

TYPES OF FASHION DESIGN AND PATTERNMAKING PRACTICE

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INTRODUCTION

This paper originates from a PhD research project that investigates the elimination of fabric waste from the production of clothing. Most efforts to reduce the amount of fabric waste have centred on various types of marker-making software that place the garment pieces on a length of fabric as tightly as possible. Despite these efforts, in adult outerwear on average 15 percent of the total fabric used is wasted at the cutting out stage, according to Cooklin (1997: 9). Feyerabend's estimate is 10 to 20 percent (2004: 4), while Abernathy, Dunlop et al. (1999: 136) put the figure at 10 percent for pants and jeans, but higher for blouses. The primary obstacle for fabric waste elimination is that the software, regardless of its level of sophistication, is always limited by what has already been designed and patternmade. This project proposes that to eliminate fabric waste, the garment must be designed, and a pattern made for it, with fabric waste elimination as a design consideration, alongside aesthetics, price, target market, etc. To avoid wasting any fabric, the pattern pieces of a garment must interlock on a given length of fabric prior to cutting; therefore fabric waste elimination is also a patternmaking consideration. One of the aims of the project is to provide practical, accessible information for fashion designers and patternmakers about how they may modify their

practices so that fabric waste is eliminated or drastically reduced. The research is motivated primarily by environmental/ecological sustainability.

THE DESIGN EXPERIMENTS

In developing the research methodology for the project, the accessibility of the research findings to industry practitioners has been one of the key reasons for including fashion design and patternmaking practice in the methodology. The researcher, a fashion designer and patternmaker by trade, is undertaking these practices. The practical part of the research is divided into two phases. The first is a series of fashion design experiments, followed by the development of a small collection of menswear clothing. The design briefs for the experiments have largely been developed based on available literature on fabric waste reduction or elimination through design. Many examples of such designing, historical and contemporary, have been uncovered (Rissanen, 2005), but the literature falls short of explaining how other designers and patternmakers may create fashion without creating fabric waste. The findings from the experiments will further influence the development of the design brief for the menswear collection. During the research, and particularly during developing the design briefs for the design experiments, it has emerged that different fashion designers and patternmakers may use different approaches to reach the final design, the sample garment. Therefore it was necessary to begin developing typologies of fashion design and patternmaking practices, to ensure the

accessibility of the research to practitioners with different types, or ways of practising. This paper is an introduction to these two typologies and how they have influenced the design briefs. A thorough typology of either fashion design or patternmaking practice could well be the subject of a separate PhD project; the paper acknowledges that both practices are yet to be researched thoroughly. 'How-to' manuals exist on both, and monographs on fashion designers sometimes discuss designers' practice to varying degrees, but the kinds of studies on the practice of designing available in other design disciplines (for example, architecture, industrial/product design) are still lacking in fashion design and patternmaking.

A TYPOLOGY OF FASHION DESIGN PRACTICE

Different ways of designing fashion are available for fashion designers; these have implications for fabric waste elimination. Because the project aims to provide practical, accessible information for fashion designers and patternmakers about fabric waste elimination, an understanding of different ways of creating fashion is important. Fabric waste elimination may need to be investigated through a number of types of fashion design. It's acknowledged that types of haute couture (high-end, made-to-measure and made-to-order fashion) fashion designing may be very different from types of mass-market fashion designing. The aim here, however, is to be as broad as possible since it's the author's firm belief that fabric waste elimination is possible in all levels of the fashion system.

The types of fashion design presented here are simplified to the core stages that the fashion designer is influential in. Each begins with the initial manifestation of a design idea and finishes with the final sample garment; many areas, such as research conducted by the designer, are omitted. If required, in practice some stages such as making a toile or pattern alteration may be repeated more than once. A toile is a sample garment, or a prototype, made to check how the pattern fits on the body, and how it reflects the designer's initial idea. It's usually made in an inexpensive fabric such as calico or muslin, and may not be finished to the level that the final sample garment is. If necessary, the patternmaker alters the pattern after the toile has been fitted on the body. The fashion designer may wish to alter the design after a toile has been made, but often this does not occur, and thus 'Design alteration' is in brackets in all types of fashion design practice below.

1. Sketch – Pattern – Toile – (Design alteration) – Pattern alteration – Sample garment

This may be the most common type of designing in industry and fashion design education. The designer produces a sketch, which the patternmaker uses to create a pattern. In some instances, the patternmaker may also be responsible for the pattern.

