

**Integrating sustainable strategies in the fashion  
design process: A conceptual model of the  
fashion designer in haute couture.**

**A thesis submitted in fulfillment of the requirements for the degree of  
Doctor of Philosophy**

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*Declaration:*

I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of the thesis is the result of work which has been carried out since the official commencement date of the approved research program; any editorial work, paid or unpaid, carried out by a third party is acknowledged; and, ethics procedures and guidelines have been followed.

Signed:

Alison Gwilt  
Dated: January 2012

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## **Abstract**

This thesis explores the role of the fashion designer in the contemporary design and production of fashion garments, and seeks to present an argument for the integration of sustainable design strategies across the fashion design process. Existing studies have revealed that within the fashion design process there is often no consideration for the life cycle of a garment, garment end-of-life strategies, or any sense of responsibility for the textile waste generated through pattern making, manufacture or use (Black, Eckert and Eskandarypur 2009; Gwilt & Rissanen 2011). This thesis explores what opportunities are available for the fashion designer to design garments that can lessen the impact on the environment, while balancing economic, social and ethical concerns. Moreover, the thesis proposes that the designer can integrate sustainable design strategies during the fashion design process, which can lead to a change in the way that fashion garments are produced, used and discarded.

The study enlists a number of different approaches to the research including a literature review, practice-based activities and the development of a conceptual model. The literature review was conducted to frame three areas of investigation: the fashion design process; sustainability and fashion design; and sustainable design tools and models. In addition the author engaged in a number of practice-led activities, which included the production of a set of creative textile works, the curation of an international sustainable fashion exhibition and the authoring/editing of a subsequent book on the subject. These activities provided the opportunity to critically explore alternative approaches to fashion design practice, which have led to the development of a qualitative methodology for an improved model of fashion design practice. Moreover, the improved model has been mapped onto the fashion design methodology employed in the haute couture sector; a methodology that has historically informed the design and production process used within many independent, micro, small and medium enterprises.

During the development of the new model three key issues significant to change were identified. First: that the fashion design and production process requires a fundamental alignment with life cycle thinking. Second: the fashion designer needs to comprehensively understand sustainable design strategies. And third: it is critical that the fashion designer links sustainable design strategies with the activities and phases of design and production. In addition, it is clear that the implementation of a model that centrally locates issues of sustainability within the fashion design process could actively assist the fashion designer in

influencing behavioral change amongst the team of specialist producers, makers and suppliers deployed across the industry.

The original contribution of the research is manifest through the development of an improved model for fashion design practice, which enables the fashion designer at the design inception phase to influence the production, use and disposal of fashion garments that minimize environmental and social impacts. Moreover, the study recommends that further research is needed on the development of sustainable design strategies specifically tailored for fashion design, to expand the opportunities available to the fashion designer.



## Chapter 1: Introducing the research

### 1.1 Introduction

In contemporary western society economic growth is commonly measured by the sale of new products and services. Moreover, designers and manufacturers often play on this desire for new products through the notion of the must have 'next big thing'. Within the fashion industry the trend for 'fast fashion' has generated an exponential rise in the sale of inexpensive fashion garments that are often worn too little, washed too often and are too quickly discarded (Allwood, Laursen, Malvido de Rodriguez & Bocken 2006). While this view relates specifically to products available in the high street, across all levels of the fashion industry there continues to be a production of market driven and disposable goods. The cycle of buying, wearing, washing and disposing of fashion garments, which are designed and manufactured in a system based on producing goods at the lowest possible price, has major implications for the environment and society. It is estimated that on average each year the consumer in the UK will contribute as much as 30kg of clothing and textiles per capita to landfill (Allwood et al. 2006). While the author is acutely aware of the socio/cultural and ethical issues associated with the production of fashion, this thesis is focused on sustainable strategies that can be employed during the fashion design process, which aim to reduce the negative environmental impacts of a garment throughout its life cycle. A full investigation into the ethics of fashion sits outside of the remit of this research, however references to the ethical concerns of fashion production are repeatedly drawn throughout the work as seen through the lens of sustainable fashion practices and potentials.

The key question explored within the research then is, how and where can the fashion designer integrate sustainable strategies in the fashion design process? Moreover, the thesis aims to demonstrate that alternate ways of designing and making fashion garments that utilize sustainable design strategies can exist. The first chapter sets out the rationale for the thesis in relation to key arguments and problems concerning sustainability and the fashion industry. At the heart of the argument is the notion that the fashion designer can play a significant role in the production of 'better' garments (in the context of sustainability). This proposition is supported in Chapter 2 with a summation of how the role of fashion designer emerged within the context of a modern fashion industry in the early 19<sup>th</sup> century. In particular with the establishment of Charles Worth's Paris-based haute couture house. It is important to note that *haute couture*, as defined within this thesis, is restricted to the custom-tailored

clothes produced by ten couture houses<sup>1</sup>, certified by the *Chambre Syndicale de la Couture Parisienne*<sup>2</sup>. The thesis aims to reveal that a conventional process of fashion design, which began with Worth, can be identified in the current contemporary fashion design process and that a critique of this process needs to be undertaken if designers are to engage with sustainable design practices. Chapter 3 will review existing literature concerned with fashion and sustainability and in particular will examine issues around the life cycle of a garment. The chapter is divided into 3 main sections: the manufacture of fashion; the use and disposal of fashion; and the fashion system. Chapter 4 explores the use of sustainable strategies within the fashion design process and begins to frame the argument for a new model of fashion design practice, one that foresees the integration of sustainable design strategies. Chapter 5 draws on the discussions and model outlined in Chapter 4 and documents a conceptual model for the fashion design and production process to be used within haute couture, which has integrated a number of sustainable design strategies. The conceptual model is used to demonstrate that an improved process can exist for fashion design by revealing a framework for the integration of sustainable strategies in the fashion design process. To conclude, the thesis further recommends a number of points that need to be addressed in order for sustainability to be accepted within a fashion design, industry context.

## **1.2 The importance of integrating sustainability in the fashion design process and the role of the designer in leading change.**

For a number of researchers the sustainability discourse stems historically from an appraisal of the Industrial Revolution; an era universally identified as a period of rapid change. The Industrial Revolution provided the opportunity for "...industrialists, engineers and designers to solve problems and take immediate advantage of what they considered to be opportunities..." (McDonough and Braungart 2002, p18). At a time when agriculture was the dominant occupation, the textile industry began as a cottage industry that relied on the skill of the craftsperson to produce small quantities of cloth. However, with the invention of specialized and mechanized machinery; the railways; and ocean going cargo ships; products, including large volumes of woolen cloth could be gathered, processed, manufactured and transported quickly to new and distant markets. Inevitably people began to gravitate towards the growing cities for employment, as the industrious factories demanded larger workforces to help generate hundreds of products a day rather than over weeks. These early industrialists were optimistic, and driven by economic returns, which were built on producing large volumes of products as efficiently as possible (McDonough and Braungart 2002). However, as the new industries flourished a number of major issues began to emerge, including: the wasting of

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<sup>1</sup> In 2007 there were 10 couture houses producing haute couture collections in France: Chanel, Christian Dior, Givenchy, Christian Lacroix, Jean-Louis Scherrer, Emanuel Ungaro, Dominique Sirop, Jean-Paul Gaultier, Franck Sorbier, Adeline Andre. (Mode a Paris, 2007)

<sup>2</sup> This organisation was established in 1911 and its role is to protect and regulate the haute couture industry with support from the French Ministry of Industry. (Kawamura 2004)

resources; the increase in pollution; and the poor wages and working conditions of the employees. Although cities were often highly and quickly polluted by these industries, resources were abundant and at the time nature's ability to absorb waste and by-products seemed limitless. Furthermore, it seemed that the industrialists rarely considered their activities in terms of an expansive system, other than in economic terms. Many people believed that natural resources would remain plentiful and "At the same time, the Western view saw nature as a dangerous, brutish force to be civilized and subdued." (McDonough and Braungart 2002, p25). Chapters 2 and 3 will examine in more detail the impact of the Industrial Revolution and mechanized production processes on the fashion industry.

Since the Industrial Revolution the fashion industry has continued to expand alongside the growth of western economies, which has led to a system that encompasses a globalized network of suppliers, producers and consumers. The next section explores the issue of sustainability in relation to this 'expanded' fashion industry and in particular outlines the negative impacts associated with the manufacturing of garments as raised in a number of key reports on the subject.

#### 1.2.1 Why should sustainability be important to the fashion industry?

Within the report, '*Well Dressed? The present and future sustainability of clothing and textiles in the United Kingdom*', from the University of Cambridge, Institute for Manufacturing (2006), the authors identified that the significant and major problems facing the fashion industry were primarily the issues of environmental impact, and the social concerns associated with the materials, manufacture, supply, consumption, use and disposal of fashion products (Allwood et al. 2006). The major environmental impacts associated with the fashion industry included:

- \*energy use in material and fibre production, and laundering clothes;
- \*the use of toxic chemicals, which are harmful to the environment and human health;
- \*the release of chemicals in water systems;
- \*and textile waste as a consequence of manufacturing processes and disposal of products.

While significant social concerns for the industry included:

- \*the use of child labour; the use / abuse of a low or unskilled workforce;
- \*pay and employment conditions for employees;
- \*sexual harassment.

Furthermore, the dominant health concerns associated with the industry included:

- \*hazardous chemicals;
- \*fibre dust; noise;
- \*and monotonous repetitive processes during production

(Allwood et al. 2006, p14).

These same problems were identified in the 2007 Forum for the Future report, '*Fashioning Sustainability: A Review of the Sustainability Impacts of the Clothing Industry*' (Draper, Murray & Weissbrod 2007). The issues noted here are indicative of the problems that are typically associated with the design and production of fashion clothing, moreover the issues listed emphasise the multiplicity of problems that the industry is facing. As this thesis specifically questions the designer's role in integrating sustainable strategies within the fashion design process it has to be acknowledged that some of the points listed may not come under the direct responsibility of the fashion designer, or that he/she may not be in a position to influence change. However, it can be surmised that the fashion designer is in a position to address some of the environmental and social issues that are associated with the fashion design and production process. Furthermore, it could be argued that it is the moral obligation of the fashion designer to question these accepted norms.

As mentioned, it is evident that the fashion industry as it functions today, where a product is designed and produced as quickly and as cheaply as possible, operates through the lens of an early industrialist perspective. According to McEwan (2004) with a growing population, unstable economic markets and the spread of globalization, if the fashion industry continues to play its part in a culture of 'business as usual' society's quality of life will dramatically deteriorate as natural systems fail. McDonough and Braungart use the phrase "Towards a new Industrial Revolution" as a means for describing a future when industry and the environment can exist together in harmony (2002, p6). As the activities of the industrious human population over the last century have often facilitated a decline in ecosystems, rather than see industry and the environment in opposition, McDonough and Braungart advocate the creation of "...products and systems that celebrate an abundance of human creativity, culture and productivity. That are so intelligent and safe, our species leaves an ecological footprint to delight in, not lament?" (ibid 2002, p16) As other species in the natural world manage to operate industriously whilst nourishing the environment, McDonough and Braungart argue that it is humans who are the problem.

The industrial designer, educator and pioneering responsible design advocate, Victor Papanek posits the view that each person in society can inspire and lead change (1995). While complex sustainability issues and problems are often left to professionals, scientists and activists, Papanek and others suggest that the general population can create change at a local level by for example, simply separating and recycling household rubbish. It is through these various local acts that an individual can demonstrate that "...our most basic patterns of consumption, manufacture and recycling" can be reimagined (Papanek 1995, p17). Moreover, these acts indicate that society is willing to accept changes to conventional and institutionalized patterns of behaviour. Papanek suggested that each person should reflect on his or her own role in society; and so it follows that the fashion designer should examine the

impact that is being created by the fashion industry, and question what it is that they can do to lessen the impact. If fashion garments are designed and produced using conventional methods that are damaging to the environment while contributing to ethical and social problems, then the question for the fashion designer is, how can a designer ensure that a product meets the defined market criteria and sustainability objectives at the same time? Products that are frequently found in landfill waste are typically designed "...on a linear, one-way cradle-to-grave model. Resources are extracted, shaped into products, sold, and eventually disposed of in a "grave" of some kind, usually landfill or incinerator." (McDonough and Braungart 2002, p27). These cradle-to-grave products include fashion garments. In the pursuit of economic rewards the fashion industry, while not being purposefully immoral, continues to make products using "...outdated and unintelligent design" (ibid 2002, p43). Chapman (2005) reinforces this point and argues that while it is generally agreed that the rapid growth in human population has led to an increase in resource consumption, a major contribution to this problem has been the mismanagement of resources in the way that products are designed, made and consumed.

### 1.2.2 Why is sustainability a problem for the fashion industry?

Allwood et al. (2006); Fletcher (2008); Black (2008); and Hethorn and Ulasewicz (2008) all propose that all sectors of the fashion industry, from lingerie to high street brands to luxury labels, need to develop sustainable products and services, which consider economic, environmental, social and ethical issues throughout the product life cycle. As a society the obsession for consuming fashion goods has seen an enormous growth in the 'fast fashion' sector. This sector is responsible for trend driven products that utilise 'just in time' technology<sup>3</sup> in order for the product to reach the stores in the quickest possible time. High street retailers within this competitive sector focus on selling fashion garments that retail at a low price. Characteristically the garments are manufactured from inferior fabrics and produced in countries where low salaries and poor working conditions for employees can be widespread (Clark 2008). Moreover, the garments are recognised by the consumer as short lifespan products. For the consumer these lesser quality products are easily disposable garments; garments that provide a 'quick, cheap fashion fix' that will prove useful on a handful of occasions but will inevitably become landfill waste in a short period of time. Since it appears that the consumer has accepted that fashion garments are disposable items (in general terms), it is of no surprise to reveal that even expensive garments are often disposed of and replaced rather than repaired (Draper et al. 2007). However, the fashion garment is almost inevitably recognised as an item designed for a particular 'moment in time'. This is evidenced in the fashion magazine seasonal catwalk report, or the launch of new fashion styles in the

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<sup>3</sup> Just in time technology makes use of new production technologies that allow a garment to be manufactured up to 30% or 40% quicker, without building up unnecessary stock, than if using conventional processes. (Allwood et al, 2006) New technologies also exist to reduce communication/delivery times.

retail sector. The garment, like many products, is designed with a 'built-in obsolescence', which encourages the consumer to discard one product in pursuit of a replacement item (Chapman 2005; McDonough and Braungart 2002). This point will be expanded upon in Chapters 2, 4, and 5.

Predictions for the fashion industry offer a rather bleak outlook if the industry continues to disregard prompts for positive change. While it is suggested that the prices for fashion goods will continue to drop as competition increases within the industry, new production technologies continue to force a reduction in labour needs. In the meantime mounting pressure from the consumer, increasing legislation and international ethical campaigns all drive the demand for responsible production practices and seek improvements in the working conditions for employees in developing countries (Allwood et al. 2006). Moreover, the desire for positive action increasingly being voiced by consumers, campaigners and governments seems to be at odds with the actions for the industry itself. While those external to the fashion industry look for change, the industry itself appears to be responding slowly, or not at all. These slow reactions suggest a 'more of the same' mentality; from an industry that is perceived to be dismissive of its environmental and social responsibilities based on an economic imperative.

In recounting how the fashion industry can approach sustainability, Hazel Clark argues that sustainable fashion garments can provide a sensorial experience and that this is particularly achievable through the notion of the hand-made product. Clark states "...when a product is an investment, has functional longevity, and also remains *in fashion*, it retains its attraction for the particular consumer or user beyond the fashion season." (Clark 2008, p440) However, for this to occur a consumer needs to be more substantially, emotionally connected with the product (Chapman 2005; Fletcher 2008). This then is where an exploration of the haute couture garment may offer some insight.

Haute couture collections are deemed consistently worthy of newspaper headlines, journal and fashion magazines articles and broadband media coverage and yet, alongside this populist appeal,

...haute couture, the pinnacle of the fashion system, can offer something specific to the individual, in terms of fit and appearance. Such garments and accessories are investments – emotionally as well as economically, and acknowledge that the materiality of what we wear on our bodies is part of the significance.

(Clark 2008, p440)

Moreover, the couture houses and the luxury ready-to-wear (RTW) sector remain a fascination to both the aspirational consumer and the fashion industry. In 2005 it was reported that the UK fashion retail chain 'Topshop' had launched a new 'couture line', which invited the

consumer to acquire their own individually designed garment. The Topshop couture line referenced the attributes that, as discussed by Clark (2008), are particular to the Paris couture houses. The process involved a made-to-measure approach that enabled the consumer to "...sip champagne and enjoy the feeling of being super rich" (Frankie 2005). This offering of distinct and discreet couture inspired fashion lines was not exclusive to Topshop. High street retailer, H&M also produced in-store collections with leading fashion designers Stella McCartney, and Karl Lagerfeld; the collections retailed at an approximate 20-30% increase on regular H&M prices, however they were hugely successful (Thomas 2007).

However, like many of the high street brands, it is clear that the adoption of sustainable design principles within the couture industry and the luxury RTW brands have been slow. While the range of conglomerates that own many of the luxury fashion labels often have a Corporate Social Responsibility agenda, few of these labels are known for their engagement with sustainable design practices within the design and production of their collections. Any efforts that may have been made are restricted to, in the view of Bendell and Kleanthous (2007), "glam philanthropy"; high profile project events that revolve around celebrity, such as the Swatch group's 'Omega' brand sponsoring the round-the-world flight of a solar plane. Many theorists and researchers (Papanek 1995; Chapman and Gant 2007; Fletcher 2008; Fuad-Luke 2009) believe that sustainable design practice should be the archetypal approach to designing new products and services. Moreover, that the designer should be empowered to behave according to a system of best practices which should not necessarily need to be advertised or promoted to the buying public. The question is: why does it appear that so few designers within the sector are engaging in systems of best practice? And is this the true situation?

In reality the public image of the luxury RTW sector and the couture industry is tightly controlled. Fashion labels are renowned for withholding information regarding corporate performance, which makes it difficult to ascertain whether a fashion designer in the luxury sector is indeed engaging with sustainability or not (Bendell and Kleanthous 2007). However the findings of the '*Deeper Luxury*' report (2007) present a picture that ignorance rather than obstinacy is frequently the issue within the luxury sector.

From the perspective of the fashion designer the issues of sustainability are often regarded as an obstruction to good design and perhaps perceived as a set of restrictions that can incapacitate the process of design and innovation. Rather than seeing sustainability as an opportunity to engage in new creative design practices, this negative point of view regards sustainability as an optional method of practice that can inhibit design choices. The dominance of organic clothing on the catwalks and in the high streets is commonly seen as a solution for the problem of sustainable fashion. This approach certainly contributes to the myth in that it is only through careful material selection that a designer can make a difference.

Moreover, the use of such a restricted set of fabrics further adds to the common misconception that sustainable fashion limits creative opportunities. These preconceptions often lead to disengagement for the fashion designer in the couture industry and the luxury RTW brands as these sectors are considered to represent the pinnacle of 'blue-sky' design practice. In contemporary society the fashion industry and the consumer still expect the designer within these sectors to be first and foremost creative and innovative, not necessarily environmentally responsible.

Fashion designers who are unfamiliar with working within a sustainable framework typically share negative comments about sustainability. This point was highlighted in the 2008 report from the Centre for Sustainable Fashion; one London based designer claimed that whilst the company recognised their responsibility to the environment, the designer had "...no idea of how to go about doing anything or if we can afford to spend the time and resources on this subject" (Centre for Sustainable Fashion 2008, p22). However, one might also suggest that fashion designers are the critical link in the chain in the development of new products and they have the ability and the opportunity to develop products that can lessen our impact on the environment while addressing social and ethical concerns. To produce sustainable fashion garments means changing the way that fashion designers do things; it is accepted that almost 60% to 80% of life cycle impacts of a product are created at the design phase (UNEP 2004). It follows that in order to stimulate design students and designers in industry to reflect upon their design practice and integrate sustainable strategies in the fashion design process, it is necessary to challenge the current model of fashion designing.

### 1.2.3. The challenge of engaging with sustainability: a fashion designer's perspective.

As discussed the designer can play a critical role in developing sustainable products: a fashion garment is made desirable, stylish and functional through the actions of the designer (Draper et al. 2007). However, from a fashion designer's perspective, a series of simple questions need to be asked, including; 'what is a sustainable garment?'; and 'how do you design and develop sustainable garments?'. From a designers perspective it can be particularly difficult to know where to begin in understanding how to improve a garment and knowing where to find help, assistance and guidance in redesigning the fashion product. Prior to the release of two seminal books on fashion and sustainability from Kate Fletcher, and Sandy Black, in 2008, there was little specifically targeted fashion sustainability information available. Clear, simple 'how to guides' that show fashion designers how and where to incorporate sustainable strategies and solutions within the design and production process of a fashion garment still do not exist, and it is here where this study attempts in part to contribute. While current and useful information is becoming available through online communities; blog sites; and web sites such as the UK not-for-profit organization *Ethical Fashion Forum*, in order



to encourage and assist more fashion designers in how to integrate sustainable strategies within their design practice there is a need for further resources with which a designer can quickly and easily engage.

Sandy Black, in her book *Eco-Chic: A Fashion Paradox* (2008), listed a range of sustainable strategies that could be used within fashion and textile design practice. Black's list included:

Re-thinking design for the entire fashion life cycle: *Design concern for use and end-of-life and possible reuse or disassembly*

Reclaim and reuse waste materials: *Design with materials that would otherwise be discarded*

Recycle: *Design using already reprocessed waste materials*

Upcycle: *Design using reprocessed or waste materials to make a product of equal or higher value*

Repair and remodel: *Make good an existing item fit for new purpose*

Recreate: *Creatively re-think, customize or re-design an existing design concept*

Reduce: *Design for minimal use of energy, minimize or eliminate waste materials*

Use ecological materials: *Design choices for environmentally benign fibres, fabrics and other materials seeking to minimize impact*

Use mono materials: *Use of only one material to facilitate recyclability*

Harness new technology: *Apply technology to achieve reductions in energy, materials or develop more efficient new process*

Longer lasting fashion: *Design with high quality materials and making, with aesthetic durability creating emotional bonds in addition to function*

Multifunctional clothing: *Design with more than one use or configuration*

Design for delight: *Creating new and sustained feel-good relationships with clothes to be valued*

Black, 2008 pp46-47

While the list was not intended as a complete set of strategies it does indicate the range of possibilities open to the fashion designer. However the complex issue that is not addressed is the way in which the fashion designer can practically engage with these strategies. Questions still remain around: how do sustainable strategies work? Where and when can they be used? And does it mean that the fashion design process has to radically change? Black's text stops short of providing the answers to some of these questions, and this in turn raises another problem. Fashion designers are being bombarded with examples of best practice, however little guidance is available to show the fashion designer how to integrate the various types of strategies within the fashion design process.

In exploring the topic of fashion and sustainability inevitably most research tends to draw on existing models that are used within the product design discipline (Black 2008; Fletcher 2008). Although different types of tools, models and software programs exist to assess the environmental impact of a product, the Life Cycle Assessment (LCA) is the model most

commonly referred to as a measure of environmental performance. Beginning with a set brief of defined parameters that are concerned with the environmental impact of a specific product, an LCA helps determine the negative impacts associated with the life cycle of the product, and reveals whether improvements at one phase of the life cycle might impact negatively on another phase. The analysis usually concentrates on the use of energy and materials, which also includes emissions of pollutants (starting at extraction of raw materials through to end-of-life / recycle phase). The results are then quantified into a unit of measure per material or resource. The process can be complex often involving extensive data collection, and costly; as specialists are often employed to undertake the study. Typically a fashion garment is redesigned primarily for its aesthetic qualities, and this process might occur in a matter of weeks within the mass-manufacturing sector. In this situation using tools such as a LCA may be difficult. To conduct a LCA for each fashion garment in a collection would be a costly and time consuming exercise, although this may be a suitable option for a generic garment e.g. a blouse, or a tailored skirt as demonstrated in the '*Well Dressed?*' report (Allwood et al. 2006). However, as comprehensive as the LCA report is likely to be, a blouse that is assessed once may be radically redesigned for the following season, incurring new and different design features that might well require changed amounts of materials; be constructed from different fabric; involve different trims and surface treatments; and so on. This redesign then might occur 3 or 4 times a year, which in essence would require further LCA studies. An alternative approach for the fashion designer would be to apply sustainable strategies as a framework for fashion design for sustainability. Rather than rely on responding to detailed LCA reports, there is an opportunity to encourage behavioural change that would enable the fashion designer to approach design practice from a new perspective. By integrating sustainable strategies throughout the fashion design process the fashion designer can engage with a framework that can help identify negative impacts and employ appropriate strategies, according to a garment's intended life cycle. Therefore it is imperative that the designer is informed of the possible sustainable strategies that are available for fashion design. This is explored further in Chapters 4 and 5.

Re-examining the design process itself also provides an opportunity for a design evolution; the current fashion design process needs to be challenged and alternate methods for designing fashion garments need to be identified. Chapman (2005); Black (2008); Fletcher (2008) and Fuad-Luke (2009); all propose that the changes need to occur in the way that designers engage with design practice.

One of the first duties of the fashion designer is to determine what the design brief is and to extract, from an analysis of the consumer, what the determined market level (and price point) are; what the intended function or purpose of the garment is; and the intended season. However, the conventional design brief of a fashion garment typically includes no consideration for the user's engagement with the garment; or garment end-of-life strategies;

or any sense of responsibility for the textile waste generated through manufacture or use. It follows then that the fashion designer in industry needs to consider further criteria within the company's design brief and accept that the design brief should extend beyond the usual economically driven conventional criterion, to include criteria that will meet the needs of the environment and society. This point is discussed and explored further in Chapter 2.

### **1.3 Research questions and methodologies**

For the purposes of this research it has been necessary to identify the possible opportunities for sustainable design interventions in fashion design practice. This has been achieved in part through a study of the step-by-step process of the design and production of the fashion garment. Conducting the study through the lens of the fashion designer has helped determine where and what sustainable strategies can be integrated within the fashion design process. In addition, a study of the fashion design process utilised within the Paris-based couture industry has been explored. This includes an analysis of the act of designing; the tasks, directions and responsibilities of the couture fashion designer, and the relationships between the fashion designer and the production team. In order to demonstrate that a responsible fashion design process can exist, the research also presents a conceptual model for haute couture that provides a framework for where, when and which sustainable strategies can be integrated. Furthermore, this conceptual model draws on a life cycle approach to garment design, which is central to the hypothesis presented within the research. The life cycle approach is used since it enables the designer to see clearly the impacts and potential of sustainable contributions as they are made during the design and production phases.

The thesis focuses on: 1) Defining the role of the fashion designer in the development of a modern fashion industry; 2) Deciphering the activities and tasks associated with the role of the designer in a contemporary fashion industry; 3) Exploring and developing a model for fashion design practice that integrates sustainable design strategies; and; 4) Outlining a study of the fashion designer in the design and production of the haute couture collection, which leads to; 5) the proposal of a conceptual model of practice that integrates sustainable strategies within the haute couture methodology. The development of a model for fashion design practice that integrates sustainable design strategies represents an original contribution to the field of sustainable fashion. In short, the research intends to address to one primary question: How and where can the fashion designer integrate sustainable strategies in the fashion design process?

Consequently an important aim of the research is to discuss the role and impact that the fashion designer can have on the sustainable design and production of the fashion garment, and to contribute/communicate new knowledge to fashion designers working within micro and

small/medium enterprises (SME). Since at all levels of the fashion industry market driven and disposable goods are produced, the opportunities for improvement and examples of best practice discussed are relevant to the wider fashion community.

### 1.3.1 Research methods

The research has utilized a multifaceted approach, engaging 4 modes of enquiry. Firstly a literature review has been conducted, which draws on secondary published data sources and examines sustainability and fashion design practice from different perspectives, and its interconnection with other disciplines and theoretical approaches. The literature review provides the contextual research for a small number of empiric interviews and the examination of original garments, which were conducted to better understand specific haute couture production processes. Secondly, empirical research was formed through two practice-led activities. Of these two activities, the first engages the author's own creative practice, and the second activity draws on the author's experience in curation and the production of a scholarly book. Both of these activities originate from the author's background in fashion design, with 20 years experience of teaching fashion design within the higher education system. From this perspective the author has witnessed the difficulty facing fashion design educators in finding ways to communicate the variety of approaches to engage with sustainability, and to deliver this in the classroom context in a cohesive manner. Moreover, the author's experience in curating fashion exhibitions and the contemporary practice of fashion design has provided a platform from which to investigate the issue in a manner that directly speaks to the fashion designer both in industry and education. It is from this insight and experience that the study proposes a conceptual model for an improved model of practice.

As discussed in 1.3, the research explores the step-by-step process of the design and production of the fashion garment, which is described through a study of the haute couture methodology. For the purposes of the research, the 'couture houses' are defined as those fashion houses certified to use the term 'haute couture' by the Chambre Syndicale de la Couture Parisienne. The aim of the study is two-fold: first, to identify and analyse where the fashion designer can integrate sustainable design strategies within the fashion design and production process of the haute couture collection; and second, to suggest appropriate sustainable design strategies that can be integrated at a particular phase of the process. This is evidenced in Chapter 2, Chapter 4 and later in Chapter 5, which first outlines an analysis of the haute couture methodology and then leads to the conceptual model, where sustainable design strategies are applied. The analysis has been mapped to explore both the material and immaterial phases within design and production process; that is the:

- Material (product) - documenting the design process, the production process and the artisanal relationships involved within the design and production phase. Questions include: what is the design process for an haute couture collection? What is involved in the production phase? Who and what is involved in the production process? What specialist techniques are applied? How is the designer involved?
- Immaterial (service) - documenting the services offered to the client/wearer. Questions include: what services are offered to the client/wearer? Where do these services occur? Who undertakes the work? What care instructions are offered to the clients/wearer? This is an aspect of the fashion system that remains largely unrecorded and offers the opportunity to gain insight, which is particularly important since product service system (PSS) solutions have become increasingly important for sustainable objectives.

The study was compiled using the following methods:

*The literature review:*

The literature review was conducted to:

- Review contemporary issues of sustainability (theory and practice) with relevance to design.
- Examine existing research in the area of fashion and sustainability.
- Investigate the role of the fashion designer in the fashion industry, in both historical and contemporary contexts.
- Document the role of the fashion designer in the design and production of the haute couture womenswear collection.

An integral part of the research was to reveal an archetypal design and production process that was utilised within a Parisian couture house, so that the integration of sustainable strategies could be mapped within this process. Moreover, the study provided the opportunity to evaluate the role of the couture fashion designer and to explore the duties, responsibilities, and relationships between the designer and the production team during the design and production of the haute couture womenswear collection. This appraisal was established through the analysis of data drawn from secondary sources. The data collection was supported further with a small number of empiric interviews, and the examination and photography of original garments held in museum collections.

*Practice-led activities:*

The thesis includes a practiced-led component that draws on two projects that the author has engaged with in a creative/critical response to the research investigation:

- 1) The author's creative textiles work, which was executed in response to a set of hypothetical design scenarios. The creative work was initiated to reveal how a

sustainable strategy can be applied to fashion design practice, and at which point in the fashion design process that the strategy can be employed. Through these practice-led components it was possible to experience how the integration of sustainable design strategies within the creative process might unfold, from the perspective of the fashion designer. A number of samples were created in response to a set of hypothetical design scenarios, which provided the opportunity to reflect on traditional fashion and textile practices through design-driven solutions. The textile samples and the relating reflective analysis are included within the results component of the conceptual model in Chapter 5, which reveals the link between a particular sustainable design strategy and a particular fashion design activity.

Each scenario focused on a particular sustainable design strategy that employed a defined set of criterion, which was drawn from the analysis of secondary data sources. Using a combination of methods for practice, the author recorded data gathered during the design process in a journal, a diary and in the execution of the production of a set of textile samples. By recording the actions and impacts of design decisions, the author was able to continually reflect and adjust her practice during the different phases of design and production. The samples were then evaluated against the defined criteria, with the results providing valuable data for the formation of the conceptual model for haute couture, outlined in Chapter 5.

- 2) The author's role as Chief Investigator of the project, *'Fashioning Now: Changing The Way We Make and Use Clothes'* (2009) funded by the NSW Environmental Trust in Australia. The project incorporated an exhibition (presented in Sydney and Fremantle, Perth), which the author co-curated, and concluded with the publication of a book, *'Shaping Sustainable Fashion'* (Gwilt and Rissanen 2011), for which the author was co-editor. The selected examples from other researchers / practitioners included in Chapter 5 have been drawn from this project.

The methods employed to conduct the Fashioning Now project included mapping and defining the key phases employed in the life cycle of a garment, and selecting suitable sustainable strategies that could be employed. Small case studies of best practice were established and developed through empiric interviews with designers and researchers, and data gathered through secondary sources, and electronic primary sources. Both a hard copy and electronic journal was established to record the developments of the exhibition and supporting public program activities. A number of electronic databases were established, to record the details of the creative objects and respective contributors; and to record the details of project contractors, participants and attendees. The creative works for exhibition were identified, sourced and collated, with a number of items coming from different countries. The objects were installed and photographed in the exhibition

space, and were supported with detailed descriptive material that elaborated on the relevance of the object to a particular sustainable strategy. This information was then made available to visitors through printed material and the project website resources. The activities provided through the public program, included a symposium for industry, educators and students; workshops for educators, and secondary school children; and curator floor talks open to the public. The symposium speakers gave their permission for audio files of the talks to be made available freely through the project website – [www.fashioningnow.com](http://www.fashioningnow.com). The project website was developed to support the program of events, and to act as a repository of the project for future online visits. As a conclusion to the project a scholarly book was published in 2011, which presented the case studies of best practice from the project, and included a set of focused academic papers, from international contributors. Both of these activities employed the services a graphic designer, a research assistant and other contributors including copy editor and publisher. Data instruments included the use of electronic filing systems, the visualization of data into diagrams, and the photographic records of objects.

#### The conceptual model

The conceptual model, conceived and designed by the author, is used to frame the argument for a new approach to fashion design practice. This model entitled the *Fashion Design for Sustainability (FDS)* model is introduced in Chapter 4 and then applied in Chapter 5, where it is presented as the conceptual model for haute couture. In its first iteration, in Chapter 4, the model reveals a framework for use by a designer within a non-specific micro or SME sized company. It is considered a flexible model, which can be adapted to suit a particular environment or context. The validation of the FDS model came through the formation of the conceptual model for haute couture. Emerging from the analysis of secondary data sources, empiric interviews and the examination of garments, and empirical research, gathered during the author's own practice-led activities, the conceptual model for haute couture reveals how the FDS can be adapted and applied to a specific context.

Throughout the process of developing the FDS model, mapping methods were used and visual diagrams were initiated, as a method for planning and thinking through impacts of change, and also as a way of visualizing the data gathered. The use of diagrams as a tool to represent new forms of design activity has been essential; in conducting the research an overriding problem has been the way that theory has been presented to design practitioners. Therefore, thinking through the development of the FDS model through the use of visual diagrams has enabled the author to explore ways in which theoretical frameworks can be presented to design communities.

#### **1.4 What this research will contribute to and who will benefit.**

Through the analysis and reflection of the designer's contribution in the design and production process utilised within the couture house, the research aims to identify and demonstrate that a fashion design process could exist that allows for the integration of sustainable design strategies. In terms of knowledge exchange and sector/community beneficiaries this research could assist:

- The fashion design in a micro, small or medium sized enterprise,

For a fashion designer the research will provide useful, practical information that can be readily applied. Charter and Tischner (2001) identify that the designer is one of the key players in the product development process; however, they generally have little awareness and knowledge of environmental issues. This lack of awareness can be attributed to the lack of integration of sustainable design modules within fashion design colleges or university curricula. Issues of materials reduction, recycling or energy-efficiency opportunities are unlikely to be considered unless they are in the 'brief' at the beginning of the design process. This leads to another of the potential beneficiaries of this research,

- Academics, scholars and students,

By integrating the research into the teaching and evaluation of the fashion design process it is intended that the findings of the research will encourage design educators to motivate graduates to adopt sustainable strategies unconsciously, or especially, in their future careers. A significant number of graduates often choose to place their products in the 'street wear' and 'ready-to-wear' price-points even though they may aspire to be a 'high fashion' designer. The measure of success at these market levels can rely on the highest numbers of products sold therefore quality in design and production is often reduced to meet these targets. This research aims to highlight a methodology of design and production that can improve the value and environmental performance of a fashion garment, and assist academics, scholars and students in engaging with sustainability on a meaningful level.

- the wider fashion community.

By analysing the haute couture model, it is envisaged that the broader fashion industry, and in particular those launching new fashion labels, will positively respond to and explore new and improved products and services. The research is also anticipated to encourage the fashion designer within an SME to reflect upon their contribution and role in the design and production of fashion garments, and provide the possibility for a variety of new business opportunities alongside the reconsideration of existing ventures. The study will show that by linking the design process to points of intervention the opportunity for further improvement lies in a reflection of design practice.



## **1.5 Chapter summary**

Chapter 1 has mapped out the rationale for the research by introducing some of the key arguments that are pertinent to the fashion designer. While it is commonly accepted that the fashion industry has been slow to address the environmental issues created by the production, use and disposal of fashion clothing, there is little doubt that the industry should take responsibility for the consequences of its (in)actions. However, as Papanek (1995) argued the people within the industry have to accept that they are the potential actors of positive change and that the fashion designer is a key player in this story; able to influence change across not only during manufacturing processes but also in the use and disposal phases of a garment's life cycle. By revealing and reconsidering the process applied in haute couture, which is where the role of the fashion designer originated, it may be possible to identify a process that can readily accept the integration of sustainable design strategies.

In broad terms the research intends to motivate fashion design practitioners to reflect upon their individual experiences so that they can integrate sustainable design strategies within their own practice. Furthermore, the research draws on the design and production process applied within haute couture since it is within the couture industry that the fashion design process was originally defined. The importance of analysing the methodology applied in couture is relevant to many micro, independent and SME producers, and fashion design educators, particularly those within an art school context. Therefore the thesis begins, in Chapter 2, with an exploration of the role of the designer in industry and the process of fashion design and production.

## **Chapter 2: The role of the fashion designer.**

### **2.1 Introduction**

In 2007 the Paris Ethical Fashion Show exhibited fashion & textiles ranges from designers across 40 countries and numerous press articles covering the event made a reference to haute couture. The ethical collections were considered chic and luxurious "...as one might hope for, in the birthplace of haute couture", stated Guardian journalist Kate Carter (Carter 2007). While the collections demonstrated the possibility of a new, responsible direction for the luxury sector, the wider fashion community in Paris continued to do business as usual while paying lip service to environmentalism. The fashion press reporting on the Spring/Summer 2008 ranges during Paris Fashion Week that same month noted that many of the fashion designers found their influences from nature. Fashion writer, Suzy Menkes reported that Nina Ricci, Alexander McQueen, John Galliano, Hermes, were all to have been "...Al Gore followers or the eco-aware generation" (Menkes 2007). On closer inspection not one of the collections highlight appeared to address any ethical or environmental problems.

Through two points of discussion (historic and contemporary perspectives), this chapter explores the role of the fashion designer in the broad context of the fashion industry, and the commonly applied design process that is used within the manufacture of fashion clothing. First, to appraise the role of a contemporary fashion designer it is valuable to provide a historical context of how the modern fashion industry developed and how the fashion designer contributed to this process. Beginning with the emergence of haute couture and the origination of the role of the fashion designer in the mid 19<sup>th</sup> century, the chapter will map the rise and significance of design in haute couture and in particular the role's association with status, innovation and creativity. In addition key developments in the ready-to-wear industry including technological, cultural and social influences are outlined. These two sector accounts are used to reveal the pivotal role of the fashion designer in the industry. Through a précis of the significant fashion designers who have contributed in the progress of fashion styles, the setting out of an archetypal method for fashion designing begins to emerge. Second, moving on from a historical context, the chapter will begin to examine and define the typical activities and tasks involved in designing products for the contemporary fashion market, and the different design and production methodology that is applied in the various levels of the fashion industry. As Kawamura (2005) suggests, without a study of the designer's role in the design and production of fashion garments, the specific job description and the associated activities and tasks of the designer becomes questionable.

## 2.2 The emergence of the role of the *fashion designer*.

As this thesis reaffirms, it is the fashion designer who acts as the principal director in the design of garments, in a complex industry that is comprised of many sectors and different market levels. Within dress discourse and contemporary media the fashion designer is often portrayed as an exaggerated caricature; a powerful creator who is responsible for the continuing impact of fashion as a reflection of contemporary culture and a person who can directly influence the trends and movements within the fashion industry. At times described as "...precious and autocratic" the fashion designer is a figure who became a post-war phenomenon, the public 'face of fashion'; a title ascribed by the fashion media reader and consumer (Beward 2003, p21). According to Kawamura (2005) the fashion designer needs to be seen as the luminary in the production of fashion since, "Designers personify fashion..."(Kawamura 2005, p57).

While the evolution of an early fashion system where dress was a personification of style, can be traced to the French court of King Louis XIV in the late 17<sup>th</sup> century (Beward 2003), the modern fashion industry emerged in Paris in the mid 19<sup>th</sup> century with the establishment of the couture business of Charles Fredrick Worth. Fashion had become a signifier for French style during the reign of King Louis XIV where spectacular, ostentatious fashions of the courts were de rigueur. Wealthy courtesans and actresses began to replicate the styles of the court and would employ the skills of the Parisian embroiderers, tailors and dressmakers who benefited from royal patronage. During the 18<sup>th</sup> century French fashion was dictated by surface ornamentation rather than by garment form or silhouette. Whilst silhouettes were slow to change, the influence of the trimmings supplier, or *marchande de modes*, was greater than that of the seamstress, or *couturiere en habit*, in the development of fashion styles (de Marly 1980). Rose Bertin (considered a *marchande de modes*) became dressmaker to Marie Antoinette and has been widely credited as a precursor of the 19<sup>th</sup> century couturier (Wilson 2003; Beward 2003). Bertin was successful in creating clothing that flattered her clients and suited their tastes, however she did not challenge the dress form of the day but merely worked with existing elements to produce fashionable garments. Throughout the late 18<sup>th</sup> century and beyond, working conditions for employees, whether tailor or dressmaker, were appalling and included long working hours; sleeping and eating on the premises; poor pay; and seasonal employment (Wilson 2003). These were common issues symptomatic of a trade that disregarded the welfare of its employees.

At the turn of the 19<sup>th</sup> century political unrest ensured that the influence of fashion had moved beyond the French court. The Parisian dressmakers and tailors continued to enhance the city's reputation as a centre for luxury and style, serving the new nobility and affluent international clients. According to Beward (2003) the fashion designer emerged as an outcome of the need for a conduit to act between the client, and the producers and

merchants. The success of the newly evolved role of the fashion designer came from "...their ability to read the implications of cultural and stylistic change and incorporate it into a characteristic and very well-promoted personal vision" (Breward 2003, p23)

By the middle of the 19<sup>th</sup> century two systems of fashion production had emerged: the bespoke work of the tailor and couturier; and the expansion of a ready-to-wear clothing industry that was principally developing in the USA and the UK. Beginning with the production of uniforms and menswear daywear garments, the early development of a ready-to-wear industry emerged in response to a need for stock supplies of ready-made clothing (Wilson 2003, Leopold 1992). Indeed, both Wilson and Leopold trace the beginnings of an unseen, 'invisible' ready-to-wear industry to the late 17<sup>th</sup> century with the production of large quantities of military and naval garments, which coexisted alongside the production of fashionable garments for an exclusive clientele from the artisan tailors, milliners and dressmakers (Wilson 2003). Eventually, the manufacture of ready-to-wear clothing became factory-produced, but the method of manufacture did not impact on the womenswear market until the beginning of the 20<sup>th</sup> century. Perhaps in part it was due to the late entry of women in the urban workforce who needed ready-made clothing for work purposes (Leopold 1992). Leopold defined the type of manufacture as, "...the investment in and co-ordination of labour and machines in a designated workplace for the purpose of increasing the productivity – and profitability – of manufacturing." (1992, p103). The patent of the sewing machine by Singer in 1851 ensured the growth in the availability of affordable ready-to-wear clothing that also capitalized on the continuance of the 'sweatshop' and the employment of poorly paid casualized staff, predominately women (Wilson 2003).

The perception that couture is at the top of a hierarchical system largely stems from the characterizations of particular sectors defined during periods of fashion history. Breward comments on the migrant entrepreneurs of London and New York in the mid to late 19<sup>th</sup> century who were inclined towards the profit-driven, low-investment, fast turnover area of manufacturing. This approach is still prevalent today, and can be seen as a precursor for mass-market clothing and an association with the "...rough and tumble of the rag trade with its language of deals and robust attitude to officialdom." (Breward 2003, p55). At the close of the 19<sup>th</sup> century the emergence of clothing factories created disputes within the growing mass-produced ready-to-wear clothing industry as the continual disregard for employee conditions created public unrest fueled calls for improved conditions from the trade union and activist movements (Wilson 2003). But despite the controversy the mass production of clothing was now expanding, and the consumption of cheap fashionable goods continued to escalate as clothing became available in small boutiques and large city department stores across the USA and UK.

An understanding of fashion and dress history plays an integral part in an analysis of the role of the contemporary fashion designer since the conventional role of the designer emerged from the practices applied in the roots of the modern industry. Furthermore, the accepted role of the fashion designer as a player within a system, is clearly evident in these early beginnings. Breward notes that the rise of the named designer was in part due to the role of the designer as the "...glamorous adjunct, employed to impart the sheen of fashionability to a trade that is sometimes anything but 'fashionable'..." (2003, p49). However, it is critical to remember that the production of fashion clothing is a collective activity with the designer contributing as one actor in a much larger chain. Therefore it is important to survey the rise of the fashion designer in the context of a historic and contemporary fashion system, which enables the investigation of the tasks and activities that are associated with the fashion design process in the manufacture of fashionable clothing. The next section of the thesis begins by tracing the historical development of this role.

