021; Seddon 2000; Strachey 1937). Evidence gleaned from company records, local newspaper articles and in-house company magazines provides some indications of how the value placed upon design and designers grew within the local hosiery industry.

In 1937, the significance of cut-and-sewn knitted outerwear to the local industry, prompted Innes Henderson to propose “an advanced class for girls ... with the view to improving their knowledge of the trade and encouraging the art of designing as applied to knitted fabrics.”<sup>31</sup> The proposal was to hold the classes at the Henderson Technical School in Hawick, established by Sir Thomas Henderson of Innes Henderson in 1928.<sup>32</sup> The company sought support from the Hawick Hosiery Manufacturers Association (HHMA). And in 1938, HHMA recommended the formation of “a class for the training of girls and young women employed in the hosiery trade for

technical instruction in art, colour, design and cutting and assembling.”<sup>33</sup> The minutes of a meeting held by HHMA in August 1938 record the appointment of an instructor from Edinburgh “to conduct the class in the Henderson Institute in cutting and assembling of knitted fabrics (Outerwear).”<sup>34</sup> The class was scheduled to run one night per week over 20 weeks. Although these classes were not intended to replicate the education of a clothing designer, the proposal to provide access to training locally that could generate and improve design awareness amongst staff illustrates that the industry was becoming increasingly aware of the importance of design for its cut-and-sewn knitted outerwear production.

However, despite the existence of clothing designers—and routes for formal training into the profession—their involvement in the successful design of knitted outerwear relied entirely on collaboration with technical staff. Although clothing designers could interpret fashion—and had, at least, an appreciation of how cut-and-sewn garments were constructed—they did not have a fundamental understanding of how knitted textiles or fully fashioned garments were produced. Clothing designers could offer valuable input into the colors, stripe widths and scale of texture for knitted fabrics to be used in cut-and-sewn garment construction but the accurate setting up of machines to deliver knitted textile lengths depended on the knowledge and experience of technical staff. In relation to fully fashioned garments, although designers could propose shapes, colors and yarns they relied entirely on the expertise of technical staff to optimize stitch to needle ratio and merge good

quality knitted fabric with garment fit and shaping.

Through collaboration and an exchange of knowledge with technical staff, designers could make informed decisions and choices about the design and construction of knitted textiles and fully fashioned garments. Not least, technical expertise was also required to determine the best finishing method for a garment or textile to ensure good quality handle as well as fit and shape. An excerpt from a talk about Peter Scott, given by an un-named member of staff, makes clear the knowledge required to construct a garment after initial design decisions were made. The notes stated that once the Knitting Manager had liaised with the design staff:

*he must work with the Production Manager to ensure that the most efficient methods of producing new designs are used. He must know the capabilities of the m/c [machine] at his disposal. He must work with the Making Up Manager to produce collars and trimming in suitable ways so that they can be handled in wet processing and trimming.*<sup>35</sup>

The value of technical expertise and support to the design process of fully fashioned knitted outerwear cannot be underestimated.

To bridge the gap between knowledge of design and technical expertise, hosiery manufacturers sought ways to combine creative potential with practical experience. In a lecture given at Hawick Technical School in 1938, Professor W. Davis, stated that the hosiery industry was employing “increasing numbers of students from schools of art, these being first trained to some extent in the capabilities of the knitting machinery with



which they will be required to deal.”<sup>36</sup> Although his guest lecture, before an audience of students, staff, and heads of department from local hosiery factories, was concerned primarily with technical advancements and the general state of the hosiery trade, his mention of the industry’s attempts to increase the technical proficiency of designers was significant. Otto Weisz, the well-known designer for Pringle, had gained valuable practical experience whilst working for the influential knitwear company of Bernhard Altmann, in Vienna (Nyburg 2022, 146–157). His design success persuaded his employers to recruit designers from among art school graduates and provide them with “on the job” training. In 1950, Pringle offered Stuart Beaty, a graduate of the Glasgow School of Art, who had studied sculpture, a two year trial contract.<sup>37</sup> Pringle’s in-house magazine reported that “During the initial period of his engagement... Mr Beaty will spend most of his time gaining background and technical knowledge on the Knitwear and Underwear side.”<sup>38</sup> The industry clearly recognized the value of practical training for its designers and also chose not to focus on textile graduates but was willing to consider any graduate who possessed an awareness of color, balance and proportion.