2. Pattern – Toile – (Design alteration) – Pattern Alteration – Sample garment

Fashion designers capable of patternmaking may skip sketching, to directly begin realise their idea in pattern. Julian Roberts, a contemporary English designer, begins the design process with large patterns, which often consist of large rectangles broken by circular holes and parts, which are on closer inspection 'conventional' necklines and armholes (Roberts and Cheung, 2003). A large rectangle may loop onto itself through a hole, while the 'conventional' neckline provides an anchor point for the garment on the body. There seems to be a great deal of uncertainty in this kind of designing; the final form of the garment isn't revealed until it is made up and tried on. From a creative point of view this technique (documented on the website) seems to offer great potential and the results may be anything but conventional. Yeohlee Teng, a contemporary designer in New York, has made fabric waste reduction an integral aspect of her work. Like Roberts, for Teng the design process of a garment may begin with the flat pattern (Major and Teng, 2003: 140-1), although it is clear some of her garments begin with a sketch. During the 1980s, Yoshiki Hishinuma in Japan created a series of garments made entirely of equilateral triangles (Hishinuma, 1986: 162-72). It is likely that the process begun with a pattern rather than a sketch. The book that features this work includes with each garment a diagram of its composition, hinting that Hishinuma places great importance on how the garments are designed and made. All three designers, while allowing a degree of uncertainty into their designing, decide on the type of garment (dress, jacket, trousers) before the pattern is made.

3. Sketch – Draping – Pattern – Toile – (Design alteration) – Pattern alteration - Sample garment

Draping with fabric can be an extension of the patternmaking process, whereby fabric is 'worked' on a mannequin according to the sketch. The resulting fabric pieces are then developed into a garment pattern from which a toile can be made.

4. Draping – Pattern – Toile – (Design alteration) – Pattern alteration - Sample garment

Draping can also be a way of exploring the potential of a fabric on the body, and therefore it can inform the design idea from the start. Madeleine Vionnet, a French designer from the first four decades of the twentieth century, developed her ideas exclusively through draping on a half-scale mannequin (Kirke, 1998: 28, 233-4). This type is similar in many ways to beginning with the pattern (Type 2), except that a pattern is created in two dimensions and flat, while draping investigates three-dimensional form. The practice of draping in fashion design does not seem to have been researched or written about, other than in draping manuals for fashion designers. Virtual or simulated draping, using various types of software, on the other hand, has been widely researched. While initially it seems that the primary use of simulated draping is to dress virtual humans, whether in computer games or animated films, some recent research is directed specifically at the fashion designer: simulated draping as a design tool (for example, see Volino et al., 2005). Such research should be welcomed but the author would like to call for more research on the practice of draping with 'real' fabric and its role within fashion design.

5. Existing garment – Sketch – Pattern – Toile – (Design alteration) - Pattern alteration – Sample garment

It is common practice in Australia, and probably elsewhere, for the fashion designer to purchase a garment and develop a slightly modified sketch based on it. The patternmaker then creates a pattern based on both the garment and the sketch.

6. Existing garment – Pattern – Toile – (Design alteration) – Pattern alteration - Sample garment

Sometimes the existing garment is given directly to the patternmaker to create a pattern from. This in effect is copying, and it's doubtful whether simply making the garment in a fabric different to the original constitutes fashion design. While one would expect this to be more common in lower levels of the fashion system (mass-market), the author has witnessed this practice occurring within the Australian designer ready-to-wear market. In some instances this practice may have merit. Vivienne Westwood once said: "By trying to copy technique, you build your own technique." (Wilcox, 2004: 9) She began her career as a self-taught fashion designer in the early 1970s by copying Teddy boy suits. She didn't merely copy them, though; she analysed their structure and construction, and later

applied the knowledge thus gained into ideas of her own.

7. Conceptual idea – Pattern – Toile – (Design alteration) – Pattern alteration - Sample garment

Sudjic (1990: 30-4) provides a detailed account of how Rei Kawakubo of Comme des Garçons works with her patternmakers. Often the sketch given by Kawakubo lacks detail, and sometimes there is no sketch. For example, she may give the patternmaker a piece of crumpled paper and ask for an interpretation. The level of aesthetic and creative responsibility the patternmakers have may be higher than what is usual for patternmakers in the industry. Kawakubo states her patternmakers help her design.