### 2.2.1 *The couturier*: a modern fashion industry emerges

In fashion history discourse it is Charles Fredrick Worth who is credited as the founder of the Paris based haute couture industry (de Marly 1980, Laver 2002, Breward 2003, Troy 2003). Worth began his career in fashion in London working for drapery retailers who would supply a customer with the fabric and trimmings that would be handed to a personal dressmaker for the making of a gown. Moving to Paris in 1845, Worth opened his *House of Worth* dressmaking business in 1858 for an aristocratic clientele who required a sizeable collection of clothing to facilitate between four and six dress changes within a day. These items included dresses and jackets for morning occasions, afternoon gowns for visiting and tea gatherings and evening gowns for dinner, balls or the theatre. As a good self-promoter Worth capitalized on his knowledge of textile materials and his experiences in sales to develop a unique business opportunity. For Worth the business had to create products where "...their value lay in the fact that their design was associated with the aesthetic ideas and taste of one man alone..." (Breward 2003, p32). In Worth's business model clients were required to make an appointment to see Worth, whereupon he would assess their features and personal tastes, and would then design a gown which he considered suitable. It was not a particularly consultative process, and could be best described as an autocratic one in which the client was often immobilized during the consultation. However, Worth provided a unique service that placed a singular person, the fashion designer, in a position of responsibility for the entire process of garment design and manufacture (Wilson 2003, Troy 2003).

However despite this rather draconian consultation process Worth did provide his clients with an immense variety of fabrics and choice, unlike many of the competing dressmaking businesses. This was made possible through his personal relationships with the sales

representatives from the French textile mills and manufacturers. Worth began exerting his purchasing influence, and the manufacturers began to produce new textile lines in response to Worth's suggestions. Worth became an unofficial ambassador for the French textile industry, and strategically this position afforded him the privilege of becoming an imperial dressmaker for Empress Eugene, Princess Pauline Metternich and the court of Napoleon III, who understood the political gains in promoting the French textile businesses (Wilson 2003). Breward remarks on Worth's sketchbooks of fabrics and design ideas that stretch across 35 years, and notes that Worth seems to approach pattern cutting as a "...repositioning of dress design as a form of engineering rather than a mere synthesis of existing elements" (2003, p34). Of particular interest to the research is that Worth had begun to create design ideas on paper; the fashion design process as we know it was beginning to be shaped as a practice that considered fabric, form and the body's proportions through the graphical representations of ideas.

Following a brief period of business closure due to the collapse of the Second Empire, Worth began to extend his business internationally, providing a service to affluent clients based in Europe and the US (Breward 2003). As a fashion business model the House of Worth was a new phenomenon. Fashion had now expanded to serve society's brightest, and it was now the actresses and socialites who began to launch fashion styles, rather than the dignitaries of the court. Worth responded to this growth in the market with the management of an accurate filing system that logged each client's sale to avoid the embarrassment of face-to-face encounters with other clients in similar outfits at social functions (Troy 2003). Moreover, as an astute entrepreneur Worth continued to seek business opportunities in new markets. This included the sale of sample dresses and patterns to retailers and clients in the US for reproduction in a wider market (de Marly 1980). While it is interesting to see that the fashion design process included the production of garment samples and patterns (a system that continues today) the sale of these items led to a new problem: counterfeiting. The trade in imitation garments began to appear in the late 19<sup>th</sup> Century, with the earliest fake Worth label appearing in the late 1880s (Troy 2003). The fashion theorist Troy commented on this phenomenon as follows:

It is surely no accident that the development of the couture label in the second half of the nineteenth century coincided with a growing commercial emphasis on brand names, especially in the burgeoning field of advertising, where it was widely recognized that profits could be made by linking desirable commodity with a particular brand name. (Troy 2003, p26)

Although the couture label was created for commercial reasons, it immediately associated the fashion product with a creative individual – the fashion designer. Troy establishes that the couturier is "...compelled to construct a singular and charismatic identity for himself..." which

is then projected onto the garment (2003, p27). As Worth's business became more established he began to present himself as an artist; eventually adopting the symbolic references of the bohemians and romantics, wearing "...a Rembrandt beret and floppy cravat" (de Marly 1980, p23). Wilson suggests that Worth's representation as an 'artist' was a reaction to the emerging clothing industry and in particular the beginnings of a ready-to-wear industry, "...the exclusive dress had to be definitively distinguished from the vulgar copy: the dress designer had to become an Artist." comments Wilson (2003, p32). While this representation seemed distasteful to some, Worth was a shrewd businessman and his flamboyant choice of dress was perhaps in part an attempt to elevate himself from subordinate craftsman to professional dressmaker through a relationship with the fine arts.

The House of Worth thrived at a time when technological advancements were increasing the capacity for business. The Industrial Revolution had provided steamships, railways and communication networks that assisted Worth's success, while developments in sewing machinery assisted in the production of hundreds of gowns a week, although much of the work was still done by hand. The surge towards modernity was an experience "...both as an explosive kind of liberation and as an annihilating state of disintegration and disorientation" (Wilson 2003, p.60). Yet Worth moved the craft of dressmaking into a large successful business employing approximately 1200 staff at its peak (De Marly 1980). Fashion was now the creation of a single designer, an artist who chose to distance high culture creativity from production necessities. At a time when mass produced clothing was beginning to appear, this act of division within the fashion system enabled the provision of fashionable clothing for a wide-ranging consuming population. Wilson draws the conclusion:

The appearance of mass-produced artifacts opened a gap between art, including craftsmanship, on one side and machine-made imitations on the other – the unique and the kitsch, high art and the popular. The artist found himself both more important and more threatened. (Wilson 2003, p61)

Worth had become fashion's first "...star designer..." in a new fashion system, which eventuated in a hierarchy of fashion designers that still persists in the contemporary fashion industry (Kawamura 2005, p65).

## 2.2.2 The rise of the designer in haute couture: from modernism to the 1950s.

During the late 19<sup>th</sup> century a number of couture houses had emerged in Paris, including the designers Paul Poiret, and Jeanne Paquin. These couturiers had become the figureheads of a new fashion industry, where the role of the dressmakers had been elevated to that of "...artists of the cloth..." (Breward 2003, p103). Troy describes this as a period when

designers "...carefully constructed their personas as great artists or discerning patrons of the arts for whom the banal and potentially degrading aspects of business were beneath the elite status to which they aspired", and in doing so established the archetype perception of the contemporary fashion designer (2003, p192). Fashion in the *fin de siecle* became magnified through the countless displays of aristocratic women featured in magazines, art, literature, and the theatre, "...the idea of fashion took on a new seriousness" (Breward 2003, p103).

Paul Poiret, like many of his counterparts, was a patron of the arts but preferred the description of couture designer to that of an artist, but this close association with high culture ensured that fashion garments would appeal to wealthy clientele. Like Worth, Poiret sought to distance his engagement with the manufacture of clothing by promoting his products through this association. Poiret began his career in couture selling his illustrations of his dress designs to established couture houses. After establishing his own couture house Poiret, a proficient artist, began working with other talented designers, illustrators, graphic designers, printmakers and textile designers to develop new product ranges. In addition he established a line of perfumes; and he operated an art school that created furnished items for his workshop and market outlets (Troy 2003). Although at this time it had become customary for couturiers to produce small accessory items that supported the fashion collection, it was unusual to see such a wide variety of entrepreneurial activities from a couture designer. However, while advertising by the couture house was minimal, Poiret could promote his products through an association with the fine arts and "...the originality, uniqueness, and aesthetic quality of his designs" (Troy 2003, pp46-47). Moreover, Poiret capitalized on his self-created image as a tool for marketing; both in Paris and during international tours. Through a variety of artistically inspired ensembles, Poiret continued to develop his own personal brand, based on his creative originality in couture and his elaborate dress and sense of style.

During the early years of the 20<sup>th</sup> century Paris witnessed the rise of the female fashion designer. Couture houses were established by designers including; Gabrielle 'Coco' Chanel, Madeline Vionnet and Alix Gres who were regarded as 'classic' designers; designer Jean Lanvin who was known for her romantic style; and Elsa Schiaparelli who was regarded as a provocative designer. During this period the style characteristics and public perception of the couture houses continued to be driven by the work and style of the individual fashion designer. For example the clothes of Coco Chanel were practical: pockets had to be placed appropriately, buttons were functional, and fashion styles were modest if at all evident. Chanel championed a look that was masculine in which design inspiration came from menswear and workwear. It was a casual style that exemplified the work of Chanel. In contrast Elsa Schiaparelli found fame with her trompe l'oeil 'white bow and collar' knit sweater. Schiaparelli entered the fashion business at a time when it became socially acceptable for women to enter the workforce. No longer considered merely a 'trade', this now fashionable and artistic industry was drawing in socialite designers of this ilk. While



Schiaparelli too established a couture boutique, she also sold ready-to-wear items such as sweaters and skirts. As a designer Schiaparelli also made use of new products and techniques, such as the zipper, and collaborated with artists who provided a Surrealist influence within her fashion collection. Known in particular for her garment detailing, for example the use of decorative, crafted buttons, and novel fabric prints Schiaparelli was unconventional in her approach to haute couture.

Another designer of the period, Madeleine Vionnet began her career as a seamstress before becoming a couturier. As the toile-maker at Callot Soeurs, Vionnet realized design ideas in a light-weight linen and produced replicas of the master toile for sale to buyers. Having learnt the craft of garment construction, Vionnet approached fashion design as an experiment with cloth and cut. Her design process included a quite revolutionary approach to draping, using the bias grain<sup>4</sup> of the cloth. Draping is a technique of modeling cloth directly on to a mannequin to achieve three-dimensional creative results and Vionnet worked on a scaled down wooden mannequin to produce garments that emphasized the form of the wearer (Breward 2003). As Vionnet established her own couture house, her reputation for the fine art of draping on the bias grain gained her much acclaim, "Many of her frocks had a Grecian simplicity, finely pleated and held by cords. Like Chanel, Vionnet did not sketch; she created on the body" (de Marly 1980, p155). Alix Gres, a contemporary of Vionnet also created fashion in this manner, although Gres explored drape using wool jersey on the straight grain.

During Worth's day the male fashion designer had been perceived as the great creator "...while women were merely technicians who performed the necessary mundane tasks associated with transforming the ideas of the male genius into actual clothes." (Steele 1992, p122). However the reign of female fashion designers, such as Chanel, during the 1920s and early 1930s represented a new type of designer, one who could encapsulate the perceived genius of the masculine creator with the feminine role of iconic style leader (Steele 1992). Prior to the 1920s, Chanel was not famed for her role as a designer but for her "...fashionable personality: a woman of style" (Steele 1992, p120). Through the projection of her stylish persona, Chanel was able to promote her ability as a designer, and this played a significant role in her ensuing career. Furthermore, Breward attributes Chanel's success to her "...understanding of the value attached to celebrity in contemporary society, and the potential for applying the creative mystique of the couture designer to a much broader swathe of the fashion market." (Breward 2003, p47) This suggests that the role of the designer in couture, as demonstrated during Chanel's career, had shifted from that of a designer marketing unique fashion garments to a select clientele, to the role of a designer that in the 1950s began to promote individualism to an expansive and burgeoning, consuming fashion audience.

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<sup>4</sup> Bias cutting refers to the technique of fabric usage on the diagonal grain, crossing the warp and weft fibres, in order to gain natural elasticity from the woven fibres.

In the mid 20<sup>th</sup> century the opportunity for new business enterprises emerged forming a segue between the two dominant factions of the womenswear clothing industry since the 1860s: clothing manufacture and provision, and the idea of the fashion designer as style leader. In markets such as the UK, the 1920s and 1930s saw the emergence of the exclusive small branded firm, such as Berkertex, Windsmoor, and Tootal. This was a new type of fashion business that provided the ready-to-wear market with 'designed' garments targeted towards a loyal and discerning consumer (Breward 2003). This new paradigm within the ready-to-wear sector, which perhaps may be best compared to the high street market level in the contemporary fashion industry, did not rely on the named fashion designer as the principle director for developing the designed garments.

In Paris during the Second World War, the couture industry faced closure, however a number of couture houses collectively sought to continue working, although on a much smaller scale. The German occupation ensured that natural fabrics such as wool and silk became rare and so the couture designers began to explore the potentials of artificial materials. Since rationing affected the supply of many different types of materials it was a time of great ingenuity for the couture designers: ribbon was a non-ration item and used in abundance; hats appeared constructed of newspaper scraps, rags and wood shavings (de Marly 1980). As Paris became shut off from the rest of the world the effect of Paris fashion on the global fashion industry began to diminish. The USA and Europe began to rely on the work of their domestic designers who were able to work within the local production constraints created by the war. As Paris was liberated in 1944 the couture designers faced new problems: rationing in the UK, and restrictions in the US ensured that couture fashion was viewed as an extravagance. In Paris, as the government was seeking assistance to clothe the nation, few Parisians could afford couture fashions and the couture houses responded to this time of austerity with restrained fashion collections and self induced restrictions, including three metre fabric limits for a dress (de Marly 1980).

During the postwar years a new generation of designers – now predominately male - began to rise in French couture, this new breed of designers included Cristobel Balenciaga, Pierre Balmain and Christian Dior. According to Steele (1998), the rise of the male fashion designer resulted from a combination of changing social attitudes and a new economic environment. Rather like his predecessors, Dior preferred the perception of fashion designer as artist, and in particular likened couture to fine art disciplines, such as painting (Wilson 2003). Wilson relates the production of a couture collection at this time to "...the world of a film set or theatre." (ibid, p89). Couture was considered a temporal art form such as music, and embraced both performance and drama. Dior captured the mood for change as he launched his 'Corelle' – or 'New Look' - fashion collection in the Spring of 1947. After seasons of design restraint and fabric rationing Dior presented feminine styles that used in excess of 20 metres of cloth in one sculpted skirt. The excitement for Dior's New Look within the fashion press

created a demand so great that by the end of the year the ready-to-wear manufacturers began to adopt the style for mass-market retail. While haute couture garments were expensive, Dior knew the potential revenue that could be gained through free publicity and so began a relationship with debutantes and celebrities who would wear his clothes for free. Meanwhile the French government began to promote the work of the Paris designers to international audiences that attracted new orders for a revitalized industry.

During this period the Spanish designer Cristobal Balenciaga, considered to be the last of the artistic couturiers, opened a couture house in Paris (Breward 2003). Under his guidance trainees would be expected to skillfully manage the design, pattern cutting and construction of couture clothing. These were considered by Balenciaga to be essential attributes in a great couturier. Renowned for designs that had a dramatic, simplistic quality his greatest influence on fashion came during the 1950s. However, he began to create extremely expensive clothes that utilized high quality materials and many hours of clothing construction at a time when the market for such creations was on the decline. Balenciaga retired in 1968 as fashion became increasingly internationalized and youthful. Fashion designers such as Andres Courrèges and Emanuel Ungaro (who began as apprentices at Balenciaga) were to lead the vanguard of change that established a new modernist sensibility for couture as the popularity of ready-to-wear began to rise.

In summary, couture during the first part of the 1950s had been highly successful, and the influence of the French fashion designers was evidenced in the multiple cheaper imitations from the ready-to-wear industry. The rise of an employed younger consumer began to affect the dominance of couture and gradually, leading designers such as Jacques Fath, Balmain, and later Courrèges and Pierre Cardin, started designing for the ready-to-wear industry in France and the US. Gradually Paris's ability to dictate fashion trends diminished as the boutiques of the 1960s began to provide a steady stream of designs, not just seasonal styles that was based on the traditional French model. Within the space of a century couture was completely transformed, having begun "...as an exclusive art, which only the privileged could afford, by the middle of the twentieth century it was being forced to cater for wider tastes." (de Marly 1980, p208). Ready-to-wear was changing the fashion landscape and was transforming the industry into a complex system of producers that now catered for an extensive range of consumers.

### 2.2.3 The fashion designer in the ready-to-wear market: The 1960s to the 1990s

It is important to understand how the rise of the ready-to-wear market influenced the role of the fashion designer, which began to operate differently as distinct levels of the market were established. While the fashion design process in the sector remained characteristically the

same, the emerging ready-to-wear market required a different set of design criteria, which was predominantly driven by economics. Furthermore, the fashion designer working outside of the very top market levels of the sector remained largely anonymous; instead consumers were made aware of the brand name rather than the designer's name. By the 1960s the ready-to-wear industry was to dominate the fashion industry across Europe and the US. From the perspective of the couture houses this dominance of the ready-to-wear industry resulted in a loss of clientele, as consumers did not want to endure lengthy fitting sessions, or have to pay a significant amount of money for a garment that was considered appropriate for only one season. Loyal clients remained faithful to couture houses such as Dior, Balenciaga, Lanvin and Chanel, but the upcoming generation of couture-trained fashion designers like Courrèges, Cardin and Yves Saint Laurent, embraced the opportunities in this changing market to express new and extreme design ideas (Laver 2002). These couturiers were now presenting their ready-to-wear collections in the Paris *prêt-à-porter* fashion week, typically held prior to the Paris couture shows (Jackson 2006). The fashion industry was evolving in an era of mass communication and media into a globalized industry that projected the fashion brand into a position of significance and it was the association with the designer name that provided the prestige. During the 1960s and 1970s Saint Laurent capitalized on this new cultural phenomenon and created his own celebrity image as a method of marketing YSL goods generating substantial media coverage through a series of photographic campaigns. A couture-trained designer, Saint Laurent began as an assistant to Dior and became the chief designer after Dior's premature death in 1957. Saint Laurent was the figurehead of the successful fashion brand YSL, which was producing both couture and ready-to-wear collections. Saint Laurent's use of lavish fabrications for glamorous haute couture wear acknowledged the tradition of couture in which he was trained. He also found inspiration and influence in international cultures. Often portrayed as the "...tortured artist..." (Breward 2003, p86) due to his acknowledged mental frailty; towards the end of his career Saint Laurent moved in and out of his design role although the company continued to produce the collections.

Successful fashion designers were also emerging in markets such as Milan where Giorgio Armani promoted a new relaxed design aesthetic. The first wave of Japanese fashion designers moved to Paris in the 1970s including Kenzo and Issey Miyake who challenged Western traditions of tailoring and form. Kawamura comments on the continuing appeal of the French capital, stating, "There is an understanding that everyone believes that Paris is the fashion capital, and it represents success for designers." (2004, p38) The dominance of Paris as a centre for fashion which, as previously discussed, was established in Worth's day, continued to retain a reputation for haute couture through the efforts of the French government and the Paris-based fashion organization, La Chambre Syndicale de la Couture Parisienne. Kawamura (2004) argues that through the strategies of the institutionalized system and the French government working alongside press agents, journalists, trade fair

delegates and designers it was possible to create a system that preserved the perception of Paris as a destination for high fashion and luxury - "Designers need Paris, and Paris needs designers." (2004, p39). It was essential for fashion creators to gain legitimization of their craft in Paris, and acceptance into the established institution provided much needed recognition.

By the 1980s there was a dramatic increase in the demand for both luxurious haute couture and designer ready-to-wear clothing. Wealth was now originating from the Middle East as well as the USA, and the houses of Dior, Balmain and Givenchy began to produce elaborate and highly decorative eveningwear pieces. Karl Lagerfeld was appointed as Creative Director at the house of Chanel in 1983 with the remit to increase sales by attracting younger consumers while at the same time retaining the loyalty of Chanel's traditional clients. Lagerfeld was astute in exploiting the signature typologies of Chanel's design classics that included the iconographic cardigan suit. Moreover, new fashion designers such as Jean-Paul Gaultier and Christian Lacroix re-energized Paris with their perfectly crafted and unconventional design ideas. Lacroix's design aesthetic has been described as 'kitsch', with his flamboyant design interpretations that reference French cultural history, Catholic symbolism and the eccentricities of the nouveau riche (Breward 2003, p179). Conversely, Gaultier championed popular culture, enjoying his reputation as 'rebel' in respect to the traditional Paris bourgeois style. Gaultier appealed to a younger consumer through his fusion of street culture, new technology and new materials in fashion, which provoked and blurred gender boundaries. Becoming the promotional tool for his own brand, Gaultier used popular media to sell his perfumes, accessories and ready-to-wear lines. Even though Gaultier's contemporary take on high fashion design was in stark contrast to the discreet business of couture, his practice reaffirmed that Paris was still the centre of creativity (Breward 2003).

It was not until over a decade later in the mid-nineties that interest in Paris haute couture captured the headlines again. This time it was with the appointment of British-trained John Galliano as Principal Designer at Givenchy, later moving to Dior in 1997. Galliano, whose design aesthetic often references historical costume, was noted for his use of bias cutting draping and highly decorative ornamentation employing techniques such as embroidery and beading. Galliano's fashion garments were described as "...almost reactionary in their suggestion of a forgotten golden age of bespoke dress construction." (Breward 2003, p232). This was further heightened through the spectacle of highly stylized fashion shows. After Galliano's departure, yet another startling appointment was made at Givenchy, Alexander McQueen. McQueen's work embraced the idealized dramatic silhouettes and refined tailoring that exaggerated the female form at the waist and the shoulders, however, both Galliano and McQueen ignited a new interest in haute couture. For the Parisian couture industry the revitalization of the classic design house had become a recurrent theme, and as distinctions between fashion movements became increasingly blurred by popular mass culture, it was a

timely move to employ two young (British) designers within the bastion of French fashion (Laver 2002).

#### 2.2.4 The fashion designer in the 21<sup>st</sup> century.

For the browsing reader of the newspaper fashion column the named fashion designer is *fashion*. (Breward 2003, p22)

By the turn of the 21<sup>st</sup> century in contemporary society, haute couture has become inextricably linked with wealth and luxury, and the rise and reign of the fashion designer. The wearers of couture include musicians and film stars, such as Madonna and Cate Blanchett and the world's wealthiest women including royalty and other financially regal socialites. Designer names that are synonymous with haute couture during this period include Karl Lagerfeld (at Chanel), John Galliano (at Dior), and Alexander McQueen (at Givenchy). In a high profile industry that courts interest from the fashion press, media and other social commentators, the mythology of the haute couture designer continues to capture attention but not always for positive reasons, as Breward comments:

In the mystique that has grown up around the designer's working practices and professional identity commentators have found a convenient way of avoiding the much more complex and sometimes unsettling network of economic, aesthetic, and moral factors which constitute the idea or problem of fashionable modernity. (Breward 2003, p21)

For both Dior and Givenchy, the couture house has evolved into a brand that is now under the ownership of a large conglomerate company, Louis Vuitton Moët Hennessy (LVMH). The house of Chanel, however, remains independent of such take-overs and has continued to operate its own atelier workshops unlike several other competitors. In the last decade, in a move to secure the existence of the infrastructure that is at the heart of the couture business, Chanel has begun to acquire many of the supporting artisan businesses. The couture houses have continued to diminish in numbers, which has impacted heavily on the auxiliary businesses, including specialist button makers, embroiderers and milliners. Despite this contraction in size the French fashion industry continues to receive support from the French state and Paris continues to defend its hold on the international fashion circuit.

However, regardless of this potentially bleak outlook the haute couture industry continues to attract the attention of the press and media. In particular the role of the celebrity in promoting fashion and the increase in distributive media technologies such as the Internet have helped fuel the public interest in fashion. Designers have been able to stream live fashion shows, reaching global markets that provide unprecedented press coverage and public exposure. At

the same time this wide-reaching exposure can be a challenge as it makes it easy for unscrupulous mass manufacturing companies to trade in designer counterfeit copies before the original ready-to-wear versions reach the store. The trickle-down effect of high fashion to cheap high street copy continues to highlight disparities in the fashion industry. Moreover, across all sectors of the industry 19<sup>th</sup> century practices are still used in the manufacture of fashion clothing, with the global mass manufacturing industry continuing to capitalize on the use of sweatshops for the production of cheap clothing (Wilson 2003, Breward 2003).

The explosion of fashion publicity generated through mass communication has also given rise to the 'fashion stylist'. This is a phenomenon that surfaced in the fashion media in the 1990s and has culminated in a blur between the boundaries of designer fashion and high street clothing in the luxury fashion press. The stylist will borrow and mix existing garments from different design companies often from various market levels, to produce a directional look for the new season. Originally contracted to work predominately for the fashion press, the stylist now attracts employment from film and television production companies; fashion PR and events companies; fashion design labels, and large fashion houses. At the same time the luxury goods sector was responsible for the rise in the popularity of the accessory. Luxury bags, sunglasses and footwear became the new 'must-have' items through directional marketing strategies and creative collaborations with fashionable designers (Laver 2002). It could be argued these new directions in fashion styling and designer accessories have contributed to an exponential rise in the media's interest in the named designer and their associated brand, therefore the significance of the designer's role has grown extensively.

For the couturier or fashion designer (typically now titled the Creative Director) in the larger couture houses such as Dior, the haute couture collections have become a vehicle for the designer's creative ideas without the necessity to succeed in financial terms. The couture collections at this top end have become a promotional tool for the company's brand and other product lines, such as fragrance. However, it is a commonly stated myth that the majority of the couture houses work outside of an economic framework since fashion designers such as Christian Lacroix still struggle to secure financial backing which is usually linked to the ability to produce sales success. Indeed for Christian Lacroix, who is recognized in the fashion press for his creativity in fashion design, the lack of consistent strong sales has seen financial support withdrawn on a number of occasions and eventuated in the closing of the house. However, in the successful houses where the haute couture line continues under the protection of a larger brand, the typologies of haute couture are still preserved and celebrated with little concern awarded to finance. Designers such as John Galliano and Karl Lagerfeld have become the 'supercelebrities' of the fashion industry, for an audience that is drawn to the highly publicized world of haute couture and the branded couture house. Fashion at this level has arguably become pure spectacle, yet the role of the fashion designer and the fashion design process applied at this level is still viewed as quintessential *fashion design* by

students, independent fashion labels and the SME sector, which choose to re-enact this model of design practice.

### **2.3 The fashion designer in a contemporary industry.**

Understanding the role of the designer is fundamental to the arguments proposed within this thesis, since with the opportunity to analyze and reflect upon the designer's tasks, responsibilities and collaborative relationships the possibility to suggest an alternate model of practice arises. In broad terms, the fashion designer initiates and generates design ideas that become new fashion garments; in industrialized nations it is usually a professionally trained person who is expected to have a high level of design ability (Cross 2006). The fashion designer must possess a range of skills, and these abilities fall into one of two areas, namely 'creative' ability and 'technical' ability. In order to demonstrate creative ability the designer should be able to generate an original design from a unique concept, or be able to interpret trend information into a novel design idea (Jackson 2006). In addition the designer also needs to possess the technical ability to recognize the capabilities of a fabric and have the capacity to follow a garment through the entire process of development and production (Jackson 2006). Importantly, the designer must also be able to communicate the new product to the manufacturer and the client (Cross 2006). The new product is typically communicated through drawings, and in the case of fashion design this may be achieved through the use of stylized fashion drawings. These drawings commonly provide a complete view of the garment and a technical or trade sketch that provides the garment specifications and details. They are then followed by the production of a prototype/mock-up or *toile* that enables the fashion designer to see the garment as a three-dimensional form. The prototype allows the designer to trial the garment on a body as a way of testing, and provides the opportunity to reflect upon the design and assess its appropriateness. At this stage modifications can be made, by evaluating its aesthetics, ergonomics, production capabilities and potential for success in the marketplace.

It is also important to analyze and explore the industry in general, to appreciate the differences between the sectors and to plot the position of the fashion designer in relation to terms of tasks, duties and responsibilities within these sectors. The global production of fashion involves numerous companies, manufacturers and retailers who develop products for specific sectors and market levels. Although the sectors of the fashion industry are broad (ranging from sportswear to lingerie) a company will typically operate within one sector with corresponding womenswear, menswear or childrenswear products (Stecker 1996). A company will often generate one or more product lines, which fit precisely within an identified market level. These lines are distinguishable by a defined set of criterion determined by factors such as price point, quality of material, manufacture, and production numbers (ibid



1996). It is then the fashion designer's responsibility to create a new collection that fits within this criterion. In relation to the research, the question is how can a designer ensure that a product meets the defined market criteria *and* sustainability objectives at the same time.

Within the womenswear fashion sector the market levels can be defined as: "haute couture and bespoke tailoring; prêt-a-porter or ready-to-wear; designer labels; luxury brands; high street or mass-market brands and home shopping." (Renfrew and Renfrew 2009, p79) To provide further context for the thesis it is necessary to outline the key attributes of the different market levels that sit within the fashion system, and the placement of the fashion designer within the corresponding production method.

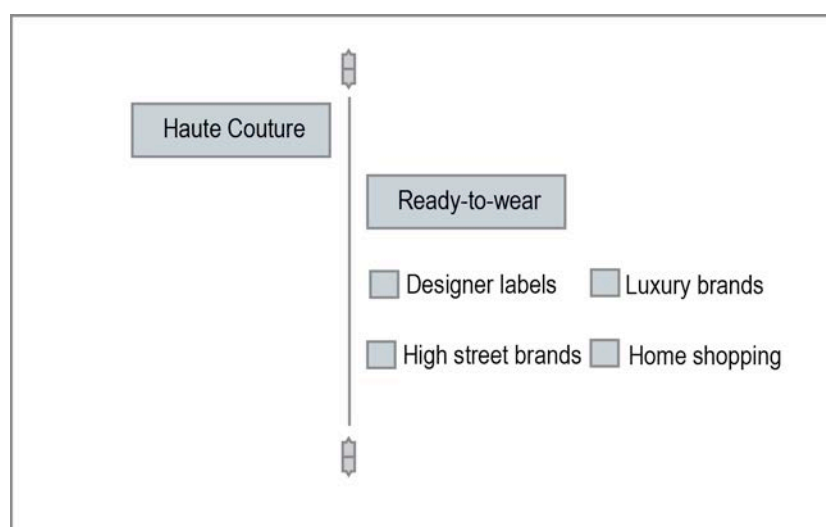


Figure 1: Diagram showing the market levels of the fashion industry

*Haute couture*: the production of haute couture fashion represents the height of symbolic and quality fashion clothing through its association with materiality, construction and performance. Equally haute couture places the named fashion designer within a high profile position that is associated with prestige and exclusivity, for example labels such as Chanel, Christian Dior and Givenchy. The haute couture industry is considered to be the "...highest, most specialized level" of fashion, showing two seasonal collections a year, which are the product of less than 12 couture houses who are each a member of the *Chambre Syndicale de la Haute Couture* (Renfrew and Renfrew 2009, p80). There are strict membership guidelines, which ensure that the industry is retained in Paris, however membership by association has allowed designers such as Martin Margiela, and Giorgio Armani to exhibit alongside the couturiers in Paris in recent years (ibid 2009). The fashion designer, or creative director, within the couture house is expected to direct the collections to meet the highest standards of quality, craftsmanship and creativity, and may lead the styling direction of all associated and

licensed products. Therefore the designer's position and contribution within the house is of utmost significance.

*Ready-to-wear or prêt-à-porter:* ready-to-wear (RTW) fashion emerged in response to a need for fashionable clothing to be produced in volume. While the RTW garments are produced in standardized sizes, rather than in singular made-to-measure production methods, the RTW collections may emerge from companies that range from small independent fashion labels to established international design houses. Renfrew and Renfrew (2009) chart the rise of the ready-to-wear line from the Paris couture houses in the 1930s, where customers could buy a diffused version of the couture garment off the shelf at an affordable price. The contemporary designers who work within this market level are diverse and may be independent designers such as Belgian designer, Dries Van Noten, or employed by the luxury super brands such as Hermes or Burberry. However the RTW garments embody the designer's individual design aesthetic and retain an air of exclusivity.

*Designer labels:* designer fashion labels include a broad range of businesses that encompass larger international labels to small independent fashion labels such as UK designer, Jonathan Saunders, or Australian designer Akira Isogawa. Designer labels will often influence future trends that in particular inspire the mass-market level brands. These labels commonly retail within boutiques or department stores and may have achieved acclaim in their country of origin, and perhaps internationally. Typically the designer label will be a small run business that is led by the designer and perhaps employs a small team to produce the collection (Sorger and Udale 2006). Moreover, the designer/owner of a small fashion label may be managing all aspects of the business including manufacturing, press and sales, and so on. This means that the available time for designing can often be compromised by these other activities.

*Luxury brands:* the luxury super brand is a relatively new phenomenon that includes large global companies who frequently employ high profile advertising campaigns to promote a range of products targeted towards different market levels that encapsulate a luxury lifestyle. The super brands may produce perfumes, accessories, and a range of luxury goods alongside RTW fashion collections. Super brands are often owned by large conglomerates; for example, the Gucci group, and Louis Vuitton Moët Hennessy (LMVH). Fashion labels under this type of ownership include Gucci, Louis Vuitton, Fendi, and Bottega Veneta (Sorger and Udale 2006). Super brands are instantly recognizable through their extensive use of branding, with products distributed in most modern international cities. The fashion designer is typically high profile, and may additionally produce collections under their own name.

*High street brands:* the high street fashion companies or mass market brands are responsible for producing and buying collections in large volumes that retail directly in stores. The lead-

time from sketch to final product can take a matter of weeks rather than months as in RTW, and new collections will arrive in store frequently during the season, sometimes each fortnight as with companies such as H&M and Topshop (Renfrew and Renfrew 2009). These stores do not typically take part in the conventional fashion show system, instead relying on press exposure and advertising to inform the customer of the newly available collection. The fashion designer employed within this market level is typically part of a large supply-chain, which may not be transparent or visible. A number of companies will have in-house design teams that may employ as many as 90 designers (Sinha 2002). The designer will often be responsible for a particular fashion line, or a garment type, for instance ladies jeans. The fashion designer in this market level usually remains anonymous, which may be due in part to the fact that the designer is creating garments to a specified design brief set by the company. This typically allows the designer little opportunity to design garments that reflect any individual design aesthetic.

*Home shopping:* this market level includes the retailing of products through the means of catalogues and / or online shopping (or e-tailing). Renfrew and Renfrew (2009) ascribe the origination of home shopping to the US-based Sears catalogue in the 1950s, where home shopping provided clothing to customers who could not easily access the collections instore. Digital online shopping has revitalized the home shopping market and caters for a wide range of merchandise from luxury goods retailers to independent fashion labels and vintage sellers. For the fashion designer the accessibility of online shopping offers independent labels the opportunity to reach new markets, gain exposure and to build a faithful niche following.

In summary, there are a number of critical observations that can be drawn from an analysis of the fashion system. The first observation would be that there appears to be a hierarchical model of fashion design, which in turn creates a hierarchy model for fashion designers. Kawamura proposes that designers can be "...classified according to different types within the system of hierarchy, and each group of designers constitutes a class, that is the designers who belong to the fashion system and those who do not." (2005, p58). The hierarchical model shows that the most expensive market levels depend upon the named designer, unlike mass manufacturing that relies upon the employment of 'invisible', unnamed designers in the production of large quantities of clothing. The tired fashion model outlined above suggests that the success of the designer is not measured by the amount or variety of clothing that is produced, but in the quality and exclusivity of the collection. Kawamura argues that the hierarchy of fashion designers, which is reiterated through the institutional structure of the French organization La Chambre Syndicale de la Couture Parisienne, is based upon social organization rather than aesthetic qualities. Yet she admits that the work of the designer cannot be ignored since any comprehension of the fashion system depends upon an appreciation of the designer's role and the fashion garments they create. However, the hierarchical model above does not suit all fashion labels and companies; there are inevitably

fashion labels that do not sit comfortably within one market level or another. Stecker (1996) notes that many fashion designers will develop new business initiatives in response to their need for artistic recognition and to gain the flexibility to design garments, which reflect a personal design aesthetic. However to be embraced by the fashion industry the designer needs to work within the fashion system, which is the second observation that can be drawn from analysis of the fashion system. This system is dictated by the fashion buyers, the press - the fashion show organizers who control the public exposure of selected emerging designers - and the industry schedules of events, promotion, and buying. Indeed Kawamura argues that, "...it is the admission into the system that defines designers' creativity" (2005, p62) and that the fashion system needs 'stars' to ensure its very existence. With this in mind it is important to explore what is meant by the phrase, 'fashion design process'; what it is, what is involved, and what the fashion designer does within the process that enables those selected to be celebrated within the popular media and to become the next fashion star.

### 2.3.1 The fashion design process

Before a product is generated a design idea or proposal has to be initiated, Cross suggests that "...the generation of design proposals is therefore the fundamental activity of designers, and that for which they become famous or infamous" (2006, p16). While particular design ideas may be perceived as innovative or new, Cross argues that in the majority of cases design ideas are reincarnations of preceding designs. It may be a contentious view, but in fashion design the point is best exemplified in the formal description of garment types, e.g. a full skirt; or a fitted blouse; or a tailored jacket. Traditionally, a designer will sketch early design ideas, Cross describes this process as "...thinking with a pencil..."(ibid 2006, p16). While sketching ideas the designer will be balancing a number of criteria that include: meeting the factors set out in the client or the fashion company's brief; technical or production constraints; and the designer's own aesthetic values. Through sketching, the designer engages in a non-verbal process to find a suitable design solution according to set criteria.

Just as the tasks and responsibilities of the designer can vary across different sectors of the fashion and industry, the criteria within the design brief can also alter. When designing for a high street retailer, for example, it is not uncommon to repeat silhouettes or styles that have achieved significant sales success in previous seasons. The repeating of styles allows the consumer to expand upon an existing wardrobe of clothing; however, subtle design changes may be used to refresh these ideas i.e. a new fabric choice, or a new print colourway. These criteria around the need for consistency would be outlined within the design brief. However, this approach contrasts greatly to the brief of the fashion designer in the designer ready-to-wear, independent designer, or couture market levels, where the designer will be expected to set new trends in fashion for each coming season. Furthermore, within the luxury and couture

market levels the fashion designer may also act as creative or artistic director. John Galliano, at Christian Dior is a designer, for instance, who is recognized as the creative director of a couture brand. In these elevated roles the designer has a much greater freedom to set the criteria of the fashion brief. This brief may even expand to encompass the responsibility for the artistic direction of the brand image and other creative responsibilities (Jackson 2006). However, while the creative freedom and role of the designer might fluctuate according to the market level and size of the organization, all designers need to engage in a complex system of production that relies on collaboration with a number of stakeholders. This interaction will be explored in detail in the following section.

### 2.3.2 Producing the collection

Fashion garments are typically designed and produced as part of a seasonal collection or range. This range will establish the parameters for a set of inter-related design ideas displayed within a collection of products including jackets, pants, skirts, tops and coats. The designer will usually aim to produce a collection that has a set number of each garment type that will meet specified market criteria and capture the mood for the new season. In designing a fashion garment the designer has to primarily create a product, but also make sure that the product meets the wearer's requirements. Indeed the creation of fashion garments "...is based on reciprocal interaction between the designer, object and viewer." (Loschek 2009, p7) Philosophically fashion garments have the ability to construct and communicate identities, and it follows that there are a number of complex issues related to identity, gender and power involved in the cultural reading of the fashion garment. However, in the majority of cases the production of contemporary fashion clothing continues to be driven by the pragmatic need of meeting market expectations within budget and manufacturing constraints, factors which frequently form the basis of the designer's brief. However, while the majority of fashion garments continue to be designed, produced and measured by economically driven factors, it is becoming increasingly important to measure the manufacture of a fashion product against its impact on the environment and society.

Broadly speaking the fashion design and production process involves a generic sequence of activities, and phases that typically occur within all sectors of the fashion industry. This pattern of production is well documented in many contemporary texts including Renfrew and Renfrew 2009, Sorger and Udale 2006, Jackson and Shaw 2006, Jenkyn-Jones 2002, and Stecker 1996. In brief the process can be defined as five distinct phases: the research and analysis phase; the synthesis phase; the selection phase; the manufacturing phase; and the distribution phase (Sinha 2002, p7). During the research and analysis phase Sinha notes that a fashion company might conduct market and trend research to support their design activity, and that a company would develop a framework which the designer would refer to for concept

development (this is otherwise acknowledged as the 'brief'). A sample range would be produced during the synthesis phase, primarily made by the pattern cutters and sample machinists, with the designer in a managerial role. During the selection phase garments would be presented to the buyers and selectors, and in most cases the designer would then respond to any modifications required before the garments proceed to manufacture. In the production of the selected samples, the time dedicated to the manufacturing phase for a smaller company is relatively short whilst for a larger company a factory sample range is typically required for quality purposes since manufacturing is often conducted off-shore. During the distribution phase the manufactured garments would be shipped to the retailers and feedback provided to the designer once sales had been noted and achieved (Sinha 2002).

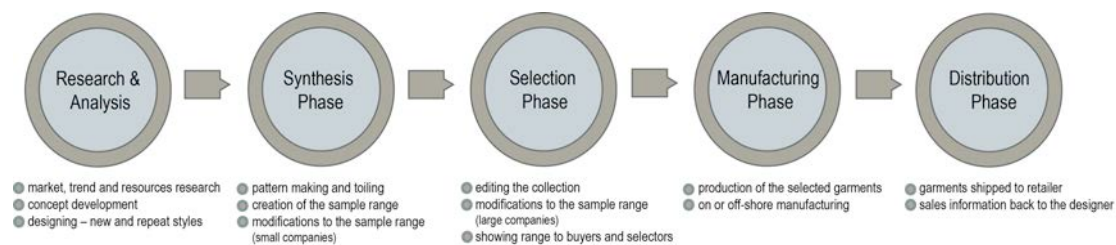


Figure 2. The five phases of fashion design and production (Sinha 2002)

Within Sinha's model, Figure 2, the five phases can be further dissected into particular activities and tasks: duties that may be assigned to the fashion designer, or designated to another member of staff, department or other unit or facility within the supply chain. How these duties are designated depends upon the scale of the company. For example, as the size of the company increases the fashion designer's engagement within the process may diminish and their duties become confined to a set of well-defined tasks and activities (Sinha 2002). This division of labour can be observed in large scale manufacturing where the designer is typically involved in the research and concept phase only and unlikely to engage or influence any development within the synthesis phase and beyond (Sinha 2002). In contrast, within a micro, small or medium business the reach and influence of the designer is usually increased to extend across the entire design and production process.

However, as identified in Sinha's study there are common phases and activities that most fashion designers engage. Typically these centre on the research and analysis phase and the synthesis phase, and a distinct series of activities which commonly occur, including: market and trends research; design research; designing and editing a collection; fabric selection; patternmaking and toiling; costings; and the production of the sample range (Renfrew and Renfrew 2009, Sorger and Udale 2006). These phases and activities (as described above) remain the areas where the designer has the most engagement or control from which to

influence positive change, notwithstanding variations in the scale of the company. In fact these two phases, and their activities, could be alternatively labeled as the 'core' fashion design process (Figure 3), which mirror the practice as depicted within fashion educational texts (Renfrew and Renfrew 2009, Sorger and Udale 2006, Jackson and Shaw 2006, Jenkyn-Jones 2002, Stecker 1996). While the list of activities noted within the fashion design process are not exhaustive it can be assumed that in a micro, small or medium business the fashion designer will be engaged in these activities, and that their influence extends across all the phases of design and production to some extent.

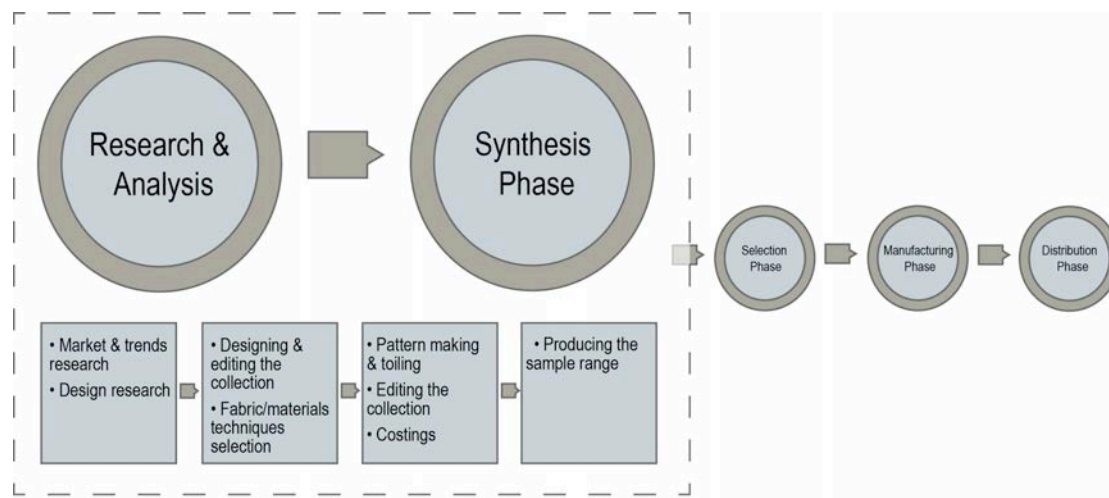


Figure 3: Comparing the fashion design process with Sinha's (2002) research and analysis phase, and the synthesis phase.

One of the first tasks for the fashion designer is to assimilate the set of criteria by which new designs can be measured as appropriate. The company, client, or designer may all play a part in nominating these criteria and it is this criterion that forms the basis of the designer's brief. In planning the fashion collection the criteria will later assist the designer with the process of elimination and refinement of garment design ideas (Stecker 1996; Seivewright 2007). The designer's brief will include developing design ideas which fulfill a number of pre-requisites for instance the designs should: meet the consumer's needs; meet market trends; represent the brand or label's vision; work in relation to the body; are designed for a specific market, occasion, season or function; works in relation to fabric selection; that the required resources are accessible and affordable; that the garments can be produced within the budget and will achieve sales (Stecker 1996). This is a typical set of macro requirements, which help shape the design brief that a fashion designer will refer to when developing a collection. In addition, there is a second set of factors that the designer also needs to consider and these relate to the development of individual garment design ideas within the collection. On a micro level the designer needs to consider the design elements within the

collection and ensure that these remain appropriate to the requirements of the overall design brief. Seivewright (2007) provides a list of design elements, that include: form; proportion and line; purpose; garment details; colour; fabric; ornamentation and print; themed references; contemporary trends; target market and level, and genres in fashion (Seivewright 2007). From a sustainability perspective if the already extensive range of criterion discussed here are the standard measure for the success of a design idea, then where, and when, do environmental or ethical criteria come in to play?

Given the complexity of the existing design brief It is not surprising that most existing contemporary educational texts, which map the fashion design process and indeed the criteria for designing fashion garments, do not mention a requirement to consider sustainable design principles within the creation of fashion garments (Renfrew and Renfrew 2009, Sorger and Udale 2006, Jackson and Shaw 2006, Jenkyn-Jones 2002, Stecker 1996, Seivewright 2007). While Renfrew and Renfrew do comment on working with ethics (in a publishers note at the rear of the text) a comment has been provided by the publishers to raise awareness in the "...next generation of students, educators, and practitioners..." (Elvins and Goulder in Renfrew and Renfrew 2009, p169). Clearly a contemporary viewpoint on design would expect the fashion design community to rigorously embrace sustainable design principles but this does not appear to be the case. Moreover, contemporary fashion educational texts are continuing to promote a traditional method of fashion design practice. To support this claim the following section steps through the conventional process of fashion design as applied within an SME, and typically portrayed within educational texts.