In addition to recruiting and training design staff, companies also recognized the value of experienced individuals who had worked in production and marketing. In 1929, Innes Henderson noted, “the necessity of having assistance in the designing and selling end of the Overwear Department [...]”<sup>39</sup> Mr Renwick, a former employee with the company who had gained valuable production

experience, was offered a salary of £1,000 per annum for a role which combined the design and sales of cut-and-sewn outerwear.<sup>40</sup> In 1937, Innes Henderson considered acquiring a small independent local manufacturer of fully fashioned goods, but instead offered the business owner, Mr Armstrong, a design role within the company. The company did so because the Directors were “favourably impressed with the personality of the man and his capacity for design and style, and... there was an opening for his class of goods, which were entirely different from our own productions.”<sup>41</sup> The growing popularity of knitted outerwear increased its value to hosiery manufacturers like Peter Scott, Innes Henderson and Pringle. And the value of outerwear encouraged investment in design staff. Senior management roles for design staff demonstrated that design was of growing importance to both business and industry.

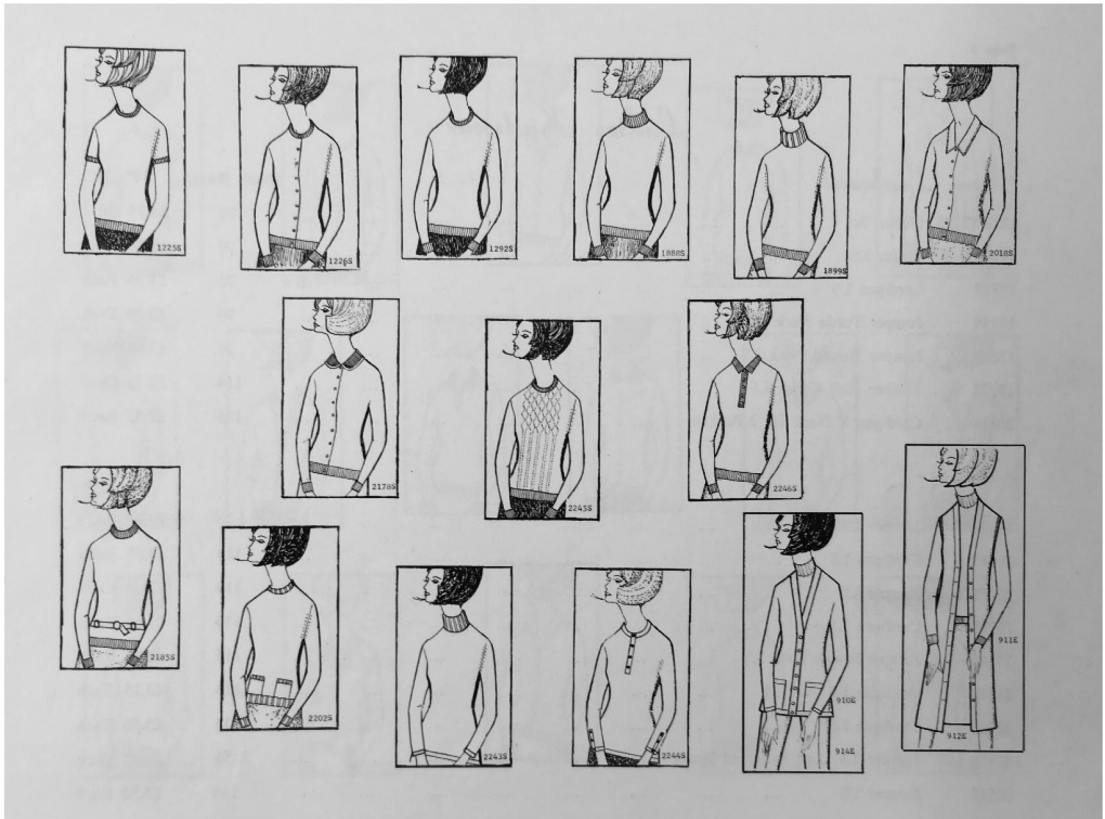
By the end of the 1930s, the popularity and value of knitted outerwear meant that design was regarded as an integral part of the production process. And in 1944, the corporate minutes of Innes Henderson describe the setting up of a sampling department. The minutes stated that “Mr Renwick thought that the sample department should be in two sections, an experimental room for creating styles and designs, and a room for making samples.”<sup>42</sup> Although Innes Henderson were reluctant to merge the production of cut-and-sewn and fully fashioned garments in a single site, the company directors agreed that, “an arrangement whereby all the designing skill and knowledge would be concentrated in one place was desirable.”<sup>43</sup> Evidence of the investment in design staff,

training, and the creation of sampling departments signaled the importance of design to the Borders hosiery industry and the formalization and professionalization of the designer’s role.