8. Textile print on paper – Draping paper on body – (Sketch) - Pattern – Toile – (Design alteration) – Pattern alteration – Sample

Another contemporary designer of textiles and fashion, Zandra Rhodes often allows the printed fabric determine the pattern shapes of a garment. She explains: "The [printed] patterns lead me along and influence the way I use them [in garments]...I always consider what is left and try to make it into another part of the dress. I can't tolerate waste and use every inch." (Rhodes and Knight 1984: 56). Rhodes pins the printed paper on herself in front of a mirror to determine the impact of the print on the body. Ironically for someone lacking formal fashion design training, for Rhodes patternmaking is an integral aspect of the fashion design process.

It is expected that every fashion designer may work somewhat differently and therefore various combinations of the above may exist, or there may be other types of designing that the list doesn't cover. Even if the list is not exhaustive, the eight types arguably cover the vast majority of fashion design practice in the industry.

A TYPOLOGY OF PATTERNMAKING PRACTICE

From the types of fashion design practice, different types of patternmaking practice become evident. The focus here is on the type of communication from the fashion designer that initiates the patternmaking process. Because the amount of fabric waste produced depends on how well the pattern pieces are able to interlock on a length of fabric, patternmaking has great significance for fabric waste elimination. Consequently, how a patternmaker approaches the making of a pattern has implications for fabric waste elimination. It's acknowledged that relationships between designers and patternmakers are diverse; whilst patternmaking practice

is simplified here into four types, combinations of the four probably take place. In some instances the designer may make the pattern, but the four types below are still applicable. The importance of other forms of communication between the designer and patternmaker should not be underestimated. Regardless of the type of patternmaking practice, verbal conversations probably play a significant role in assisting the patternmaker to interpret the designer's idea.

1. The patternmaker may make a pattern from a sketch and notes produced by the designer. Often these take the form of a specification, or spec, sheet. This is perhaps the most common type in the industry, and the predominant type in cases where the designer and patternmaker are in two different locations, an increasingly common occurrence with clothing production shifting to countries with low labour costs.
2. The patternmaker may make a pattern from draped pieces of fabric (or paper, as seen with Zandra Rhodes). If the draping is preceded by a sketch (see Type 3 Fashion design practice), it's likely the patternmaker is also responsible for the draping, but if the idea is first conceived through drape, the designer would do this. The draped fabric pieces often do not match exactly and some pieces, such as facings and linings are usually not draped. The patternmaker ensures that a complete set of patterns is produced, which can be made into a toile.
3. The patternmaker may make a pattern from an existing garment. It is possible to trace a pattern from a garment without taking it apart. Kirke (1998: 233-4) developed the patterns in her book on Madeleine Vionnet by laying the garments flat and analysing the fabric grain (direction of yarns) and taking countless measurements, preserving the often fragile museum specimens. In the case of complex shapes, such as trouser crotches and jacket sleeves, it would be more accurate to carefully unpick the garment first, lay the pieces flat and then trace them.
4. The patternmaker may make a pattern from an idea communicated by the designer. This approach is evident in Kawakubo's approach to working with her patternmakers.

CONCLUDING NOTES

It is clear from this brief attempt at typologies of fashion design and patternmaking practices that fashion design and patternmaking may interact in different ways. For some, patternmaking may be a technical step, necessary to realise a sketch into a garment. For others, patternmaking may be integral to the creative aspect of fashion design; it can sometimes replace sketching. It may be more difficult to eliminate fabric waste through processes initiating with a sketch, but these approaches need to be investigated in the design experiments as they are common in the industry and the research aims to serve the whole industry. Even a brief investigation into the types of practice ensures that the design briefs reflect the diversity of practice in the industry.

From the typologies it would seem that the order in which an idea is conceived may have relevance to fabric waste elimination. In manufacturing, two-dimensional fabric is made into three-dimensional garment. The designers who have reduced or eliminated fabric waste seem to have worked in a similar way: from two-dimensional fabric or paper to a three-dimensional garment. A sketch on the other hand is a representation of a three-dimensional garment, from which a two-dimensional pattern is produced. This will be further investigated in the experiments and in the design and make of the menswear collection. While sketching may pose some problems for fabric waste elimination, it has many advantages and is probably indispensable for designers. Arguably not much critical inquiry about fashion design practice has taken place. Do we really know how fashion designers and patternmakers work and interact? This knowledge will be crucial when we begin speculating about how industry practitioners could work, if we were to move towards a more ecologically sustainable fashion industry.

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