### 2.3.3 An appraisal of the conventional activities and tasks of the designer employed within the fashion industry.

Cross (2006) suggests that designers employed within a fashion company often find that their role includes working to a design brief that follows a particular vernacular. For instance a designer may have to develop a product range that reflects the label's recognized aesthetic so that it meets the expectations of an identified consumer. Furthermore, the designer may need to ensure that the product can be manufactured by means that are known to the company. This may require utilizing established patterns of design and production. These customary patterns are identified in the numerous published case studies of the designers in the fashion industry. However, designers that continue to work within an established system of design and production typically appear to resist the inclusion of sustainable strategies, as environmental and sustainable concerns are not routinely included within the designer's brief or form part of the fashion design process (Charter & Tischner 2001). This raises the question: can the lack of environmental and ethical concerns within fashion design be attributed to an archaic fashion design process, or to the failings of the people working within



this system? Furthermore, if the designer in industry is content with the current method of practice then is it possible to raise the level of motivation or enthusiasm to change what may be considered to be a good, workable model of practice. By exploring the relationship of the fashion design process alongside the fashion production process, it becomes apparent that different priorities within these structures can pose problems.

Ian Griffiths (2000) presents a case study of the fashion design process utilized in the designer ready-to-wear market level. As a designer for the Italian MaxMara label, Griffiths worked within a design team that produced a number of fashion lines under the MaxMara label. Griffiths' case study equally positions the importance of the design team as a contributor in the fashion design process, alongside a committee of selectors: the agents, the buyers and the merchandisers. Separated from the design team, the selectors decide upon the retail suitability of the designed garment when it is in its sample form. If accepted, the garment goes into production and then into the stores where the sales team report back to the design team on sales numbers and customer feedback. For the designer in this situation the fashion design process is driven by a shared belief in the product: between the designer and the customer, and the intermediaries in between. Griffiths notes that the Weekend range produced by the MaxMara group developed garments that use "...classic inspiration...focuses on reinventing or modifying categories of garment which have recognizable generic features, such as aran sweaters, duffel coats, or safari jackets." (2000, p85) This observation reiterates the point made by Cross; that many fashion designers develop design ideas that are reincarnations of preceding designs. A point to note here, which is shared by Sinha (2002), is that the process of design and production incorporated in large-scale manufacturing utilizes a vertical supply chain, where one phase may remain separated from the next. Each phase or stage of design and production will involve different people often working within separate sections of the company and/or supply chain, which are at times situated in different geographical locations. Within a vertical system the fashion designer works from within a design team that is geographically isolated, in many instances, from the production team (who handle the pattern making and sample making stage) and the buyers and merchandisers who manage the decisions regarding the selection of products that are to be placed within the stores. This vertical system locates the fashion designer in one phase of the process, often excluding the opportunity to interact with other key contributors, or oversee the product (and its processes) from start to finish. In fact, according to Lawson, in this system the division between the designers and makers has become "...a keystone of our technological society..." that in turn relies upon the designer to resolve complex issues that are often driven by the use of new technologies, processes and systems (2006 p24). The vertical design and production process is in complete contrast to that traditionally utilized by the couturier and the designer located within a micro, small or medium business.

Outside of the realm of large scale manufacturing, within a typical SME environment the designer is a significant and central member of a team and is "...ultimately responsible for the initial design ideas, right through to overseeing first samples for selling." (Renfrew and Renfrew 2009, p27). Through a complex relational system the designer works with a diverse set of people that include the fabric merchant, textile specialists, the buyers and extending perhaps to others such as the PR agents. In this process the designer is placed within a central decision-making position, and will be apportioned the responsibility for any changes within the design process. This, according to Renfrew and Renfrew (2009), means that the ability to communicate, as well as being creative, is a vitally important asset in any designer. UK fashion designer, Giles Deacon, directs his eponymous self-named company and employs 9 full-time staff and 4 part-time staff, plus a number of students who assist as part of a work experience program. As a designer, Deacon will develop design ideas that are then passed to the pattern makers or "...creative cutters..." (Renfrew and Renfrew 2009, p38). The pattern makers will develop the patterns, working from his sketches, using a combination of draping and flat pattern making techniques, "...they draw in cloth on the stand, working spontaneously putting things on and often create happy accidents that are made into toiles for the collection." (ibid 2009, p38) Everything is photographed and recorded with samples produced and overseen by Deacon. His description of the relationships within the studio is infinitely close; and as the label produces 8 collections a year (4 for the *Giles* label, and 4 for high street retailer, *New Look*) the small team of staff are inevitably engaged within the creative process. In small companies, such as Deacon's, the work ethic frequently requires much multitasking, particularly as lead up times shorten in the studio's race to complete the upcoming season's collection. However, the close and creative relationship effectively works by mutual agreement. Deacon intimates that he works collaboratively on the collection with the print designers, the knit designers, and the pattern cutters on the production of the collection. In addition, he also conceives small design projects for the work experience students and design assistants, the results of which may or may not influence the new styles for the season. It appears that all the common elements of the fashion design process are present: developing the concept for the collection; sketching design ideas; pattern making and constructing toiles; and producing the sample range. However, it is difficult to ascribe certain activities to the designer alone. Despite the creative process consciously or unconsciously becoming a collaborative effort, ultimately the collection has to remain the creation of the individual fashion designer; "The interpretations of new styles have to look like they come from Giles." (Renfrew and Renfrew 2009, p38).

#### 2.3.4 Challenging the archetypal fashion design process

Aside from technical and educational texts that record the fashion design process, existing studies typically focus on the case study of eminent designers; or centre on the reporting of

the creative artifact from a particular designer (Sinha 2002, Griffiths 2000). Any analysis or critical study of the activities performed by the fashion designer appears to be deficient; Kawamura goes as far as to suggest that, "None of the writers discuss the role that designers or creators of fashion play in producing fashion..." (2005, p58) and it follows that this relationship requires further exploration, particularly when the intention is to challenge traditional methods.

The approach to the creation of fashion garments synonymous with Deacon's label, typifies the practices found within many micro, small or medium businesses (SME). As stated, in this organizational system the fashion design process, from sketch to realized sample garment, places the designer within an influential position. Sinha supports this claim commenting as follows:

The role of making in all of the companies fell to the pattern maker and the sample maker; the fashion designer took on a managerial role. All designers interviewed felt that the responsibility of overseeing sample-making was akin to maintaining their design integrity: the sample-making teams interviewed felt very responsible for making according to the designer's requirements. (Sinha 2000, p31)

The designer within a micro or small business such as Deacon's can be considered to be in a hierarchical role, but in truth is perhaps best described as a centralized one. The designer works in a complex relational system that provides the opportunity to engage with a wide variety of skilled practitioners and suppliers in the creation of fashion clothing. From this centralized position the designer is empowered, should they wish, to influence and impart new (sustainable) approaches that aids in the design and production of 'better' garments. The issues around the potential of the designer to write in sustainable criteria into the fashion design brief will be discussed in more detail in chapters 3 and 4.

## **2.4 Chapter summary**

This chapter has chronologically mapped the fashion designer's role in relation to the different levels of the fashion industry, which has made it possible to see that the perception of fashion designing has altered over the last 60 years. What has not changed, in broad terms, is the process of fashion design itself. While the fashion designer may have different levels of responsibility for some or all of the activities within the process, the same generic activities still occur throughout the industry. The fashion designer may not be physically doing all of the work, but he/she is often directing a team of people who conduct the activities under the designer's instruction. Consequently the influence of the fashion designer is, in most SME cases, felt across the entire design process.

In the majority of the existing research drawn upon for the chapter (Stecker 1996; Jenkyn-Jones 2002; Laver 2002; Sinha 2000; Sinha 2002; Breward 2003; Troy 2003; Wilson 2003; Kawamura 2005; Sorger and Udale 2006; Jackson and Shaw 2006; Renfrew and Renfrew 2009) sustainability or sustainable design principles in relation to the fashion designer and the fashion design process are not mentioned. This is somewhat alarming given that, as noted in Chapter 1, Victor Papanek (1995) was guiding the industrial design discipline towards responsible design and it has only been in recent times that debate has been raised in relation to fashion design. This is reiterated in the disparate design processes provided by designers Ian Griffiths, and Giles Deacon earlier in the chapter wherein no mention of environmental or ethical issues appear to form a part of the design and production process or fashion design brief. It could be argued that this lack of inclusion captures the general view across the fashion industry; one of ignorance and disregard, or a lack of self-reflection.

In Chapter 3, the thesis maps existing research relating to fashion and sustainability, concentrating on a number of specialist texts that have been generated since 2008. In exploring the various scenarios and strategies for sustainable design for fashion in Chapter 3, the aim is to then reveal, in Chapters 4 and 5, an alternate fashion design process that might be applied to the types of fashion models discussed within this chapter (2).

## **Chapter 3: Fashion and sustainability**

### **3.1 Introduction**

The need for the fashion industry to adopt genuine sustainable solutions has been widely acknowledged (Allwood et al. 2006; Black 2008; Fletcher 2008) and although various recommendations have been suggested there still continues to be little actual change in terms of adoption success by designers and manufacturers.

Through an exploration of the role of the fashion designer in the contemporary fashion industry, in the previous two chapters it was made clear that the activity of fashion designing originated from historical practices and precedents. Moreover, the tasks and duties of the contemporary fashion designer appear to be closely aligned with conventional processes, particularly in small to medium sized enterprises, which stem from the traditions of the modern fashion industry. The process of fashion design remains largely unchanged and indeed unchallenged: contemporary fashion designers are still engaged in the same or similar activities as Worth and his contemporaries, which is somewhat ironic given that fashion is on one level preoccupied with notions of change. However, in order to challenge the conventional fashion design process other alternate models of making, using and managing fashion need to be explored. This chapter will discuss the existing literature in the field of fashion and sustainability, and aims to show that as yet no clear alternate framework for the fashion design process exists. Furthermore, the chapter seeks to introduce the discourse concerning sustainable design strategies, and the integration of the strategies within the fashion design process. In short it is the intention of this chapter to illustrate that other ways of creating fashion do exist and that thinking through a cogent change process for fashion design is possible.

### **3.2 Defining sustainability**

“Many beautiful looking products have an underlying ugliness that is hidden to the consumer and is often invisible to the designer as well.” (Datschefski 2001, p11).

#### **3.2.1 A historical perspective**

As we have seen in the preceding chapters, a picture where designers typically spend a considerable amount of time and energy concerned with the aesthetics of a garment is rarely balanced with an equal consideration for the environmental impact brought about by the design, production and management of these products. For the designer employed within the fashion industry, according to the fashion design practice literature discussed in Chapter 2,

considerations such as the environmental and social impacts of a garment are often not key factors or criteria to consider during the design process.

To illustrate this argument it would be useful to briefly map a chronicle of sustainable design practices, particularly in relation to the fashion industry. However, drawing together such an overview is a contentious endeavour as a variety of researchers from differing cultural, or generational backgrounds provide varied accounts and positions on the subject. Nevertheless, these debates often begin with the Industrial Revolution as a pivotal point of economic activity (McDonough and Braungart 2002; Chapman 2005; Fuad-Luke 2009). Early critics of the mass-production techniques at the heart of the Industrial Revolution included John Ruskin, Augustus Pugin, and William Morris, who "...feared for a civilization whose aesthetic sensibility and physical structures were being reshaped by materialistic designs" (McDonough and Braungart 2002). A fervent opponent of this socially unconsidered mechanization was William Morris who was heralded for his excellent craftsmanship and design, and is credited as a founder of the late 19<sup>th</sup> century British Arts and Crafts movement. Through his company Morris, Marshall & Faulkner & Co, he was intent on creating "...positive social change through improved design of artefacts, textiles, wallpapers and buildings" (Fuad-Luke 2009). While the products produced by Morris could only ever be afforded by the wealthy, this early design movement inspired a wave of artists and designers across Europe in the evolution of movements such as Art Nouveau, the Vienna Workshop in Austria and the Deutscher Werkbund in Germany. Chapman (2005) argues that whilst early connections were being made between superfluous materialism and environmental decay during the Arts and Crafts movement, this showed the way for the next generations of revolutionary designers such as Charles Eames, Frank Lloyd Wright and Richard Buckminster Fuller, who were taking the "...first tentative steps toward a sustainable future" (2005, p6).

Out of necessity rather than choice, the fashion industry in Europe was forced to adapt in response to the crisis of two world wars. During these difficult periods the couture businesses in Paris and London either closed, or remained open adopting ingenious strategies to handle shortages and control material resources that enabled customers to purchase modest, unassuming fashion styles. *Fashion Under the Occupation* (Veillon 2002) charts in detail the response of the Paris couture industry during the period 1939-1944 and there were many acts of resourcefulness in response to laws pertaining to clothing coupons and restrictions. However as cloth became rationed the general fashion buying public turned towards accessories, such as hats, as a way to engage with fashionable trends; flamboyant headpieces were made from wood shavings, ribbon or recovered dress materials (ibid 2002). The fashion press in both France and Britain promoted the message of resourcefulness. Readers were encouraged to make do with limited wardrobes, and given practical tips for garment alteration and material reuse. In Britain, the government's Board of Trade "Make do and Mend" campaign provided the public with resources such as information booklets,

mending groups, sewing classes, clothing exchanges and advice centres, which were designed to help the public get the best wear out of clothing and household goods, rather than to buy new items. Women in particular were encouraged to pay attention to the care of clothing, for instance in laundering and storing clothing correctly, and instructions were provided for repair techniques including darning and patching of woven and knitted clothes. However, by 1947 international fashion trends were again emerging in Paris through designers such as Christian Dior, and material resourcefulness was quickly abandoned. Moreover, the mass manufacture of ready-to-wear fashion began to flourish including the emergence of youth cultural styles, which would later spur an intermittent relationship with sustainable fashion movements through socio/political subculture groups.

During the 1960s and 1970s environmentalists began to voice their concerns over the devastation being created as a consequence of a consumerist society. Linda Welters (2008) cites Rachel Carson's book, *Silent Spring* (1962) as a pivotal moment in which the environmental damage caused by cotton growing and the textile manufacturing industry was shamefully revealed. Environmental groups, such as Friends of the Earth and Greenpeace, were established in the 1970s and terms such as 'Life Cycle Thinking' and 'Life Cycle Analysis' were linked to energy efficiency (Cooper 2005). At the same time a responsible design movement emerged following the publication of Victor Papanek's seminal text, *Design for the Real World* (1971). Concurrently, in the fashion industry individualism and self-expression became paramount; the natural look was adopted in counterculture styles that later influenced mainstream fashion. However, the mass manufacture of cheap, disposable clothing was dominating the high street, which was now one of the largest sources of clothing sales. Across the design disciplines there was little engagement with responsible design until the late 1980s, when a number of designers began to aspire towards the creation of eco-efficient products (Fuad-Luke 2009). At this time in fashion, amongst young consumers there was an increase in the acceptability of used clothing, where music and film were influencing sub culture movements that were now embracing vintage styles. Moreover, in the high street Italian knitwear firm, Benetton, was engaging in a series of controversial advertising campaigns that provoked debates on topics such as racism, human rights and world hunger (Welters 2008). By the early 1990s product designers began to adopt Design for Environment (DfE) strategies, which might be labelled 'eco-design' strategies in today's terminology. The fashion industry also began to experiment with the concept of environmentalism and eco fashion, with specialised collections from international high street companies such as Esprit. Organic cotton appeared in the high streets but did not fare well with the cost conscious consumer, who by now was fuelling a fashion industry that was producing huge amounts of clothing offshore; a strategy that escalated poor labour rights and sweatshops conditions for factory workers. However at the same time a growing market of socially and environmentally conscious consumers, who were favouring brands with environmental credentials such as Birkenstock shoes, began to emerge.

In recent years there have been many shifts in thinking through differing approaches to developing sustainable products. Following a move away from DfE, which concentrated on the idea of developing a green product, there has been a repositioning towards the broader concept of Design for Sustainability (D4S). D4S more holistically acknowledges that there has to be a consideration of social issues within a long-term product innovation strategy. This is an approach that is explored further, in Chapter 4. Chapman comments there are, and have been, many approaches to sustainable design "...from the bizarre to the banal..." (2005, p6) however, as he observes the future survival of design companies will depend upon an engagement with sustainable practices and products.

### 3.2.2 In contemporary society

To clearly define sustainability is complex, a point that is reiterated by Fuad-Luke (2009) in commenting that a definition of sustainability is dependant on both the context and the discipline, which has manifested into an adaptable meaning. However, it might be appropriate to note that, "...sustainability is grounded in ecological praxis and systems thinking" (2009, p23). Yet for every person in society the quest for sustainable harmony can mean very different things. Fuad-Luke observes that while the environmentalist would seek, "...an equity between humans and other life forms", the environmental economist would seek to "...improve economic viability with reduced negative environmental impact" (2009, p23). In the hands of the designer these two oppositional statements might lead to different approaches for design that could in turn lead to different product outcomes.

In other contemporary theories a commonly held view is that there are three facets to consider in sustainability: society (that should focus on social equity); the environment (that should focus on ecological stability) and economy (that focuses on economic viability) (Datchefski 2000). Through these three facets design practice can encompass a holistic approach to sustainability. In the production of fashion, Janet Hethorn and Connie Ulasewicz believe that a model for sustainable fashion is best viewed as "...interconnecting people, processes and environment." (2008, p.xv). The use of the word 'processes' relates to the authors belief that it is how fashion is produced that needs to change in order to improve environmental and social issues. In the creation of fashion garments Hethorn and Ulasewicz believe that material selection does not provide the only answer, therefore the need for interconnectivity with other parts and people within the process provides the opportunity to have a greater impact on sustainable issues. John Thackara succinctly describes a sustainable philosophy as being how "...ethics and responsibility can inform design decisions without constraining the social and technical innovation we all need to do." (2006, p7).



The following section explores a range of existing literature that highlight the negative impacts associated with the life cycle of a fashion garment. Moreover, the many views and arguments presented point to a range of complex issues that need to be considered when designing and producing garments for sustainability.

### **3.3. Fashion and sustainability: a review of existing literature.**

Within existing research studies the issue of sustainability and the fashion industry has been approached from a variety of positions. These range from manufacturing studies that explore the impacts of the globalized mass production of fashion clothing, such as the University of Cambridge's Institute of Manufacturing report, *Well Dressed? The present and future sustainability of clothing and textiles in the United Kingdom* (Allwood et al. 2006), to social science studies that specifically explore the role of laundering in the use and care of clothing, by Elizabeth Shrove (2003). Although a diverse range of existing studies contribute to this vast and complex topic, few comprehensive and cohesive studies in relation to the design and production of fashion garments have been completed. As discussed in Chapter 2, the fashion industry is divided into varying market levels and sectors, and while all new knowledge is helpful a number of investigations have tended to sweep across the industry as a whole, rather than concentrate on issues associated with one level or sector of the market specifically. It is unsurprising to find then that scenarios for the fashion industry as a whole have at times drawn the same conclusions and there has been a repetition in the types of solutions recommended, such as the rather simplistic suggestion for the need to source organic materials. While most suggestions move the fashion industry in the right direction, a 'one size fits all' solution would prove difficult since the industry produces a broad range of products that are manufactured to suit differing market levels. This would tend to suggest that a variety of solutions and approaches are needed for specific situations within the industry. It is important therefore to analyze the breadth of existing studies that propose a variety of solutions and strategies for use within a range of contexts.

Since such a framework does not exist for a fashion designer - that demonstrates how to integrate sustainable strategies in design practice - the thesis draws on a broad range of existing literature in an attempt to draw together a useable model. Research relating to the use of sustainable strategies within design practice initially appeared within the context of the Industrial design discipline, and over the last three or four years many of the strategies have been explored and adopted within fashion design practice. However, fashion designers now face a deluge of discussions that explore a range of different approaches, which is further complicated by the lack of a clear framework that shows how sustainable strategies can be applied within fashion design practice. Therefore, the following section attempts to identify the

different discussions and approaches relating to sustainable design for fashion by sorting the existing literature into three perspectives:

- The perspective of making fashion (traditionally viewed as being lead by the designer)
- The perspective of using fashion (traditionally viewed as the responsibility of the wearer)
- The viewing of sustainable fashion from a system perspective

### 3.3.1 Making fashion

This section of the chapter focuses on the existing approaches to sustainable design and manufacture of fashion garments from the perspective of the designer. As fashion designers become aware of environmentally friendly fibres and sustainable textile solutions, the real challenge for the designer and the production team is to find ways to engage with sustainable strategies within their design and production process whilst still attaining the typical range of design brief objectives as discussed in chapter 2. The ideas and thoughts discussed within this section challenge the conventional notion of how fashion garments are currently created, and instead argue for alternative processes for designing and making clothes. As the fashion supply chain is typically associated with business: from budgets and deadlines, to purchasing and selling, to shipping and supplying. It is complicated further by the interdependent relationships, between supplier and designer, designer and maker, maker and seller, seller and user, all of whom are connected to a product that is often determined by price, quality and speed.

Many people employed within the fashion industry make an important contribution in the process of creation; the fashion system employs designers, buyers, pattern makers, machinists, knitters, textile designers, finishers and dyers, production managers and so on, and each bring specialist skills and knowledge. According to Papanek (1995) everyone should be reflecting on their role in society and while the complex sustainability issues and problems are often left to the professionals, the scientists and the activists, each individual should consider how they can create change at a local level. While this section specifically draws attention to how, where and what sustainable strategies the designer can integrate within the fashion design process there is an acknowledgement that the designer is a member of a larger production team that is also engaged in the making of fashion garments.

#### *Designing:*

As outlined in Chapter 2, a fashion designer is responsible for designing a range of garments in response to criteria within a set design brief. This may include details that define the market

level, price point, quality of material, manufacture, production numbers and so on. The fashion designer typically works within one sector of the industry and it is useful to define and distinguish the divergent products available within the different sectors. In the Lifetimes project, the fashion theorists Kate Fletcher and Mathilda Tham (2003) begin their examination of the field with the characterization of the various types of products available to help determine the negative environmental impacts of a number of garments across the product life cycles. The project's objective was to reveal that "...a user-centred and appropriate approach to clothing will require us to re-evaluate our garments' durability and their lifetimes." (Fletcher and Tham 2003, p2). The research focused on comparing the design of the garment to the relevance of the product: to the market level, patterns of use, and garment longevity (Fletcher 2008). Three archetypes of clothing were explored: 'classic'; 'basic'; and 'fashion', which were further defined by the use of the following subcategories:

- 'classic': expensive, high quality, durable, timeless design, frequently used over a long period of time.
- 'basic': inexpensive, functional, simple design, frequently used over a short period of time.
- 'fashion': affordable, fashionable, rich in status, identity, infrequently used over a short period of time.

(Fletcher and Tham 2003)

Having defined the three archetypes of clothing Fletcher and Tham proposed a series of fast and slow design scenarios, from which emerged a range of sustainable solutions that were to inform and inspire a more user-engaged and less resource intensive approach to fashion (Fletcher 2008). Concepts were diverse and explored for example, the possibility that 'fashion' garments could be designed to support low impact care, and/or provide the opportunity for considerate disposal. Moreover, they proposed that 'classic' garments could be constructed using materials, dyes and finishes that could age gracefully. These garments were to come with instructions for low impact care and wear and a full garment history to encourage a thoughtful bond between user and garment. Commenting on the environmental profile of production in the textile and clothing sectors, Fletcher and Tham contended that there had been little improvement in the global whole product or systems approach (2003). However, Fletcher and Tham advocate that fashion can have the ability to encourage social change and here Fletcher (2008) continues to promote the role that design has to play in the production of fashion garments and in the actions that assist social behavioral change. This can be achieved by forming a much closer relationship between the fashion designer and the practical and creative actions of the individual and the community to "...produce products, ways of working or visions compatible with sustainability" (Fletcher 2008, p.xiv).

One strategy available to the fashion designer, for reconsidering design practice from a sustainability perspective, is to rethink the role of design in relation to the community of use. Rather than seeing the act of designing from an external (professional) perspective, the fashion designer could approach designing from an internal (wearer) perspective. According to Janet Hethorn, the fashion designer has the opportunity to engage with design through the direct observation and engagement with the wearer. This might seem an obvious point to make but as Hethorn rightly points out, for the majority of the time 'fashion designers' are concerned with the aesthetics of a garment where conversely, 'clothing designers', for example those who create uniforms, are primarily focused on the functionality of a garment (Hethorn 2008). This subtle difference in terminology and perspective suggests that for the typical fashion designer there is a disjunct between aesthetics and functionality. It would seem logical to attempt to balance both aesthetic and functional values in "...designing for individual well-being" (ibid 2008, p58). Hethorn describes a number of activities that designers could engage in that would help the designer see fashion from other perspectives: the observation of wearers, watching how people move or how they arrange combinations of clothing; participant observations, where the designer directly experiences the same activity as the wearer to gauge the comfort and suitability of a piece of clothing; interviewing wearers, either as an individual or group to draw on a personal response and experience to clothing; managing data electronically, gathering together information through computer-based software and tools that allow a designer to visually analyze garments and examine data sets. Hethorn also discusses the blog as a useful resource site for sharing this type of knowledge between design communities, which in itself could be seen as a radical departure from tradition. Drawing on the knowledge and experience of the wearer allows the designer to think beyond the production or retail phase, and consider how fashion garments are to be used, cared for or discarded. For example, new smart materials could lead to the creation of fashion garments that can expand and retract with the body enabling the wearer to reduce the need for different garments over periods of fluctuating body changes (Hethorn 2008). This type of user centred information could lead to new, inspired ways of developing fashion, which are not purely designed for aesthetic reasons but also incorporate functional reasons.

#### *Materials:*

Discussions relating to sustainability and fashion typically focus on the importance of appropriate fabric selection, since material is considered the principal resource used in the production of fashion clothing (Breds, Hjort & Krüger 2002; Draper et al. 2007; Diviney & White 2009). The discussions frequently outline the negative environmental and social impacts associated with the manufacture and use of two dominant fabrics in the fashion industry: polyester and cotton. Polyester, a synthetic fibre, is derived from the production of petrochemicals and relies on high amounts of energy for material production, although it arguably uses less water and energy during laundering (Draper et al. 2007); meanwhile cotton involves high water and pesticide usage in the growing of cotton fibre although the

increased availability of a range of organic fibres is providing the industry with an alternative. A number of studies and LCA reports have been conducted on both of these fibre types (Fletcher 2008), and yet it can be difficult for the fashion designer to establish which fibre is appropriate to use. However various guides and tools exist that outline the environmental impacts of a fabric so it is possible for the designer to make an informed choice. Moreover, industry magazines such as 'Ecotextile News' are a resource that can be utilised within fashion sourcing departments. The Ecotextile News publication, for example, covers advances in new fibre development, cleaner and more efficient dye and print technology, transparent tracking and labelling systems and so on. However, the time devoted to the research of new processes, techniques, materials, and so on is recognised as greatly lacking within the industry (Sinha 2001; 2002). It is important that the fashion industry should begin to engage in research and development that sits outside of trend gathering and market analysis if it is to capitalise on new areas of expertise and developments in sustainable technologies and ways of designing.

While it is essential that materials are assessed in terms of maximizing positive environmental impacts at the inception of a garment's life cycle, the fashion designer also has the opportunity to divert or delay materials away from landfill once a garment has come to the end of its 'first' useful life. Approaches that aim to avoid or delay materials from entering waste streams are typically considered as end-of-life strategies. An end-of-life strategy avoids, delays or minimizes the prospect of a garment (or its materials) reaching landfill before other alternatives have been exhausted. During the design phase it is beneficial from a sustainability perspective for the fashion designer to consider the selection of materials in relation to a desired end-of-life strategy. For example, if a fashion designer works with one fibre type, thereby using a mono material (Black 2008), then the opportunity for using a *design for disassembly* (DFD) strategy becomes possible. The DFD strategy was initially developed within industrial design and enabled the designer to develop a product that once it had come to the end of its 'first' useful life, could be disassembled with its materials reused in new product development (Papanek 1995). This strategy can also work in the design and production of fashion garments. While clothing materials might be downgraded through reuse, such as in the production of cleaning cloths, ideally the materials would be *upcycled*, which essentially aims to retain or increase the value of the reused material (which is discussed in further detail below). As Papanek discusses, for the designer it requires a shift in thinking because objects, such as fashion garments, have been traditionally designed with a built-in obsolescence. This effectively means that the fashion garment is intentionally designed for disposal after a season or two. Changing this *modus operandi* would mean bringing about a major rethink in how the fashion industry works and in shifting the general public's expectation and engagement with fashion. Notwithstanding this paradigm shift, the fashion designer at the design phase still has the opportunity to consider an appropriate end-of-life

strategy, which can divert the materials away from landfill. These points will be explored further in Chapter 5.

While materials are routinely selected for aesthetic and functional reasons, as discussed above, the fashion designer can elect to work with recovered materials, which can contribute in the reduction of textile waste. Much of the reclaimed or recycled fabrics used will come from pre-consumer and post-consumer waste. Pre-consumer waste is the refuse material generated during the manufacture of textile products, while post-consumer waste is thought of as pre-worn, manufactured garments that are sourced through second-hand clothing merchants and charities (Hawley 2008). By making use of these resources, a designer can remanufacture fragments or lengths of cloth to create original, one-off garments. This process challenges the notion of a standardised fashion garment or collection, as when working with reclaimed materials it becomes impossible to standardise one garment into a repeated set or series, since material supplies are irregular and quantities unpredictable. Furthermore, there are technical considerations to bear in mind and resolve when working with recovered materials. For instance, a designer needs to be mindful of the condition of the raw materials; noting stains, holes or areas of fraying, while also working out a method for the careful deconstruction of an existing garment so that enough workable fabric can be extracted (Sanders and Seager 2009). For some designers these issues may seem too complex or difficult to take on board as a workable or worthwhile approach, however to others the perceived difficulties can act as a catalyst for new fashion ideas.

However a further issue for the fashion industry is the frequent downgrading of good quality fibres and materials. Jana Hawley (2008) succinctly maps the options available to a post-consumer garment before it reaches landfill or incineration. These various modalities include: re-use through either family/friends or resale, for instance through a charity shop; or passed to rag sorters who will either export (for re-use); or the shredding of fibres to produce other materials/products (such as wipers, cleaning cloths, or new non-woven materials, or yarns). While the development of new products, such as wipers and cleaning cloths, provide a beneficial reuse of discarded materials the original value of the fibre is downgraded, even if the garment itself was classified as unmarketable. Moreover, fashion designers who use reclaimed materials for fashion garments typically see it as a reuse and recycling process. However, there are other strategies for inventively, and thoughtfully using such materials. McDonough and Braungart (2002) champion the approach of *upcycling*, which provides a designer with the opportunity to reassess the real worth and value of a waste material through the design and manufacture of new products. Rather than recycling, which can result in the downgrading of a material, informed designers can engage with strategies such as *upcycling* to further prolong the life and value of a product and/or material.

Strategies for the reuse and repurpose of existing materials allow a designer to divert textile matter away from incineration or landfill. However, inevitably some discarded clothing and materials are considered unsuitable for any of the options discussed above, and these materials are either incinerated or discarded in landfill. Further examples of *design for disassembly*, and *upcycling*, can be viewed in Chapter 5.

*Production methods:*

As discussed in Chapter 2, the design and production methods for fashion garments can vary greatly, dependant upon the size and scale of the company; the sector, and the market for which the garments are being produced. A fashion business can be run as a small local owner/designer company producing high quality garments, or can be a large international brand that produces inexpensive garments offshore in various locations. What remains more or less consistent is the method of production. To recap, typically, a garment is sketched, a paper pattern is drafted, a toile is produced, the full sample range is made, and then selected garments are manufactured for retail. In the cut, make and trim (CMT) process of fashion manufacturing the designer and/or production team typically wastes between 10-15% of the fabric through uncreative approaches to patternmaking (Rissanen 2005). Conventional patternmaking methods produce paper pattern pieces that are often difficult to lay efficiently within the full width and length of the fabric. Rissanen advocates that ideally the patternmaking and design roles should be performed by one person or shared, between two people who have a close working relationship. Fabric waste can then be minimised during the production phase and the careful design and laying out of pattern pieces, if the issue is treated as a design consideration. The ideal scenario is one where the paper pattern pieces form an interlocking jigsaw therefore no fabric waste is created; the process is commonly referred to as zero-waste design. However, in order to do this the designer/patternmaker needs to be able to confidently move between the 3D form and 2D patternmaking, going back and forth until, through design choices, the fabric waste is minimised. Some fashion designers are beginning to integrate the strategy within the design and production process. For example Australian designer, Mark Liu combines this strategy with laser cut decorative edge finishes; while Issey Miyake developed the *A Piece of Cloth* (APOC) system of knitwear utilising 3D technology to produce a knitted tube that efficiently embedded a range of garment pieces. The tube could be cut into separate garment pieces, by the wearer, which then required little or no finishing. Miyake has since progressed to producing his first range of zero-waste fashion, 132 5. ISSEY MIYAKE (2011) that uses computer software to generate a 3D geometric form pattern, which utilises all of the fabric in a single piece of cloth. Miyake has also made use of environmental materials such as lightweight PET fabric.

However concepts like these, which challenge the notion of how garments are manufactured remain largely unexplored by much of the industry. Aside from investigations that explore strategies such as zero waste techniques, which aim to reduce fabric waste and thereby cut

costs, or the use of new technologies that promises the customisation of clothing for individual wearers (Loker 2008; Black, Eckert & Eskandarypur 2009), there appears to be a gap of new knowledge in the area of new processes for production which foreground sustainable issues. Instead there has been an emphasis placed on the ethical considerations associated with the manufacture of textile materials and fashion garments in often distanced or remote locations. This is obviously an important consideration, which demands equal attention; by exposing the manufacturing phases of a garment, the producers and suppliers in the supply chain can help provide transparency for the many people employed within the fashion industry. In turn this transparency can help ensure that ethical standards are raised through a regulatory process. However as noted by Draper et al. (2007) the monitoring and enforcement of existing standards can be problematic as many suppliers struggle with compliancy and the numerous assessments. Some large brands, such as Nike, however, have been able to use corporate reporting processes as a method for motivating changes within the supply chain of subcontractors. Through their 2004 Corporate Social Responsibility (CSR) report Nike worked to dispel the myth of an uncaring company, and instead chose to admit cases of social neglect following a spate of bad press that exposed the poor working conditions for employees within Nike suppliers factories. This bold move allowed Nike to lead the field in forcing changes within the supply chain through incentive schemes and regular monitoring, and other big brands swiftly followed this tack. In Australia the *Ethical Clothing Australia* organization provides a fashion label with assistance in conducting monitoring processes to meet mandatory NSW, and Victoria State government requirements for the fair and safe employment of outworkers and factory workers. The organization even goes one-step further offering to guide a fashion label through its voluntary accreditation and labelling system that is designed to encourage and promote ethical production within Australia. Internationally, a wide variety of organizations, local government policies and industry schemes exist to encourage the ethical employment of people and fair-trading of locally produced goods. Draper et al. (2007) identified three types of ethical fashion within the high street including: conventionally produced fashion; ethically produced fashion, which relies on meeting set standards such as those determined by the International Labour Organisation (ILO); and Fair-trade production, which draws of the production of fashion as a method for creating social development. This aims to support the livelihoods of people in often rural or developing communities by paying fair prices for goods and services, while reinvesting profit back into the local community (Draper et al. 2007). However the task of creating a transparent supply chain is a complex undertaking within large-scale fashion manufacturing, while at the local small-scale level, it can be managed more effectively. And yet a review of the Ethical Clothing Australia directory demonstrates that only a handful of fashion labels (from a list of textile, clothing and footwear companies across Australia) are willing to engage in a voluntary code of conduct.



This debate around the advantages and disadvantages of large versus small-scale production is a topical question for the fashion industry. The homogenised fashion often seen in the high street is usually a consequence of large-scale manufacturing, and a number of studies clearly show that one future direction for the fashion industry could see a growth in smaller fashion enterprises that are run at the local level (Allwood et al. 2006; Draper et al. 2007; Black 2008; Fletcher 2008). At the local level it also becomes possible to cultivate the production of garments alongside those of services; a localised fashion industry can begin to grow into a sustainable community of skilled artisans, service providers, and suppliers who can think at a global level and yet act a local level (Manzini 2003; Fletcher 2008). However, the consumer will need to accept that clothing prices will in general increase, therefore the value-added benefits of environmental and ethically produced fashion has to be supported. If wearers are to consume less then an increase in new, inventive design services that focus on, for instance, repairing, remodelling, and leasing garments, must increase. This will be explored further in the following section.

### 3.3.2 Using fashion

This section explores the importance of the use phase in the life cycle of a fashion garment, and in particular discusses the relationship that is shared between consumer and garment. For the majority of fashion designers little attention has been paid to the use phase: most would be unfamiliar with the journey of a garment once it has been purchased. Furthermore, an exploration of the key points in the use phase can help inform future design practice. An examination around how a garment is cared for; and what happens when the consumer no longer needs or want the garment, could be used to help inform design decision-making processes. The rational for such enquiry stems from the view that most of the environmental impacts of clothing are created during the use phase. This occurs through energy use and the environmental damage caused during washing, tumble-drying, and ironing. This is chiefly different for other textile products such as carpets where most of the damage occurs during the production phase, in the creation of the materials (Fletcher 2008). Fletcher's simple diagram (figure 4) illustrates how several life cycle assessments have been conducted that show how clothing, and in particular fashion clothing, generates relatively high environmental impacts during the use phase because of frequent laundering.

Diagram removed for copyright purposes

Figure 4: Table of environmental impacts, which reveals the damaging impacts of clothing during the use phase. Fletcher, K. (2008). *Table 3.1 A rough guide to relative impact of textile products throughout life.* (redrafted). In: Fletcher, K (2008) *Sustainable Fashion & Textiles: Design Journeys*. London: Earthscan, p77.

As noted designers are in a position to work in collaboration with other stakeholders; this can extend to the producers of fabrics, and the manufacturers of white goods, with the aim of influencing a change in current laundering practices. To this end, the scientific qualities of life cycle assessments are useful because they point designers and manufactures towards very real problems that can be avoided through design solutions. However, the designer also needs to be aware of where improvements are really needed. Fletcher (2008) points out, for instance, that it is of no benefit to the environment to aim to improve habits associated with the laundering of woolen sweaters since sweaters are not laundered as often as polyester blouses. Moreover, in measuring the toxicity associated with the production of a cotton T-shirt any aims to improve and reduce the energy used during the use phase of the garment's life cycle would still be outweighed by the environmental damage caused in the production of cotton yarn and fabric (Fletcher 2008). However, it is equally wrong to imply that all cotton products are unworthy of changed laundered habits, since a collaborative approach to improving practices across the design, production and use phase of cotton products is conceivable.

Nevertheless from a sustainability perspective it is important that the fashion designer understands how garments are used, and why and how they are discarded. A research project conducted by DELFT University in the Netherlands entitled, *The Sus-House project* proves most insightful on this topic (Bras-Klapwijk and Knot 2001). This project was initiated to develop and evaluate strategies for sustainable households that could be achieved by 2050. The project investigated clothing through an analysis of four different 'design orientating scenarios' or DOS. The Sus-House project mapped the journey of a garment once purchased, noting a common series of acts conducted by the owner: wearing, washing, storing, repairing (adaption and alteration) and then disposal.

Amongst a number of predictions the project team concluded that new product/service combinations, including leasing, service, and sharing products, were expected to play an important role in establishing resource efficient consumption modes in the future. The following section of the chapter explores these concepts, and other consumer-focused activities noted in the Sus-House map. These descriptions also act as a summary of the use phase in a garment's life cycle.

Diagram removed for copyright purposes

Figure 5: The journey of a garment after purchase, during the use phase, as noted in the Sus-house map. Bras-Klapwijk, RM and Knot, JMC (2001) *Figure 1. The Clothing Care function, embedded in production chains. Source: based on Uitdenbogerd et al. (1998) [Diagram].* In: JBras-Klapwijk, RM and Knot, JMC (2001). Strategic Environmental Assessment for Sustainable Households in 2050: Illustrated for Clothing. *Journal of Sustainable Development*, Vol 9, no.2. pp109-118.

#### *Washing clothes:*

The practice of laundering contemporary clothing was explored in the studies conducted by the sociologist, Elizabeth Shove (2003). Within Shove's studies it became clear that the laundering routine of most people is acquired through habit. Consumers, for example, tend to wash certain types of clothes, such as coloured clothing, at a different temperature, usually colder, than white articles. However, the habits applied in laundering have tended to be learned through word-of-mouth, typically passed down through family members. The mother, grandmother or other relative has usually demonstrated how to use a washing machine, and provided advice on stain removal, or careful washing requirements for delicate fabrics. Nevertheless, Shove points out that even though these practices derive from personal histories, "...the fact that your mother washed the sheets every two weeks is no guarantee that you will do the same." (Shove 2003, p131).

However, the perceived need for washing clothes comes from standards of cleanliness that relate to sweat and skin contact (Fisher, Cooper, Woodward, Hillier and Goworek 2008). Clothes are washed because they are considered 'dirty', but what constitutes 'dirty'? For some consumers it may involve washing a garment after one brief wearing, for others it may be after one or two days of wearing. In an interview with several focus groups, Fisher et al. (2008) found that sports or work wear clothing was often viewed as the dirtiest clothing and was therefore washed at a much high temperature than other articles. However, clothes such as jumpers and items used for a shorter period were often said to require 'freshening up'.

By unpacking the relationship between types or 'levels' of dirt and appropriate laundering treatments the participants were subsequently able to distinguish/decide between clothes needing a full wash and ones needing a 'rinse'. What can be construed from this research is that in general terms consumers do not think, or possibly know what appropriate care is required in relation to fabric type, or that other methods of 'freshening up' (other than washing a garment) may exist.

As stated, consumers routinely wash garments using methods passed down through families and generations without exploring other options. Designers can however, take a lead in shifting and challenging consumer's laundering patterns and behaviour's by creatively engaging in strategies that aim for a reduction in laundering. Furthermore, examples of some of these creative solutions already exist in the garment archives within many museum collections. For example, the couture garment often made use of the dress shield, which was typically applied in the underarm of a blouse. These components were used to protect the life of the fabric, so that bodily excretions did not erode the light and delicate fabrics. This solution can easily be applied in contemporary fashion where the use of a removable dress shield could reduce the need to wash the whole garment, and be washed separately or become a disposable item. Moreover, the concept of safe, disposal fashion items could offer the industry a whole range of new possibilities. It is certainly not a radical suggestion that common everyday items such as underwear could be considered disposable. Fletcher (2008) describes the idea of 'Fancy pants' where underwear could be developed as either disposable or low impact laundered items. These items could be soft, delicate laser cut lacy items made from non-woven fibres coloured using biodegradable pigments. They would be supplied in bulk and come with compostable instructions. For those items manufactured as low impact laundering (and therefore non disposable) advice could be given on spot cleaning, freshening techniques, and the use of correct detergent dosages (Fletcher 2008).

#### *Drying and Ironing clothes:*

In a warm climate such as Australia it could be assumed that tumble-drying (at a domestic level) is relatively uncommon and generally unnecessary, but the reality is that in most developed societies tumble-drying is used purely for matters of convenience. For towels, bed-linen or small items, the tumble dryer is popular in places where air-drying might be problematic (such as apartments or small housing). Beyond concerns around the amount of energy that is used to operate a tumble dryer, consumers do not typically think about other possible costs of using a dryer such as the damage that is caused to the fabric, particularly in relation to how this affects the lifespan of clothing. Human error and ignorance creates problems in tumble-drying clothes: for instance, drying clothes at high temperatures causing shrinkage, or the distortion of garment shapes (Fisher et al. 2008). Furthermore, the consumer can fall foul of the incorrect identification of fibre types, when fibres are mixed together in a batch. It is generally recognized that fibres should be separated at the drying stage since different fibres require different drying times. All of these errors and problems of artificial drying can lead to a reduction in the lifespan of a garment and an increase in energy use.

Equally, ironing can reduce the lifespan of clothing: irons can be used at an incorrect high heat; steam features used unnecessarily; and damage caused to the fabric through misuse, for instance a hot iron is placed upon fabric that requires a cool temperature. The issues

surrounding ironing are often made worse by the complex composition of fabrics, wherein people do not know what temperature to use, and whether to iron from the right side or not (Fisher et al. 2008). For the fashion designer this highlights several issues that could be explored including: the revision of garment labeling; using fabrics that are easy-care; or providing detailed instructions for alternate methods of garment refreshing. The fashion designer has the ability to provide the consumer with support, through improved communication, better design approaches and increased garment care information.

Fletcher (2008) describes a vision for the future that might require three clusters of innovation: first, that there should be innovation in the process of washing through better, more efficient machines, detergents and systems including dry cleaning methods. Second, that there should be innovation in product performance, that clothes and fabrics are designed to cause less impact when laundered and that garments are designed to consider the washing frequency, washing temperature used, size of a washing load and method of drying. Third, Fletcher argues, that there should be innovation in consumer's behaviour. The designer should further consider a garment's function in relation to its potential influence on the consumer's habits and values associated with cleaning clothes.

#### *Caring for clothes: repair*

The UK Department for Environment, Food and Rural Affairs (DEFRA) report '*Public Understanding of Sustainable Clothing*' (Fisher et al. 2008) aimed to record the public's view of sustainable fashion, as well providing indications of how changes in clothing design manufacture and consumption might be beneficially implemented. Amongst a number of revelations and recommendations, the authors found that few participants engaged in the practice of repairing worn or damaged clothing. There seemed little evidence of repair work being done as a normal, regular activity, although when the repair of clothing was undertaken this was usually at the level of sewing on buttons and fixing hems. The research identified that this lack of engagement appears to occur because of a number of problems: either a shortage in household skills; the attraction of new and relatively cheap clothing; the price of repair compared to new clothes; and the availability of repair services.