### **The Emergence and Dominance of Frame Knitted Classic Styles**

Because frame knitting remained the primary method of production in the Borders, it can arguably be said to have heavily influenced the direction of garment styling during the post war period. Classic styles became important to frame knitted garment ranges because of the challenges associated with combining fit, shape and texture. Although knitting frames could handle dramatic and frequent changes to garment styles, this would incur expense and time for sampling and setting up that would severely impact production efficiency. The flexibility and versatility of cut-and-sewn production offered opportunities for stylistic variety and experimentation, whereas frame knitting encouraged stylistic economy and a focus on garment fit and handle.

A concentration on classic styles also found unexpected support and promotion during World War II when Borders firms learned valuable lessons about the relationship between garment style and production. Shortages of raw materials eventually forced the government to ration civilian clothing and introduce the Utility Clothing Scheme in 1942. For manufacturers involved in the scheme, this placed severe limits on the styles of clothing and amounts of textiles that they could use. (Howell 2012; Hargreaves and Margaret 1952). In addition to the Utility scheme, “austerity” regulations were also



**Figure 9**

*Peter Scott Price List, Autumn 1971 (SBA 512 7/2/79. Photograph by author used with permission of Scottish Borders Archives).*

introduced to strip away all unnecessary detailing on garments (Hargreaves and Margaret 1952). Classic styles already satisfied the desire for clean lines and an economic use of materials and in many ways these restrictions actually benefited the design and production of frame knitted garments. Moreover, frame knitting was most efficient when it produced multiples of the same style. A limit on the number of styles made effective use of both machinery and power. In 1945, it was noted that Pringle, “having learned from their experience in war-time, saw the advantages of having all their knitting machines in full production and

restricting the range of styles.”<sup>44</sup>

After World War II, a concentration on frame knitted garments in classic styles increased production efficiency. This increase gave Borders firms two distinct advantages. First, firms could provide their customers with a reliable stock service, which speeded up delivery times significantly. And secondly, firms could pursue export opportunities. In 1948, after a visit to the USA, one of Pringle’s directors remarked that he remained convinced that “at least eighty per cent or thereabouts of our business will still be in Classics [...]”<sup>45</sup> However, although firms chose to concentrate on classic

styles and production efficiency, design still played an integral role. Despite the fact that the shape of classic styles was not expected to alter radically from season to season, design staff still had to update stylistic details and colors in response to contemporary fashion trends. A stock service of garments made up in advance had to appeal to buyers, otherwise the manufacturer risked being left with large quantities of unsold stock. Design staff had to refresh styles to ensure that this did not happen. Successful export also required design staff to ensure that classic styles were tailored to the tastes of each individual country. In

1954, Pringle's Directors Report noted that it was "essential for our Designing Staff, from time to time, to visit other Countries to see what trend is elsewhere in styling and the like [...]"<sup>46</sup> Frame knitted classic styles helped to optimize production, but their outward simplicity masked the effort required to keep the style relevant and attractive to both domestic and foreign consumers.

However, a significant shift in consumer demand during the 1960s challenged the dominance of classic styles in knitted outerwear. After World War II, "social, economic, and demographic changes worked in tandem to create new consumers, styles, and identities [...]" (Conekin 2013, 92) Youth culture challenged the way fashion was produced and retailed. (Breward, Ehrman, and Evans 2004) And these young consumers enthralled by the vibrancy of contemporary fashion designers expected greater variety and originality from their clothing choices, including knitwear. This fashion revolution presented Borders firms with a design dilemma—whether to continue to focus on classic styles or increase production of more contemporary styled garments.

In 1969, Peter Scott engaged Bob Schulz as a consultant designer. His appointment was announced in several trade papers, and he was described as an "internationally known name in the fashion world."<sup>47</sup> Schulz ran his own fashion label from Belgravia in London and had successfully established Young Jaeger, a label aimed at the fashion conscious youth market, for the Jaeger company. An article in *The Scotsman* stated that Peter Scott had engaged him because

they were "in the process of up-dating their image."<sup>48</sup> At a fashion show staged in a London nightclub in 1970, the company presented its Spring Collection designed by Schulz, which featured "new maxi cardigans, long-line slippers, top fashion waistcoats ... and useful tunic dresses in lambswool, cashmere, Shetland and camel hair."<sup>49</sup>

Although Schulz was familiar with contemporary trends—and quite prepared to lead the way in fashion—he admitted that "the difficulty ... in rethinking knitwear is not to get away from the classic image [...]"<sup>50</sup> An article featuring knitwear from Peter Scott's collection, published in the *Glasgow Evening Times* in 1969, stated:

*Every season new sweaters come into the shops, and at first glance they may seem much the same as last season's. But when you look closely, you see that they have been altered subtly to meet 1969 fashion trends ... The Peter Scott collection reintroduces the twinset, looking much the same as it has for 30 years, only dragged well clear of dowdiness by clever ribbing and with gilt buttoned pockets inset on the cardigan.*<sup>51</sup>

Peter Scott attempted to refresh its garment styling in response to a fashion-conscious market. The company acknowledged it needed to update its image and was prepared to employ a consultant to give a small range of its knitwear a more contemporary twist. However, a page from the company's 1971 illustrated price list (Figure 9) shows that its focus remained on updating and refreshing rather than

embarking on any wholesale radical change to its garment shaping.<sup>52</sup> For more than quarter of a century, Peter Scott had relied upon classic styles and the knitting frame to deliver domestic and export sales. Despite the engagement of a consultant designer, the company appeared unwilling to disrupt what had been a successful business model by making any dramatic changes to its garment styling. Although Peter Scott was willing to make subtle alterations to its product range, it was unwilling to entirely abandon either the garment styling or machinery upon which the reputation of the company had been built.

## Conclusion

The rising popularity of knitted outerwear and the growing demand for ready-made clothing during the interwar period gave hosiery manufacturers an opportunity to expand their product range by adapting machinery and processes previously only used for the production of underwear. A focus on the relationship between product design and machinery during this period illuminates how this important relationship contributed to the growth of the ready-to-wear garment industry and influenced the style of knitted garments during the postwar period. Design innovation and experimentation with cut-and-sewn and fully fashioned production during the 1930s allowed both manufacturers and consumers to explore the stylistic potential of knitted outerwear. However, despite this experimentation, the machinery, expertise and experience associated with fully fashioned production—and the classic garment styles it encouraged—

persuaded manufacturers to relinquish the versatility and complexity of cut-and-sewn production.

Concentration on the fit and handle of a limited number of styles created an international reputation and thriving export market for Borders knitwear manufacturers. Although the 1960s fashion revolution demanded concessions from Borders firms, design was restricted to refreshing and updating familiar classic styles rather than embarking upon radical changes to garment shape and texture. An examination of the relationship between product and machinery reveals influence and opportunity as well as negotiation and restriction. The example of a single company illustrates how design and garment styling were used to help navigate the challenges that business and industry dilemmas created.

## Notes

1. The Peter Scott records are part of the Scottish Borders Archives and are currently housed in Hawick Heritage Hub (HHH). The catalogue is available online.
2. HHH, SBA 512/5/4/2 – 5/4/4 concentrate on cut-and-sewn designs, dated from 1932–1935. Design Books 1939–1940, 1940–1943 and 1943–1950 concentrate on fully fashioned designs.
3. HHH, Peter Scott Price Lists, 1891, 1896–1900.
4. HHH, SBA 512/6/2/9, *Peter Scott Hosiery Price List 1898* – end cover states, ‘Owing to the great advance in the prices of wool, we are compelled to advance the prices of our Llama,

- Cashmere, and Silk and Wool goods [...]’
5. HHH, SBA 512/7/20, *Peter Scott Summer Hosiery Price List 1899*, p. 23.
  6. HHH, SBA 512/7/2/38, *Pesco Ladies Sportswear 1926*.
  7. HHH, SBA 512/7/66, *Pesco Underwear, Sportswear, Hosiery and Boys Jerseys Autumn 1928*.
  8. Hawick Museum (HM), Innes Henderson Minutes Book 2. On 3 March 1930 it records ‘our production in Underwear (broad work) for the year was 31,480 dozens... Our production of Overwear (broad work) for the past year was 32, 555 dozens, 25,521 being made on Patent Frames and 6,384 on Knitting Machines.’
  9. National Art Library, V&A Museum, *The Singer Handbook for the Hosiery Industry* ([n.d.]: Singer Sewing Machine Company Ltd, [1920(?)]).
  10. HHH, SBA 512/7/2/38, *Pesco Ladies Sportswear 1926*; Innes Henderson corporate minutes refer to the opening of an outerwear section in its Kumfy factory (Hawick Museum, Innes Henderson Minutes Book 2, 3 March 1930).
  11. HHH, SBA 512/5/4/2 – 5/4/4 Peter Scott Design Books all concentrate on cut and sewn garment designs and date from July 1932 to Dec. 1935.
  12. HHH, SBA 512/5/4/1 is a Record of Sportswear which captures all the garments designed by the company against sales by its twelve

senior sales agents between Dec 1932 and May 1939.