However, it should be remembered that until recently the repair and alteration of clothing in countries such as the US and the UK has been practiced for generations, both in an industry context and in the home. Initially conducted for economic reasons fabrics were carefully maintained and repaired, since labour was cheap compared to the cost of textile materials and garments. However, within two generations the culture of repairing and altering clothes has largely disappeared; it is now cheaper to buy new clothes than to have clothing repaired. And yet there is a growing grassroots movement within sustainable fashion fringe groups that has emerged through numerous blog sites and social network sites, which has been reviving the use of craft skills for sustainable fashion outcomes. One technique championed in these

forums is the practice of re-modelling clothing, which is indicative of contemporary craft practices and has reignited an interest in the creative potentials of altering clothing; yet society in general seems to be removed from such practices (Fisher et al. 2008).

Fisher et al. remarked that as a society, consumers are not engaged in the practice of repairing or altering clothing, however the fashion designer is ideally located to encourage the practice (2008). One solution exists in the concept of modular clothing where any one piece can be replaced without affecting the rest of the system. Worn out pieces can be renewed and styles can be reconfigured by interchanging the modules; these types of products become flexible to the consumer's needs, providing the option of standardized products which offer the opportunity for customization into a wide range of garments (Quinn 2002). However, the idea of a modular system is not a 20<sup>th</sup> century concept since there are many examples of modular schemes in fashion history, for instance in the mid 17<sup>th</sup> century the bodice worn originally as an outer garment became an under garment, and sleeves could be detached and reattached accordingly (Hart and North 1998). Modularity can enable designers to offer consumers the range of clothing combinations found in a large collection, while only manufacturing several core designs. The economics of mass production make it expensive to manufacture small numbers of individual products yet very cost effective to produce large numbers of a small range (Quinn 2002). By reconsidering the modular strategy designers would be able to reduce production costs considerably and offer more competitive prices to the consumer. In addition considering the design opportunities for repairing components, replacing worn out pieces, or altering components could add another dimension and flexibility for the use and manufacture of contemporary fashion garments. However, the question as to whether wearing repaired garments could once again become socially acceptable to a wider audience, outside of the youth market and fashion avant-garde where highly visible repairs are worn as a badge of honour or symbol of anti-fashion, has to be overcome (Fletcher 2008).

#### *Caring for clothes: alteration*

It is commonly accepted that the everyday business of most fashion companies relies directly on the production of a garment. Garments that may have been designed and manufactured in different global locations are typically shipped to a retailer who then sells the items to an identified but nameless consumer. While for the fashion designer in the chain there may be no direct relationship with the people who make, sell, or buy the garment, the focus for all of these people is on the continual creation of new products. The cycle of designing, making and buying fashion clothes increases in speed as clothes becomes cheaper and more accessible. In many cases this encourages overconsumption and creates excessive amounts of textile waste that is generally disposed of in landfill sites, as consumers discard their unwanted clothes (Allwood et al.2006). However, this tendency raises the question, how else can textile waste in landfill be reduced if new products are continually produced and sold?

The section above has looked at strategies that enable users to engage with and extend the life of clothing, however another potential answer may lie in extending the life cycle of a fashion garment through the use of a product-service system combination. This approach places a dual focus on both the product and a service rather than concentrating on the product in its entirety. A product-service model allows the fashion consumer to gain both a garment and a service through a number of different approaches. A garment can, for example, be complemented with a repair service, or an alteration or remodelling service, or the producer may provide a 'take-back scheme' that allows the consumer to return the item when it has ceased being worn (Bras-Klapwijk and Knot 2001). These product-service models provide the possibility for new niche business opportunities that could revive ailing businesses, especially if the interest in a slow fashion movement gains impetus. By seeking to reduce the over production of fashion garments diverse business opportunities could flourish: including repair and alteration services; fashion leasing services; and remodelling services that could positively impact on the amount of textile waste being generated through excessive consumption.

*Boredom with fashion leads to disposal:*

Most of the research projects mentioned above point the finger of responsibility for the over consumption of fashion towards the designer and manufacturer, but what if the responsibility were to be shared with the consumer? Jonathan Chapman in his 2005 book, '*Emotionally durable design: objects, experience and empathy*', argues that fresh thinking is needed when discussing the issue of sustainability and design. His approach seeks to lengthen the lifespan of a product whilst increasing resource productivity and reducing waste, which is tackled by questioning why it is that consumers dispose of products that still function. The aim is to reduce the scale of consumption by creating a product that "...caters for deeper, more profound and poetic human needs, taking users beyond the ephemeral world of techno-centric design towards a rich, interactive domain of emotionally durable objects and experiences." (Chapman 2005, p24). While most fashion products are capable of creating some empathy at the point of purchase, empathy often has a lifespan, which is governed by the relationship between the product and the consumer. The argument here is that waste is a symptom of expired empathy (Chapman 2005; Fletcher 2008).

Clothing is often discarded because it is worn out, however, this is only one of many reasons for disposal. Clothes are also discarded because they become unfashionable; they no longer fit; they fit but do not look or feel good; or a life change can inspire disposability. These are all common reasons for throwing away clothing. Where clothing goes when it is disused largely depends upon the consumer's personal sentiments, sense of civic or social duty, even feelings of guilt. If clothing is still in a good condition, consumers may place garments in a recycling system, rather than throw 'good' items away. For other consumers' disposal is not always the only option, instead clothing is stored away in cupboards and wardrobes for a later

rediscovery. Perversely some consumers are happy to throw items in a bin as a kind of 'therapeutic' liberation that cannot be obtained through recycling (Fisher et al. 2008).

As discussed earlier in the chapter, the fashion designer has the opportunity to positively intervene before garment disposal. The notion that consumers will keep clothing for extended periods of time provides much opportunity for consideration within the design process. The '*Local Wisdom project*' (Fletcher 2011) records everyday people interacting with clothing and attempts to uncover why people choose to keep some items but release others. Fletcher's project reinforces Chapman's idea of emotionally durable design, in that the people in Fletcher's study appear to have engaged with their garments on a deeper, more emotional level than is commonly expected. A suit is kept because it is worn for a wedding; a cardigan is kept because the owner had it knitted from her much-loved dog's hair; a favourite dress is passed between sisters who live apart from one another. These narratives offer scope and clues for the fashion designer to create a connection between garment and consumer. This notion will be explored later in the conceptual model explored in Chapter 5.

### 3.3.3 The fashion system

This section of the chapter addresses the fashion garment in relation to a management perspective. Existing literature that has been developed in response to a critique of the supply chain, usually refers to the traditional system of producing and distributing fashion clothing, and often looks at the management of a garment's life cycle. This audit will typically begin with the extraction of raw fibres, to production and distribution, through to consumer use and final garment disposal. In the report '*Travelling Textiles: A Sustainability Roadmap of Natural Fibre Garments*' the authors Diviney and Lillywhite (2009) mapped the journey of two natural fibre garments through the supply chain, so that the environmental and social impacts of the fashion industry could be better understood. Working with Australian fashion label, Gorman, the company revealed its business practices in order to assist the sector with improved sustainability practices. Beginning with design, to material production, garment manufacture, to retail then disposal, the study encapsulated its findings into a visual map, which highlighted the key phases of design and production within the Gorman supply chain. These phases became the points for sustainability considerations thereby acting as a guide to industry for where positive intervention could be made. However, while the mapping exercise provided an informative overview of the supply chain and its problems, the report does not provide any specific direction for the fashion designer. The report explores design and provides a list of tips for how a designer may approach the design for a garment; for instance one suggestion is to design garments for longevity, while another suggestion is to design garments that incorporate recycled materials. In general terms the advice given is certainly positive however, a clear framework that demonstrates how a designer can integrate these ideas



within design practice, is ignored. This lack of detail, or a framework that could assist the fashion designer in how to actively engage with sustainability is a recurrent problem in studies that discuss sustainable fashion from the management perspective.

A number of earlier studies in the area concentrated on the management of the life cycle of fashion clothing. These studies include The Forum for the Future, '*Fashioning Sustainability: A Review of the Sustainability Impacts of the Clothing Industry*' report (Draper et al. 2007) and the Better Thinking t-shirt project (2005). In this second project the ideal sustainable fashion garment was identified as one that was designed carefully, made from renewable fibres (pesticide free), and was produced by workers who were receiving a fair wage and decent working conditions (Gwilt & Rissanen 2011). The Forum for the Future's report (Draper et al. 2007), along with the Sus-house project report (Bras-Klapwijk and Knot 2001), also extended the discussion to include the use phase, with each providing a number of recommendations, for example: garment washing should be carefully considered, which included laundering garments at low temperatures; that fashion clothing could be remodelled; and that garments should be recycled, reused or possibly, composted before landfill becomes an option. The general, overarching perspective of sustainable fashion has tended to concentrate, and even collapse into a 'one size fit all' approach, which is unworkable for an industry that provides many different types of products for different market levels. Moreover, the lack of detail, as mentioned in the previous paragraph, makes it difficult for the fashion designer to meaningfully respond. Furthermore, if a one size fits all approach is applied, the marketplace is likely to continue to be dominated by a range of solutions that offers little diversity in the types of products available.

*The fast and slow rhythms of fashion:*

Fletcher (2003; 2008) considers that it is the speed and rhythms of fashion that shapes the contemporary fashion industry, and that through a combination of high-speed production and consumption the rise of the fast fashion product has constructed and compounded a myriad of social and environmental problems. Throughout fashion history there are numerous reminders to indicate that fashion once moved at a much slower rhythm, since cloth was considered expensive and clothes were viewed as durable and valuable items. However since the mass-market ready-to-wear boom of the 1950s, the contemporary fashion industry has increasingly worked towards a high-speed system of production and consumption. Nevertheless, the system is often conflicted, as at times there is a contradiction between the manufacturing considerations and the use of a garment. Fletcher argues that the speed associated with the fashion industry typically centres on economic speed, and the need to reduce time in order to produce garments quickly, and cheaply, for maximum profits. However, this type of production relies upon cheap labour costs and resources to drive down the price of the products, and yet it takes the same amount of time and resources to produce, consume and care for a high quality jacket as a cheap jacket. While acknowledging economic

speed another perspective would be to see the speed of fashion production and consumption as the driving force for social and environmental values. This would enable the fashion industry to respond at a range of speeds replacing the need for the constant renewal of fashion styles through the seasonal collection, and the reliance on discarding still-functional, wearable items (Fletcher 2008). The fashion industry is instead, focused on using speed, "...as a force for sustainability..." (ibid 2008, p162). It follows that the fashion system needs to willingly embrace divergent models of fashion production and consumption that can encompass both fast and slow rhythms.

The concept of slowing consumption depends upon the provision of a quality design and production of fashion clothing. As a strategy for slow design and production, Christine Ax discusses the value of made-to-measure shoe manufacture in Germany in '*Slow Consumption For Sustainable Jobs: The Example of Hand Crafted Shoes*' (Ax 2001). Ax's case study documents the launching of the '*Made-to-Measure instead of Mass Produced*' project in 1996. In collaboration with several German shoemakers, other firms and agencies the project offered a promising solution as a "...counter model to anonymous mass production." (Ax 2001, p403). There are a number of assumed advantages of this method of manufacture: for example, hand-crafted shoes are a sustainable alternative to mass-produced footwear according to MIPS criteria<sup>5</sup>; the use of local and labour intensive production method resulted in the preservation and/or creation of jobs in a decentralized craft trade; and the hand crafted made-to-measure shoe was resource efficient because of its high durability, which is identified as a significant contributor in sustainable strategies that aim to slow consumption. The consumer was a crucial participant in the production process, who was given the opportunity to influence the design of the shoe to include aesthetic personalization, thereby increasing the potential empathy between consumer and product. However, Ax conceded that because of a high labour intensity that commanded costly salaries, the made-to-measure shoe was essentially a luxury product directed towards a loyal and affluent consumer.

Fletcher's current research, the *Local Wisdom* project, examines the role of the user-maker: the notion being that the (typically untrained) individual in society can contribute to the fashion system without relying upon the skills of a designer/producer (2011). This view radically challenges the fashion system, however the progressively minded fashion designer might draw on this knowledge, reflect and re-conceptualise the role of the designer in a future fashion industry. At the time of Worth and his contemporaries the fashion designer took on an autocratic role, but in a contemporary couture house the relationship with the customer is much less defined. In fact, the (paying) customer today in a one-on-one relationship with a designer has a more powerful voice than previously acknowledged. Juliet Schor (2002) suggests that the fashion industry could return to its roots in small-scale enterprises, run by

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<sup>5</sup> MIPS is a system of measuring all material and energy inputs needed to determine a fixed unit of service.

designers themselves. Schor cites Angela Robbie's (n.d.) vision for such scenarios suggesting that small apparel firms locate themselves in small neighbourhoods and operate almost like 'corner stores' (Schor 2002). These businesses would cater to local clientele, which further offers the potential for designers to build relationships with locally based seamstresses. The positive impacts of such a system could save in the areas of transport, branding, advertising and marketing as well as assist in a dramatic reduction in overproduction. Financial savings might then be used to pay decent wages, install environmentally sustainable processes, fund better quality materials and support further design research and development. In other words, the fashion industry could draw on its own history, and adapt and renew itself to provide a revitalised couture industry with a social and sustainable underpinning.

### 3.3.4 The effectiveness of the current approaches to sustainability in fashion design practice

In reviewing existing literature through three perspectives, making fashion, using fashion and the system of fashion, it becomes clear that while sustainable design for fashion must consider the entire life cycle of the garment, if the fashion designer views sustainability through only one of the perspectives discussed above then the level of engagement from the fashion designer can be compromised. For example, if the designer dismisses the use phase of fashion clothing as being not of their concern then the designer may miss out on the opportunity to employ garment life extension strategies. Conversely if a designer views sustainable fashion only from an industry management perspective then this overarching, yet potentially remote, engagement may run the risk of implementing tokenistic low impact changes. As has been revealed, when developing new fashion products the fashion designer needs to take a considered holistic approach, wherein all areas of the garment's life cycle are seen as important.

The discussions within this chapter have intended to provide a summary of existing literature, which demonstrate the ways in which a fashion designer can engage with sustainability. The following chapter will explore a selection of key sustainable design strategies in detail, and attempt to place these into a workable framework that the fashion designer can draw upon for fashion design practice.

### **3.4. Chapter summary**

Throughout the chapter various strategies and approaches to sustainable fashion have been discussed. When examined together these strategies demonstrate that the principles of sustainability need to be integrated across the whole life cycle of a garment. What has also

been made clear is how important it is for the fashion designer to be aware of the activities within the use phase of a garment, and to draw on the wearer's experience. Indeed, it could be argued that from the literature discussed within this chapter it appears that in order for sustainable fashion to work, both the fashion designer and the consumer need to be fully engaged with an equal sense of ownership and responsibility. For example, there would be no benefit for a fashion designer to create a low wash garment if consumers were to continue with incorrect or inappropriate laundering practices. This example demonstrates the key point of the chapter, which has shown that the life cycle of the garment must be considered at the outset of the fashion design process and that a shared responsibility for a garment needs to occur between producer and consumer. The varied strategies that the fashion designer can employ to engage a wearer, beyond the point of sale have also been discussed within the chapter. As has the concept that sharing the responsibility for fashion clothing can lead to new opportunities for the fashion industry since different levels of speed for production and consumption can exist. Moreover, in the chapter it has been acknowledged that this approach would enable the fashion industry to diversify and focus on the development of both products and services. Chapter 4 explores in more detail, the notion of developing a fashion design process that can focus on creating improved products and services, for a sustainable fashion industry.

## Chapter 4: Sustainable strategies for fashion design

### 4.1 Introduction

This chapter attempts to unravel the complex discussion concerning sustainable design strategies for fashion design, what they are and how they can be integrated within the fashion design and production process. Although the argument centres on the use of sustainable strategies for design practice, there is an appraisal of the more broad-based evaluation methods, such as the Life Cycle Assessment and Life Cycle Analysis (LCA) tools and other guides that have been developed to assist the designer in maximizing positive impacts during product development. While sustainable design strategies are the focus of the research, it is their link to life cycle thinking that is considered pivotal to a change in fashion design practice. Therefore the chapter explores the potential for a holistic model of practice for fashion design, one that considers life cycle thinking and the integration of sustainable design strategies as the fundamental requirements for future fashion product development.

While this thesis posits a *new* holistic framework for fashion design practice, there are a number of existing studies that have promoted the importance of sustainability within the fashion industry. In recent years researchers (Allwood et al. 2006; Draper et al. 2007; Black 2008; Fletcher 2008; Hethorn and Ulasewicz 2008) have critically investigated the possibilities for sustainable design within the fashion and textiles disciplines. These investigations often include the presentation of case studies of best practice drawn from the contemporary fashion industry. Attempts by high street retailers, and the broader fashion industry to engage with sustainability can be traced back to the 1990s.

During the late 1980s a small sector of environmentally concerned consumers emerged at a time when there was an overwhelming boom in the growth of designer goods. These so-called 'green consumers' were specifically making a commitment on the preservation of the planet through the purchase of environmentally friendly products, from companies such as The Body Shop (Whiteley 1993). In the early 1990s the fashion industry began its response to this niche market through the production of small ranges of natural collections; garments that were produced using predominately natural coloured organic and recycled fibres. The international high street retailer Esprit, for example, launched the Ecollection line in 1992, which was expected to make marginal sales targets but which proved highly popular. The company's environmental charter at that time claimed to:

Maximize product life through classic design and durable construction; Eliminate or minimize the use of manmade fibres; minimize load on landfills – use recycled and biodegradable materials; encourage sustainable agriculture and farming; work with

businesses that share our ethical and environmental goals; influence the fashion industry (Black 2008, pp22-23)

The company was progressive and well intended, however the natural colour palette proved vulnerable and the line was withdrawn in 1995. The second wave of interest in sustainable fashion came in the mid 2000s, with fashion companies generating products that were comprised of organic or renewable fibres, or recycled materials, or were developed through the use of Fair Trade agreements. These approaches tended to focus on material choice as an answer to the sustainable problem, which is a belief that has continued to dominate within the fashion industry. However, the reliance on material choice as a complete sustainable solution is misleading, argues Fletcher as, "...no fibre, regardless of whether it is organic, fairly traded or recycled, can single-handedly transform the practices of a polluting and resource-intensive industry into a more sustainable one" (2008, p5). More appropriately, the contemporary fashion industry needs to embrace a multiplicity of ideas and approaches to sustainable fashion, and the collection of sustainable strategies that have been identified by Black (2008) demonstrates that alternate methods of practice are possible. However, it could be argued that the designer may not be aware that such a wide variety of design-led approaches to sustainable fashion exist. Furthermore, it has been argued in this thesis that while the designer might be aware that sustainable design strategies are available, they often struggle to understand how these strategies can be integrated within their own fashion design practice.

#### **4.2 Engaging the fashion designer in sustainable design practices**

As discussed in Chapter 1, Black (2008) provided a list of strategies that are suitable for the fashion industry. However while sustainable strategies can offer a framework for an improved method of practice, a designer might review existing practices by conducting a life cycle assessment (LCA). Companies such as Levi Strauss, Marks and Spencer, and Patagonia have all conducted LCAs for a range of products, as a strategy to reveal the environmental impacts associated with a garment's life cycle (Dombek-Keith and Loker 2011). The rationale for conducting an assessment of a product is based on the principle that all stages of the product's life cycle need to be examined before any sustainable strategies or solutions can be applied. An assessment will typically explore: the raw materials extraction; manufacturing; distribution; use and disposal of an item. This sequence is commonly called a 'cradle-to-grave approach' (Papanek 1995; Cooper 2005). However, the more appropriate 'cradle-to-cradle' approach, as espoused by McDonough and Braungart (2002), can also be analyzed through the use of an LCA with the additional consideration of end-of-life strategies, which aims to return materials safely back into the environment or into a closed loop system of production. A product can be assessed using tools that employ qualitative methods or quantitative methods; some tools are expensive and complex to apply and are often conducted by

professional auditors, while other tools provide a shorter summary of impacts but may be cheaper and simple to use by the in-house designer.

The process of the LCA assessment begins by setting out questions regarding the environmental impact of a specific product within the boundaries of a brief. These questions help determine if improvements at one stage of the life cycle might impact negatively on another stage of the life cycle. The analysis usually concentrates on measuring the impact of materials and processes, and may evaluate energy and water use, waste, and emissions of pollutants (starting at extraction of raw materials through to end-of-life / recycle phase). The results are quantified into a unit of measure per material or resource, which have usually been determined in relation to the guidelines and codes of practice established by the International Standards Organisation (ISO). Often the results of the LCA are realized using either a matrix or, a spider diagram, or wheel (figure 6). The process can be complex, often involving extensive data collection, and costly as specialists are often employed to undertake the study. Alternatively a streamlined approach may be applied that provides an overview of the major environmental impacts of a product's life cycle, and identifies priorities that can be addressed through the design process (Centre for Design, 1997). Moreover, an LCA may be used for a number of reasons including: as a tool for comparison (one product versus another); or it may be engaged to employ sustainable strategies at a specific product life cycle stage e.g. design for disassembly or design for re-use may be explored as a method for managing product disposal. In either approach the designer can build on and respond to a LCA by implementing select sustainable solutions at various stages of the product life cycle.

Fletcher (2008) argues that it is debatable as to whether a designer should use/not use an LCA since discrepancies have been identified that appear to stem from the boundaries set around the problem being investigated. However, the adaptation of an LCA for use by the fashion designer is currently being explored in the *Considerate Design Project*, funded as part of the London College of Fashion's, *Designing for the 21<sup>st</sup> Century* initiative. The Considerate Design Tool (which effectively is an LCA tool) aims to provide the fashion designer with a means to evaluate the life cycle of the garment, before development of the product begins (see figure 7). The intention is to empower the fashion designer with the knowledge to make decisions that will maximize positive environmental impacts whilst minimizing negative ones. The tool evaluates the garment's life cycle using a scale system between 1-10, clearly identifying the problem areas, which is then revealed visually using a spider diagram (Black, Eckert and Eskandarypur 2009). The tool can also accommodate a comparison between two products, for example in the comparison of an existing and a redesigned product. However, while the use of an LCA based tool offers insight into the life cycle of a garment the designer still needs to understand how improvements can be made. It is important therefore that the designer knows what the possible sustainable design strategies are, how they may be used, and be able to determine their relevance to a specific design situation. A designer might also

choose to select and implement sustainable strategies, regardless of conducting a detailed LCA, particularly if they could access a model or framework for fashion design practice that outlined the possible integration of sustainable strategies. This premise reiterates to a key the argument in the thesis; that such a model needs to be designed and made available.

Diagram removed for copyright purposes

Figure 6. Example of a spider diagram reflecting the results of a Life Cycle Assessment (LCA). van Hemel and Brezet (1997). *The design for environment strategy wheel*, based on van Hemel 1994. IN: Charter, M. & Tischner, U. (eds) (2001). *Sustainable Solutions: Developing Products and Services For The Future*. Sheffield: Greenleaf

Although the resultant benefits of conducting an LCA can be viewed as a positive investment for the future, Tischner and Charter (2001) argue that there are too few sustainable design strategies that go beyond eco-efficiency and dematerialization. Moreover, by identifying what sustainable strategies should encompass they provide a more inclusive description of sustainable solutions:

... products, services, hybrids or system changes that minimize negative and maximize positive sustainability impacts – economic, environmental, social and ethical – throughout and beyond the life cycle of existing products and solutions, while fulfilling acceptable societal demands / needs. Sustainable solutions require multi-stakeholder engagement and involve changes or shifts in consumption and production patterns. The aim of sustainable solutions is to create a positive net sustainable value (positive impacts should outweigh negative impacts) for all stakeholders in the delivery process. Changes may be incremental at the product level or radical if system shifts are needed (Charter and Tischner 2001, p17)

Diagram removed for copyright purposes

Figure 7: The Considerate Design Tool. Black, S., Eckert, C and Eskandarypur, F. (2009) *Figure 3 'General' Considerate Design Tool – visual impact of 3 varying garments*. [Diagram]. In: The Centre for Sustainable Design (ed.) *Sustainable Innovation 09: Towards a Low Carbon Innovation Revolution*. Farnham: University of the Creative Arts.



For Charter and Tischner the future, as they see it, will mean the creation of products and services that contribute to sustainable development. In addition there are many advocates who endorse a wide variety of approaches and strategies, for use in design practice (Manzini and Jégou 2003; Chapman and Gant 2007; Black 2008; Fletcher 2008; Fuad-Luke 2009). For these advocates sustainable solutions can, and should, improve the designer's ability to innovate in design practice. As discussed in Chapter 3, there are a wide variety of design strategies that can be applied specifically within fashion design, however they are often seen in isolation and give the impression that only one phase of the life cycle has been considered. This approach is reiterated through the use of case studies of best practice, which commonly fail to take into account the entire garment life cycle during the design and production process. The importance of reflecting on the use phase, which should be considered an integral component of the design process, is often ignored. It could be argued that perceptually there is little need/desire for the fashion designer to take a life cycle approach to design practice, and this is the crux of the problem. Whether through lack of knowledge or, willingness to change/challenge existing practices or, other economic/resource issues, without a consideration for the entire life cycle of the garment it becomes impossible to make a genuine sustainable transformation. Moreover, the fashion designer has to acknowledge that life cycle thinking requires an understanding of the impacts – positive and negative – across all aspects of the garment's life cycle and that by adopting a life cycle thinking approach the fashion design process, as it is commonly understood, is open to change. The next section aims to explore a number of sustainable strategies in further detail and discusses how these need to be considered in relation to life cycle thinking.

#### 4.2.1 Introducing sustainable design strategies

In contemporary texts on sustainable design there appears a plethora of design strategies that are available to the designer. An attempt to develop a definitive list and a detailed description for each strategy often requires referring to texts that are directed towards designers of other disciplines, such as architecture and product design. However, the use of terminology and meaning applied in discipline specific texts can make it difficult to establish a definitive list, which is applicable to the fashion designer. This complex terrain of differing terms and language makes it difficult for the fashion designer to incorporate sustainable strategies into their practice and a process of education is required to overcome this barrier.

According to Jonathon Chapman and Nick Gant, the editors of the multidisciplinary text *Designers, Visionaries and other stories: A collection of sustainable design essays* (2007), sustainable design can be described as:

...a collection of strategies, which broadly include: products designed for ease of disassembly and recycling; designing with appropriate materials to ensure a reduction in environmental impact; design that optimizes energy consumption and considers alternate sources of power; and design that considers longer lasting products both in terms of their physical and emotional endurance, to name a few. (Chapman and Gant 2007, p4)

The authors recognize that at present there is not a finite list of strategies, rather that this is an ongoing progress as manufacturing technologies, social attitudes and practices, and economic factors change. This ecology of sustainable practices is important to remember when developing strategies for the fashion discipline.

Dusch, Crilly and Moultrie (2010) surveyed a selection of research studies that explored sustainable design strategies, which have been applied in disciplines such as architecture and product design. In particular the authors focused on 7 different studies that emerged between 1993 and 2009. Within these studies Dusch et al. (2010) found that the scope of approaches being proposed within a single study ranged from between 47 sustainable design strategies (Keoleian and Menerey 1993) to the 210 strategies that were advocated by Vezzoli and Manzini (2009). While this clearly demonstrates how research in the field of sustainable design has expanded during the last decade, it also reveals the complexities facing the designer in industry. As noted in Chapter 1, this complexity may indeed play a role in the apparent resistant to change for the typical fashion designer in industry. And yet there is a continuous stream of information, tools and diagrams that present a complex picture of sustainability. In figure 8, it is possible to see a wide range of strategies that have been proposed in a select number of studies, however, as discussed earlier the use of different terminology, cited in discipline specific texts, can on the surface create a overwhelming body of information causing confusion and resistance amongst the practicing fashion design community. Among the many lists of strategies some organizations and researchers (Fuad-Luke 2002; Crul and Diehl 2006) have aligned select strategies alongside different phases of a product's life cycle. Typically this type of information is communicated either in the form of a list, as with Fuad-Luke (2002); or alternatively through the use of visual graphics, as with Crul and Diehl. (2006). Visual representations can be diverse but they often take the form of a spider diagram (as applied in assessment tools), or a wheel diagram, or make use of playing cards or interactive media.

Overleaf

Figure 8: A table comparing types of sustainable design strategies, in relation to terminology and specificity to discipline

<b>Fashion-specific strategies:</b> Black, S. (2008). Eco Chic: A Fashion Paradox. London: Black Dog Publishing, pp46-47	<b>General design strategies:</b> Fuad-Luke, A. (2002). The Eco-Design Handbook. London: Thames and Hudson, pp327-330. Edited list from 128 different strategies in total	<b>General design strategies:</b> Crul, M. and Diehl, JC. (2006). Design for Sustainability: A Practical Approach for Developing Economies. Paris: UNEP/DELFT, pp66-67
<p>Re-thinking design for the entire fashion life cycle: Design concern for use and end-of-life and possible reuse or disassembly</p>	<p>Pre-production phase Dematerialization: converting products into services. Single or mono materials: consist of pure materials rather than mixtures. This facilitates recycling.</p>	<p>Selection of low impact materials sub-strategies include selecting materials that are cleaner; renewable; have lower energy content; recycled; recyclable; have a positive social impact (e.g. generate local income)</p>
<p>Reclaim and reuse waste materials: Design with materials that would otherwise be discarded</p>	<p>Manufacturing/making/fabrication phase Closed loop recycling/production: waste streams back into the manufacturing process in a continuous loop Design for assembly (DfA): is a method of rationalizing and standardizing parts to facilitate the fixing together of components during production. Design for disassembly (DfD): products can be recycled and/or reused. Zero waste production: the elimination of waste from the production process Design for Recycling (DfR): improve recycling of raw materials by facilitating assembly and disassembly.</p>	<p>Reduction of materials usage sub-strategies include reducing materials using weight; volume</p>
<p>Recycle: Design using already reprocessed waste materials</p>		<p>Optimization of production techniques sub-categories include selecting alternative techniques; fewer steps; lower/cleaner energy; less waste; fewer/cleaner materials used to support production; safety and cleanliness of workplace</p>
<p>Upcycle: Design using reprocessed or waste materials to make a product of equal or higher value</p>		
<p>Repair and remodel: Make good an existing item fit for new purpose</p>		
<p>Recreate: Creatively re-think, customize or re-design an existing design concept</p>	<p>Distribution/Transportation Flat pack products: products that can be stored flat to maximize use of transport/storage space Reusable packaging: packaging that can provide protection on more than one trip Self-assembly: designs that are assembled by the consumer</p>	<p>Optimization of distribution systems Less/cleaner/reusable packaging; energy efficient logistics; involve local suppliers</p>
<p>Reduce: Design for minimal use of energy, minimize or eliminate waste materials</p>		
<p>Use ecological materials: Design choices for environmentally benign fibres, fabrics and other materials seeking to minimize impact</p>	<p>Functionality and use phase Design for need: away from 'lifestyle' products. Hire rather than own: products designed for hire Customize: alter to specific configuration. Dual function: one product, two functions. Modular design/modularity: can be configured in many ways Upgradable: easy to upgrade Design for ease of maintenance Durability: focus on quality and durability Energy efficient: designed to use energy efficiently. Water conservation: reduce water usage</p>	<p>Reduction of impact during use Lower energy consumption; cleaner energy source; fewer consumable needed; cleaner consumable; health supporting and/or added social value</p>
<p>Use mono materials: Use of only one material to facilitate recyclability</p>		
<p>Harness new technology: Apply technology to achieve reductions in energy, materials or develop more efficient new process</p>		<p>Optimization of product lifetime Reliability and durability; easier maintenance and repair; modular product structure; classic design; strong product-user relation; involve local maintenance and service systems</p>
<p>Longer lasting fashion: Design with high quality materials and making, with aesthetic durability creating emotional bonds in addition to function</p>		
<p>Multifunctional clothing: Design with more than one use or configuration</p>	<p>Disposal/end-of-life phase Product take-back: manufacturers take back product at end of useful life Recycling: easily recyclable using single materials or easy disassembly methods Remanufacture: easy refurbishment for remanufacture new products. Reuse: reuse for the same or new purpose; or disassembled for reuse.</p>	<p>Optimization of end-of-life system re-use of product; remanufacturing / refurbishing; recycling of materials; safer incineration; taking into consideration local (informal) collection/recycling systems.</p>
<p>Design for delight: Creating new and sustained feel-good relationships with clothes to be valued</p>		

As a visual tool that can influence a change in attitude towards sustainability the wheel diagram presents sustainable strategies in a form that can clearly be associated with life cycle thinking (see figure 9). The wheel diagram format was applied in the guide, *Design for Sustainability: A Practical Approach for Developing Economies* (2006), produced by UNEP and Delft University of Technology. The Design for Sustainability (D4S) model worked on the principle of applying 7 general D4S strategy directions, as noted in figure 8, which enabled the designer to select strategies that were relevant to the life cycle phases of a product being developed (Crul and Diehl 2006). The designer uses the wheel after an initial product study, which includes a SWOT analysis to reflect on the strengths and weaknesses of the company. By examining the SWOT analysis the relevant internal and external D4S drivers for a selected product begin to appear. The D4S drivers provide a summary of why the company wants to engage with sustainability and may, for example, include drivers such as legislation. Once these two activities have been carried out, goals and objectives can then be established. It is then important to conduct an impact assessment, which requires understanding the major sustainability impacts of the product life cycle, including the material and resource inputs and outputs and a consideration for how each phase in the life cycle impacts on people, and economic flows. Here the sustainable priorities would be identified, which are then formulated in to the design brief (Crul and Diehl 2006). While the D4S model clearly offers a framework that demonstrates how to prepare for the improvement of a product; the D4S model does not provide an extensive list of sustainable design strategies; rather, it provides a streamlined approach that relies on defining the end goals instead of detailing the types of approaches that can be applied. Although the D4S model appears complex (since it requires a large amount of preparation and assessment and is clearly targeted towards product designers) it attempts to provide a workable model that can be applied in an industry context.

While the comparison of strategies advocated in specific design texts reveals the range of approaches to sustainable design, there are strong commonalities in the themes being discussed (seen figure 8). One recurrent theme that is often raised within existing literature is that the designer has to consider life cycle thinking (Fuad-Luke 2002; Allwood et al. 2006; Crul and Diehl 2006; Black 2008; Fletcher 2008). Moreover, by approaching design from a life cycle perspective it is possible to align particular strategies with the different phases of a product's life cycle (Fuad-Luke 2002; Crul and Diehl 2006). Nevertheless, while some models promote the notion of linking strategies with the life cycle of a product other studies have used different classification systems. This is where taking a sustainable design approach can become complex; while it appears logical to link strategies to particular phases of a product's life cycle, it has also been advocated that strategies can be categorized according to their principle intention. For example, foregrounding the minimization of resources as a sustainable strategy will create an impact across a number of life cycle phases: the manufacture of the product; the transport phases; and the use phase of a product (Telenko, Seepersad and Webber 2008). In this approach, minimizing resources is the specific goal,

rather than the reduction of a variety of impact factors across the phases of the product's life cycle.

Diagram removed for copyright purposes

Figure 9: The Design for Sustainability (D4S) strategy wheel, showing the different phases of a product's life cycle aligned with relevant sustainable strategies. Crul, M and Diehl, J.C. (2006) Figure 35\_D4S Strategy Wheel. [Diagram, redrafted]. In: Crul, M and Diehl, J.C. (2006) Design For Sustainability: A Practical Approach For Developing Economies. Paris: United Nations Environment Program / Delft University of Technology, p66.

However, the notion of aligning sustainable design strategies with the life cycle of a product presents a clear concept from the designer's perspective, which can be adapted into a model and represented in a visual form, for use by the fashion designer. In using this type of model the designer is empowered to approach garment design from a life cycle perspective particularly at the early, formative stages of the design brief. Furthermore, the designer is able to see where the integration of strategies can occur within the manufacturing phases, and decide how appropriate strategies could be employed to reduce environmental impacts. This application of a life cycle aligned design approach will be explored in further detail later in the chapter (see section 4.3).

#### 4.2.2 Applying sustainable design principles and strategies in fashion design

As argued in earlier chapters the fashion designer often struggles to engage with the principles of sustainable design. While LCA tools, such as those discussed above, are important these have typically remained outside of the fashion design studio. However, a number of reference guides and checklists have been created in an attempt to assist the designer in the development of new products and garments. Typically these reference guides focus on communicating complex information in a way that enables the designer to quickly and easily engage with methods of best practice. Critically, these guides aim to provide information to help in the development and redesign of a product, however, it is apparent that these guides may be difficult to locate or they may be expensive - factors which can discourage a designer to consider life cycle thinking as an approach to design practice. Furthermore, these guides may be biased towards one set of strategies and solutions, which may not be relevant to the fashion discipline.

One early coherent resource that does specifically cater for the fashion industry is the *Danish Guidelines: A Handbook on the Environment for the Textile and Fashion Industry* (Breds,

Hjort and Krüger 2002). This guide assists the designer in a number of ways by providing a brief checklist of materials and their respective environmental criteria, and sets of lists of fundamental questions to ask when dealing with suppliers. At the time the guide represented a groundbreaking approach to fashion design and sustainability. In particular it assists with the choices to be made during sourcing. However the text promotes a cradle-to-grave approach, which has since been superseded by a cradle-to-cradle model. Unfortunately in this guide no attention is placed on the opportunity for a closed loop system of production. This example demonstrates that a reliance on texts and guides is only useful if the information is current. It has become apparent during the execution and duration of the research that sustainability texts and guides can date extremely quickly. For the sustainably minded designer this is obviously a problem if he/she is to remain engaged in the debate, since continuous research and the updating of personal knowledge is required, to capitalize on new information as it appears.

Rather than becoming reliant on texts, guides and tools for assistance another approach would be to focus on revisiting the way that the designer engages in the design process. This moves the notion of sustainable design away from a controlled, scientific perspective towards a philosophical viewpoint that suggests that a rethinking of the framework under which designing takes place, needs to occur. This meta-level, conceptual approach can be witnessed in the non-discipline specific guide produced by Edwin Datschefski (2001) in the publication, *The Total Beauty of Sustainable Products*.

Diagram removed for copyright purposes

Figure 10: Datschefski's *Cyclic/Solar/Safe* model, which visually presents the signs and symbols of the 5 design principles. Datschefski, E (2001). *Cyclic/Solar/Safe* [Diagram]. In: Datschefski, E. (2001). *The Total Beauty of Sustainable Products*. Rotovision: Crans-Pres-Celigny, p29.

Datschefski's model was created to aid designers in the development of products that were "...100 per cent cyclic, solar and safe." (2001, p154) The framework is based on the employment of five basic principals in the design and manufacture process: these are called cyclic, solar, efficient, safe, and social. Developed so that a designer could quickly assess a product for it's environmental and social performance, the redesign of a product would address the five principals to help effectively improve a product's 'sustainable' performance. While acknowledging the framework is only a guide and not as a replacement for a thorough life cycle assessment, Datschefski's model has one crucial advantage over other examples: it is a simple, visual tool that designers can refer to and apply with some ease. While it was not

designed to replace other more complex assessment tools, as a directional guide it offers a methodology that can be applied to a broad range of design disciplines. Furthermore, Datschefski's model simplifies the assessment process that may typically be conducted through an LCA, and in doing so attempts to engage a broad spectrum of designers in moving towards sustainable design practices. Through a familiar design vernacular Datschefski's (2001) book offers a large selection of case studies of best practice, exhibiting a range of products created by designers across the globe. These case studies explore innovative improvements that can for instance, be made in material use, or in the use of particular production processes that can reduce energy use. However sustainable design strategies are not directly explored or explained in great detail and because of its bias towards industrial and product design it can be difficult to relate this approach to a discipline such as fashion, or textiles. Moreover, within Datschefski's model there is still a reliance on employing quantitative methods, which require the collection of accurate data from suppliers and a calculation of statistics. However, once mastered, Datschefski's model can provide the designer with a practical approach to the redesign of a product. As a reference tool, it exemplifies how sustainability information can be communicated in a manner that is both useful and accessible to the design practitioner in an everyday working environment. Here, it is argued, is the crux of the problem; the overriding difficulty for any designer is the adaptation of theory to practice in the studio environment.

Diagram removed for copyright purposes

Figure 11: A case study of best practice, demonstrating the use of Datschefski's model. Patagonia (n.d.) *Patagonia Fleece* [Image]. In: Datschefski, E. (2001). *The Total Beauty of Sustainable Products*. Rotovision: Crans-Pres-Celigny, p90.

#### *Other ways of engaging with sustainable design principles and strategies: design scenarios*

Alongside models for designing that are dependent upon LCAs or data collection, or texts and guides that offer advice and checklists for quick decision making, a number of other researchers have explored the notion of the design scenario, as a means to engage the theoretical and principles of sustainable design with design practice (Bras-Klapwijk and Knot 2000; Manzini and Jégou 2003; Fry 2009). The design scenario allows the designer to explore a specific current issue or problem, or propose a future prototype, by developing a response to a defined narrative or hypothesis. According to Thorpe (2007), this provides the designer with the opportunity to think beyond the present situation and "...avoid the trap of short termism" (2007, p166). For instance within fashion design this extended 'design

thinking' (moving beyond the focus of designing a single item or look), could allow the designer to develop a response to a narrative that may, for example, be based on a wearer in a particular context or environment. However these extended design scenarios should still have a clear motivation or goal, and a defined method of implementation. Once defined these scenarios can be used by a single designer or by a small group, which might provide a range of different outcomes from the same set of criteria.

Manzini and Jégou advocate a design orientating scenario (DOS) to "...support choices in terms of projects at the level of a group of stakeholders and address, from the start, clearly identified actors (the precise group of companies or institutions who wonders about their future)" (2000, p6). Moreover, they argue that a DOS is centred on the changes in a product system, rather than on policy or political intervention. For example, within the fashion industry a DOS can provide the opportunity to explore the development of a new concept of production that considers both the creation of garments with appropriate product-service systems. The advantage of conducting a DOS is that the designer is propelled out of the comfort zone of a conventional fashion design process and is instead required to view the (design) situation, problem or future from a different perspective. Rather than simply designing a new spring/summer fashion collection for a target market, through the use of a DOS strategy the fashion designer can begin to explore design solutions that may address a specific problem or context, for example, in developing garments that require a reduction in the need of laundering.

However, some critics see the design scenario as a form of 'idealized fiction' (Fry 2009). While there are advantages to conducting a DOS, it does not easily guide the fashion designer towards an alternate model of fashion practice, nor does it act as a tool to be referenced in an industry context. It relies on developing a response to a situation, rather than changing the fashion design process itself. Fry argues instead for the scenario of design, which aims to explore how design practice itself can change rather than focusing on the '...desired destination...' (Fry 2009, p154). Nevertheless, the use of a scenario concept to designing provides the designer with the means to reflect on the current conventional model of fashion designing, and in this context can be useful in allowing the designer to see new ways of engaging in sustainable design strategies. This will be explored further in the conceptual model detailed in Chapter 5.

#### 4.2.3 Making sustainable strategies work across fashion design and production

Examples of best practice (in terms of sustainable strategies) can be identified across many sectors of the fashion industry, but in particular there have been a number of highly visible



case studies executed within both the high street retail sector and the performance wear sector. Companies such as Marks and Spencer (UK), Patagonia (USA), and Terra Plana (UK) are all implementing a number of environmental and/or ethical strategies across areas of design and production. As the largest clothing retailer in the UK, Marks and Spencer (M&S) provides an interesting example of a high street company who is taking action towards positive change. As the manufacturer and retailer of a number of own brands the company has been proactive in taking significant steps to improve their sustainability credentials. While M&S has been changing existing manufacturing practices, it is through its "Look Behind the Label" campaign that M&S has been re-educating the consumer in an effort to raise awareness to environmental and ethical issues. For a number of years M&S had been exploring the elimination of harmful dyes and chemicals from its textiles resources, and has developed its own environmental standards and codes of practice. In 2007 the company announced its 'Plan A', which outlined the company's environmental and ethical intentions over a five-year period (Black 2008). In the manufacture of clothing M&S have focused on the use of eco-friendly materials such as organic cotton and recycled polyester. While this in itself is not a radical intervention in the design, production and use of fashion garments, as an example of best practice in the fashion industry it is interesting in relation to the scale of the company. M&S deal in huge volumes of clothing and by 2012 as a company they ambitiously aim to use recycled polyester for all their polyester based products, from clothing to homeware (Black 2008). Moreover, the company has chosen to support a public campaign that aims to raise awareness to the benefits of a changed laundering practice. In their efforts to re-educate the consumer M&S have been at the forefront of the drive in the UK for consumers to launder garments at 30C (rather than the conventionally acceptable 40C). The sheer size of the M&S organization, with over 520 stores across the UK retailing in everything from food to fashion, ensures that the company is heard amongst the buying public (Black 2008).

The USA based company Patagonia, has been at the forefront of developing a closed loop system of production within the apparel industry. This outdoor sportswear company, which produces fleece garments manufactured from post consumer waste such as plastic water bottles, began its Common Threads Recycling Programme in 2005. Using the EcoCircle fibre-to-fibre technology developed by Teijin Fibres in Japan, Patagonia recycles and reuses unwanted polyester garments in the manufacture of a new fleece fibre for new product ranges. The recycling system, according to Patagonia, uses 75% less energy than that which is required for the production of new virgin fibre (Black 2008; Fletcher 2008). In addition what is of particular interest is Patagonia's attempt to engage the wearer in sharing the responsibility of a garment. By donating used polyester garments the wearer is introduced to the consequences of clothing production and consumption. This in itself provides the wearer with a behind-the-scenes insight and sense of engagement/ownership that is intended to positively influence patterns of consumption and disposal. However, even in such positive

cases the actions of the wearer can inadvertently provide negative results. Fletcher (2008) comments on the way in which the public donations may reach the company, citing the negative impacts associated with driving the products to a drop off point versus the positive low energy savings made when using a postal service to dispatch products. Notwithstanding this issue of collection, the efforts of Patagonia, from an industry perspective, reveal how fashion and clothing producers can employ sustainable strategies that not only lead to improved products but may also direct the company towards new opportunities and initiatives by engaging the consumer in the conversation. Moreover, in terms of a garment life cycle the company has employed strategies that focus on considered and innovative solutions to material selection; energy efficiency during manufacture; and end-of-life schemes (Fletcher 2008). By integrating a variety of sustainable strategies within its model of design and production, the company acts as a role model that could motivate other companies within the fashion industry towards better engagement with environmental issues.

As discussed above, the consumer can have a strong influence on how products are developed within the fashion industry. In the open market the consumer has the choice to purchase a garment or not, therefore understanding the factors that influence a consumer's decision to buy are critical to the success of the product. In the competitive High Street market sector, the dominant factor affecting the sale (and success) of a garment is considered to be price. This single factor is perceived to be the key influence in determining a sale, however, recent research supports the theory that the consumer's decision can also be influenced by other factors. An increasing number of consumers are becoming concerned with how fashion clothes are produced and this tends to diminish the issue of price at the point of purchase (Draper et al. 2007). Several reports substantiate the claim in the World Wildlife Fund (WWF) report, *Let Them Eat Cake: Satisfying New Consumer Appetite For Responsible Brands* (Kleanthous & Peck 2005), which stated that in Western markets the interest in environmental and social issues has extended beyond a small, select demographic to include a larger mainstream, 'brand-conscious' market. Already, by 2005 a large number of consumers were demanding to buy products that were retailing at an affordable price while performing to environmentally and ethical practices.

However while consumer interest for environmental and ethical fashion has increased, the response to reduce the negative impacts of fashion clothing from within the various sectors of the fashion industry has been slow, this includes the luxury high fashion sector. The 2007 WWF report, *Deeper Luxury*, argued that it was time for a new type of luxury company to emerge, one where the company's "...deeper values are fully embodied in the sourcing, manufacture, marketing and distribution of products and services" (Bendell and Kleanthous 2007, p2). The report identified that luxury brands were encountering growth in nations that experienced great wealth and poverty at the same time; '...luxury companies must do more to justify their value in an increasingly resource-constrained and unequal world' (ibid 2007, p3).

While it still appears that most luxury labels and companies are resisting change there are exceptions to the rule. UK high fashion design labels such as Stella McCartney and Katherine E Hamnett have continually responded positively to environmental and ethical ideals through a combination of approaches. In the USA the fashion label, Linda Loudermilk has championed the use of organic and natural fibres for a number of years. Newer USA labels, such as Project Alabama (now trading as Alabama Chanin) produce fashion garments that have been created from natural, and often recycled, fabrics, which have been constructed and embellished by hand by way of a network of locally based seamstresses (Fletcher 2008). These labels, and many others, often produce smaller craft-related lines in comparison to the large volumes of garments produced for the High Street retail sector. Nevertheless, the labels are essential in that they provide case studies of best practice to which other fashion designers and companies can refer. However, few, if any of the large luxury RTW fashion brands (Stella McCartney aside) are apparently making any positive moves towards incorporating a sustainable approach. Couture houses and luxury companies such as Dior, Chanel, Yves Saint Laurent, and Lanvin are highly media exposed fashion companies who all compete within the luxury sector. According to Bendell and Kleanthous the well-positioned luxury brands can,

...influence consumer aspiration and behaviour by editing consumer choices through product design, distribution and marketing; and by influencing how, when and for how long consumers use their products. They have both the opportunity and the responsibility to promote sustainable consumption. (Bendell and Kleanthous 2007, p2)

Although there are positive case studies of best practice within the industry, these have not become the catalyst for widespread change. If the fashion industry is to embrace new models of sustainable practice then designers and producers need to step outside of a conventional making paradigm and seek alternate methods and strategies for improved practices. Blendell and Kleanthous (2007) reiterate the need for luxury labels to do more - but without a clear and practical framework for making positive changes it becomes difficult to achieve this. Throughout the thesis it has been argued that designers are unfamiliar with how to work with sustainability, and this is further evidenced by the diverse range of tools and approaches to sustainable design that have been discussed within this chapter. This research aims to challenge the conventional fashion design methodology and present an alternate model of practice that can assist the designer and producer to engage with sustainable change. In Chapter 2, it was argued that the model of fashion design and production applied in the contemporary industry stems from the origins of the luxury sector that emerged from the Paris-based haute couture industry. A conceptual model of practice for haute couture that demonstrates where and how sustainable strategies could be employed is presented within

Chapter 5. Moreover, it is envisaged that this alternate model of practice could be considered adaptable for use in a range of independent, small and medium sized companies.

The next section then explores the proposition of an alternate model of fashion design practice; one that integrates sustainable design strategies across the design and production process and considers a life cycle approach to fashion clothing. In addition, particular factors that need to be considered when challenging the conventional fashion design methodology are highlighted.

### **4.3. A model for integrating sustainable strategies**

Throughout the thesis it has been argued that the fashion designer is in a position to influence change in the fashion design and production process. However, in reality there are a number of particular (if not perceptual) issues that appear to block or discourage the fashion designer from embracing the principles of sustainable design. The fashion designer can be faced with many factors that may prevent engagement; for example hierarchical (or managerial) resistance. From an analysis of the findings within this study it is apparent that the fashion designer could be more effectively empowered if the following three key issues were addressed and acted upon.

- 1) Apply life cycle thinking to the fashion design brief
- 2) Understanding sustainable design strategies
- 3) Linking sustainable strategies with the fashion design and production process

By engaging with the key issues listed above the fashion designer can take on the role of sustainable advocate within an organization. The following is a detailed outline of these 3 key issues.

#### *1) Apply life cycle thinking to the fashion design brief*

Firstly, there must be a revision of the design brief to which a fashion designer works. Currently, few designers work from a brief that considers a life cycle approach to design. However, as discussed there is great scope for embedding life cycle thinking within the fashion design brief to include, for instance, end-of-life strategies. Black et al. (2009) argued that the common industry perception is that once a garment is in the hands of the consumer then it is no longer the responsibility of the designer. While a fashion designer may select a fabric for a garment based upon its production suitability and aesthetic qualities this choice might change considerably if there was a consideration for what the wearer should do with the garment once they have ceased to wear it. A life cycle approach would suggest that whether designing an expensive jacket or a cheap fashion top, the designer should be questioning how consumers engage with a garment that they have designed. Research on

the engagement between consumer and garment, such as the DEFRA report (Fisher et al. 2008) discussed in Chapter 3, can critically inform the performance of a garment in relation to the customer, company, and sustainability criterion. Furthermore, as explored in Chapter 3, Hethorn (2008) suggests if the fashion designer approaches the designing of garments from the wearer's perspective then an opportunity to produce fashion that equally considers the environment, aesthetics and functionality begins to emerge. Ultimately the designer needs to accept that the design brief needs to extend beyond the usual economically driven criterion to include criteria that will meet the needs of the environment and society. One approach to this is to embed life cycle thinking within the fashion design brief, which shifts the perception of a garment as a product that ends with the last phase in the supply chain.

## *2) Understanding sustainable design strategies*

Secondly, there is a necessity to assist the fashion designer in understanding sustainable design strategies: what they are, and how they can be integrated within the system of designing and making fashion products. Fashion designers have tended to view sustainability as an after thought to their design practice thus the integration of sustainable strategies within the fashion design process typically has not been given a high priority. Computerized tools such as the EcoMetrics™ calculator, Nike Considered Index, and others, aim to reduce the negative environmental impacts associated with the production and use of a garment. These tools can assist the designer during the production phase but while useful for the quick responses that are required in large organizations, the use of these impact calculators may further lead a 'novice' or unsuspecting designer to consider sustainability as a (complicated) add-on, rather than as integral part of the fashion design process (Black et al. 2009). Moreover, this solution-focused approach does not challenge or encourage designers to seek alternative strategies for designing and making clothes at the concept or research stage. These tools can be a distraction from the fundamental problem that the current fashion design paradigm does not encourage the integration of sustainable strategies within the fashion design process. It is important therefore that the fashion designer has a good understanding of sustainable design strategies so that they can make informed decisions on how to engage with sustainable design principles. This knowledge can be acquired by integrating sustainable practices into education and through the factoring of research and development time into the newly worked fashion design brief, as discussed in chapter 3. This type of knowledge would then allow a designer to confidently advocate one or more strategies across the entire production process, for instance: incorporating design for disassembly for easier product recycling; or durability in design; or a zero waste approach to material use in production. Sustainability promoters such as Chapman and Gant (2007), Black (2008) and others, recognize that the strategies currently being explored within design practice are not finite. There is still much progress needed particularly in developing strategies that are more encompassing in their application to the fashion discipline; this is why the conscientious fashion designer needs to continually update their knowledge in the field.

### 3) *Link sustainable strategies with the fashion design and production process*

Thirdly, the fashion designer needs to be able to visualize how sustainable design strategies might be integrated into his/her own design practice. The designer needs to be able to link sustainable strategies with the activities of the fashion design and the production process. One strategy suggested by Lawson (2006) requires the designer to develop parallel lines of thought or concepts that enable the designer to work out different aspects of the design at the same time. If the concept of parallel lines of thought was applied within the fashion design and production process a designer would be able to design, plan and create a new garment design while integrating sustainable strategies. It is through these conversations that the fashion designer can begin to identify areas within the current paradigm for positive intervention. Moreover, other approaches to linking sustainable strategies across different sectors of the fashion design industry have been discussed earlier in this chapter.

The three issues outlined above have been fundamental to the development of the *Fashion Design for Sustainability* (FDS) model devised by the author, as a part of this research. This can be seen in figure 13. This visual diagram reflects a commonly understood process for fashion design, augmented with a series of potential sustainable strategies. The development of the model will be discussed in further detail in the following section.

#### 4.3.1 Developing the *Fashion Design for Sustainability* model

From the analysis of research conducted in earlier chapters of the thesis, there are a number of emergent issues, which need to be considered in the development of an alternate model of fashion design practice. A key concern has been to develop a model that is instantly recognizable to the fashion designer and clear to follow. This process began with the mapping of the design and production process in the context of life cycle thinking. In figure 12, Sinha's model of the design and production process, discussed in Chapter 2, has been extended to acknowledge the life cycle of a garment, as promoted in Chapters 1 and 3, by Fuad-Luke (2002); Allwood et al. (2006); Crul and Diehl (2006); Black (2008); Fletcher (2008). Additionally, the phases of design and production have been divided further so that the fashion designer can recognize the conventional activities, as established in Chapter 2, by Stecker (1996); Jenkyn-Jones (2002); Jackson and Shaw (2006); Sorger and Udale (2006); Renfrew and Renfrew (2009). The model presented in figure 12 (with the addition of the use phase and end-of-life cycle phases) is further expanded in figure 13 and is used as the basic structure for the *Fashion Design for Sustainability* (FDS) model. This structure is then overlaid with the integration of suitable sustainable strategies that are now aligned with the relevant life cycle phases. Critically, the fashion designer is placed at the heart of the FDS model, and the sustainable design strategies that have been suggested are those considered accessible

to the designer. The FDS model is designed to be adaptable and useful to designers who are placed in different sectors of the fashion industry with their associated approaches to design and the role of the designer as described in Chapter 2.

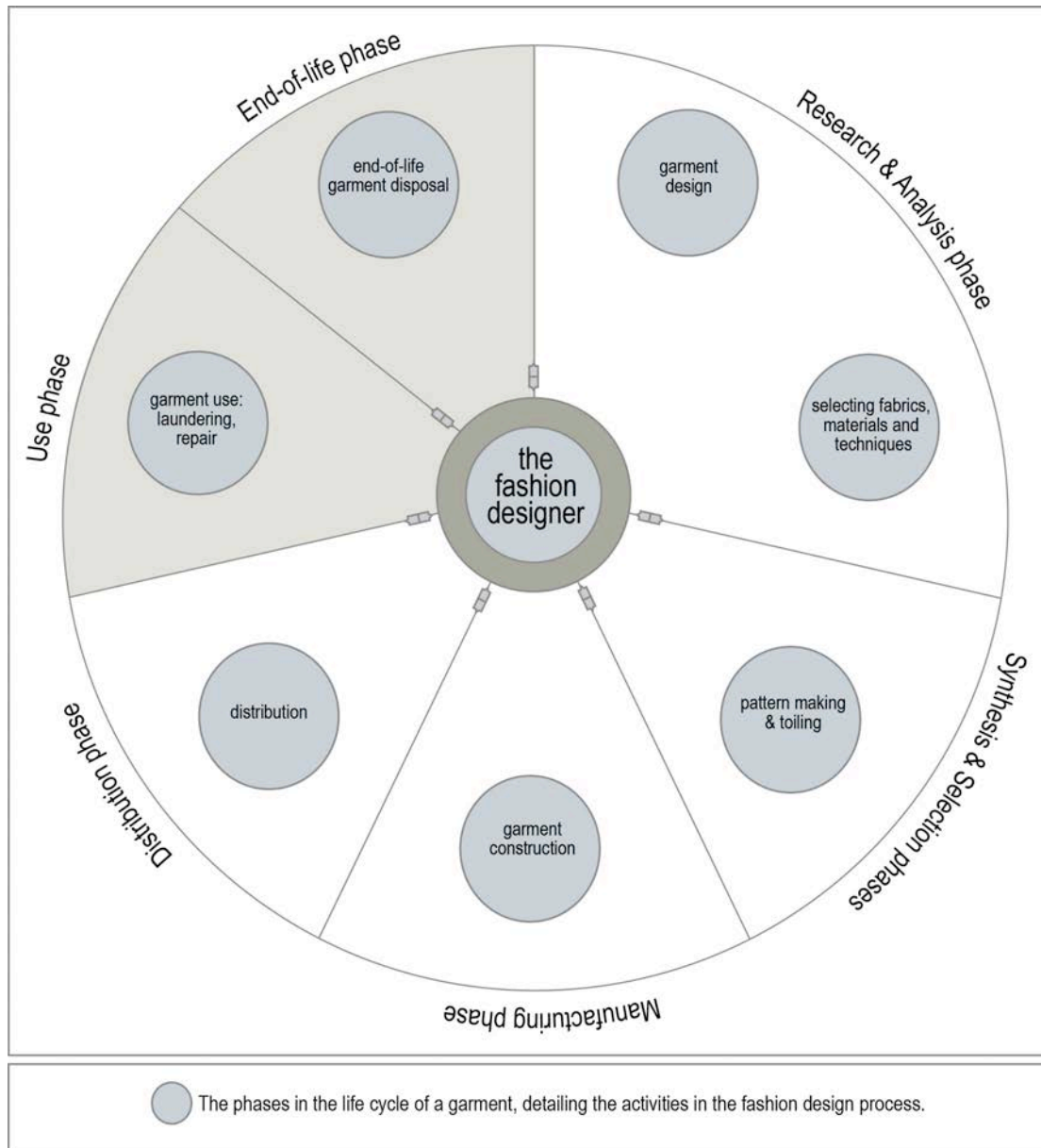


Figure 12: The *Fashion Design for Sustainability* model template: Sinha's model now extended to reflect the fashion design and production process when linked to life cycle thinking.

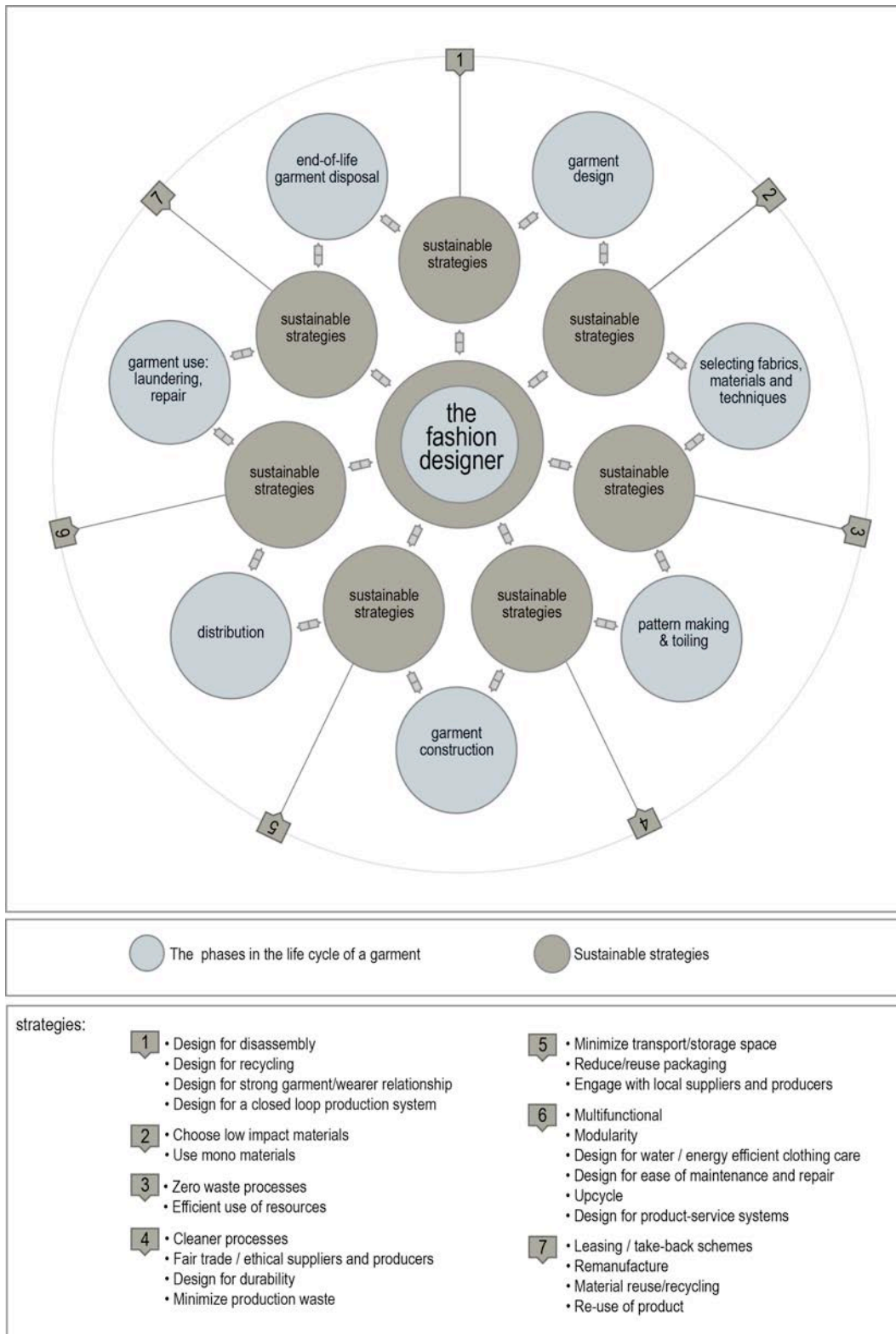


Figure 13: The *Fashion Design for Sustainability* (FDS) model, which details the phases within the fashion design and production process and their alignment with appropriate sustainable design strategies.



While figure 12 shows the fashion design and production process from a life cycle perspective, it is also important to identify the types of sustainable design strategies that may be appropriate for fashion clothing. Having noted, in figure 8, the plethora of strategies that have been discussed across the fields of design practice, the proposed alternate model for fashion practice draws on a number of these strategies, and aligns them with the phases of a product's life cycle (as presented within the Crul and Diehl (2006) *D4S* framework). By referring to the D4S framework it become possible to select and suggest design strategies that have been highlight by Fuad-Luke (2002); Black (2008); Fletcher (2008) and others, which support the particular needs of fashion. As argued in earlier chapters the fashion designer can influence change across the phases within the life cycle of a garment and so the sustainable design strategies that have been noted reflect this reach. In the FDS model (figure 13), particular phases in the fashion design and production process are categorized and a select variety of strategies are outlined, which are considered appropriate to particular life cycle phases. However, the list of sustainable design strategies detailed here are not considered a definitive list, rather, they aim to suggest approaches that have been or can currently be applied within contemporary fashion design practice

#### 4.3.2 Engaging with the *Fashion Design for Sustainability* model

Before utilizing the FDS model in figure 13 it is essential to begin by conducting an assessment exercise. An assessment exercise, as discussed earlier in the chapter, will help a fashion designer understand where the negative impacts exist within the life cycle of the garment to be developed. Furthermore, the exercise usually requires thinking through the life cycle of the product and noting where improvements can be made.

The FDS assessment template in figure 14 has been designed to help with this assessment exercise and can be used as a tool for mapping the negative impacts of garment throughout its life cycle, before sustainable strategies are applied<sup>6</sup>. The intention of the assessment exercise is to provide a clear picture of the current situation; whether executed simply or in greater detail the exercise provides the groundwork for further implementing improvements. A range of checklists and guides can be drawn upon to help think through the impacts associated with the production, use and disposal of a garment. These can be found in a number of studies (Breds et al. 2002; Allwood et al 2006; Draper et al. 2007; Diviney & Lillywhite 2009) as discussed in Chapters 1 and 3. Understanding the key problems

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<sup>6</sup> There are other checklists and tools that can be used however; the visual representation of data into a spider diagram is popular amongst the general design disciplines. For example, the EcoMetrics™ online tool calculates the environmental impact of the processes and methods used in developing a garment and provides a detailed picture of the current situation (Patterson n.d); alternatively blank assessment templates are free to access and can be downloaded for use, for example the Ecodesign web template encourages the designer to use drawn crosses applied in areas ranging from 'very good', 'good', 'ok', 'bad', or 'very bad', as a method of mapping impacts which can provide the designer with a quick but useful insight (Lothouse 2005).

associated with life cycle of a garment should prompt the designer to reveal the negative impacts of a product while also identifying areas for improvement. Moreover, the assessment exercise should be used as a starting point for working with the FDS model in figure 13. Figures 15 and 16 show how the FDS assessment template (figure 14) can be applied in particular fashion design contexts and sectors.

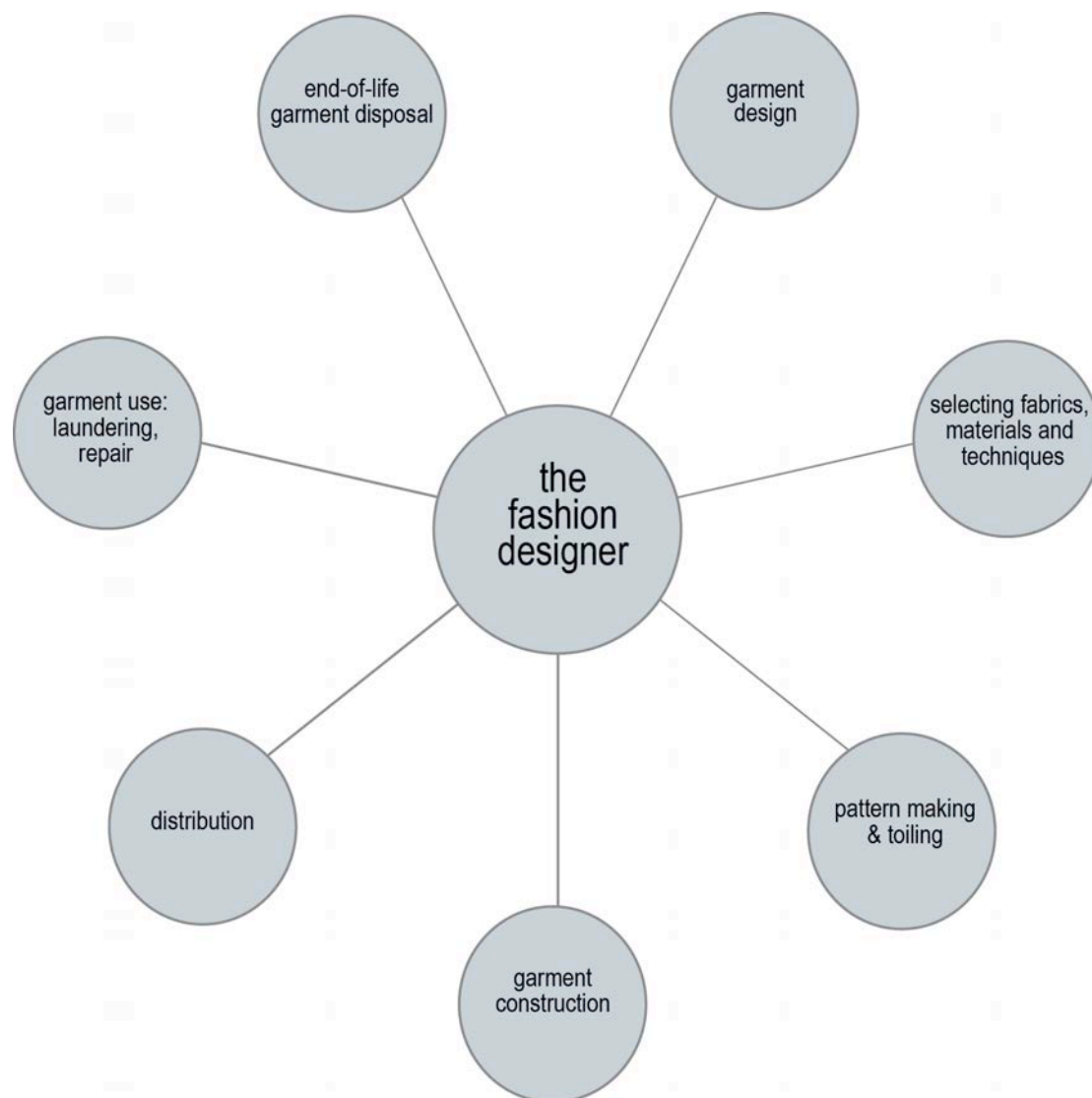


Figure 14: The FDS assessment template, which can act as a mind-mapping assessment tool.

The hypothetical examples presented in figures 15 and 16 show where sustainable strategies could be integrated in the fashion design process according to the needs of two different types of design companies. In applying the FDS model to these situations the designer can also apply Lawson's 'parallel line of thought' approach, as an open-ended means of engagement with sustainable design strategies during the design process.

The hypothetical example shown in figure 15 reflects an appraisal of a small designer/owner fashion label. In this instance the designer has prioritized the garment use phase as an area for improvement, which was identified during an assessment exercise. The assessment exercise helps the designer to develop a focused design brief, which can then draw on the range of sustainable design strategies that are suggested in the FDS model (figure 13). The designer is able to identify strategies that may be relevant to the use phase of the garment being developed. In this first example (figure 15), the decision to concentrate on the use phase of the garment is reflected in a hypothetical decision by the designer to integrate a water/energy efficient clothing care strategy, and to place an emphasis on clothing that is multifunctional. It is important to realize that by integrating one or more strategies there is likely to be a secondary effect on other phases within the garment's life cycle, which is evidenced in the diagram in figure 15. In this case, for example, in order to optimize energy efficiency during the garment's use phase it is envisaged that this will entail reducing the energy used during the laundering process, while conserving water and reducing harmful pollutants. Moreover, the designer also has to consider further laundering processes that draw on energy, such as the use of ironing and tumble drying. In reducing the impacts associated with these activities, the choice of fabric to be used in the garment's design is important, since the different properties of a fabric require different laundering care. Furthermore, by utilizing a multifunctional use strategy the designer's intention is to create a garment that can embrace the notion of transformability so that it can offer two or more functions. This multi-functionality however, may create an impact at the patternmaking/draping phase since the product's development as a 3D form may involve complex experimentation.

Significantly, in this hypothetical example, the designer is situated within a central role, rather similar to the study of Deacon (Renfrew and Renfrew 2009) discussed in Chapter 2. From a centralized position the designer can take a holistic approach to the life cycle of fashion garments, and apply a single or a multiple set of strategies across the entire design and production process. This is discussed further in the conceptual model presented in Chapter 5.

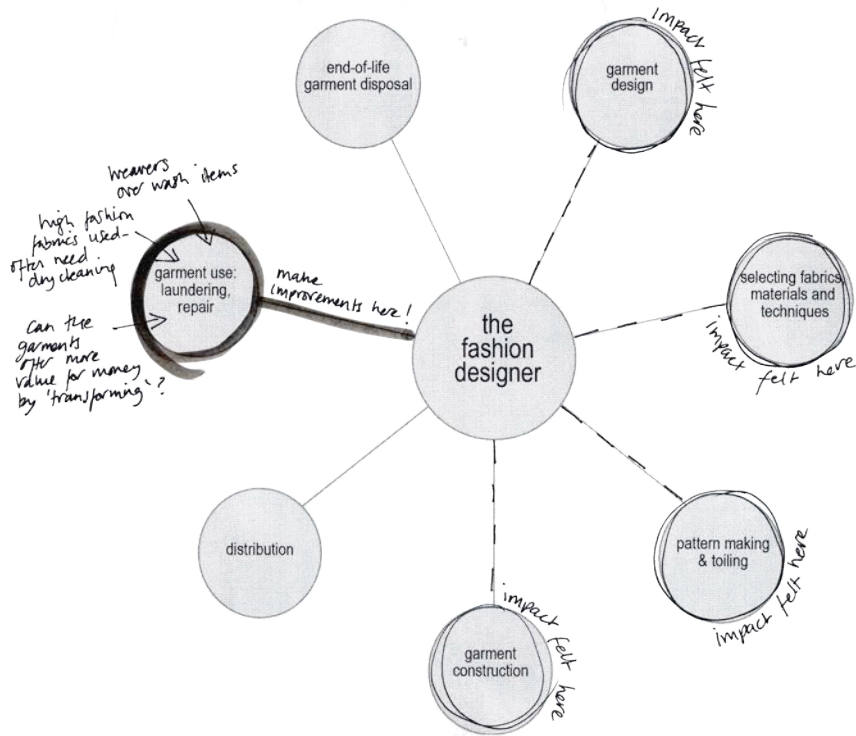


Figure 15: Hypothetical example 1. In this scenario a focus has been placed on making improvements during the garment use phase. The diagram also reveals other phases in the life cycle that can be affected by the improvements.

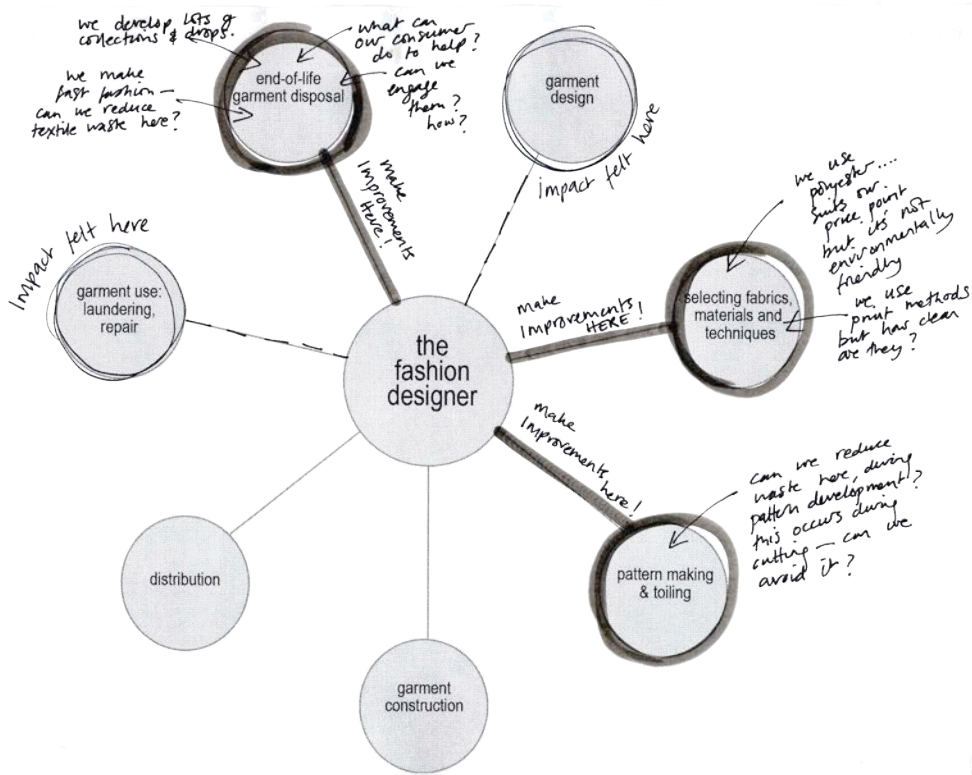


Figure 16: Hypothetical example 2. In this scenario a focus has been placed on making improvements during 3 phases: materials selection / development and production / and the end-of-life phase.

In the second hypothetical example (figure 16), the assessment tool is used for scoping a wide range of responses. It is imagined that the designer works within a company that produces large numbers of fashion garments, which are trend driven and priced to compete within the inexpensive high street market sector. Through the use of an assessment exercise, the company has determined the need to explore the potential of reducing textile waste created during the manufacture and disposal of its garments. As the dominant fibre used is polyester, the design and production teams are particularly interested in the notion of a closed loop system of production. Therefore the team look to make improvements across three areas of a garment's life cycle including: the choice of materials; the development and production of the garment; and end-of-life phase. It is necessary to identify these three areas for improvement since a change in the choice of materials, for a closed loop system of production, will also influence the way that garments are manufactured and discarded. The aim of a closed loop system of production is to select a fibre that, at the end of its first life cycle, can be recycled and re-used in the manufacture of new products. However, if the designer selected to use a new type of recyclable polyester fibre fabric for example, then the company would have to find ways to encourage the consumer to engage in an appropriate recycling scheme. In this instance the company could promote the use of an incentive take-back scheme that rewards the consumer for engaging in recycling. Once a consumer returns a garment back to the store, it can then be recycled to produce new fibre that will be used in the production of additional fashion garments. This approach was illustrated in the example of the closed loop recycling system that has been adopted by the US outdoor wear company Patagonia, using the EcoCircle™ technology, discussed earlier in the chapter. Moreover, textile waste created during the cutting of garment pieces for assembly, which can be as much as 15% of the overall fabric (discussed in Chapter 3), can also be recycled.

In addition the designer and patternmaker can also explore the concept of minimizing textile waste during the design and creation of the garment pattern. Garment patterns that embrace a zero waste approach are visible in the construction of the Japanese kimono and in garments from the contemporary designers/academics Rissanen and McQuillan, as discussed in Chapter 3. By adopting this approach there is the opportunity to avoid creating waste at this stage, if the designer and pattern maker establish design concepts that improve the use of the fabric, thereby reducing the need for recycling fabric off-cuts.

This second example clearly points towards a more complex engagement where there is a need for the designer to influence change across the various activities within the design and

production process, and beyond into the garment use phase. The cooperation of other people including the buying team; the pattern maker; and the consumer is vital if this approach is to be successful.

The two hypothetical examples discussed above demonstrate how a designer can engage with sustainable design strategies that can reach and impact across the life cycle phases of a garment. The two examples aim to show that by engaging in just one or two strategies, the designer can make maximize positive impacts in phases that are identified as areas in need of improvement. With confidence, the designer can then begin to expand upon the range of strategies to include and can further minimize negative impacts that can appear within other phases of the garment's life cycle. This approach is explored further in the conceptual model presented in Chapter 5.

#### **4.4. The challenges of integrating sustainable strategies**

A central problem for the fashion product is that often a garment is discarded before the product ceases to function. A garment may be discarded because it no longer feeds a perceived emotional 'need', which is evident in the case of designer ready-to-wear (RTW) fashion. Issues of identity and social status can play an important part in the use phase of a garment's life cycle. A consumer who aspires to share in a luxury lifestyle may only be able to achieve this through the ownership of a pair of D&G jeans, or a pair of Dior sunglasses. As the consumer's aspirations evolve and change over time the jeans or the sunglasses may become unwanted, however the product may remain in good condition and still functional. This dilemma of shifting personal and cultural tastes begs the question, how can a fashion garment adapt to suit a consumer's changing needs? This is a question that has to be posed to designers of products sold at all market levels. For example, the fashion designer developing durable garments needs to consider the repercussions of consumer boredom; how can the designer prepare durable garments for an extended life cycle? In contrast, the fast fashion market sector has a number of issues to contend with in moving towards a sustainable industry. Fierce competition has been driving down garment quality as well as price; fast fashion clothing has become disposable and the different stages of production occur all over the world reducing the visibility of sustainable practices and standards within the supply chain (Draper et al 2007). While there is very clearly a problem with the garments that are being manufactured, the real issue lies with the model of design practice being used to create the products and the cultural desire for these products. As discussed in Chapter 2, the designer in most small and medium sized companies is responsible for developing a product that is driven by aesthetic and economic factors. Furthermore, within the conventional model of design practice applied within many SME's and larger manufacturers there is little relationship between the producer and consumer; the relationship typically ends

when the product reaches the shop floor. This is in contrast to the model of practice that is applied in areas such as haute couture where the relationship with the wearer is fundamental. Nevertheless, while the fashion design process applied in haute couture is not perfect it can form the basis of a proposed revitalized practice that can engender the principles of sustainable design. This idea will be explored further in Chapter 5.

In considering the introduction of life cycle thinking within fashion design practice, it is difficult to ascertain why the fashion industry has been so slow to accept this challenge. This is especially perplexing when it could be argued that progress in linking design to life cycle thinking seems to have been successfully made in other disciplines such as in architecture and product design. Generally from a design perspective Tischner and Charter identified that there may be a perceived lack of interest in sustainability because:

\*Sustainability issues are seen to be too long term and abstract and/or the preserve of academia and government, with the thinking inaccessible to most people.

\*Economic and environmental issues are seen being difficult enough without confusing the issue with complex, 'value-laden' social & ethical issues.

\*Wider social and ethical issues are seen as being irrelevant to the debate.

Tischner and Charter (2001, p126)

It is not difficult to see then that, in relation to fashion design, some of the issues raised by Tischner and Charter are of direct concern to the fashion industry. Furthermore, a lack of effort to engage designers in meeting sustainable and ethical challenges appears evident in the many general design publications about design, which often reveals the typical 'business as usual' philosophy (Fuad-Luke 2002). This is clearly the case in the majority of fashion magazines, design journals and publications devoted to celebrity fashion designers and labels. While 'eco' and 'green' products have begun to appear within the pages of popular design magazines more often than not these stories are often presented as marginal or fringe. Within the typical fashion magazine the reader may see one or two pages of eco-fashion garments, but the majority of fashion spreads in the publication may be dedicated to conventional types of fashion garments - that is, fashion garments that do not claim to or appear to address any environmental, social or ethical issues. Moreover, it could be argued that since there is a lack of press coverage devoted to sustainable fashion garments, neither the fashion designer nor the consumer is being exposed to or educated about how fashion garments can be created and used in accordance with sustainable criteria. Importantly then while sustainable fashion design practices in the industry may improve and indeed need to continue to improve, the industry and design press also need to find ways to encourage the sector as a whole, and the public's expectations of the sector, to engage in change.

It is not unreasonable to expect changes in industry design practices and the public's perception to take place. As Tischner (2001) recounts there are many positive reasons for

integrating sustainable design strategies in fashion design, which would provide a benefit to the environment, and to the producer. These advantages include:

- Reducing material and energy consumption as well as waste and contaminants would save the company money.
- It also improves the image of the company and its products, which could result in better sales.
- It improves legal compliance and anticipates upcoming regulations, and if acting voluntarily the company faces less regulatory pressure.

In considering these not insubstantial advantages, it would appear that to not engage with sustainability would be bad for business, as well as for the environment and society. Unfortunately the proposition that engaging with sustainability can improve the image of a company has in recent times seen a huge amount of 'green washing' being used as a promotional tool for companies who are shrewd enough to realize that being 'seen to be green' is an advantage in the marketplace. However, the consumer has become skeptical of such tactics and unfortunately this may result in 'consumer boredom' before the fashion industry has had the opportunity to substantially and meaningfully respond to the problem. However, if a real change in fashion design practice occurred at the top end of the market, which was then made visible, there could possibly be a paradigm shift in the expectations and endorsements of the consumer to a sustainably focused industry. This concept will be investigated further in the conceptual model included in Chapter 5, which explores an improved model of fashion design practice that is applicable to haute couture.

#### **4.5. Chapter summary**

Throughout the chapter various strategies and approaches to sustainable fashion have been discussed. Critically the chapter has argued that a new model of fashion design practice can exist if the process of fashion design and production are considered from a life cycle perspective. Furthermore, once a life cycle approach to fashion design is accepted then sustainable strategies can be integrated within the design methodology. The FSD model and assessment template were also introduced along with hypothetical case studies of how these could be applied in two different fashion design scenarios.

However, while the model presented offers a framework for use by the fashion producer, what has also been made evident is that both the fashion designer and the consumer need to engage with sustainable fashion in order for sustainable garments to work. This relationship provides yet another challenge for the fashion industry. For example, if a fashion designer develops a low wash garment this may require the consumer to change ritualistic laundering



practices. Moreover, as producers begin to employ strategies such as product services systems (PPS) with the aim of reducing consumption then the consumer has to begin revising their modes of consumption. Chapman (2005) argues that the consumer needs to begin to differentiate between a 'need' and a 'want'. When faced with a damaged vacuum cleaner beyond repair, it is morally acceptable for the consumer to 'need' a new one, yet would be immoral to buy 2 or 3 vacuum cleaners. While in a developed Western country there may be a perceived 'need' for one new vacuum cleaner, in other parts of the world it is not an essential item at all. The fashion industry and press need to take a positive role in encouraging consumers to think beyond buying products, which reflect their desires for status, prestige, social recognition, and to consider longer product life cycles.

While a perfect, all encompassing model for creating sustainable fashion design garments does not as yet exist and is unlikely to be developed some time soon due to the circumstances outlined in this thesis, the objective should be to minimize negative impacts created by the industry and to capitalize on the positive impacts of good practice. As discussed in Chapter 2, through a mapping exercise of the design and production process, which can be further broken down into a sequence of activities, it is possible to think through the principles of a particular sustainable strategy while planning design activities. Lawson's method of parallel lines of thought might also be used - when planning tasks and considering the application of sustainable strategies – before any formal action is taken. With a good understanding of sustainable design strategies it becomes possible to select the most beneficial strategy for a particular point of intervention for any process of design and production.

Despite the fear that a reduction in selling garments, from the fashion industry's perspective, does not make economic sense, the vision for the future of the fashion industry could reflect a balanced and creative approach to the design, production, use and disposal of responsible fashion garments. The conceptual model explored in Chapter 5 explores how this might be achieved.

## **Chapter 5: A conceptual model of the designer in couture: How and where can the fashion designer integrate sustainable strategies within the fashion design and production process?**

### **5.1 Introduction**

This chapter seeks to show how the fashion designer can integrate sustainable strategies in the fashion design process through an analysis and reflection of a study of the methodology applied in haute couture. By applying the FDS model to the couture design practice the intention is to reveal a conceptual model where sustainable design strategies are applied in relation to the phases within the garment's life cycle. The conceptual model intends to demonstrate that a flexible model for design practice can exist, and that the FDS model can be adapted to suit other fashion design situations. Moreover, the FDS model gives us a road map for the creation of a set of best practices, which are potentially adoptable in other fashion design sectors.

The conceptual model begins by mapping the methodology of design and production applied in the development of the Paris-based haute couture womenswear line, and in particular identifies the role and responsibilities of the fashion designer within this process. The study consisted of 4 modes of enquiry: contextual research; empiric interviews and examination of original garments; practice-led enquiry; and the development of a conceptual model of fashion design practice. These approaches were used to allow for a multifaceted examination of the structure of the couture house, its business operations and the role and function of the house fashion designer (known as the creative director) within the business. Furthermore, an analysis of the tasks, directions and responsibilities of the creative director within the system and the relationship between the creative director and the production team are discussed, which drew on the analysis of secondary data sources. While the analysis for the study has primarily drawn on secondary data sources, the author conducted a small number of empiric interviews and observed garments in two different locations. The empiric interviews drew on the expertise on a fashion museum curator in Paris; a fashion and textiles museum curator in Sydney; and the head of haute couture at one of Paris's key couture houses. For the purposes of this study, the interviewees have remained anonymous although consent to use the data for the study was granted. Original haute couture garments were observed in a national museum collection in Sydney, and in the press sales room of the key Parisian couture house. Photographs, taken by the author, of garments held by both organisations have been included within this study.

For the study, the design and production methodology of haute couture is defined as: design ideation, patternmaking and toiling, and construction of the womenswear collection (the

design and production, or material phase); and the client's garment requisition process, and general garment care and maintenance (the service or immaterial phase). Accordingly, a life cycle approach to the conceptual model is taken and so the activities and phases that are discussed in the step-by-step account (explored in this chapter, in section 5.3) are aligned with the phases nominated in the FDS model (figure 13, Chapter 4, 4.3.1). Therefore the steps are noted as: garment design; selecting fabrics, materials and techniques; pattern making and toiling; garment construction; distribution; garment use: laundering, repair; end-of-life / garment disposal. As discussed sustainable design strategies can provide a framework for influencing positive change across the phases of a garment life cycle, however they need to be considered at the inception of the design and production process, which makes the role of the designer pivotal. As outlined in Chapter 2, the conventional model of fashion design practice stems from the haute couture methodology. Therefore it is apt to demonstrate that an improved model of practice can emerge from these roots.

The study acts as a catalyst for a conceptual model that aims to argue how the fashion designer can engage with sustainable practices. By specifically discussing the methodology applied in haute couture, the role and influence of the fashion designer can be mapped across the phases of design and production. It is the associated activities within the phases that become a point of reference from which to consider how designers, working at all levels of the industry, can rethink their role and behaviour in the context of sustainable design strategies.



Figure 17: Fashioning Now exhibition, UTS Gallery, Sydney, Australia 2009, Image: Fashioning Now project / Silversalt photography

In addition, specific sustainable design strategies are explored through examples of creative work from a number of designers to illustrate the effectiveness of linking relevant sustainable design strategies to particular design and production activities and to trace how this might impact other phases within the life cycle of a garment. The creative examples within this chapter are drawn from two practice-led projects that the author has been engaged in during the period of the research investigation. These are:

1. The author's creative textiles work, which were developed in response to a set of hypothetical design scenarios.
2. The author's role as Chief Investigator of the project, '*Fashioning Now: Changing The Way We Make and Use Clothes*', funded by the NSW Environmental Trust (figure 17). The project incorporated an exhibition that the author co-curated which was exhibited in Sydney and Fremantle, Australia (Gwilt and Rissanen 2009). This exhibition was also used as the catalyst for the publication of the book, *Shaping Sustainable Fashion* (Gwilt and Rissanen 2011). Selected examples from other researchers/practitioners included in the chapter have been drawn from this project.

These practice-led activities will be described in more detail, later in the chapter in 5.4.

## **5.2 The couture house and its structure**

The following section is a brief recap on the (historical) development of haute couture. For a more detailed review, which places haute couture in the broader context of the fashion industry, please refer to Chapter 2, sections 2.2.1 and 2.2.2.