13. HHH, SBA 512/5/4/2, Peter Scott Design Book.
14. HHH, SBA 512/5/4/4, Peter Scott Design Book, pp.13–14.
15. HHH, SBA 512/5/4/2, Peter Scott Design Book.
16. Ibid.
17. HHH, SBA 512/5/4/2, Peter Scott Design Book, Design 4628.
18. HHH, SBA 512/5/4/2, Peter Scott Design Book, Designs 4621 and 4628.
19. HHH, SBA 512/5/4/2, Peter Scott Design Book.
20. HHH, SBA 512/5/4/2, Peter Scott Design Book.
21. Bentley Cotton knitting frames in Peter Scott factory - <https://canmore.org.uk/collection/1547811>
22. HHH, SBA 512/6/2/24, *Pesco Price List 1910*, p. 32.
23. Frames could only knit plain fabrics. Ribbing was knitted separately and then attached to the frame before the rest of the sleeve or body part could be knitted.
24. Three of the design books concentrate on fully fashioned garment designs. The pages of these books are printed and information relating to the garments is added in ink. There is space for two designs on each page.
25. HHH, SBA 512/Peter Scott Design Books 1939–1940, 1940–1941 and 1944–1950, most of the entries in these books include finishing instructions.
26. HHH, SBA 512/Peter Scott Design Book 1940–1943 – entries for Designs 6904 and

- 6955 have no garment sketches or swatches and 'standard measurements' is written instead of dimensions, p.123.
27. HHH, SBA 512/5/4/4, Peter Scott Design Book, pp.137–138.
  28. HHH, SBA 512/5/4/4, Peter Scott Design Book - Designs 5549, 5552 and 5554, p.137.
  29. HHH, SBA 512/5/4/4, Peter Scott Design Book, p.138.
  30. HHH, SBA 512/Peter Scott Design Book, 1939–1940 - Design T<sub>4</sub> (dated 11/4/39) and T<sub>5</sub>, (dated 17/4/39), p.20.
  31. HM, Innes Henderson Minutes Book 3, Aug 1937, pp.155–156.
  32. HM, Innes Henderson Minutes Book 2, 29 Oct 1928, p.8.
  33. HHH, SBA 1045, Box 6421, Letter from James Conn, Secretary HHMA, circulated to its members, 5 July 1938.
  34. HHH, SBA 1045, Box 6421 - Minutes of Meeting of Committee (HHMA) held on 29 Aug 1938.
  35. HHH, SBA 512, Box 1/37, Notes from a talk given by an un-named member of staff, c.1960s.
  36. An article describing the lecture was published in *The Hawick News*, 15 April 1938.
  37. HHH, *Pringle Bulletin*, September 1950 – has a small article that states that Stuart Beaty has been engaged as an assistant designer; SBA 738/1/2, Pringle Minutes 1944–1950, 26 Jan 1950 states that Stuart Beaty is to be offered the post of 'trainee designer on a two years' trial'.
  38. HHH, *Pringle Bulletin*, September 1950.
  39. HM, Innes Henderson Minutes Book 2, 27 Feb 1929, p.28.
  40. Ibid.
  41. HM, Innes Henderson Minutes Book 3, 26 Oct 1937, p.164.
  42. HM, Innes Henderson Minutes Book 4, 13 Sept 1944, p.193.
  43. Ibid.
  44. HM, Innes Henderson Minutes Book 4, 3 April 1945 – records a discussion between Innes Henderson and Pringle staff.
  45. HHH, SBA 738/1/2, Pringle Minutes 1944–1950 - Report by Mr J.M. Turnbull on U.S.A. Trip, 30 June 1948.
  46. HHH, Pringle Directors Report 1954.
  47. *Wool Record*, 21 March 1969. His appointment was also announced in *Drapery and Fashion Weekly*, 14 March 1969; *Hosiery Times*, April 1969; and *Hosiery Trade Journal*, April 1969.
  48. *The Scotsman*, 9 May 1969.
  49. *Hawick News*, 28 November 1969.
  50. *The Scotsman*, 9 May 1969.
  51. *The Glasgow Evening Times*, 10 July 1969.
  52. HHH, SBA 512/7/2/79, *Peter Scott Price List Autumn 1971*.

### Disclosure Statement

No potential conflict of interest was reported by the author(s).

### Funding

This work was supported by the Arts and Humanities Research Council under Grant AH/SO11528/1: Fleece to Fashion:

Economies and Cultures of Knitting in Modern Scotland.

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