Harold Koda of New York's Costume Institute described haute couture as "...the modern equilibrium between the garment as exquisite aggregate and the burgeoning notions of fashion as a system" (Koda 1995, p11). In the high streets and fashion centres of the 21<sup>st</sup> century the term *haute couture* is often misused by a spectrum of fashion businesses, ranging from the design label that produces bridal and eveningwear pieces to those that may be otherwise classified as alterations services. These businesses can be found in any town or city across the world, with service, craftsmanship and prices varying greatly. Yet in reality only a few select couture houses approved by a 100-year-old Paris organization should legally use the term *haute couture*.

In its true definition the term *haute couture*, which translates as 'sewing at a high level', is restricted to the custom-tailored clothes produced by ten couture houses<sup>7</sup> certified by the *Chambre Syndicale de la Couture Parisienne*<sup>8</sup>. Established in 1911, the *Chambre Syndicale de la Couture Parisienne* is a government-backed organization that continues to represent and protect the interests of the couturiers in cases of copyright infringements, handling press enquiries and fashion presentation scheduling, and in establishing the general rules and guidelines to be followed by the couture house membership. Strict criteria is in place to enable a couture house to remain as a certified member including: to employ a minimum of 15-20 people in the Paris-based workshops and, to present in Paris each season a collection of at least 50 pieces consisting of models for daytime wear and evening wear. Statistics estimate that the haute couture industry employs up to 4,500 people (including 2,200 workshop seamstresses<sup>9</sup>), although in contrast there were 35,000 prior to the Second World War<sup>10</sup>. Today there are estimated to be anywhere from 400 - 1500 couture customers' worldwide, in comparison to 15,000 in 1947<sup>11</sup>. Many of the couture houses were initially established by individual designers such as 'Coco' Gabrielle Chanel, Christian Dior and Hubert de Givenchy as a vehicle for their haute couture collections. For these designers, referred to as *couturiers*, it was the creation of the haute couture collection that merited the term the 'house' or '*maison*' to grow into a business that is still in operation.

Charles Worth, deemed the '...grandfather of French couture...' (Beward 2003, p29) opened the first couture house in 1858 where he created made-to-measure garments for aristocratic clients. For more than thirty years the house of Worth dominated the newfound fashion market, although competition soon materialized from emergent designers such as Paul Poiret, Jeanne Paquin and Jacques Doucet. The expanding industry generated international acclaim until the breakout of the First World War, which dramatically affected the trading markets and houses were forced to close. Once post-war life commenced the haute couture industry started to prosper once again with the re-emergence of a number of established couture houses trading amidst many new ones: couturiers such as Elsa Schiaparelli, Madeleine Vionnet, Coco Chanel and Jeanne Lanvin were now the new stars in high fashion. For the haute couture industry these couture houses became the archetypal training ground for its next generation of couturiers, including Dior, Givenchy, and Pierre Balmain whom all opened their own couture houses after the Second World War.

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<sup>7</sup> There are 10 couture houses producing haute couture collections in France today: Chanel, Christian Dior, Givenchy, Christian Lacroix, Jean-Louis Scherrer, Emanuel Ungaro, Dominique Sirop, Jean-Paul Gaultier, Franck Sorbier, Adeline Andre. Source, Mode a Paris website, 2007

<sup>8</sup> This organisation was established in 1911 and its role is to protect and regulate the haute couture industry with support from the French Ministry of Industry. (Kawamura 2004)

<sup>9</sup> This number varies according to the research source. Kawamura (2004) estimates this figure to be 656.

<sup>10</sup> Details and statistics from the Ministry of Foreign Affairs / Label France, magazine (2002)

<sup>11</sup> Statistics from the Ministry of Foreign Affairs / Label France, magazine (2002)

### 5.2.1 Establishing the couture house

From an historic perspective, opening and establishing a couture house has and continues to be a rare and tremendously expensive endeavor. Most couture houses began as small enterprises with funds coming from friends, acquaintances and contacts since the business was commonly considered too risky for the banking community (de Marly 1980). Running costs within the house were/are very high especially in terms of intensive labour and expensive fabrication processes. However, even with demanding conditions a couture house could still achieve success, no more so than in the late part of the nineteenth and early twentieth century. By the 1920s the couture industry was flourishing with over 250,000 employees working across 2,000 *ateliers* or workrooms, salons and shops while the value of couture exports was equivalent to one tenth of the total French world trade (de Marly 1980).

Working through the global low of the Wall Street crash in 1929, a much diminished industry survived, only to see a small recovery that began in the 1930s thwarted by the Second World War. In 1940 during the occupation of Paris the German government elected to control the Paris-based haute couture industry from proposed head offices in Berlin and Vienna. However, designer Lucien Lelong, who was the president of the *Chambre Syndicale de la Couture Parisienne* at the time, persuaded the Germans to change their plans and the control of French fashion remained in Paris (de Marly 1980). For the French the haute couture industry was seen as a symbol of national pride. After the Liberation the French couture houses were determined to revive their businesses and they worked together in the production of a traveling exhibition, *Le Theatre de la Mode* (1945), which consisted of a series of twenty-seven miniature mannequins dressed in couture clothing. Travelling internationally the exhibition was used as a publicity tool for French fashion to overseas markets and its impact helped raise awareness to the perseverance and strength of the industry (Kawamura 2004).

It was, however, Christian Dior's 1947 *Corolle* line, later renamed the *New Look*, which drew unprecedented attention back to Paris. As Breward notes, "...it reflected an adherence to romantic and nostalgic (some would say reactionary) ideals of femininity." (Breward 2003, p172). Dior's accomplishment further re-established the picture of Paris as a source for luxury goods, which helped secure the success of the couture houses until the 1950s when pressure from the ready-to-wear market began to impact on the number of couture sales. Since Paris could no longer afford to ignore the rise of youth culture, boutique fashions and the strength of the manufacturing industries based in the USA and the UK, the 1960s became the period for which the couture house would gain most of its income from the ready-to-wear line. By 1986 the discerning yet decreasing numbers of haute couture customers barely kept the industry active, although the numerous diffusion ranges and consumer products were increasingly supporting the couture lines. In the late 1990s influential designers such as

Alexander McQueen and John Galliano began moving into creative positions in the established couture houses and a refreshed enthusiasm for couture was mooted. The world of haute couture began to attract new audiences through the media celebrity of designers such as Galliano. Occupying many pages of the latest high fashion and tabloid celebrity magazines, the couture collections took luxury branding to new heights; inspiring a new wave of products such as sunglasses and handbags that flaunted the couture house insignia. For the house of Chanel this renewed success saw the operation of 3 ateliers that employed more than one hundred people, and couture sales had increased by 50% in 2003, with a projected increase of a further 50% for 2004 (Huntington 2004). Moreover, houses such as Chanel and Dior profited as a result of the closure of other haute couture business, such as Yves Saint Laurent (who closed his haute couture studio in 2002). However, lately there has been widespread concern for the industry since only ten haute couture houses remain in operation (Huntington 2004).

In recent times the house of Chanel has been strategically acquiring some of the smaller artisan businesses in an effort to keep the specialist skills that are the backbone of the couture industry in Paris. Lesage, Lemarie (a *plumassier* or feather maker), shoemaker Massaro, milliner Michel and Desrues, are now all owned by the house of Chanel. While it seems an entirely honourable move on the part of Chanel, Lagerfeld (the creative director) was quick to point out in several press interviews at the time that the newly acquired ownerships were purely in the interest of Chanel's activities. In reality, these small operations needed a large infrastructure to help keep their businesses afloat, and without the acquisition by Chanel it had been predicted that the companies would have closed within five years (Huntington 2004). In an interview with the New York Times, Valerie Steele<sup>12</sup> described French fashion in terms of the importance of its craftsmanship; declaring that haute couture needs "...the people to make the best ribbon, the best lace, the best hats..." (Hayt 2006), for this is what is central to the French design. It seems paradoxical that such an integral part of the haute couture system should be struggling to exist, when the work of the artisans is clearly so intrinsic to the success of the collection.

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<sup>12</sup> Valerie Steel is the director and chief curator of the Museum of the Fashion Institute of Technology, New York

### 5.2.2 The people and departments within the couture house

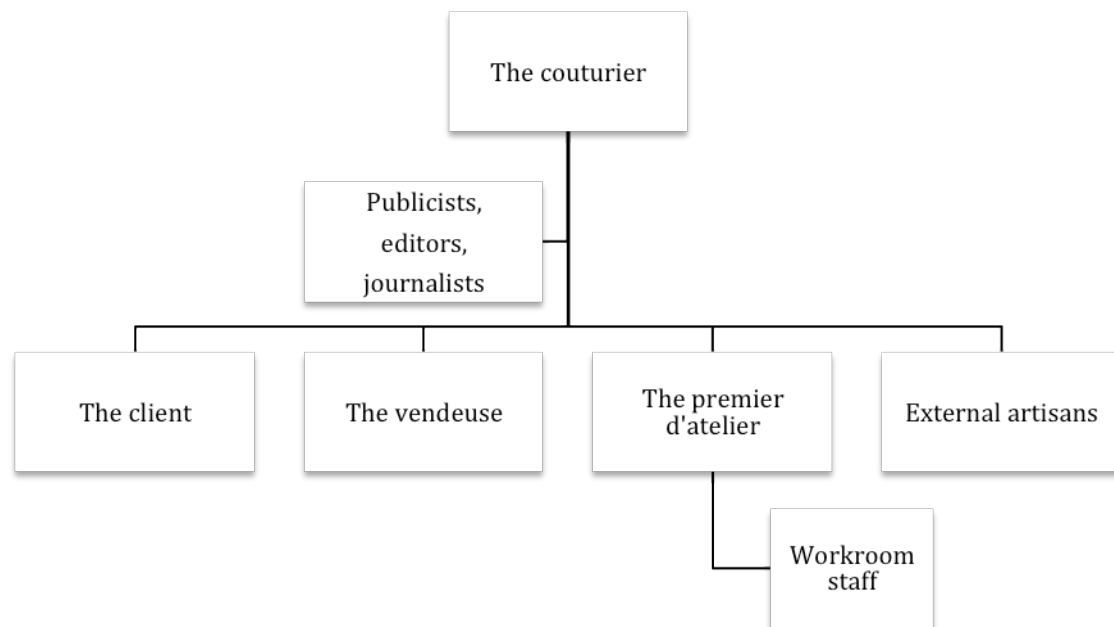


Figure 18: Diagram showing the people and departments significant to the structure of the couture house

It is commonly understood that a couture house produces an haute couture collection twice a year, one for autumn/winter and one for spring/summer. This precedent originates from the nineteenth and early twentieth century when the collections were dictated by annual weather patterns and the social behaviour of the aristocratic woman (Breward 2003). The same scheduling continues today with each collection being presented within a fashion show that is attended by the fashion press, private clients and celebrities. A client will choose a look or garment from the new range, and the house will make the garment according to the client's measurements. Throughout the fittings the garment will be fashioned by hand by highly skilled artisans. What differentiates haute couture from other fashion sectors is that which is often not visible: the linings, the built-in structures, and the hand-sewn seams that can be repeatedly altered without exposing the previous seams (Seeling 1999). Additionally, at the time of order it is an accepted industry practice that with such an investment comes an upgrade, repair and alteration service, which is available to the client for the lifetime of the haute couture garment.

#### *The couturier (or designer):*

Within the couture house structure the chief designer, or *couturier*, has traditionally held the position of creative director over the house and its collections. According to Kawamura, the couturier is still considered to be at the top of the hierarchy of fashion designers, and in fact is very much at the top of the couture house structure (2005). In a contemporary couture house



it is expected that the couturier will be trained in the profession, however during the formative years of the couture industry a number of designers came from trading backgrounds, for instance Vionnet was a seamstress, and Worth was employed in retail. Whilst mass manufacturers would often copy the work of the couturier it did not seem to harm the reputation of the couturiers, or the notion that the collections were experimental and creative. In some circles haute couture is still described as a ‘...laboratory to explore new design ideas...’ (Steele 2000, p2). Conversely, when surveying the contemporary fashion press the haute couture range is often described as a classic or timeless collection of the house, since the prêt-e-porter range receives much of the adulation.

The couture customer from 1870 to the 1950s was often in direct contact with the ‘genius’ couturier (Breward 2003). The couturier was perceived to be an arbiter of superior taste, who would create a unique product that reflected innovation to such a degree that it would inevitably inspire imitation (ibid 2003). At the house of Maison Worth, in 1868, the environment and attentiveness of the staff induced feelings of grandeur, as the customer was treated with the utmost importance. In a luxurious salon setting, Worth would be assisted by the vendeuse as he ushered his customer to a seat, to peruse the latest collection, on parading house models in a private salon showing. Prior to the 1950s the concept of the modelling agency was unknown and the house models often came from a local etiquette school. The job was poorly paid and was considered a tedious task, with periods of inactivity and boredom interspersed with episodes of frenzied commotion. Required to be always perfectly groomed the house model, playing the role of a client of social standing, had to be ready to show visiting customers the garments from the current range.

*The vendeuse (or sales person):*

Each customer would be appointed her own particular fitter and vendeuse, and it was the job of these women to determine the customer's likes and dislikes in style and understand any individual figure problems. The vendeuse, with the assistance of a second vendeuse, was responsible for overseeing the garment order; from the first meeting through to completion, and she was to ensure that everything ran smoothly. The buyer would then be responsible for handling the order of all fabrics, trimmings, buttons and embroidery (de Marly 1980). Often negotiating with a small network of established local artisans and businesses, items would be sourced for exclusive use, an important signifier of the identity of couture. During the time of Maison Worth, the success of the Paris fashion industry supported a large network of local craftsmen. Whilst other cities may have had a small range of specialist suppliers, it was the sheer number of establishments within Paris that ensured the couturier had a vast amount of choice available to hand. Each season the specialists would produce their new range of products, which would be created outside of mass production methods and would further add to the value of the haute couture garment.

The *premiere d'atelier* (Head of workroom) and *petites mains* (or seamstress)

In the couture house it is the *premiere d'atelier* who is the person responsible for liaising between the couturier and the *atelier* and translating the couturier's vision into the *toile*. After which the garment is placed in the hands of the '*petites mains*'<sup>13</sup> who will also be responsible for the additional customer versions. Employment within the atelier of the couture house for a *petites mains*, would begin with the rank of *secondes mains debutantes*<sup>14</sup> and promotion would follow every six months until the level of *secondes mains qualifiees*<sup>15</sup> was achieved. It would take the seamstress three years to reach the highest rank to that of *premiere mains qualifiees*<sup>16</sup> and by this stage they would have specialized in either day or eveningwear (Kawamura 2004). Understandably these experienced seamstresses are highly coveted for their skill and often find themselves in high demand.

The structure within the couture house is dependant upon many factors, including the size and scale of the business and the products that are manufactured. In the larger houses other positions exist such as: in-house textiles teams; or workshop assistants such as fabric cutters. Although Breward suggests that, "Fine hand sewing, bureaucratic control and creative vision, then, underpinned the success of a couture house." (Breward 2003, p50), it also has to be acknowledged that external relationships, with artisan specialists such as embroiderers; and other sectors of the industry including publicists, editors and journalists, are critical to the stability and success of the house.

### 5.2.3 Working for the couture house

During Worth's period a busy social calendar of society balls, dinner parties and opening nights meant that the couture house was often working at or above capacity. Although unquestionable some work must have been farmed out to other operatives, by 1871 Worth claimed to employ over 1,200 staff (de Marly 1980). For the early part of the industry's history the poor conditions experienced by the hundreds of seamstresses employed by the couture houses seemed of little concern. Worth himself, who had slept under the retail counter as a young employee, did not consider it a problem that this type of practice and conditions continued in his establishment. While the salaries were poor (it is worth noting that it was equally bad if not worse in mass manufacturing and smaller ready-to-wear firms), this was not just a Parisian phenomenon, but it occurred in New York and London too (Breward 2003). Although it took some time, the pay and conditions did improve in Paris largely due to the actions of the striking seamstresses and the vision of directors such as Gaston Worth, who was to take control of his father's business and introduce proper insurance and pension schemes at Maison Worth. This family philanthropy continued when, in 1923 Jacques Worth,

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<sup>13</sup> *Petites mains* is the term given to the seamstresses.

<sup>14</sup> Translating as apprentice

<sup>15</sup> Translating as qualified seamstress with second degree

<sup>16</sup> Translating as qualified seamstress with first degree

who like his father Gaston held the post of president of the *Chambre Syndicale de la Couture Parisienne*, ensured the award of improvements such as holidays with pay. Jacques also assisted with the establishment of the *Ecole Supérieure de la Couture*, a foundation that from the 1930s onwards trained the industry apprentices to a required set standard (de Marly 1980).

At the couture house it was the vendeuse who would fair better in pay and conditions with the guarantee of a stable salary, plus commission on all sales, whilst the seamstress typically commanded a lower rate of pay regardless of the high level of skill required. Customers would make use of the unconditional guarantee that came with their purchase and expected the couture house to provide a repair and alteration service, however the tasks would often be carried out through the use of casual staff since it was irregular work. Since the Second World War the *Chambre Syndicale de la Couture Parisienne* has sought to improve conditions by taking an increased responsibility in supervising improvements in welfare, pay, benefits and conditions for employees. For the contemporary industry this means that the couture house no longer negotiates its own contracts and that uniform arrangements are organized across the sector (de Marly 1980). Pay and conditions have steadily improved at all levels of employment.

### **5.3 From design to production: a step-by-step account of the methodology applied in couture**

In the following section the design and production methodology applied in the development of an haute couture garment will be documented. This step-by-step account has been consolidated from an analysis of a range of existing literature in the field, and in particular draws on historical accounts of designers and their couture business, and the views of current designers expressed in contemporary literature. The account also makes use of first hand interviews with current couture staff and fashion historians.

The intention is to provide a summarized account of fashion practice, which will then be used to inform the model presented within the second part of this chapter. The steps discussed include: garment design; selecting fabrics, materials and techniques; pattern making and toiling; garment construction; distribution; garment use: laundering, repair; end-of-life/garment disposal.

#### *Step 1- Garment design:*

While it is expected that the couturier will be seen as an innovator of new styles, it is the relationship with the client that is integral to the methodology of haute couture. Despite the view that the haute couture collections have become the advertising mechanism for other branded products, as Galliano comments, even haute couture garments have to sell (McDowell 1998). This commercial imperative of couture was discussed in Chapter 2 with the

example of designer Christian Lacroix who was forced to close his label due to financial pressures.

Establishing the right relationship with the client is of paramount concern to the couture house and every effort to engage the client is encouraged. This is evident in the process of ordering a garment, where the client, upon being introduced to the house, would then be scheduled to meet with the *vendeuse*. The *vendeuse* would greet the client and become the personal hostess and administrator who would ensure that the order is handled according to the client's needs. After this first meeting the client would then meet with the *vendeuse*, fitter and possibly the *couturier*. The client would next select a garment model; suggest minor alterations if required and then measurements would be taken. The client would be expected to attend up to three fittings, however to save on fitting time the couture house may use a personalized mannequin that is kept onsite for each of the regular clients. This mannequin would require a dress form to be covered in a layer of horsehair or lambswool to duplicate the client's figure, which is then covered in a muslin body suit that zips up at the centre back. Using the original garment toile as a guide the *premiere main* will make a toile to the client's own measurements and accommodate any required changes whilst ensuring that the design should not be visibly altered.

The house buyer would ensure that all the relevant materials and trimmings were acquired through the network of small local companies that would source and create items exclusively for the couture houses. Once fabrics and trimmings had been selected basic construction seams were carried out by a sewing machine after which the remainder of the work would be carried out by hand. Perfectly spaced basting stitches are used to mark or hold the garment together temporarily as the garment is shaped and manipulated to the figure. Following the first fitting the garment is 'laid out flat'<sup>17</sup>. If during this process a garment section cannot be corrected then it will be replaced. If embellishment is an inclusive part of the design then at this point the work is commissioned so that it may be rebasted at a time when no further fittings are required. If a set-in sleeve is required then it is at this stage that it becomes basted to the garment with, if appropriate, sleeve heads and shoulder pads in place so that the garment appears finished for the second fitting. After the fitting the sleeves are carefully marked and removed so that underarm seams can be stitched and pressed, and cuffs, vents and any linings can be finished. Finally, after intersecting seams and basting stitches have been examined the sleeves are then basted and permanently stitched into the armholes<sup>18</sup> (Shaeffer 2001).

After each fitting the garment is returned to the workroom, disassembled and reconfigured with the necessary alterations. The completed garment would then be labeled with the house

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<sup>17</sup> The technique of 'laying out flat' the toile sections after a fitting ensures that corrections marked during the fitting process are translated to the toile should a similar design be required at a later stage

<sup>18</sup> The technical term used to describe the armhole.

details and stamped with a unique number ensuring exclusivity (Healy 1992). While a garment may be reproduced for many couture clients it would be expected that each might have minor differences for instance, differing colours or style variations. It is expected that garments requiring heavy ornamentation may take several months to complete however the majority of garments may be produced in a matter of weeks although this is dependent on a number of factors. While the haute couture methodology intends to provide the client with a flawless fit it is the subtle ways in which the garment is proportioned for the client that makes this process so engaging. For example, if the client has a sloping shoulder the collar, pockets and shoulder seam of a jacket may be realigned to offer the illusion that the body is symmetrical. If the client has a fuller figure then vertical seamlines are redistributed to flatter the figure. Most substantially, when garments are inclusive of embroidery the embellishment will be scaled and situated according to the dimensions of the client (Shaeffer 2001).

Developing garment design ideas that can embrace the 'perfect' fit can be evidenced in the work of designers such as Yves Saint Laurent; a highly influential couturier who revolutionized the contemporary woman's wardrobe. Famously his first role was that of couturier for the house of Dior in 1957 after the untimely death of its founder, Christian Dior. Saint Laurent founded his own couture house in 1961 and produced collections that redefined haute couture fashion. From the Mondrian referenced collection in 1965 and the tuxedo suit for January 1966 Saint Laurent was controversial, embracing street and bohemian culture in his haute couture and prêt-a-porter lines (Beward 2003). Saint Laurent employed classic tailoring techniques wherein a tailored sleeve would have two or three sections, with fullness built into the seam at the elbow. In a well-constructed jacket incorporating a two-piece sleeve, the armhole was created to visually appear as a straight line, therefore camouflaging the curve of the underarm. The upper two-thirds of a sleeve cap<sup>19</sup> would be backed with horse canvas to maintain its shape and the ease filled with a sleeve head to keep the sleeve cap smooth<sup>20</sup>. The armhole seams are usually reinforced and fullness at the armhole and sleeve cap would be steamed and shrunk to mould the body. The use of a shoulder pad can vary according to the fashions of the day but in the haute couture methodology it can compensate for fit imperfections. In contemporary fashion Saint Laurent continued to draw many admirers who were in praise of his classic style. However the house of Saint Laurent eventually closed in 2002 citing the couturier's retirement as the cause.

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<sup>19</sup> The sleeve cap is the technical term given to the top section of the sleeve, above the underarm point.

<sup>20</sup> A sleeve head is used to support a classic eased sleeve while a sleeve booster supports a fuller cap and is therefore wider and extending further into the sleeve cap. These supports are usually made from a variety of materials that depends on how light or stiff the support needs to be.

Image removed for copyright purposes

Figure 19. Yves Saint Laurent, tailored jacket. Saint Laurent, Y (1978), *Autumn/Winter 1978 collection* [Photograph]. In: Shaeffer, C.B. (2001) *Couture Sewing Techniques*. Newtown: Taunton Press, p137.

However, private clients were not the only purchasers of couture. The buyers of manufacturers and retailers also purchased couture garments for the mass production sector. Whilst the payment for the garment would be set higher than that of a private customer the buyer could purchase the garment from the collection, which would later be unpicked and used as a pattern. For a lower fee the buyer could instead purchase the toile that would later be copied. Alternatively the buyer could purchase a paper pattern (with a sketch and fabric swatch attached) and reproduce the garment while crediting the house name. The buyer would have to agree that the pattern was not to be altered, would have a limited run and was not to be resold (Healy 1992). The impact of such schemes meant that the influence of haute couture was far reaching.

Although clients today do not order anywhere near as many haute couture garments as clients of the late 19<sup>th</sup> century, a select group of clients always remain faithful to a house. At the house of Dior clients still consistently return for business albeit not necessarily for every season. Kawamura argues that technically in distinguishing haute couture from the work of other designers "...there is no major difference between Haute Couture and the well-made custom-made." (Kawamura 2004, p78). In Worth's day the couture house offered a distinguishable service unlike no other. Worth selected his clients and offered them exclusive design ideas and fabrics through his personalized service in a fashionable location. Typically it might be argued that this describes the haute couture service today and in fact many designers who create custom-made clothing may conduct business in a similar manner. However, Kawamura argues that it is the symbolic and social influence of the haute couture collection that distinguishes the couture house from other designers. The significance of being a member of Haute Couture is critical to the house and its clients as a measure of status and power.

#### *Step 2 - Selecting fabrics, materials and techniques:*

For a couturier such as John Galliano, in the role of creative director at Christian Dior, it is the evolution of his source book that ties together the inspiration, fabrics and details, which will inform the new collection. The sourcebook documents the thoughts and insights behind the designer's vision and it becomes the working tool to which the ateliers can refer. In Christian Dior's day the house would refer to his system of charts that were developed to ensure that he could see a balance across the collection. The large sheets gave an overview of each type of garment within each of the thirteen categories in the collection, and consisted of all fabric

samples, notes and pattern making instructions for the workroom. The charts also documented the individual garment names and the models that were to wear them in the salon show. These valuable charts have been preserved by the house of Dior and were a source of fascination and point of reference for Galliano as he prepared for his Dior haute couture collection debut in 1997.

The designer's approach to a careful balance between fabric, details and timeless design can be seen in the garment by Christian Dior in Figure 20, which is situated in the Powerhouse Museum archives. The garment demonstrates Dior's incredible awareness and consideration for the correct 'line'<sup>21</sup>, with which Dior experimented in 1950 with the 'vertical line' for the spring collection, and the 'oblique line' for autumn. In figure 20, the three-piece suit made in midnight blue wool serge has a box shaped jacket that offers a straight dolman sleeve featuring fold back cuffs which is worn with a draped v-neck fitted bodice and a slim skirt. The overall silhouette is both dramatic and feminine with masculine nuances, which is in great contrast to the silhouette of the New Look created only three years earlier. The bodice is shaped with a dart across the bust and the bodice sleeves are drafted in one with the back bodice and seamed onto the shoulders. The bodice is then attached to a blue silk peplum that tucks and fastens inside the skirt using elastic loops and suspender tabs. It is a successful feat of engineering that ensures a smooth fit for the wearer. Dior's adaptation of both the cut-on and sew-in sleeve techniques in the bodice section, in order to create this unique sleeve, would have required much experimentation to ensure a good and comfortable fit for the wearer. The sleeve makes use of underarm gusset pieces to facilitate movement while the cuff detail is finished with a simple buttoned tuck. It is the epitome of considered draping and construction in high fashion. However, for the designer it is imperative that the right fabrication is selected for the preferred silhouette. The chosen fabric must be of the correct weight, texture, drape and handle<sup>22</sup> to enable the manipulation of the cloth into a desired 3D form. For Christian Dior this would have been a critical factor to consider in the creation of the discussed garment.

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<sup>21</sup> To use the term 'line' would be to describe the cut of the garment and where the seams and darts are placed to greatest visual effect.

<sup>22</sup> This term is commonly used in the fashion industry and is indicative of the fabric's crispness or softness.



Figure 20: Detail, Christian Dior haute couture suit (n.d.), the Powerhouse Museum, Sydney.  
Image: the author 2008

*Step 3 - Pattern making and toiling:*

While the couturier often creates the new collection mainly on paper, working from thematically sourced research, a great number of couturiers including Madeline Vionnet, Cristobal Balenciaga, and Alix Gres worked directly with the cloth on a mannequin to produce draped masterpieces in varying degrees of complexity. Through this practice of draping on the mannequin new silhouettes and styles can be accomplished beyond the conventions of flat pattern making as the designer's vision comes to life synchronously in a three dimensional form.

In examining both past and present haute couture collections from the house of Dior it would seem that few of the marvelous sculptural shapes could have been realized without the process of draping. A designer's sketch can only impart a vision of what the couturier is trying to achieve. It would then be the manipulation of the fabric on the mannequin that captures the right look for the collection. At Dior haute couture, John Galliano, a fervent user of drape techniques, brings a fresh and often controversial point of view of fashion that has helped reignite interest in the haute couture collections. "With John, the working tool is the toile. He used to give me the drawings to work from but, in the end, the toiles would bear no relation to them, so we don't bother now." explains Galliano's assistant, Bill Gaytten (McDowell 1998, p62). For Galliano the collection is a story, however fantastical or theatrical the fashion press may choose to label it, in Galliano's vision it is about the clothes. When explaining his development of the collection Galliano exclaims "...all the time while you are editing [the collection] to make the impact stronger, you have to remember...it has to be sold." (McDowell 1998, p59).



In the Chanel house the *premiere d'atelier* is the person responsible for translating Lagerfeld's design into the toile, after which the garment is handed to the seamstresses. However it remains the responsibility of the *premiere d'atelier* for liaising between the couturier and the studio. The 'toile', or mock-up, is often constructed using unbleached cotton cloth (calico) and is continually remodeled and reworked in this phase of the production process. Lines are traced and 'bolducs' - or red tape ribbons - placed onto the cloth to define the structure of the garment. In haute couture the studios work in millimetres; everything is measured so that the fabric drapes and contours the body smoothly. It is at this stage too that motifs, checks or stripes are planned and positioned. If a garment opening disrupts a decorative motif, then the pattern will be carefully matched so that it becomes impossible to detect the break. Moreover if the garment is a two-piece ensemble then the fabric pattern will be positioned so that it runs uninterrupted from neckline to hem without showing any pattern disruption. Finally, once the toile has been approved a sample or prototype is realized in the desired fabric, and again fittings will take place to ensure that the correct balance, proportion and fit have been achieved. Next comes the fabric, which is cut, then overcast<sup>23</sup> and assembled before pressing. The process involved always acknowledges that alterations are possible right until the final model fitting.

Following the design and experimentation phase, using paper pattern development and/or garment draping, the garment design idea will move into a testing and construction phase, which typically includes the production of a toile. It is in the next phase that a garment idea – either developed from a sketch or as an experimental draped garment piece – which is realized into the final 3D sample garment that is determined ready for production.

#### *Step 4 - Garment construction:*

The construction of contemporary haute couture garments could be described as exemplary, however this has not always been the case. Early examples of couture garments from the 1860s reveal a much rougher standard of finish on linings and seams. It was only due to increased competition and complexity of garments produced after the 1870s that attention to details improved. During the inter-war years the development of draped fashion garments involved a higher level of skill and ingenuity. Garment hems were rolled and weighted, while supporting petticoats and integral under-bodices were introduced to anchor fluid necklines and shoulders. As Breward notes, "The final garment, in terms of its intrinsic value and sheer display of technique, well-merited the association with art and sculpture that have often been highlighted in critiques of couture" (Breward 2003, p52).

The operations within the couture workrooms continue to reflect an early 20th century industry, which placed a great emphasis on the quality of design, materials and fit, and the

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<sup>23</sup> Overcast is the name given to the technique of sewing the raw edges of fabrics to stop any unravelling.

superior hand made finish. Although new technology has had an impact on the ancillary manufacturing industries, the process of design and make in a couture house has remained unchanged. There are still two types of workshops: the "tailoring" or "*tailleur*" workshop, generally reserved for daytime wear, and the "dressmaking" or "*fleur*" workshop, which tends to handle eveningwear. The industry practices that have evolved in the workrooms have culminated in numerous examples of classic bespoke techniques that are significant to couture. For example, since 1983 the Chanel Artistic Director, Karl Lagerfeld, has reincarnated the Chanel tweed suit that was originally designed by Coco Chanel in 1928, for each new season. Coco Chanel was considered a perfectionist in her time and it has been documented that the sleeve was one of her fashion fixations. Time and time again Chanel was observed to have removed the sleeve from a jacket to gain a perfect fit in an effort to give the wearer a comfortable arm movement.

In the garment construction phase the processes and details that distinguish haute couture garments from their ready-to-wear counterparts may include features such as the use of dress shields, which are used to protect the fabric in areas of high wear and tear. In addition, where different sections meet, the fabric edges are usually sewn down by hand with microscopic stitches. The Chanel suit features buttonhole, pocket and chain detailing (an internal feature that keeps the hang of the hem in pristine condition) these are all stitched by hand. Furthermore, the tweed cloth is molded around the bust by a thread pulled tightly in the weave, so that it is sculptured around the body without the use of a dart (Shaeffer 2001). While the Chanel jacket seems almost casual in its appearance it is actually constructed with meticulous attention to detail. Traditional tailored jackets are constructed with the use of interfacings, backings, facings or heavy linings, however the Chanel jacket has only two layers – the shell fabric and the lining. The shell may be cut in loosely woven Linton tweed or a chenille, or brocade whilst the linings are cut from silk variations. In a unique 'Chanelism'<sup>24</sup>, the two layers are stitched together in a manner that is almost invisible to the eye, to ensure that the garment retains its shape. Further Chanelisms are visible in the set-in sleeve, which is often finished with a trim that has perhaps been embroidered or crocheted or braided onto the fabric. Alternatively, the trim may be a grosgrain ribbon, or a bias strip or be a decorative selvedge. The house of Chanel has a long-standing relationship with Linton Tweeds who supply the fabric with matching yarns and trims for the signature suits. Usually the fabrics are a combination of wool and mohair, although the tweed has evolved in other variants that have incorporated acrylic, metallic or other synthetic fibres (Shaeffer 2001). One final significant detail can be observed in the working sleeve vent, which is finished with custom-made buttons that may be fabric-covered with an inserted gilded motif such as a lion's head (see Figure 21).

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<sup>24</sup> The term 'Chanelism' originates from the fashion press of the 1960s. It was used to describe the unique qualities of the Chanel garment.



Figure 21: Cuff detail, Chanel haute couture suit (n.d), the Powerhouse Museum, Sydney.  
Image: the author 2008

What is perhaps most significant about the Chanel suit is that these design and construction details can signify to the informed observer that this product originates from the house of Chanel. While the haute couture jacket has many distinguishable details, which help ensure that inferior copies remain identifiable, the Chanel house itself has replicated the legendary jacket for the ready-to-wear market. For the unacquainted consumer this is where quality and price becomes bewildering; how is the unacquainted consumer able to tell the haute couture version from the ready-to-wear copy? If there appears to be no significant difference between the two versions then, in the view of the consumer, it becomes hard to justify the exceptional costs associated with couture. In 1999 US Elle magazine reported that the haute couture version would cost a client US\$13,000 whilst the ready-to-wear version would be a fraction of the cost at US\$2500 – 4000 (Friedman 1999). Some of the exceptional costs associated with haute couture can be attributed to the use of unique ornamentation and decoration, which is the next phase within the process of garment development.

#### *Step 5 – Distribution:*

The couture collections typify the use of decoration and textile ornamentation as a signifier of couture, however as discussed in Chapter 2, during the establishment of the couture houses in the 19<sup>th</sup> and 20<sup>th</sup> centuries it was the relationships with local artisans that helped to develop a thriving industry. Distribution networks at this time were limited, and as has been discussed in Chapter 2, designers such as Worth embraced locally produced fabrics, supplies and specialist skills to manufacture the haute couture collections.

The couture house worked with local artisans and manufacturers whom all produced work by commission. This ensured that the couture house could work on exclusive textile ideas, and remain in contact throughout the phases of design experimentation and textile execution. In the case of textile prints these may require up to 20 or more colours and can necessitate a combination of techniques including screen printing, hand painting, embellishment and finishes. Moreover, as a garment is being developed through its toile and prototype phase the work commences at the lace makers, tulle makers, embroiderers, pleaters, button makers, and *pasmentieres*,<sup>25</sup> who are responsible for the braid and trims.



Figure 22: Detail, Christian Dior haute couture by John Galliano for Autumn/Winter 2005.  
Image: the author 2005

For the couturier the haute couture collections provides the creative freedom from within which to experiment with ornamentation however much, if not all, of this work is executed by the specialist artisans. For the Dior Autumn/Winter 2005 - 2006 haute couture collection, designer John Galliano created a visual feast that referenced the early work of Christian Dior and the great fashion illustrators, Rene Gruau and Christian Berard. Galliano's 'illustration of

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<sup>25</sup> *Passementerie* is the term given to an embroidery technique that uses trims and edgings to produce decorative patterns on a base fabric.

the body' was first achieved by creating a trompe l'oeil<sup>26</sup> nude corset over which he layered flesh coloured fabrics and transparent tulle. The embroideries were then applied '...with the lightness of an illustrator's charcoal line or watercolour wash...' (Galliano 2005). The collection was scattered with classic Christian Dior motifs such as houndstooth, polka dots and flowers in celebration of one hundred years of the house of Dior. In the fashion press the collection was heralded as a "...gold medal performance" (Alexander 2005).

When working with the embroiderers, the couture house may provide a theme and colour drawings of the embroidery required with details of materials to be used such as beads, threads, appliqué and sequins. Alternatively the couturier may select one of the samples from the new season's collection from specialists such as the house of Lesage<sup>27</sup>. It is estimated that Lesage uses over 300kg of beads and a million sequins a year with a collection requiring up to 25,000 hours of work, since the ornamentation is still made entirely by hand (Seeling 1999). Surprisingly, it is probable that only 20 per cent of the embroiderers work may be destined for the haute couture collections, while the other 80 per cent of the time is spent on the ready-to-wear lines (Hayt 2006). At the buttonmakers, such as Desrues, prototypes would be cast, cut or perhaps carved by hand. Often the couture house emblem will be incorporated in the button design whether the material is mother-of-pearl, enameled, wood or gold plated. The *passemmentieres* will follow the couturier's designs to make trimmings, edging, or ribbons that will edge the fabric.

In the ateliers, occasionally printed fabrics are deconstructed and reassembled to create unique patterning. Print details may become appliqué motifs. In Elsa Schiaparelli's Circus collection of 1938, the couturier made use of decorative details across seams and darts so that the aesthetic was undisturbed. In the example of the pink silk Circus jacket, embellished by Lesage with silk embroidered performing horses, a horse's tail has been cut to overlap the dart line in the jacket front panel, where it has been secured with minute fell stitches. The same technique has been applied to the sleeve cap, where the fullness has been controlled with sharp tucks. The appliquéd horses literally danced across the body of the Schiaparelli's jacket fluently and uninterrupted. From jacket to jacket the construction varied slightly offering each customer an individual interpretation of the Circus jacket. This considered application reflects the pursuit of perfection that is applied in the development of the haute couture product.

During its peak period the couture industry was engaged in a thriving community of artisan makers and specialists whom all worked within a system that placed haute couture at the heart of the Parisian fashion industry.

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<sup>26</sup> A technique that is applied in design to create an illusion or 'trick of the eye'.

<sup>27</sup> Much of the embroidery work at Lesage will be created in Paris however it is difficult to ascertain whether all work is produced locally since Lesage now operates an office in India.

*Step 6 - Garment use: laundering, repair:*

According to Alexander Palmer, in her book entitled *Couture and commerce: the transatlantic fashion trade in the 1950s*, couture clients would repeatedly wear and rotate their garments for many years. A common misconception was that a client would never wear a garment beyond the season for which it was created. This myth was clearly ill informed, yet was continually perpetuated by the fashion press of the day. Having interviewed over a hundred couture clients Palmer found that many saw their purchases as long-term investments, and this fact was clearly understood by the couture houses. That haute couture garments should be considered an investment and offer such longevity was a testament to the design and durability of fine fabrication and production. Many of the couture clients of the 1950s had extensive wardrobe systems in place for care of garments. Maids were often employed, notably those who were skilled seamstresses were preferred. Storage space was often large and in some instances thermostatically-controlled. During the lifetime of the wearer the haute couture garments "...were handled as beautiful objects – a collection of very socially significant commodities..." (Palmer 2001, p234).

In the years leading up to the 1950s it was common practice for the couture houses to undertake garment maintenance for free or for a nominal charge. However this service received no promotion even though it could be seen as a tool for positive marketing. Today, the maintenance of garments is still offered by the couture houses, such as Dior, who very much see this service as part of the 'guarantee' arrangement that comes with any purchase in the 21<sup>st</sup> century. Often it is not practical for the clients to return to the house of purchase for maintenance work and particularly in the 1950s clients would turn to local parties for alterations and repairs.

*Step 7 - End-of-life / Garment disposal:*

Clients of haute couture seemed to have been emotionally attached to their garments and sought ways in which to extend the shelf life. In producing haute couture garments the couture seamstresses would employ techniques such as deep hems and generous seam allowances. Examples of haute couture garments originally created in the 1950s, which are held in the Royal Ontario Museum, show that whilst alterations were made to garments often fabrics were not cut or removed. This meant that the garment could be reconfigured in a number of ways over a period of many years. This allowed clients to make alterations if there was a need for updating or upsizing and there are many examples of haute couture garments in museum collections today that are a testament to this observation.

However, throughout fashion history there are examples of recycling schemes that demonstrate that the life cycle of clothing was extended until it was considered beyond repair. Even at the point beyond repair, the value attributed to cloth would see clothing materials recycled for other purposes rather than discarded. During the late nineteenth century a

woman was required to change her clothes as many as five or six times in a day and the eventual disposal of these items followed an established tradition. In the courts it was customary for these garments to be passed on to the ladies-in-waiting and servants who believed that this privilege was their right. Often servants would sell these luxurious garments to the many second hand shops that offered much of the population the opportunity to buy ready-to-wear items rather than order expensive made-to-measure items. The disposal of court garments initiated a small industry, popularized by theatres where old 'royal' garments were welcome additions to the stage wardrobe. During the nineteenth century there was a significant expansion of dress hire agencies especially in the USA where the growth in the population of the upper classes ensured that the dresses of the French court would find a new lease of life on another continent (de Marly 1980). In many respects the recycling of haute couture garments has continued through the resale of 'vintage' products in secondhand clothing boutiques and dress agencies, which confirms Palmer's comment that within its lifetime one haute couture garment would have at least one or more owners (2001). Moreover, haute couture garments have found their way into the museum archives and private collections, which further reflects the value of haute couture as a symbol of status (ibid 2001). Alas, since the advent of mass-produced clothing the need for quality fabrics and workmanship has deteriorated reflecting a shift in the social expectation of a garment's shelf life.

#### **5.4 Identifying the points for design intervention**

The step-by-step process applied in the haute couture methodology (outlined above) aims to provide an overview and to set the scene for a hypothetical haute couture model that will be described next. In documenting the step-by-step process it became clear that the complexity involved in the creation of the haute couture garment is in part due to the amount of collaboration required to produce the final product. This reiterates the point established in Chapter 2, that the creation of the garment while often attributed to the designer is in fact a creative collaboration between a range of artisans and specialists. However, what is evident is that the fashion designer is at the centre of this process and so the potential reach for positive influence by the designer is significant.

The second section of this chapter reflects upon the step-by-step haute couture process and provides a conceptual model that *now* has sustainable strategies integrated within the design and production process. In this instance the sustainable strategies have been selected and applied to the fashion design and production process utilized in the creation of the haute couture womenswear line that was recorder earlier in the chapter, and drawn from an analysis of primarily secondary data sources. The conceptual model is viewed from the perspective of the fashion designer and so the points for intervention, and relevant strategies

explored, are perceived as those that can be applied by a designer in the context of design and production.

In order to develop a conceptual model the author focused on three activities. Each of the activities worked towards the refinement of a model for haute couture that is intended to demonstrate the extent and range of approaches that can be employed within the design and production of haute couture garments. These three activities were as follows:

- 1) To begin with, a mapping assessment exercise, using the FDS assessment template, was conducted of the existing haute couture garment, which enabled the author to reflect upon the impacts associated with the garment's life cycle (figure 23). This drew on existing literature in relation to the fashion and production methodology applied in haute couture, to reveal the points for intervention within the process.
- 2) After this the author engaged in producing several textile samples in order to test the opportunities available within the limitations of a single sustainable strategy, and the impact that the strategy may have on the life cycle of the product. This activity explored the possible integration of sustainable strategies in the creative process, (from the fashion designer's perspective) through the execution of a small range of textile samples, in response to different sets of design scenarios.
- 3) Lastly, the author drew together a body of work that aimed to reflect the integration of strategies suitable within fashion design and the life cycle phases that these can occur within. This required an understanding of the life cycle approach to fashion design and the wide variety of sustainable strategies that can be integrated. This was achieved by drawing together, and referencing, existing projects from other fashion researchers and designers in the field.

These activities are addressed in more detail in the following section.

*1. Reviewing existing literature in relation to the fashion and production methodology applied in haute couture, and revealing points for intervention within the process through a mapping assessment exercise, using the FDS assessment template.*

In Chapter 2, *The Role of the Fashion Designer*, the intention was to reveal that a conventional methodology for fashion design and production exists, which originated from a model of practice that emerged with the early haute couture designers beginning with Charles Worth. The conceptual model for Chapter 5 draws on and defines the model of practice used by the couturiers, in order to reflect on and propose a methodology that can integrate sustainable strategies. Having drawn together, from existing secondary sources, a model of practice for haute couture, it is possible to analyze and define a conventional generic practice/process, which can then be compared with the new life cycle model, discussed in



Chapter 4. The system applied in haute couture matches each of the phases outlined in the FDS model, presented in chapter 4, However, it is apparent that unlike other sectors within the fashion industry, the haute couture methodology already acknowledges, to some degree, the life cycle of the garment. Within haute couture it is already possible to see the inclusion of the use phase where particular importance is placed on activities such as client requisition and fitting; care and maintenance; and even disposal, which are typically considered remote from the designer's brief in the broader fashion industry. However, within the haute couture methodology it becomes difficult to determine exactly in which phases, and therefore which activities, the fashion designer may be engaged. Consequently for the purposes of the conceptual model it is presumed, from analysis of earlier research outlined in the Chapter, that the fashion designer can have influence across all phases of the process. The set of activities, within the phases, in which it is presumed that the designer can exert influence have been classified for the conceptual model as: garment design; selecting fabrics, materials and technologies; patternmaking and toiling; garment construction; distribution; garment use; and garment disposal. Having aligned the activities with the FDS model, it was then possible to conduct an assessment exercise using the FDS assessment template as a tool for mapping the impacts associated with the life cycle of an haute couture garment (figure 23).

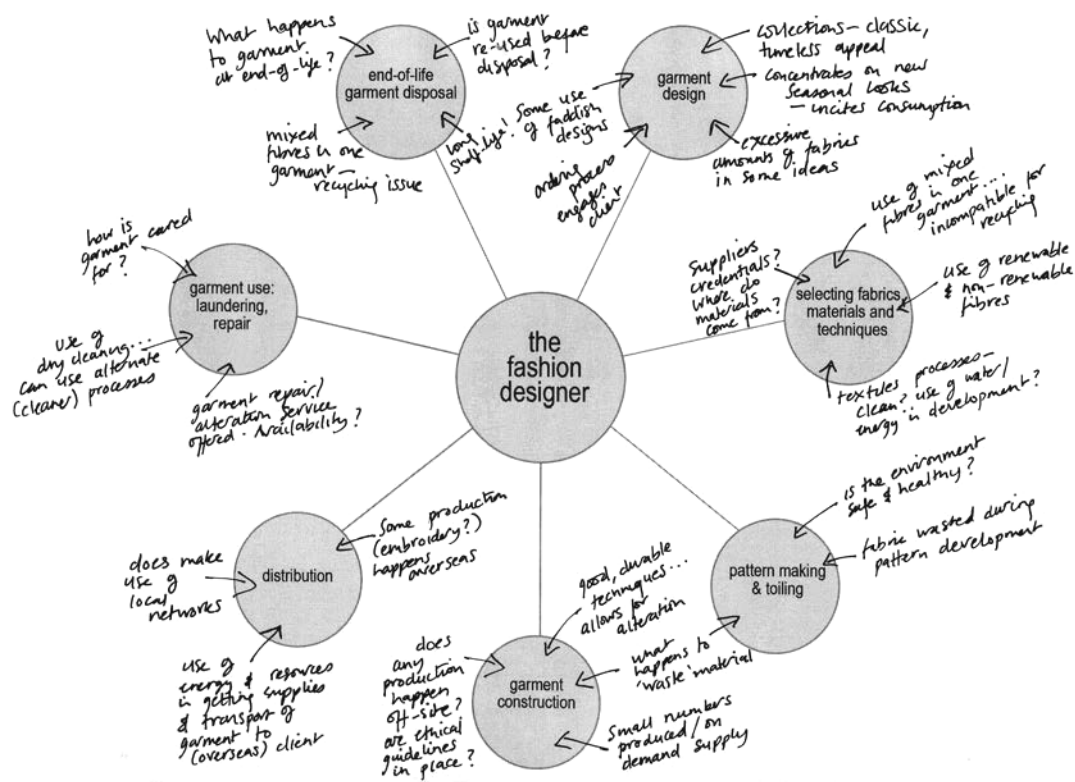


Figure 23: A mind mapping assessment exercise of the haute couture methodology, which is now viewed from a life cycle perspective.

2. *Experiencing the integration of sustainable strategies in the creative process, from the fashion designer's perspective, through the execution of a small range of textile samples.*

In order to understand sustainability from the perspective of the fashion designer the author produced a series of creative textile samples that provided the opportunity to experience the integration of sustainable design strategies within the creative process. These experiments proved critical in that they revealed how a sustainable strategy could be applied to fashion design practice, and at which point in the fashion design process that the strategy can be employed. Importantly the initiation for the creative work came from a specific set of design scenarios that attempted to draw a response to the problem of textile waste occurring at the end of the garment life cycle (see Appendix 1 and 2 for further project details). The design-orientated scenario (DOS), as discussed in Chapter 4, can provide the fashion designer with the opportunity to develop a range of concepts and ideas that can improve fashion for the future. Following an analysis of the current situation the intention should be to imagine a design intervention with the greatest likelihood of success, however radical the solution (Manzini, Jégou and Meroni 2009). The sustainable strategies that are then selected can shift according to the set of criteria applied to the visualized scenario. For example, in envisioning the redesign of a garment that may be repaired easily, criteria including the type and cost of the current garment, its purpose and function, its manufacture, its identified user, and the likeliest route of disposal all affect the selection of a suitable sustainable design strategy. The scenarios applied in the conceptual model consider three different visions for the haute couture garment, which each employs one or more sustainable strategies. Through the use of the different scenarios the intention was to depict a possibility of what can be achieved when applying a particular strategy to a particular scenario. The creative works were then devised to stimulate a conversation for other creative responses that can be applied in fashion design.

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Figure 24: The author's approach to a constructed design scenario, which explores the strategy of design for disassembly. Garment shown is by John Galliano for Dior (2005). Textile sample created by the author (2008). Galliano (2005) *Christian Dior bridalwear for spring/summer collection* [Photograph]. In: Haute Couture Collections spring/summer (2005). Christian Dior. *Collezione magazine*, 2005

While the research approach and methods utilized are outlined in Chapter 1, it is useful to recap on the processes used by the author in the practice-led activities. The main instruments for data collection included the development of a design journal, a diary and the production of a series of (physical) textile samples or objects. The textile samples were produced during three points in the research project. The first set of samples were focused on 3 different end-

of-life scenarios relevant to different fashion market levels; the second set of samples were produced in collaboration with embroidery specialists and focused on re-using textile waste in couture-focused samples; and the third sample traced the journey of a couture textiles sample as it went through a defined number of techniques and processes. This final piece was executed collaboratively with a screen-print specialist; an embroiderer; and an illustrator. The intention was to see if positive contributions and improvements to practice could be felt and supported across the supply chain. At the end of each point, the relevant textile samples were either exhibited within local and/or national exhibition, or within an international conference presentation. This was seen as an essential method for gathering feedback from peers, and allowed the author to reflect upon and analyse her approach to practice, which later assisted in the formation of the FDS model. As demonstrated in Figure 24 it was important to map the approach to fashion design practice; document positive and negative impacts associated with design, processes, and techniques; and to constantly reflect on the sustainable criteria outlined in the design scenario.

During the development of the textile works the author found that two parallel lines of thought – working through the design process while thinking through sustainable design strategies – discussed in Chapter 2, were useful during the design and production process. Working as the designer, the author found it important that problems were solved and decisions were made while working concurrently through these two perspectives. Furthermore, three key facts began to emerge during the process. First; that designers need to be equally educated in the principles of fashion design practice while at the same time they need to be well informed of sustainable strategies. Second; that by analyzing the design process it is possible to develop a system or model for fashion design practice that could be personalized and made specific to an individual designer's requirements. Third; in developing a model for fashion design practice life cycle thinking has to be, and can be, built into the fashion design process. This point was perhaps best understood during the third activity that the author engaged in, which is discussed below.

*3. Understanding a life cycle approach to fashion design and the wide variety of sustainable strategies that can be integrated, by drawing together and referencing existing projects from other fashion researchers and designers in the field.*

During the period of the research study the author led the *Fashioning Now* project, which involved the production of a sustainable fashion exhibition, symposium and scholarly book that was structured according to the life cycle of fashion garments (see Appendix 3 and 4 for further project details). The exhibition was presented both in Sydney, NSW and Perth, Western Australia and the author engaged in a program of public events including talks, lectures and workshops for educators and students at both.

The project outcomes provided the opportunity to survey the work of practitioners in the field and see what approaches were being applied at an international level. This data was gathered using a variety of research methods, which have been outlined in detail in Chapter 1. In executing the Fashioning Now project, of great benefit to the author was the opportunity to view her own research work in the context of others. In leading the project the author realized the true extent of research work being conducted in the field and how this has been dispersed across a disparate range of literature, online sites, blogs and press. This lack of a consistent or authoritative body of knowledge was evident in the information gathered by the author that was gleaned from a combination of secondary data sources and empiric interviews conducted with designers and researchers. The interviews were conducted for two reasons; namely to uncover how other designers and researchers are approaching the development of sustainable fashion. And secondly, to reveal the gaps in knowledge, even from those who are considered well informed. This data was further analysed to look for commonalities, and on this basis it seemed evident that popular strategies, such as material selection and upcycling, are still considered important approaches by the fashion designer. However, new and challenging approaches appear to be coming from unconventional sources, namely the wearer. From the analysis of data gathered from visitors to the exhibition and symposium events, it would appear that wearers and non-designers are establishing new and convincing arguments for both engaging with sustainability and in developing novel approaches to extending the life cycle of clothing. The scholarly book was proposed, in part, to address this problem; for the fashion designer in education or industry it would be time consuming to gather together, or even find relevant information that would help extend knowledge. In drawing together existing creative projects developed by other researchers and fashion designers, for the book and exhibition, a common theme began to emerge, namely that the success of sustainable fashion relies upon the engagement of the wearer. For example, if the designer's intention is to produce a garment that can easily be repaired, the success of the strategy relies upon the wearer making an emotional connection with the garment during the use phase. If the wearer is not connected emotionally then the concept may become redundant. With this in mind the *Fashioning Now* project was conducted from a life cycle approach in an attempt to demonstrate the importance of designing for sustainability during the manufacture, use and disposal of fashion garments.

To recap, the 3 activities outlined above were used to reiterate and explore the importance of life cycle thinking within the conceptual model. These interventions include, alongside the author's own creative textile works, a select number of case studies from the exhibition that explores the motivations of the wearer. However, all of the examples within the conceptual model are included to highlight a particular sustainable strategy, and to show how and where it might be employed within the fashion design and production process. The intention is to reveal to the fashion designer the range of strategies available and to show how these may

be tailored to a specific fashion design process. As discussed earlier in the thesis, the list of sustainable design strategies included within the study is not exhaustive and for the purposes of the study only a select number of strategies were explored for the conceptual model.

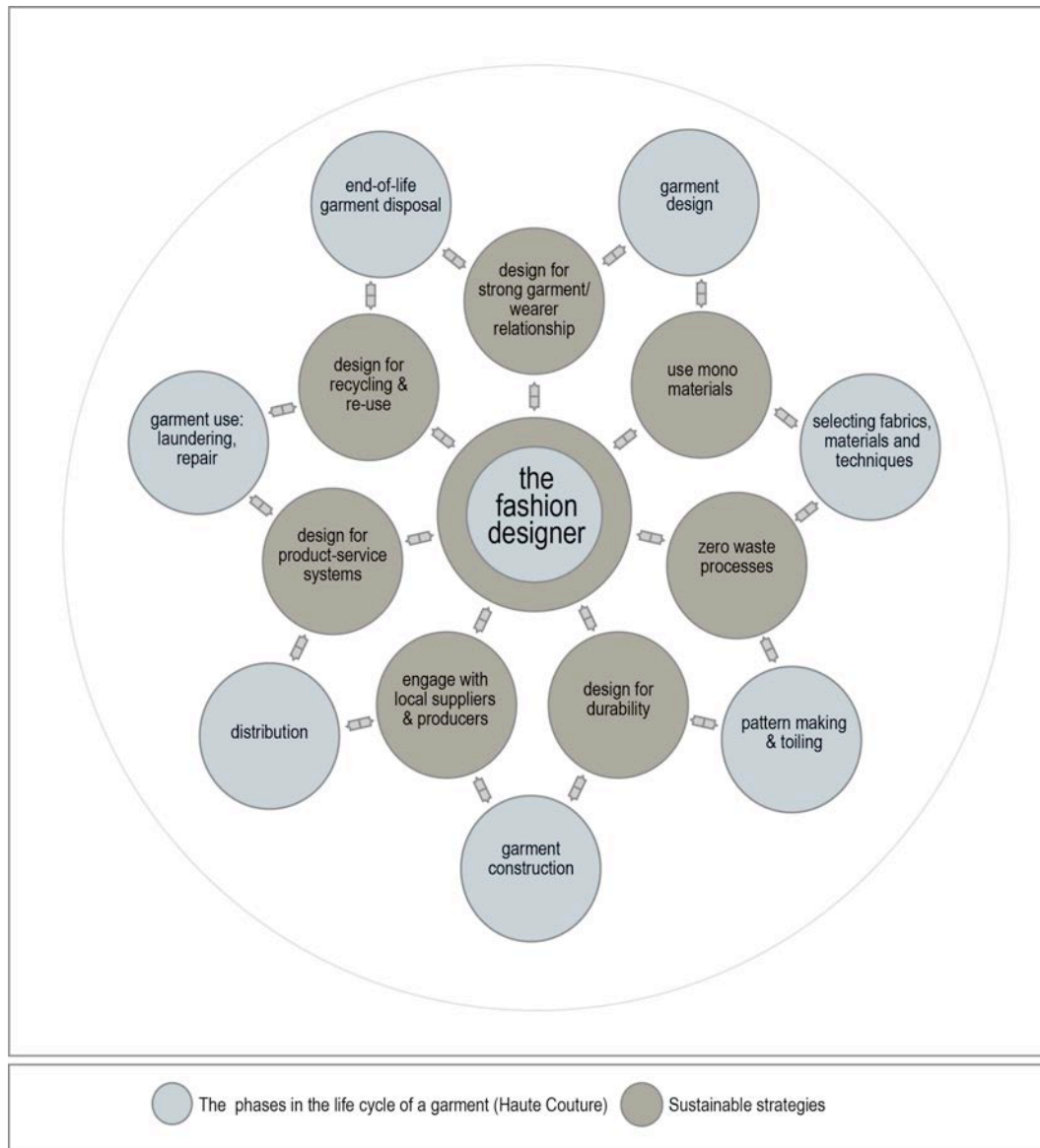


Figure 25: Diagram showing the integration of sustainable strategies within the haute couture methodology, using the FDS model.

The conceptual model, shown in figure 25, demonstrates one possible combination of a suite of strategies that were identified as being relevant to the particular phases of the haute couture methodology using the FDS model. A number of the strategies work, and create impact, across several phases, however the conceptual model only intends to show a representable range of choices that are available to the fashion designer in haute couture. The strategies selected for the haute couture methodology are explored in further detail in the section below.

## **5.5 From design to production: Integrating sustainable strategies in the couture methodology.**

As discussed in Chapter 2, the merit of the couture collection has typically been attributed to the phenomenon of 'the genius', the creative fashion designer whose artistry is an expression of innovation and vision (Breward, 2003, p50). Within the couture house structure the principal designer, or *couturier*, has traditionally held the position of creative director over the house and its collections. From here the designer can steer the haute couture collections through the various stages of design and production that may encapsulate a combination of traditional techniques and new applications. For the couturier the haute couture collections provide the creative freedom from within which to experiment with materials, form and ornamentation. Industry commentators frequently question the financial viability of the collections, however, innovation is still acknowledged a strong driver, which justifies the financial investment, as the collections become in what has been described as a '...laboratory to explore new design ideas...' (Steele 2000, p2).

As discussed the initial ideas for the new season's collection evolve within the designer's source book, which acts as a repository of inspirational references, fabrics and details. The sourcebook documents the thoughts and insights behind the designer's vision and it becomes the working tool and reference for the ateliers. At the house of Dior the atelier staff would refer to Christian Dior's system of charts that served as a synopsis of the collection. The large sheets summarized each garment type within all thirteen categories of the collection, and specified the individual garment names, fabric samples, notes and pattern making instructions for the workroom (McDowell 1998; de Rethy 2001). This approach places the couturier as a centralized figure in the design and production of the collection, and it is from this position that the actions of the designer can provide positive intervention through a combination of creative authorship and sustainable objectives.

Through an examination of the creative methodology utilized by the couturier and the couture house a method of design practice that allows for a greater use of sustainable strategies and creative originality in the design and production of fashion garments has been proposed. In the following section sustainable strategies have been mapped onto the seven-step design and production processes (outlined above), to highlight where these possible points for intervention might occur.

### *5.5.1 Garment design: design for strong garment/ wearer relationship*

As outlined in Chapter 2, the fashion designer develops the collection by referring to a predetermined set of criteria, which is the premise of the designer's brief. The designer will be required to develop a collection of garments that must meet consumer and market expectations while ensuring that the brand's vision is best represented. Furthermore, the designer is aware that the collection must be created for a determined season, occasion or function, and that production budget and requirements can be met (Stecker 1996). Traditionally little consideration is given at the design stage to the environmental impact of the haute couture garment. Therefore in the new sustainably focused model the first point to address is that the design brief has to change to consider the impact of the garment throughout its life cycle.

The designer's brief should now take into account the life cycle of the garment and so the use phase and disposal phase have to be considered as part of the design brief. In this instance the designer is now forced to understand and appreciate what can occur during the use phase of a couture garment and what disposal method maybe employed by a wearer. While the use phase and disposal phase of a garment have been outlined in Chapter 3, for the conceptual model the designer needs to determine how these phases will impact on the design and development of the new collection. In Chapter 2, and again earlier in this chapter, the use phase of a couture garment has been discussed and it has been noted that a key strength of the couture garment is its ability to create emotional engagement with the wearer during the fitting phase. Fortunately it is during this phase of the garment's development that the designer and the production team are also best placed to elicit important information about the use phase of an haute couture garment from the customer. This information, if examined, could be used to reveal fresh insights as to the habits and rituals of the wearer, which in turn could inform new design solutions that would result in an improved product performance for both the wearer and the environment. Indeed it would be fair to add that this probably anecdotally occurs to some extent already, as the wearer will usually communicate their own preferences, and experiences of clothing, during the fitting process, so that the garment can be adapted and fitted precisely (Shaeffer 2001). A way of more formally documenting and collecting these comments so that they can be used to inform the design of future garments is suggested.

Furthermore, if a vision for the fashion industry can include the growth and fostering of small-scale businesses then a reflection on the personalized customer service offered by the couture business can offer some cross-sector insight. As discussed earlier in this chapter, in haute couture the direct relationship between the couture house and its customer, or client, is of vital importance to the success of the business. Although a garment may be reproduced for many couture clients it would be expected that each might have minor differences for

instance, differing colours or style variations. Unlike the mass produced fashion system of production the client in this circumstance is prepared to wait for the production of a garment; heavily decorated garments may take several months to complete although the majority of garments may be produced in a matter of weeks. While the bespoke or made-to-measure approach outlined in the haute couture model ensures that overproduction does not exist what is significant is the client's attitude to the consumption of fashion. In this case the client expects to wait for the garment; fashion is not instant, in fact fashion created within the haute couture model is a carefully considered process of production and consumption. For the client the emotional connection that is required during the creation process and the receipt of a high quality, made-to-measure garment appear to be of equal importance. Moreover, the client's emotional attachment to the garment is likely to continue beyond a typical garment's single season since the product is constructed to the exact proportions of the client and is designed to flatter the body.

It could be argued then that the haute couture garment, while presented within a seasonal collection to the press and public, is actually designed for an extended life cycle. Chapman argues that most products are capable of creating some empathy at the point of purchase, however he believes that empathy also has a lifespan, which is governed by the relationship between the product and the consumer (Chapman 2005). The need to throw away garments comes when the consumer no longer feels any attachment. However in the example of the haute couture garment it would appear that by engaging the client in the process of creation, and in producing a high, quality made-to-measure product, the client's emotional connectivity is maintained through in to an extended use phase.

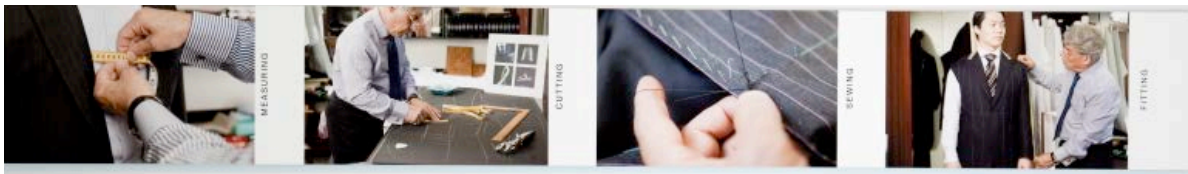


Figure 30: *Bespoke tailor at work* (2009). An example of designing for wearer engagement, with tailor Bijan Shiekhly. Image: Fashioning Now project / Nick Bassett photography

As discussed in Chapter 2, the concept of the bespoke garment began with the tailoring industry, a sector that continues to exist in many international cities. The bespoke tailor provides a client with a durable, high quality garment that has been handcrafted using traditional tailoring construction techniques. The design for a bespoke jacket emerges during discussions between tailor and client at the first fitting session while the tailor or his apprentice accurately takes measurements. The client will then select the garment fabric and suggest aesthetic details and personal needs, such as how many pockets are required and



where they should be placed on the jacket. Throughout various stages of the jacket's construction the client will return for further fitting sessions to discuss and assess the jacket in terms of comfort and fit; aesthetic design; and purpose and function. The hand-sewn construction methods and carefully selected materials ensure that the jacket is durable while the use of excess seam allowance (inlays) prepares the jacket for later alterations if the client's figure or personal aesthetic tastes change. Traditionally a client will return to the tailor for services such as garment alterations and repairs, and for additional products to complement previous purchases. For the bespoke tailor the relationship with his client is paramount to the success of his business; for the client the ability to influence the garment outcome, from start to finish, helps create a bond between client and garment. While the client is aware of the garment's durability it is the made-to-measure service that engages the client.

While the activities of the bespoke tailor described above roughly emulate the experience and process applied in haute couture they also demonstrate that alternate businesses models can occur, which focus on engaging the wearer in the creation of garments. The traditional tailoring model also shows that in producing a high quality product the wearer's attachment to a garment may continue well into the use phase, which may lead to an extended life cycle. In the domain of fast fashion and ready-to-wear, the fashion designer needs to question why it is that wearers choose to dispose of garments when they still function. Chapman argues that by increasing the relationship between user and product the impact of consumption can be reduced, as products are created, "...for deeper, more profound and poetic human needs, taking users beyond the ephemeral world of techno centric design towards a rich, interactive domain of emotionally durable objects and experiences."(Chapman 2005, p24). Like a work of art, the haute couture garment, and the bespoke tailored jacket, has a unique existence that offers a single user an authentic product - unlike a ready-to-wear technical reproduction – and where the customer's experience is one in which empathy and engagement is encouraged.

What is known, from the analysis of the couture wearer discussed in Chapter 2 and earlier in this chapter, is that the couture garment is considered to be a durable, quality product. However the designer can focus on extending the life cycle of the garment further by engaging with sustainable design strategies that help the wearer maintain the garment during the use phase. Furthermore, when taking into account the fact that couture garments can be adapted over time, or passed from one owner to another (Palmer 2001), it would suggest that disposal can be avoided until 'absolutely necessary', where 'absolutely necessary' is the point at which the garment is unrepairable/unwearable. With this detail in mind the designer can begin to deliberate on and plan for how the final garment is disposed of and more importantly consider how this will influence the final garment design idea. For the hypothetical, sustainable couture model it is suggested that the garment is prepared for material re-use at the end of its useful life, and this step is explored in the following section.

### 5.5.2 *Selecting fabrics, materials and techniques: use mono materials / design for disassembly and recycling*

For many fashion designers the creation of the collection begins with the fabric. As the haute couture collections have become an exponent of lavish fabrications it is imperative that the designer select the right fabrication for the preferred silhouette. Appreciating the technical properties of the cloth can offer the designer an assortment of possibilities therefore the fabric must be of the correct weight, texture, drape and handle to meet the intentions of the designer. Although in many instances natural materials are preferred in haute couture, recent developments in 'new textile' materials have seen alternative fabrication processes emerge. These new materials often appear in collections, combined with traditional materials that are sometimes mixed within the same garment. However, this use of multiple materials complicates the possibility for textile recycling at the end of a garment's useful life. It is through the use of strategies like *design for disassembly* and *design for recycling* the designer has the opportunity to positively intervene and include an end-of-life solution in the design and production process (Papanek 1995; Lewis & Gertsakis 2001; Fletcher 2008). The *design for disassembly* strategy focuses on developing a garment that can be taken apart, before the final disposal phase, so that the cloth and materials may be reused for another purpose. If a focus is also placed on *design for recycling* then using a singular type of fibre, or mono material, for the garment's creation strengthens the possibility for recycling the material through reuse or by feeding the material fibre back into a closed loop system of production.

Let us first consider a scenario wherein a high fashion garment could be designed for easy recycling at the end of its life cycle. Design scenario 1: *"what if .." a high fashion garment could be designed for easy recycling at the end of it's life cycle. What materials could be used? Could the fabrication evoke luxury? Would it be desirable fashion?"*

The design scenario outlined above, was used as a starting point for a piece of the authors own practice-led research to develop a concept for a decorative garment that once it has come to the end of its useful life it could be disassembled and recycled alongside other complementary fibres. The scenario presumes that all avenues for garment reuse are now exhausted and that material reuse and recycling is the next optimum option. In the example shown in Figure 26 the textiles sample has been constructed from 100% hemp woven fabric and organic cotton thread. The hemp fabric has been dyed in various gradations of pink exhausting a single natural cochineal dye bath. The dyed fabric has then been laser cut into 'fabric sequins' that have been individually adjoined to a hemp foundation whilst exploiting the

differing tones of the fabric surfaces. The ornamentation has then been embellished further with hand embroidery. Although the sequins cut edges and colour will naturally fade during the use phase, the drape and handle of the ornamented fabric will soften as the garment ages. The sequins can be replaced if repair is required, or completely disassembled and removed for recycling. Moreover, by employing the use of new laser and water technologies this type of approach could be enhanced further, for example, bonding processes that enable garments to be 'stitched' without the need for thread are then easier to disassemble. The choice of fabrication, textile design and application have been specifically considered to embody the typologies of haute couture ornamentation. By reflecting on the materials and techniques used within the Paris haute couture collections, through the practice based experiment it was possible to illustrate how luxurious fabrics and resplendent ornamentation in fashion could be achieved while engaging with sustainable strategies that encourage the use of mono materials, material disassembly, reuse and recycling.



Figure 26: *pink hemp, hemp sequin*, textile sample focusing on using mono materials for disassembly and recycling (the author, 2008) Photography: Paul Pavlou

However, two major factors affect the likelihood of success with such a concept. Firstly, the current situation for textile recycling, alongside the second-hand clothing market, includes the development of new by-product materials spun from a mix of shredded, recovered pre and post consumer textile waste. The mix of textile waste materials, regardless of the true value of each fibre included, are typically considered downgraded in this example of mechanical

recycling. The by-product material is suitable for a range of industrial and domestic uses, including wipers, padding or stuffing (Gwilt and Rissanen 2011). However, as discussed in Chapter 3, the potential to avoid the downgrading of a fibre by using a closed loop system of production, which involves recovering and recycling a fibre back into a system of production, currently seems to be a marginal option within the fashion and textiles industry (National Textile Center Annual Report 2010). Secondly, the range of fabrics that are suitable for a closed loop textile recycling scheme may be at odds with those typically used in haute couture. Fibres that do seem to have achieved success in closed loop systems of production in relation to fashion are those developed synthetically for instance, polyester as demonstrated in example given earlier of Patagonia's *Common Threads Recycling Program* in conjunction with Teijin's *EcoCircle* fibre-to-fibre recycling system, where polyester textile waste can be remanufactured into new garments (Fletcher 2008). The reason for this success may lie in the relatively similar qualities between the original fibre and its secondary product when remanufactured in larger quantities, which is currently not achievable with all fibre types. For example, while wool can be recycled it may often need blending with a virgin fibre to retain its quality (Fletcher 2008). Nevertheless, the fashion designer may still conventionally, and to some extent understandably, prioritize aesthetics qualities over environmental concerns when selecting the fabric for a garment. A downside of these new textile innovations might be that the use of increasingly complex fibre blends in fashion fabrics has complicated the option of material recycling. And yet there can be enormous benefit and scope for creativity if materials are selected for their aesthetic *and* environmental qualities. Materials can now be derived from organic, renewable or biodegradable sources, while new textile developments have resulted in the creation of materials using recycled fabrics, manufacturing off-cuts or discarded garments. Moreover, the selected fabric can be manipulated and enhanced further using responsible surface decoration and embellishment techniques, offering limitless creative potentials. The practice-based work discussed here operates as a small sample of this potential. According to Kate Fletcher the fashion industry stakeholders need to change their pattern of producing and begin "...to link a fibre with its life cycle, a material with a user." (Fletcher 2008, p4) The life cycle of the fashion garment and the garment materials should both be reconsidered. Furthermore, the designer also needs to appreciate that various users may understand the function of a fashion garment differently, and this concept will be explored later in the chapter when alternative strategies for garment recycling are discussed in 5.5.7.

### 5.5.3 *Pattern making and toiling: zero waste processes*

Once the collection fabrics have been selected and the design concepts determined the development of garment prototypes can begin. Through a collaborative partnership involving the designer and the technical staff each garment is created – from design to physical artifact

– by a process of experimentation using draped fabric on the mannequin. These experiments evolve from the designer’s sketch, which will see the designer move between sketch and realized prototype until the outcome is satisfactory. For couture the opportunity to innovate while draping on the mannequin also presents the possibility to control, reduce or eliminate fabric waste during the garment’s creation. Even though textile waste is created at various stages of a garment’s life cycle, in couture this is a significant point in the production phase where pre-consumer waste can be reduced.

In respect to the concept of a pattern making zero waste process Rissanen advocates the exploration of what he names the “jigsaw puzzle” methodology (2007, p2). Applied in the production of earlier garments such as the ancient Greek *chiton* to the Japanese *kimono*, the jigsaw methodology capitalizes on the simplification of panel lines so that the garment pattern pieces can be economically laid, like an interlocking jigsaw, during the cutting phase (ibid 2007). In the current fashion industry, fabric waste occurs as the garment pieces are cut out of the cloth; this is because contemporary fashion relies on the use of shaped pattern pieces that allow the garment to be fitted to the body but involves a combination of straight and curved lines. The cutting out of the shaped pieces results in the creation of positive and negative space in the cloth and it is the negative pieces or scraps that become the discarded waste. By reflecting on earlier examples of historical garments the designer can apply tried and tested methods for fabric waste minimization, yet much of contemporary fashion requires a complex range of garment silhouettes and styles, some of which involve shaping. Rissanen’s menswear work seen in Figure 27, demonstrates the truly complex nature of developing commercially viable paper patterns that achieve an absolute zero waste outcome. Designer and academic, Holly McQuillan (2011) argues that waste can be minimized, or completely eliminated, if the designer is prepared to take risks and adopt a flexible approach in the design and development of a garment. McQuillan advocates that it is through an appreciation for the cloth and an intuitive design process that ‘timeless’ fashion solutions can be generated. The perspectives of Rissanen and McQuillan are derived from the view that the fashion designer is deeply engaged in both the design and patternmaking activities, in fact both designers undertake these tasks for their own work. However, at an industry level, such as the example of Giles Deacon discussed in Chapter 2, at this point in the process the designer may be working in conjunction with other specialist staff with expertise in draping for example. This then challenges the notion of the designer as the lead in the design decision-making process, and presents a more collaborative-based practice. Within such a collaborative process the designer will need to be able to steer the workshop team to achieve the desired look, while at the same time setting a zero waste target.

In addition to championing a zero waste pattern making process Rissanen attempts to extend the life cycle of his designed garments. This is achieved by building in repair strategies that aim to slow the drive for further consumption and through inventive schemes that can help

lengthen the life cycle of the garment. In a challenge to models of mass production and consumption thinkers such as Alastair Fuad-Luke and Kate Fletcher have been advocating the use of 'slow design' strategies. The notion of slow design supports meeting the real needs of the individual, the community and the environment in a way that amongst other factors, counteracts the quick response time embraced by most manufacturing sectors (Fuad-Luke 2005). In the next section the concept of slow design is discussed in relation to garment construction and in particular to how responsible design and production methods can help drive the movement for slower patterns of consumption.

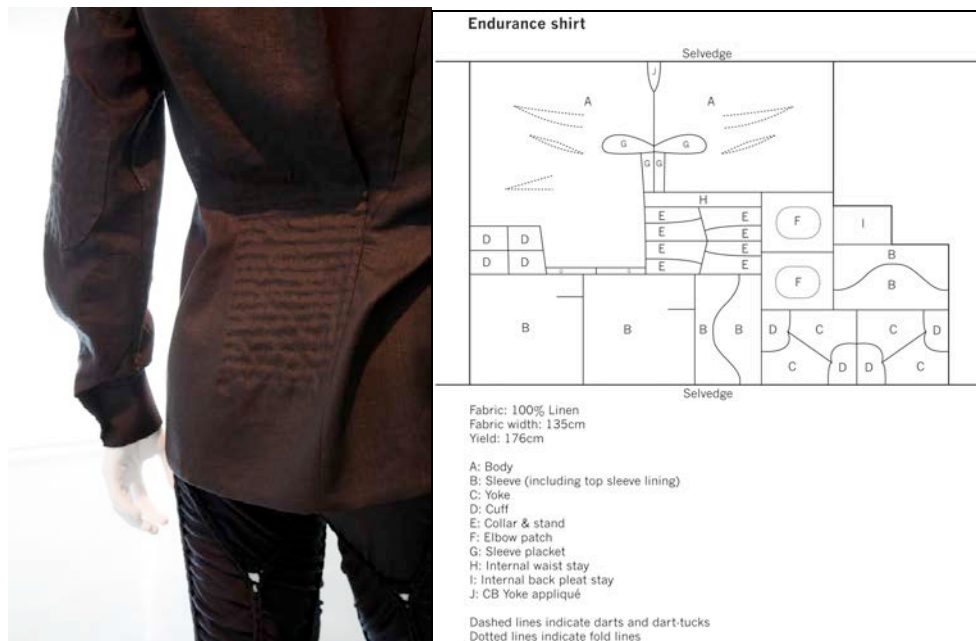


Figure 27: *Endurance* (Rissanen 2009). An example of designing for waste minimization: menswear designer, Timo Rissanen. Image: Fashioning Now project / Silversalt photography

#### 5.5.4 Garment construction: design for durability

In discussing strategies for slowing consumption, the quality constructed, made-to-measure couture garment could be described as exemplary but this has not always been the case. Early examples of couture garments from the 1860s reveal a much rougher standard of construction finish on linings and seams. It was only due to increased competition and complexity of garments produced after the 1870s that attention to details improved. During the inter war years, a period when fashion garments embraced sculptural forms utilizing draping, a higher level of skill and ingenuity was required. Hems became rolled and weighted, whilst supporting petticoats and integral under-bodices were introduced to anchor fluid necklines and shoulders; "...the final garment, in terms of its intrinsic value and display of technique, well-merited the association with art and sculpture that have often been

highlighted in critiques of couture." (Breward 2003, p52). The operations within the workrooms continue to be reflective of an early 20th century industry that placed a great emphasis on the quality of design, materials and fit, and the superior hand made finish. While new technology has had an impact on the ancillary manufacturing industries, the process of design and manufacture in a couture house has remained relatively unchanged since production began.

As discussed, earlier, the haute couture garment was prepared for alterations during the construction phase, and these methods assisted the wearer in acknowledging that repairs and alteration opportunities were available. It has been suggested that since the advent of mass-produced clothing the requirement for quality fabrics and workmanship in clothing manufacture has declined, perhaps as a reflection of society's cost-conscious attitude. However there has been a progressive shift in some circles of contemporary design practice towards the inclusion of slow design strategies as a model for influencing patterns of consumption.

While Rissanen's Endurance shirt, shown in Figure 26, has been developed using a zero waste approach, surplus fabric has been redirected towards a garment repair scheme intended for service during the use phase. The surplus fabric remains hidden within garment seams and behind decoratively stitched patches, ready to be used at a later point. Moreover, Rissanen invites professional and amateurs to engage in the repair work; the hand stitched repair marks are already placed in high wear areas so that new repair work causes little design disruption. With an emphasis on classic shirt design, decorative craft techniques, and the integration of a built-in repair scheme Rissanen attempts to build a relationship between wearer and garment. As explored in Chapter 3, since society no longer assumes that the mending and altering of clothing is a responsibility of ownership, Rissanen endeavors to address the issue through a novel creative design response. Furthermore, Rissanen's response is to engage with strategies that extend the life cycle of a garment, which may otherwise be considered as a way of slowing down consumption.

Success in slowing down patterns of consumption is regularly attributed to fashion that is considered having a timeless appeal, however this idea relies on matching the right garment with the right wearer. The following story, of wearer Gene Sherman, provides an insight as to how important this relationship is. Dr Gene Sherman, Executive Director of the Sherman Contemporary Art Foundation in Sydney, Australia, has been a collector of Japanese fashion for over two decades. By implementing a carefully considered acquisition and 'retirement' process, this means that at any given time she has approximately 25 outfits in her wardrobe. For Sherman the mantra "buy less, buy better" is very much in evidence; typically the pieces are high-quality designer ready-to-wear items from Yohji Yamamoto, Issey Miyake, and Comme des Garçons by Rei Kawakubo. The work of these Japanese designers is often

described as timeless, original in design and unusual. It is this type of public perception, which allows the pieces to easily transcend a traditional six-month fashion season.

For most consumers fashion shopping can be a casual and relatively regular activity, for Sherman it is a carefully planned exercise. She dedicates half a day to shopping during her two annual trips to Tokyo and when she acquires a new piece, she 'retires' an existing piece from within her wardrobe. The retired piece is photographed and details are recorded such as date and place of purchase and where the garment was worn. The garments are then packed in conservation boxes with the archival information (Gwilt and Rissanen 2011). While for the average consumer this may be considered unusual practice, it demonstrates that clothes can be a source of memories, acquiring a type of social/cultural capital that link the wearer to a specific place and time. This type of relationship with a garment (in this case) results in a diminished need for buying excessive clothes; in the case of Sherman the satisfaction normally gained through the act of buying a new garment is matched through a reconnection with an existing garment. This slower pattern of consumption enables her to create a deeper level of engagement with the clothes themselves, which over time allows her to build a personal ongoing narrative and set of associative values.

It should be remembered that clothes fulfill different kinds of material and non-material needs and for Sherman, as for many others, her clothes are a source of pleasure and also a reflection of her aesthetic, intellectual and emotional traits. As discussed in Chapter 3, Fletcher's (2011) *Local Wisdom* project demonstrates that wearers often hold on to garments that are cherished and treasured, and the fashion designer often misses the opportunity to capitalize on this type of information; what emotional attachment does a wearer have to a particular piece of clothing, and how is this attachment formed?

Although Sherman's disciplined approach to the editing and documenting of her wardrobe is unusual, it reveals the potential benefits of owning a smaller carefully considered wardrobe. On one level it can provide the wearer with the opportunity to engage with clothing on a greater personal level, and this approach utilizes the repair and adaption schemes employed by designers such as Rissanen. The concept of owning a small, durable, well-designed wardrobe of clothing that is flexible and adaptable to its wearer's needs offers the fashion industry a model for new possibilities of revitalization. The issue is, how can the designer and the industry approach shifting the mind-set of the average consumer to think in this way. The creation of garments that are responsive to the needs of the wearer often occurs at the local level, and this was perhaps one of the strengths of the early couture industry as noted in Chapter 2. Production at the local level requires a vibrant and engaged community of producers and consumers, moreover at a community level it is much easier to disseminate knowledge and share positive experiences of sustainable practices. This will be discussed further in the following section.





Figure 28: Issey Miyake (2008) ‘spider skirt’, from Dr Gene Sherman collection at the Powerhouse Museum, Australia. Image: Fashioning Now project / Silversalt photography.

#### *5.5.5 Distribution: Engage with local suppliers and producers*

The production and consumption of fashion products involves the transportation of resources and supplies for textile processes and manufacturing services, and the distribution of finished goods to retail markets and warehouses. As a globalized trade, the fashion industry makes use of distribution networks that enables fashion producers to buy and use resources and services from anywhere in the world. Since the production of fashion is generated primarily for economic reasons, the fashion producer, particularly at a mass-market level, is often concerned with sourcing suitable products and services at a low cost price. While this may work for the industry at an economic level, as discussed in Chapter 1, engaging in an international distribution system means that the environmental impacts associated with transportation are often ignored. Furthermore, the fashion producers become remote from

those who make and buy fashion products, which then assists in keeping the human and social consequences of fashion production and consumption invisible.

However, the traditional fashion and textiles craft skills found in many local urban and even rural environments often contribute greatly to the vitality (and identity) of a culture. Unfortunately in many contemporary societies these creative communities struggle to survive amidst a fast moving fashion industry that seeks to produce cut-price fashion, usually at the expense of a localized and specialized industry. Nevertheless, some of these creative industries, small in scale and often associated to the luxury or high fashion sectors of the industry, have continued to exist through revivals in the hand-made and a resurgence of interest in craftsmanship and skills. Moreover, it is now acknowledged that radical innovations in society can come from a change in local systems and the concept of creative communities. Ezio Manzini recognizes that these creative communities emerge in very specific conditions having "...invented different ways of behaving and thinking." (Manzini 2005, p7). These communities are often situated in one place; they utilize local resources and directly or indirectly promote new methods of social engagement. Furthermore while operating at a local level these communities are often engaged at a global level through the sharing of information and experiences with other international communities. Manzini acknowledges that these communities already exist and can be found in most cities and societies, however they are very much in the minority.

As discussed in Chapter 2, the Paris based couture houses are situated within a community that encompasses a network of artisans who have become invisible stakeholders in the production of the seasonal collections. Collaborating with local embroiderers, textile designers and manufacturers a couture house will frequently commission exclusive textile work that is generated from a provided theme. Ornamenting the couture fabric can be achieved through an amalgamation of techniques including screen-printing, hand painting, embellishment and finish (Seeling 1999). Traditionally these techniques are applied by hand, however, new technology has inexorably disturbed the traditions of couture through the use of techniques such as digital printing and laser cutting all of which will be produced outside of the couture house *ateliers*. In assigning the embroidery work the couture house will carefully detail the application of every thread, bead, and sequin, or the couturier may select from the new season's samples, as prepared by specialist companies such as the house of Lesage. But while the Paris couture industry practices within a creative community there are often concerns for the financial viability of the industry. In recent times the house of Chanel has acquired a number of small businesses including Lesage, Lemarie, shoemaker Massaro, milliner Michel and, Desrues, which has helped assure the employment of the highly skilled artisans.

Without question the work of artisans is intrinsic to the success of the couture collection, while

at the same time this community reflects a rich heritage of couture that can support design diversity and the enhancement of a distinct Paris style. Moreover, the localized system of artisans and producers is well positioned to reduce some of the negative environmental impacts typically associated with large-scale production including, for instance, the transportation of goods and products. This local/community approach can help shape a future fashion industry that, as Fletcher comments, "...is concerned with developing a sector with a greater sensitivity to place and scale; a sector devised to sustain communities and support jobs while protecting the quality of the environment." (Fletcher 2008, p137). Moreover, as advocated by Manzini (2005), working from within a localized industry offers further potential, which lies in the development of a network for knowledge sharing, between suppliers, producers, service providers, and consumers. From within this network sustainable design strategies can be promoted, and new ways of engaging with sustainability can be explored. Manzini's vision of a connected network becomes a possibility, as people begin to share new ideas and experiences, and start to develop new ways of engaging with fashion that can affect a change in the behaviour of everyone engaged in the production and consumption of clothing.

The textile example shown in Figure 29, was a collaborative project between the author (fashion designer), Zoe Sadokierski (illustrator), Steve Woods (screen-printer) and Helen Parsons (embroiderer). Initiated by the author, the aim of the project was to create an ornate textiles piece suitable for the couture market, which was reflective of localised artisans working together in a connected community of practices. The practice-led project was designed to expose the artisans to the principles of sustainable design, and through trial and error would indirectly inform their own particular practice. In addition the project aimed to employ environmentally friendly production processes, wherever possible, and to focus on material re-use. The textile piece (shown in figure 29) was shaped into a sleeve, and created using only reclaimed materials, including a linen base fabric, and cotton fibres and fabrics for the embroidery work. The print illustration was designed to encapsulate the textually rich ornamentation style of a couture garment, within a limited number of screen print processes. Following a range of print experiments a specialist non-toxic print pigment was chosen from a local pigment supplier, which enabled the illustrator to work with the screen-printer to create a rich, dense patterning effect that was vibrant and colourful. The screen-printed base provided a rich base of colour and texture that the embroiderer would next enhance. The embroiderer worked with the fashion designer to establish a limited range of coloured waste materials and yarns. Using the strategy of upcycling in textile design, which was discussed in Chapter 3, the embroiderer then applied each appliquéd leaf using a variety of embroidery techniques and stitches. While 40 leaves were attached to the sleeve no two were applied in the same way, therefore each was distinctive.



Figure 29: *Journey of an ornate* (the author, Sadokierski, Woods & Parsons 2009). An example of designing for localization: local artisans collaborating to create responsibly. Image: Fashioning Now project / Silversalt photography

The project was conducted over a six-week period, with the sleeve moving from one artisan maker to another. During that time the journey of the sleeve was visually recorded as it moved from one studio and process to the next. The photographic documentation of the project was instigated for two reasons, namely: to later expose the work of artisans in the production of the fashion garment, to the local design community, since it is the named designer who typically attracts the acclaim; and to document how the artisans accommodated principles of sustainable design within their practice. In this way the method echoed the documentary practices of use in the couture design process. Interestingly the biggest impact from the project was felt within the Sydney embroidery community. As the embroiderer was a

member of the NSW Embroiderers Guild - following the conclusion of the project - the embroiderer began to deliver workshops at the Guild's centre, which focused on upcycling techniques within embroidery work. The work of the embroiderer also impacted on the local University design school, which involved final major fashion collection students commissioning work from local artisans. The students found that direct relationships formed with local artisans enabled their design work to flourish in unexpected and positive ways. This included the opportunity to meet regularly to review sample and test pieces, to easily share ideas, resources and materials, and to become part of a networked creative community.

Following the emergence and growth of creative communities in other creative sectors the fashion industry has also begun to see a return of small-scale enterprises, run by designers themselves. Angela McRobbie's vision for such a scenario is built on the establishment of small apparel firms located in local neighbourhoods that operate almost like "...corner stores" (Schor 2002, p57). Rather like the system applied in the early Paris haute couture industry, as discussed earlier in this chapter, these small businesses would cater to local clientele which would present the opportunity to build relationships with seamstresses, local artisans and suppliers. In environmental terms the benefits of such a system lie in the savings that can be made in areas such as transport, branding, advertising and marketing as well as assisting in a reduction in the over production of garments. This has the potential benefit of providing the opportunity to redirect money saved into paying fair wages, installing environmentally sustainable production techniques, funding better quality materials and support designers (Schor 2002). However, the real strength of a small, localized system or production lies in the relationships that could be made between producer and consumer. In the small-scale production model the designer is able to engage, respond to and nurture a close relationship directly with the wearer that helps to foster a loyal and ongoing bond. Moreover, this is where the designer can engender an emotional attachment between wearer and product that would hopefully extend into the use phase of a garment's life cycle where garment washing, storage, and maintenance become the responsibility of the wearer. Supporting this approach, if the fashion industry explores a shift towards *product service systems* (PSS) then an extended garment life cycle could be achieved. This will be explored in the following section.

#### 5.5.6 *Garment use: laundering, repair: designing for product-service systems*

As discussed in Chapter 3, the opportunity for product-service systems in relation to the fashion garment was explored in *The Sus-House project*, coordinated by the DELFT University in the Netherlands (Bras-Klapwijk and Knot 2000). Although the project investigated clothing through four different design orientating scenarios, one scenario concluded that limited wardrobes of high quality, unique, made-to-measure clothes, which could be repaired and involved less washing, could achieve a decrease in consumption while

offering a longer use life. While this model duplicates the haute couture methodology the project further declared that new product-service combinations could play an important role in establishing resource-intensive consumption modes, which included leasing, service, and sharing products. However to successfully apply a PSS there has to be an equal focus on both a product and a service rather than simply concentrating on the product in its entirety. The benefit of the PSS approach is that a customer gains a garment that is further supported by a service/s, which can for instance, include repair and alterations, and take-back schemes that would enable the wearer to return the garment at the end of its useful first life. Using these types of services would allow for a much longer garment life cycle. Moreover, in some instances once the garment has come to the end of its useful life the materials can be reused for new product outcomes. This, for the fashion industry, could provide the opportunity for new business growth (as an alternative to the fast / high volume fashion model) that in particular attempts to tackle the issue of decreased sales in a highly competitive market place.

To challenge the contemporary task of garment repair the author devised a second design scenario that would explore the potential of redirecting the couture house towards a product-service system in relation to the haute couture garment. The premise for the scenario is constructed as follows. Design Scenario 2: *“what if ..” a much-loved but damaged fashion garment could be perfectly placed back into the wardrobe again. How could you repair the garment yet add further value to it? How could you keep wearing it even if fashions change?*

In figure 31 the author engaged the notion of *upcycling* (McDonough and Braungart 2002) in an attempt to upgrade and add value to a damaged product that may otherwise be discarded. As discussed in Chapter 3, the technique of *upcycling* concentrates on adding value to waste materials, which may be used within the design and manufacture of new products. In this example, the grey wool/cashmere blend fabric had been accidentally stained with blue ballpoint ink, and for a garment of this nature the attempt at stain removal may create more damage rendering the garment ‘useless’ (in relation to aesthetics). Rather than attempt to remove the stain the intention was to ‘celebrate’ its occurrence. The design of the hand embroidery was influenced directly by the shape, texture and intensity of the stain itself, and in this case the stain has become the central component of a whimsical flower pattern. In particular the rather classical embroidery design has been selected to transcend fashion cycles thereby offering a timeless design in an effort to extend the garment life cycle further.





Figure 31: *grey wool, blue stain* (the author, 2008). An example of garment upcycling.

Photography: Paul Pavlou

On reflecting on the textile sample (figure 31) it is not inconceivable to suggest that the couture houses could explore the notion of a PSS, which places equal value and emphasis on a garment and a repair service. This does not seem inconceivable given that, as stated by Palmer (2001) the couture clients made use of repair services, although she does not expand with any further detail as to how this occurred. With experienced embroiderers and seamstresses in close proximity to the couture house, the potential for offering a repair service could be a viable one, however these days clients rarely live in the vicinity of the couture house, so networks of authorized providers would have to be established. If new product developments were branded in association with a networked selection of services, then the haute couture model might take on an additional positive feature. This in turn could enable a growth in a localized system of production, (as discussed earlier in this chapter), which would help endorse the haute couture methodology as a contemporary model of practice from a sustainable perspective. Furthermore, if the haute couture house was to more formally acknowledge that the life cycle of a garment is the responsibility of both the house and the wearer, then the prospect of new services and new lines of product become possible.

This idea is elaborated on further in the following section, which intends to reveal ways in which the haute couture garment can be prepared for end-of-life schemes.

#### 5.5.7 *Garment disposal: designing for reuse and recycling*

As reviewed earlier in this chapter, Palmer (2001) noted that couture clients would repeatedly wear and rotate their garments. Having interviewed over one hundred couture clients Palmer found that many viewed their purchases as long-term investments, moreover couture garments were often owned by a number of wearers. However longevity may not be the only sustainable response for garment disposal, as will be discussed in the following section.

Stuart Walker believes that whatever is designed in fashion today should not be appropriate to the future (Walker 2006). Walker advocates approaching design for sustainability from different perspectives in order to seek new possibilities and produce original solutions. While the product should still meet sustainability criteria, within this framework the designer is released from the responsibility of producing fashion with an extended life cycle (an expected solution) and could attempt to create fashion of an ephemeral quality (a new possibility). As new textile developments continue, then the possibility of quick, disposable, and one-off garments that have employed the principles of sustainable design become a closer reality. However, this possibility will remain problematic until greater advances in textile recycling technology are achieved, and access to such resources improves. At this point wearers would be able to consider the discarding of clothing as part of a system of closed loop production. Nevertheless, the potential to create fashion that at the end of its useful life would provide the materials for the production of new garments, offers a great range of possibilities to the fashion designer. The third design scenario applied in the work of the author, reflects on Fletcher's (2008) discourse of the speed of fashion, which was examined in Chapter 3, and in particular explores the notion that a future fashion industry may have to embrace alternate methods of production and consumption and that both fast and slow rhythms can co-exist.

The third design scenario, discussed below and shown in figure 32, attempts to visualize how fast fashion might be considered if textile recycling technologies and resources were improved. Design Scenario 3: *“what if...” fast fashion was just that. Could we make fast fashion even faster? What would we need to consider if we emphasized the disposability of fast fashion? And, could it be fashionable?*





Figure 32: *white Tyvek™, print stitch* (the author, 2008). An example of designing for recycling. Photography: Paul Pavlou

As discussed in Chapter 1, in the public domain fashion is often perceived as a frivolous activity where leading fashion design labels present collections that are a mix of wearable garments alongside more extreme, conceptual ideas. However, within the fashion industry the international catwalk shows influence the key trends seen in the new season's fast fashion collection, which is sold in the high street retail stores. It is the dominance of fast fashion that has, as discussed in Chapter 3, led to an increase in the amount of textile waste being diverted to landfill. This design scenario intends to question whether the interest in fast fashion could be managed if improvements in new textile materials and textile recycling schemes could reduce the negative impacts associated with fast fashion.

In exploring 'disposable fashion' the textiles sample in figure 32, has been constructed using *Tyvek™*, a non-woven material made from high-density polyethylene (HDPE), which is produced by DuPont. Available in an extensive range of weights and textures, several of the HDPE products can be sewn like cloth and can be mechanically recycled alongside other HDPE products including milk and detergent bottles. The material can be stitched, bonded, glued, heat-sealed or seamed using ultrasonic bonding technologies (E.I. du Pont de Nemours and Company 2002). Dupont utilizes *Tyvek™* in the manufacture of protective clothing for use in industrial situations since the material is considered strong, tear-resistant, and lightweight. The cloth-like qualities of *Tyvek™* have seen the material applied in paper-based textile art works, and fashion garments developed by creative designers such as

Hussein Chalayan who is regularly associated with conceptual fashion. In the textiles sample shown in figure 32, the *Tyvek™* paper has been colour printed using inkjet technology and water-based inks. The patterned paper has then been stitched (by hand and machine), cut, and appliquéd (using *Tyvek™*) to create a three dimensional fabrication that is suitable for mechanical recycling. The design of the textiles sample is deliberately exaggerated in its decoration in order to ironically capture frivolous or faddish fashions ‘of the moment’, which reflects the essence of fast fashion. If fashion were created with recycling systems in mind then the wearer might consider buying a garment for a special or singular occasion and discard it safely using appropriate recycling schemes. In this context fashion products could be diverted away from landfill and instead mechanically recycled into a new raw material or fibre. While the notion of speeding up fast fashion even further may seem a radical departure from many of the accepted positions around sustainability, a few designers and academics like Helen Storey, have been exploring this dilemma from a variety of different perspectives. Storey has, in recent years, collaborated with a number of scientists, and the *Wonderland* project, conducted with scientist Tony Ryan, is discussed below.



Figure 33: *Wonderland* (Storey 2008). Exploring the notion of designing for reuse and recycling, which embraces a closed loop production system. Image: Fashioning Now project / Silversalt photography

As discussed in Chapter 1, fashion clothing contributes to millions of tonnes of landfill waste each year globally, which is a reflection on the wastefulness created by the fashion system. As fashion designers begin to adopt sustainable strategies within their working practices, (often through the use of organic or renewable materials), the quest to change the

disposability of fashion remains unchallenged. It has been suggested that in some instances true disposability may be a positive thing if product materials flow through a closed loop system. Building on McDonough and Braungart's idea of material as 'nutrient', the Wonderland project opens a discussion around these types of future possibilities (2002, p104).

The Wonderland project was a collaborative experiment that began as a conversation between designer and artist, Professor Helen Storey (London College of Fashion) and Professor Tony Ryan, a polymer chemist at the University of Sheffield. Exploring the notion of intelligent and sustainable packaging, the project investigated the concept of a disappearing water bottle and a water purification device. The bottle was created from a polymer that can be dissolved in hot water, which when cooled forms a gel material that can be used as fertilizer. Providing an ideal growing environment for herbs and plants, the material becomes a true nutrient. The intricate Wonderland dresses, developed from textiles created by Trish Belford (Interface, University of Ulster) emerged as a metaphor for the disappearing planet. Storey and Ryan state: "This is our call to creative arms. We are exploring the power of shared ideas. We all have a duty to use our talents, our imaginations and our rigour to create a healthier planet." (Gwilt and Rissanen 2011, p161) But how might disposability fit in the context of sustainability in fashion design? For specific textile applications disposability is desirable and even legally required, in some instances, for example in medical use. Typically synthetic non-woven fibers are used, however these can take centuries to decompose in landfill sites. While issues of potential contamination would need resolving, the polymer developed within the Wonderland project suggests an exciting direction for a responsible and ethical fashion system.

If certain sectors of the fashion industry are going to continue to pursue fast fashion, then a nutrient-based soluble polymer might be part of a sustainable solution. Fast fashion garments are predominately made from polyester, which is frequently disposed of in landfill sites, however the prospect of fertilizing a garden or vegetable patch with an unwanted garment could provide us with an unusual and sustainable alternative. Fletcher and Tham explored this scenario with the 'One Night Wonder' disposable party top in the Lifetimes project, which acknowledged that fashion exists across a range of speeds and rhythms (Fletcher 2008, p176). The Wonderland project demonstrates that disposability could be an integral part of a sustainable future for fashion. However no single solution will fully resolve the vast quantities of waste associated with the fast fashion industry, but perhaps the Wonderland project points the way towards some of those solutions.

## **5.6 Engaging in an alternate fashion design and production process**

It is through a reflection on and critique of the way in which the process of fashion design is taught, learnt and used, that an alternative method of practice for fashion designers and makers can begin to emerge. Lawson (2006) asks whether the disconnection of designing from making encourages better design? In the case of fashion design it could be argued that a better connection between all stakeholders is required. The fashion designer in a micro, small or medium size business does not work in isolation, as the creation of the fashion garment is a collective process (Kawamura 2005). Therefore any opinion on the role of the fashion designer needs to be considered in relation to connections with other staff and units engaged within the fashion design process. The collective process provides the designer, and the wider team, with a mechanism for positive change, and for the real integration of sustainable strategies within the fashion design and production process.

However, it is the fashion designer who plays a significant role in the development of new fashion products, beginning with the process of selecting the materials and services used within the production process. The designer in a company may also be responsible for locating fabric suppliers, trimmings suppliers, textile dyers and finishers, manufacturers for sample runs, and so on. Obviously a number of ethical and environmental issues can arise as a consequence of this design decision-making. Most designers or product developers would probably admit that they do not question the production processes involved in developing a fabric or what negative environmental and social impacts may be associated with a fabric during the manufacture, use and the disposal of a garment. This unquestioning approach is typical and perhaps understandable since a company's interest or time dedicated to the research of sustainable fibres, materials and processes may be minimal. Thus the question is raised, how should a designer begin to select materials and choose services from a socio/sustainable perspective? By establishing a closer relationship with responsible and well-informed suppliers designers can alleviate some of their concerns. The knowledge exchanged through a trusted association can be pivotal in assisting the designer. As suppliers share the accurate sustainability credentials of a fabric, or a service, the designer becomes empowered through knowledge. Undeniably designers need to better familiarize themselves with the materials and processes that they use and promote in the production of fashion. Fashion fabrics go through a number of production processes from growing or manufacturing fibres and yarns, through to the dyeing and processing of fibres into fabrics. However few designers would recognize the negative impacts of a fabric that are felt through the entire life cycle of the garment - beyond fibre and textile production through to garment manufacture and disposal. By clearly understanding the full life cycle of a garment and its production process this knowledge could provide the designer with the opportunity to make design decisions that could reduce the negative social and environmental impacts of their work.

It is clear that any changes that do occur within the design and production of fashion garments have an impact on all the trades and suppliers within the supply chain. Therefore support, incentives and encouragement may be needed to motivate those in the supply chain to adopt sustainable practices (Draper et al. 2007). However, the possibilities for new business opportunities within the fashion industry to emerge as a result of taking on board sustainable strategies is potentially exciting even in economic terms. One significant problem however, is that many countries suffer from inadequate, or no responsible system of textile recycling. Despite the fact that resources can be incorporated back into the supply chain, textile waste continues to be a global issue. In the reduction of textile waste many different scenarios still need to be explored, beyond the contribution that the fashion designer can make. National and international legislations that lead to increased textile recycling facilities and improve textile waste collection systems, which can engage consumers and industry alike, need to be implemented. Ideally these types of plans would have sophisticated collection and sorting mechanisms in place that could support strategies such as design for disassembly. Indeed, scenarios for the future may include an expansion of reuse and remanufacturing strategies that are developed in response to higher clothing prices brought about by shortages of raw materials. The future may then lead to the requirement that all clothing is designed for disassembly, and remanufacturing and reuse. These schemes might well lead to the end of blended fibres, although a greater range of fabrics may become available to the fashion industry that could make closed loop recycling possible. However, for textile recycling systems to work effectively there has to be a drive to engage the consumer since it is they who will be required to responsibly use, care for and dispose of the garment. Indeed, the true challenge is not to design and produce sustainable garments but to encourage behavioural change within our society (Fletcher 2008). The ideal scenario is one wherein the designer drives design for sustainability through their approach to products, services and systems, and in which they advocate widespread change in the fashion production process and in the public's attitude to the consumption and use of fashion garments.

### **5.7 Chapter summary:**

Lawson (2006) suggested that there is a need to question the appropriateness of a conventional design process, if designers are to prepare for a changing, future industry. While an increasing number of designers are aware of their responsibility to engage with sustainable and ethical practices, they often feel unable to work within a sustainable framework (Centre for Sustainable Fashion 2008). By going through a process of mapping the phases of production and the activities within the fashion design process in Chapter 4, this chapter has explored a conventional fashion design process from which it has been possible to imagine a new, alternate methodology. This new sustainably focused

methodology was then described through a conceptual model of the design and production process applied in haute couture, in an attempt to demonstrate that sustainable strategies can be integrated in fashion design practice. While the conceptual model applied to one distinct type of production, the model can be adapted to suit the requirements of a designer working within any sector or level of the fashion industry.

In the chapter it has also been discussed that the fashion designer is well placed to affect the behavior of both the producer and the consumer. And that the fashion designer is at the heart of the fashion design process and therefore able to exert influence across the phases of design and production, which engage a spectrum of people and services. To do this however, there is a need to raise awareness to the principles of sustainable design strategies amongst those who design, manufacture, wear and dispose of fashion garments.

Through the conceptual model a number of sustainable strategies have been stepped through. Importantly these have been linked to the various stages of the haute couture design and production phases, including use and end-of-life phases, as it is crucial that the fashion designer understands that life cycle thinking should be applied in the design of new garments. Moreover, the fashion designer has to acknowledge that the use phase of a garment's life cycle is of real concern to the development of fashion garments, and a number of innovative sustainable strategies and scenarios for this critical part of the life cycle were introduced. It was also recognized that the fashion designer could begin to affect and influence patterns of behavior both within the system of production and in the use and disposal of garments. The designer should seek new ways to extend the life cycle of the garment, and encourage the wearer to take on board the responsibility for actions made during the use and disposal phases. In the following chapter, the key points of the discussion within the thesis will be drawn together.

## **Chapter 6: Conclusion**

### **6.1 Introduction**

The aim of the conclusion chapter is to reaffirm the key points and arguments within the study and to consider the impact that the research may have on the practice of fashion design. Furthermore, the conclusion chapter attempts to point towards the challenges and issues that face the fashion designer and industry in terms of adopting sustainable strategies for positive change. A brief recap of the structure of the research reads as follows: in chapter 1 an overview of the historic development of the fashion industry was presented; this led into a detailed analysis of the role of the fashion designer in chapter 2; chapter 3 was concerned with reviewing the current state of play in terms of sustainable strategies and thinking; chapter 4 examined the specific relationship between fashion design and sustainable strategies, and introduced a new model for considering this relationship; a number of best practice case studies and original practice-led exemplars were presented in chapter 5; and as mentioned, a recap of the findings is found in this final chapter.

Throughout the previous chapters it has been argued that the fashion designer can significantly influence change within the fashion industry. The study posits the notion that this is achievable if a framework can be developed to assist the designer in adapting the conventional model of fashion design practice. By providing fashion designers with a framework for engaging with sustainable design strategies it becomes possible for designers to reflect on their current model of practice and begin to see where and what sustainable strategies are appropriate to their own circumstance. Moreover, the study notes that change can be implemented across a variety of market levels within the fashion industry, and the model presented within the thesis has been designed to be adaptable to specific situations. One overriding conclusion from the study is that it is imperative that the thinking behind the act of designing and producing fashion garments should significantly change if sustainable issues are to be addressed. Furthermore, the study highlights the need for the designer to consider the use and disposal phases of a garment and to design for the fact that a garment has a life cycle, which goes well beyond the retail store.

### **6.2 The role of the fashion designer in leading change**

From the debates and findings presented within the study it is argued that the fashion design process, as it is commonly understood, should be challenged. Within Chapter 2 it was ascertained that a traditional model of fashion design practice does exist, and that there are specific conventional activities within the process that engage the fashion designer. The

significant influence and reach that the fashion designer can have across production teams, specialist makers and suppliers who all contribute to create the finished garment was also noted. Nevertheless, it is the notion of a conventional pattern of behaviour in design practice that needs to be challenged if more effective sustainable practices are to be introduced.

In Chapter 3 a number of different perspectives and models for designing sustainable fashion were discussed. This discussion highlighted a complex range of debates, approaches and methods that could be applicable to the designing of fashion garments. However, from reviewing the breadth of resources and information that are available it is clear that the existing literature is scattered across a range of theoretical texts, which are often out of the reach of the fashion designer in industry. Furthermore, sustainable assessment tools and visual models, such as the *Design for Sustainability* (Crul and Diehl 2006) wheel format, are typically found in literature, which is associated with other disciplines, such as product design or architecture. Nevertheless, it is clear that while a fashion designer may be receptive to a break with convention (as demonstrated through the description of a number of progressive design models in chapters 3 and 4), if the designer is not positively exposed to the principles of sustainable design then the problem of poor engagement in general is likely to continue.

Crul and Diehl's use of the wheel diagram, for the D4S model (figure 9, Chapter 4, 4.2.1) reflects the desire for designers to see theoretical information communicated in visual formats (2006). While their model is supported by extensive assessment and reflective exercises, the wheel format itself allows the designer to clearly see where sustainable strategies might be aligned with the relevant phases within a product's life cycle. This approach acts as a guide for the working designer, becoming a reference tool that can be studied to establish a life cycle perspective as a product's development is considered. However, as discussed in Chapter 4, for the fashion designer to use such a model there first needs to be an informed understanding of what the sustainable design strategies are, how to engage with them, and the possibilities that they offer. Moreover, it was argued that it is crucial that the contemporary fashion designer perceives sustainable design strategies in terms of the opportunities for innovation they might offer, rather than as a barrier to design practice. However, for this to occur the fashion designer needs to fully comprehend the life cycle of a garment, and adopt this perspective when determining the design brief at the garment's inception. With an understanding of the phases within the life cycle of a garment, it is then possible to consider what and where sustainable strategies can be employed within fashion design practice to improve the product's development and overall performance.

Within the conceptual model for the 'next generation haute couture methodology', (presented in Chapter 5), the positive impacts that the designer can have on the way that fashion garments are designed, produced, and used was explored. The fact that in the haute couture methodology, the fashion designer is placed within a centralised position from which they can



influence all the main activities in the creation of the fashion garment was discussed. Furthermore, that the designer's influence can move beyond the design and production process and be seen in the way that garments are used and discarded was considered in Chapter 3. Within haute couture, the interaction between the producer and client enables the designer and production team to tailor the product to suit the specific needs and desires of the wearer. As described in Chapter 5, the haute couture client is able to influence the fit of the garment, the materials used, the placement and engagement of design details. As the garment is tested on the client a number of times during the production phase, further input and changes can occur. This made-to-measure service described in the case of haute couture, helps establish an emotional connection between the garment and the wearer, which can then be used as a useful driver for the implementation of appropriate use and care patterns. The haute couture methodology engages the client at various stages throughout the production process but the user's input or experience is rarely applied anywhere else in the fashion industry, except in the tailoring sector. This disjunct can be traced back to the developments of a ready-to-wear industry as discussed in Chapter 2, which required standardized garments to be manufactured efficiently and quickly on a large scale. However, it would be wrong to imply that the made-to-measure process is the only way to engage the consumer, the real issue is that too often garments are manufactured and sold with little thought for the use phase. Garments that are high maintenance, or that antagonise the wearer for one reason or another quickly become obsolete, and are discarded. The performance of a garment can be critical to its lifespan. As discussed in Chapter 3 there are in fact many reasons why garments are discarded but by giving more thought to the use phase of a garment there is a distinct possibility that the life cycle of a product could be extended. What is important is that fashion designers, where possible should find ways to build a connection between the wearer and the garment throughout the phases of design, manufacture and/or use.

In Chapter 3, it was argued that the designer should begin to more fully appreciate the functions and tasks attributed to the use phase of a garment since the negative environmental impacts associated with fashion clothing are often manifest during this phase of the garment's life cycle (Fletcher 2008). The research suggests that the designer could reflect more on their personal experience as a consumer and to bring this insight into the creative process; in Chapter 3 it was argued that seeing fashion from other perspectives enables the designer to develop products "...for individual well-being" (Hethorn 2008, p58). As a starting point it was suggested that the designer might attempt to anticipate the emotional response of the wearer by evaluating the personal reactions to items within their private wardrobes. As noted in Chapter 2, within the conventional fashion design practice the designer typically works to a given design brief that is established to meet the needs and requirements of an identified consumer or market, which might not take into consideration his/her personal nuances. Moreover, in small and medium sized companies the process of design rarely invites the

opinion of the identified consumer and instead may rely on feedback from the sales team or retailer. Following the mapping of the activities in the fashion design process, in Chapter 2, it was ascertained that there appeared to be little engagement of user studies or focus groups during the testing phase of the garment's development within an SME (Stecker 1996; Jenkyn-Jones 2002; Jackson and Shaw 2006; Sorger and Udale 2006; Renfrew and Renfrew 2009). Thus it could be argued that this further reiterates the industry's reliance on established and conventional patterns and behaviour that need to be challenged.

The micro and SME producers within the fashion industry have predominately adopted a model of design practice that was established by Worth and his contemporaries during the emergence of a modern fashion industry. As explored in Chapter 2, for Worth the role of the fashion designer originated to provide a service that placed one person, the designer, in a position of responsibility for the entire process of garment design and manufacture (Troy 2003; Wilson 2003). As Breward comments, the designer became the "...glamorous adjunct, employed to impart the sheen of fashionability to a trade that is sometimes anything but 'fashionable'..." (2003, p49). In many cases the fashion industry still perpetuates this ideal and relies upon a hierarchy of fashion designers, with the "...star designer..." at the top of the industry (Kawamura 2005, p65). Driven by the need to sell more products, in order to reap financial success, the luxury sector in particular, (as established in Chapter 5), needs the named fashion designer to create and, just as importantly, endorse products that are aspirational, desirable and fashionable. Despite the fact that most of the financial rewards in the luxury sector come from accessory and cosmetic items, the fashion collection and its named designer have become the promotional product for a diverse industry. Nevertheless, it is hard to ignore the continued influence that the luxury sector, and in particular the haute couture industry, has had on the process of fashion design. As observed in Chapter 2, it is apparent from the range of educational texts that the methodology applied in haute couture is still the quintessential fashion design model advocated in fashion design education courses, independent fashion labels and across the SME sector. It is therefore argued within the study that positive changes to the fashion design process employed within the haute couture industry may influence change across the broader industry.

### 6.2.1 Understanding sustainability and the strategies for change

It was acknowledged in Chapter 2 that the role of the fashion designer emerged from within haute couture, and that the majority of fashion design colleges and schools continue to promote this model to students, as the conventional model of fashion designing. This approach is reiterated in a number of educational texts from authors such as Stecker 1996; Jenkyn-Jones 2002; Jackson and Shaw 2006; Sorger and Udale 2006; Renfrew and Renfrew 2009. Indeed many of the contemporary micro, small, and medium sized fashion labels like Giles Deacon (discussed in Chapter 2) operate within a similar model of fashion designing. It

follows that by conducting a study of the fashion design process that stems from the practices found within the roots of a modern fashion industry, it is possible to begin to suggest what/where sustainable practices might be introduced within the highest level of fashion design practice. If at this level of the industry a change in the fashion design process is embraced, then this has the ability to influence the methodology being taught in fashion education, and utilised by many micro and SME companies.

In Chapters 1 and 3 the negative impacts associated with the established design, manufacture and use of garments were discussed and while existing literature in the field is increasing, the majority of the fashion industry has been slow to address sustainable challenges. While there are a number of case studies of best practice that exist in large-scale manufacturing, for example with companies such as Marks and Spencer (and other examples discussed earlier in this thesis), many micro and SME's are choosing to continue with business as usual. Although there are a small number of companies and independent labels that are electing to engage with sustainability, early adopters such as Katherine E Hamnett (UK), Linda Loudermilk (USA) and Alabama Chanin (USA), still remain in the minority. The range of approaches to sustainable fashion, discussed in Chapters 3 and 5, clearly demonstrate the breadth of possibilities on offer to the fashion designer. The question is then, why are fashion designers still resisting change? The research outlined in Chapter 1, indicates that fashion designers largely believe that sustainability is an obstruction to design practice. Furthermore, it is clear that fashion designers do not understand how to bring sustainability, and all of the opportunities that can emerge from engaging with sustainability, into their design practice. As highlighted in Chapter 1, typically a fashion designer has "...no idea of how to go about doing anything [in terms of sustainability] or if we can afford to spend the time and resources on this subject" (Centre for Sustainable Fashion 2008, p22). The comment is indicative of the current mindset within the industry,

Of particular concern to this study is the environmental damage that is created during the use and disposal phases of fashion garments. Large amounts of textile waste in particular can be attributed to, for example, wasteful manufacturing methods, poor consumer care routines, early disposal of functioning garments, and a lack of repair and alteration skill. Approximately 2.35 million tonnes of textile waste is generated within a year, and of this 74% is directed towards landfill, while 26% is shared equally between material recovery, and incineration. On average UK consumers will contribute as much as 30kg of textile waste per capita to landfill (Allwood et al. 2006). At the same time fossil fuels are being used to create energy for production processes and laundering routines, and other natural resources such as water are being wasted for crop cultivation, textile processing and the washing of clothes (Allwood et al. 2006). These unsustainable practices continue to produce huge volumes of fashion clothing each year creating a saturated market where the cost of buying a garment continues to drop; perpetuating the cycle of buying, wearing, washing and disposal. However, on a positive

point, Allwood et al. (2006) argue that consumers and legislation will increasingly force the industry to produce more social and environmentally friendly products. This shift in focus should require the fashion designer to become aware of ethical and environmental concerns and to find methods for engaging with sustainable strategies within the design and production of fashion clothing. With this in mind a large part of this research has been to review what existing examples, case studies and templates already exist to enable this change. In addition a new model for sustainability has been developed specifically targeted at fashion designers (Chapter 4), which relates the phases of design, production and consumption with appropriate strategies for sustainability. A number of practise-based examples/possibilities were then drawn from the application of this model and presented in chapter 5.

Although many of the approaches that exist are aimed at helping designers in general to engage with the principles of sustainable design, the literature review conducted in Chapter 3 identified some of the key arguments concerned with fashion design, which have been explored by researchers including Allwood et al. (2006); Draper et al. (2007); Black (2008); Fletcher (2008); Hethorn (2008); Hawley (2008). A commonly understood argument points to the need to develop durable garments, and to encourage better consumer engagement with fashion clothing. This leads to a need to encourage responsible care and maintenance systems, and for considered routes of disposal. As Fletcher (2008) points out, this requires the fashion industry to find a balanced approach to the manufacture of fashion that involves embracing slow and fast rhythms of production and consumption, to help address negative environmental and ethical impacts. The notion of slowing down the fashion system, at some level, is already embraced in some sectors. The professional tailor; the haute couture house; and perhaps the local couture dressmaker all focus on creating individual, high quality pieces of clothing that are typically made-to-measure. However, as examined in Chapters 2 and 5, these types of production methods require other support services, including the skilled repairer, the alteration expert, and the specialist cleaner. As discussed in Chapter 5, this approach enables the fashion product to be placed within a product-service system, which would entail the equal development of both products and services; in an endeavour to extend the life cycle of a product and reduce textile waste and resource depletion. Nevertheless, and unfortunately the mainstream fashion industry has embraced quick time production methods, and according to Allwood et al. (2006) it is through new technology and vertical integration systems that fashion can be produced at high speed, and at highly competitive prices. The fashion designer working within this scenario, as discussed in Chapters 4 and 5, needs to then approach the design of a garment from quite a different perspective. Changes in practice which could be considered in this case are for example, placing a focus on producing fast fashion within a closed loop production system; this may entail the use of recyclable polyester fibres such as those espoused by Patagonia, working in conjunction with Teijin Fibres in Japan. Interestingly the technologies that first enabled the rise of the fast fashion process are now beginning to offer up solutions for more sustainable approaches through the

development of smart textiles, customisable manufacturing processes and more efficient recycling for example. However, as with the argument for slow production methods, the success of the system also relies upon the engagement of the wearer and a shift in socio-cultural attitudes to fashion consumption, which in the earlier example would rely on the consumer placing garments into an appropriate recycling facility once the garment has come to the end of its first useful life.

The argument for improving wearer engagement (and responsibility) again points to a requirement for the fashion designer to understand the use and disposal phase, and to consider the development of new garments from a life cycle perspective. This is a fundamental requirement if the fashion industry, and the designer, is to embrace sustainable challenges. Without this understanding it becomes impossible to create lasting change in the fashion industry and to address the way that garments are produced and used. Moreover, the integration of sustainable design strategies becomes difficult if the fashion designer only focuses on the manufacturing phases of a garment's life cycle. A more holistic approach is required, allowing for the application of a range of strategies across the whole life cycle. These may include integrating strategies that encourage the wearer to embrace better laundering care, to strategies that enable the development of garments that can be disassembled and recycled as a method of material reuse. Nevertheless, if the designer has applied life cycle thinking to the design brief and has an understanding of sustainable design strategies it should then be easier to reflect upon and improve the conventional fashion design process.

### **6.3 Integrating sustainable strategies in the fashion design process**

Chapter 2 analyzed and reflected upon the process of fashion design that is typically applied within a micro or SME in the fashion industry. It was identified that the fashion designer is often at the helm of the creative process, is usually responsible for leading the development of the new seasonal collection, while meeting the demands of a design brief that is primarily derived from economic based criteria. While a detailed account of the activities and duties that the designer is typically engaged in was provided, it was also argued that in contemporary fashion there is the scope, and a necessity, for the fashion designer to create change within the activities while encouraging a sustainable mindset across the production processes.

When analyzing the activities and duties within the phases of design and production, which are typically embraced within numerous educational fashion texts and Sinha's model (2001; 2002), it becomes apparent there is little awareness or promotion of life cycle thinking. However, this view is slowly being challenged as a result of the work of researchers such as

Black (2008) and Fletcher (2008). Researchers and designers alike are beginning to explore ways in which fashion designers can engage with sustainability. However, sometimes these explorations are poorly informed in terms of the larger sustainable picture; for example a designer may be solely working within the confines of one sustainable strategy such as working with reclaimed or recycled materials. Alternatively an existing research study (for example, Draper et al. 2007) may promote sustainability in the fashion industry but skip over the variety of strategies that can be integrated at the design and production phases. As discussed in Chapter 1, it is easy to understand why the fashion designer in industry might become disinterested or simply confused by issues of sustainability. Another issue is that the knowledge gained from these experiments and approaches to practice are then often poorly disseminated among other member and sectors of the fashion design community, who might be seen as being in competition.

As discussed in Chapter 4, it is understood that by extending the fashion and production process to include the use and disposal phases the designer can begin to see the relationship between the designed garment and its journey, which goes beyond the retail store. Life cycle thinking allows the designer to appreciate that the impacts of fashion clothing are felt in phases that are normally considered outside of their jurisdiction. Furthermore, with such an understanding the designer can then reflect and act upon their own design practice and begin to find ways to improve the activities within the company and the sustainable performance of its products. However, it should be remembered that the designer must consider the principles of sustainable design in relation to their own specific situation and apply them appropriately with conviction. Fashion producers have frequently adopted a tokenistic approach to sustainability; paying lip service to sustainability can have the adverse effect of weakening the credibility of the sustainable agenda. This 'greenwashing' has occurred in a number of retail markets and could also happen in mainstream fashion markets if sustainable issues are not convincingly addressed. The discussion related to organic fashion explored in Chapter 3, is an example of the predictable and often unsuccessful responses that have emerged from the high street. As outlined, the fashion industry needs to embrace a variety of sustainable design strategies that can be integrated within specific design and production content, which in turn will provide the consumer with a range of responses developed to suit particular needs and requirements.

Thus, it is argued that there is a need to develop a fashion specific model that provides the fashion designer with a flexible framework for engaging with sustainability. The model, proposed in Chapter 4, attempts to support and guide the designer, while at the same time; it is open to interpretation and personalization.

### 6.3.1 Developing a framework for the fashion design process: The *Fashion Design for Sustainability* model.

The model developed specifically for the fashion designer, presented within Chapters 4 and 5, builds upon the concepts explored in existing literature including the *Design for Sustainability* (D4S) model created by Crul and Diehl (2006). However what is inherently new for fashion design is that a model of practice has been established that incorporates the 'use' and 'end-of-life' phases into the fashion design process, thus allowing the consideration for the integration of sustainable strategies into all phases of the process. Moreover, the *Fashion Design for Sustainability* (FDS) model (figure 13, Chapter 4, 4.3.1), has two main purposes: firstly, to encourage the fashion designer to see the design and production phases in the context of life cycle thinking; secondly, the model attempts to reveal how and where relevant sustainable strategies can be integrated within fashion design practice. In the conceptual model presented within Chapter 5, it was necessary to select a small set of suitable sustainable design strategies that would be directly relevant to the fashion designer within the haute couture industry. As discussed in Chapter 4, these were selected from a wide variety of strategies that may be appropriate to fashion design however, it would be impossible to review all of these strategies within the limitations of this study. Vezzoli and Manzini (2009) have identified in the region of 210 different approaches to sustainable design (Dusch et al. 2010), which suggests that further study needs to be conducted, outside of the thesis, to record the range of strategies currently being advocated in sustainable design and to analyze how these might be specifically related to fashion design practices.

In developing the fashion specific model it was important to analyze, reflect upon, define and arrange the activities and phases within the fashion design process. The arguments explored by Lawson (2006), and Cross (2006), reflect the importance of critiquing design practice in order to prepare for a constantly changing industry. Fashion producers need to embrace change, and the fashion specific model intends to show the designer how positive contributions can be made in, across and beyond the design and production phases. While the FDS model is not considered a replacement model for LCA exercises, or other detailed data collective tools, its primary function is to encourage a change in attitude and behaviour. The FDS model is not prescriptive rather it aims to motivate designers to take tentative steps toward change and to seek further support, advice and guidance. In particular the FDS model is useful at the inception stage of the fashion design process, when the designer is engaged in the research and analysis phase, identified by Sinha (2001; 2002). At this point in the design and production process the design brief is established, which draws on market, trend and resources research. The use of the FDS model at this stage would assist the designer to also include life cycle thinking within the design brief, and conceptual development and design decision-making processes. Moreover, at this point the entire life

cycle of the garment can be imagined allowing for the incorporation of positive interventions at all stages of the life cycle.

As discussed in section 4.3 in Chapter 4, in developing the FDS model the use of two parallel lines of thought, as advocated by Lawson (2006), proved essential in the experience of the author. During the decision-making activities with the practice-led components of the research there was a need to reflect on the future life cycle of the product being developed, and a constant consideration for the probable impacts, positive and negative, which may be incurred. However, this experience has shown that opportunities for improvement frequently emerge when thinking through a sustainable design strategy before acting out a task. This then requires a parallel thought process, as advocated by Lawson, which incurs moving between and reflecting on the principles of the sustainable design strategy and the design task being conducted. This approach was employed by the author, and assisted in broadening her knowledge of sustainable design strategies. Moreover, the author was then able to integrate a number of different strategies within her practice-based design scenarios (see chapter 5). The importance of having a broad understanding of the current thinking on sustainable design was evident in the development of the conceptual model in Chapter 5, where a new model of fashion design practice for haute couture was explored.

In Chapter 1 it was highlighted that a number of issues challenge the fashion designer's engagement with sustainability, including access and availability to sustainable fashion resources; a broad range of tools, models and software programs that can be expensive to buy or complex to use; lack of time for research/education and/or hierarchical resistance. While these points may hinder engagement, this study has attempted to confront and address some of the issues. In developing the FDS model the study has intended to provide an original contribution of knowledge that could be disseminated through educational programs and workshops. This in turn points to an important recommendation, which is that the fashion designer needs to engage with education and research in order to change the way that garments are designed and manufactured. In Chapter 4 it was argued that economics are not a reason for resisting change, moreover Tischner (2001) highlighted a range of advantages that should encourage the fashion producer to support engagement with the principles of sustainable design.

#### **6.4 A sustainable future for fashion design**

Peter Zollinger (2004) observed that in the late 1990s business leaders were beginning to realize that the 'trust me' culture, where a company could rely on society's broad acceptance that they were acting in good faith, was beginning to fade. According to Zollinger this has shifted to a 'tell me' culture, where society now wants to be told what's going on and a 'show me' culture where a company now has to demonstrate their serious intent for change.



Through the continued globalization of media and the meteoric rise in the use of social networking, major international companies, including those within the fashion industry, are increasingly being exposed to 'tell me' and 'show me' requirements from the community. In a move towards some level of transparency a number of major fashion producers and retailers have begun to establish corporate responsibility statements (CRS). The CRS declarations are a statement of intent, which in the case of Marks and Spencer, discussed in Chapter 4, revealed the establishment of *Plan A* that was designed to meet sustainability objectives set by the company. However, it is difficult to find statements of intent from small and medium sized producers; this includes fashion labels and brands within the haute couture industry. In Chapter 4 the position of Bendell and Kleanthous (2007) is drawn upon to argue that the fashion houses within the luxury sector should be clearly justifying the luxury product in a world of inequality and depleting resources. It could be argued that by establishing CRS declarations and making the supply chain transparent the luxury sector has the opportunity to share where they are making positive impacts and targeting negative impacts as part of their corporate strategy.

However, rather than relying solely on statements of intent the broader fashion industry needs to implement actions, and it is argued in this thesis that the fashion designer can be at the forefront of these changes. At a fundamental level a fashion designer can begin to promote the creation of products that will encourage, "...a greater emphasis on quality, permanence and craftsmanship in designed products, as people and designers come to understand that obsolescence or bad workmanship waste natural resources" (Papanek 1995, p48). In 1995 Papanek declared that, "...The style of the future will be based on products that age gracefully, and will be more timeless than the quickly changing fads, trends and fashions of the late 20<sup>th</sup> century." (1995, p48). As discussed in Chapters 3 and 4, the importance of adopting this philosophical position has since been raised by other researchers such as Chapman (2005); Black (2008); and Fletcher (2008). Moreover, creating products that evolve slowly over time and that reflect the wearer's invested care offer new ways of thinking about personal wardrobes. Within the haute couture methodology the unique made-to-measure process, explored in Chapter 5, has helped create brand loyalty and enabled the wearer to develop empathy for an individually produced item of clothing. This interaction between producer and consumer may, in reality, become a co-designed effort since the designer and wearer can both work towards a product end that demonstrates individualism and personalization. However this is not the picture of haute couture that is portrayed within the public press and media. Furthermore, the concept of made-to-measure in reality extends beyond the haute couture industry with many independent labels and small fashion producers developing individual garments for a specific consumer.

In the example of designer Giles Deacon, explored in Chapter 2, it becomes evident that many small fashion producers do not publicly acknowledge the notion of creative

collaboration, unless associated with a special project. Undeniably in contemporary fashion the new seasonal collection is still attributed to the named fashion designer, but the notion of a collaborative design process could be used to encourage new ways of approaching sustainability within the creative process. While this point needs more research, outside of this study, this notion of conceiving the design process as a collaborative activity could enable an improved flow of sustainability information between involved parties. Engaging the views of the consumer for a better understanding of real needs; encouraging the pattern maker to adopt zero waste approaches in garment development; demanding that sourcing departments use ethical and environmentally aware suppliers, all enable the producer to develop a garment that has life cycle thinking at the heart of its development. However for the fashion designer in a typical SME to influence practices across all of the production phases, the designer needs continued support, for research, education and reflection.

In developing the sustainably framed haute couture methodology, in Chapter 5, the author identified a number of positive practices (in terms of sustainability) that occur within the design and production phases (including the sourcing of local crafts and materials, and so on.). However as discussed in Chapter 2, these positive practices are rarely exposed in the public realm since the conventional perception of haute couture is usual framed around rarified glamour and excess. In reality the haute couture methodology can provide some interesting practices that could be adaptable for the broader fashion industry, particularly in considering the wearer and the use phase. The haute couture methodology can provide the consumer with an experience and a means of engaging in the world on both a rational and emotional level; this has been described as 'emotionally durable design' (Chapman 2005). In Chapman's utopia "...users and products flourish within long-lasting empathetic partnerships..." (Chapman 2005, p18). As described the haute couture garment is manufactured in partnership with the consumer, who is entitled to receive complimentary repair work, or upgrading, as part of an unconditional guarantee at the point of purchase. As discussed in Chapter 5, the haute couture industry, and broader fashion industry might regard this service a signpost for a much more integrated and diverse approach to the use of product service solutions (PSS) as an important move towards a future fashion industry. Indeed UNEP (2003) indicated that employing product service systems within the fashion industry could lead to reduced resource use and waste generation since fewer products are being manufactured, and consumer satisfaction can improve.

## **6.5 Chapter summary**

Throughout his book, *Fashion*, Christopher Breward strongly expresses the generally accepted view of the haute couture industry:

"Despite its antiquated working practices and strict craft ethos, high fashion maintained a monopoly on the concept of desirability which was supported through the promotion of the couturier as a quixotic dictator of trends. Extraordinary one-off garments paid their way, in tandem with the selling of directional toiles to mass-producers, in-house diffusion lines, and a diversification into other aspirational products such as perfume and accessories..." (Breward 2003, p52).

While this might indicate a mercurial or at best self-centered profession the statement invokes interesting ideas, which could be explored further. Haute couture up until the 1950s, the period to which Breward was referring, appeared to be involved in a slower fashion movement, even if it was perceived as rather autocratic. Various research projects discussed in Chapter 3 (Bras-Klapwijk & Knot (2001) '*The Sus-house project*'; Ax (2001) '*Slow consumption for sustainable jobs: The example of hand crafted shoes*') have supported the need for high quality, unique and made-to-measure garments as a strategy for sustainability. However, the conceptual model, presented in Chapter 5, demonstrates that the haute couture methodology can contribute much more than this. In conducting a conceptual model for haute couture it has been possible to reveal that sustainable strategies can be applied within the fashion design process, and that a framework for sustainable design for fashion can exist. It is hoped that a fashion specific model, such as the FDS model, could be used to motivate fashion design practitioners to reflect on their own experiences and integrate new strategies in their own practice. This may then help the fashion designer to explore and engage with new practices that may lead towards enriched and/or diverse business opportunities. The fashion system could then embrace different models of fashion production and consumption, which may move at fast and slow speeds.

Moreover, it has been argued within the study that knowledge has to be driven through education, both within the educational system and within the industry itself. The extent of change occurring within the industry, in large companies such as Nike and M&S, and smaller/independent labels such as Katherine E Hamnett, has emerged because of ongoing research activity. The fashion industry can and should support the fashion designer with the time to conduct research, who in turn should dedicate time during the development of the fashion design brief to explore sustainable design strategies and their possibilities. This study then intends to support the fashion designer in engaging with research, and with the integration of sustainable strategies into fashion design practice.

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## Appendix 1

**“Fragments” Textiles experiments**  
**Exhibited in “Fragments: Methodologies of Making Fashion”**  
**DAB Lab Gallery, Sydney, Australia**  
**April 10<sup>th</sup> – 9<sup>th</sup> May 2008**

### Background

The textile samples presented a creative response to the challenge of incorporating sustainable principles within fashion and textile design, while utilizing a range of techniques applied in various levels of the luxury, high fashion sector. The following 3 scenarios were set:

- 1) “what if ..” a much-loved but damaged fashion garment could be perfectly placed back into the wardrobe again. How could you repair the garment yet add further value to it? How could you keep wearing it even if fashions change?
- 2) “what if ..” a high fashion garment could be designed for easy recycling at the end of its lifecycle. What materials could be used? Could the fabrication evoke luxury? Would it be desirable fashion?
- 3) “what if ..” fast fashion was just that. Could we make fast fashion even faster? What would we need to consider if we emphasised the disposability of fast fashion? And, could it be fashionable?

### Contribution

The textile samples reflected such methods as the upcycling of damaged fashion items *grey wool, blue stain* (2008), the use of complementary or mono fibres *pink hemp, hemp sequin* (2008), and concepts for disposable fast fashion *white tyvek, print stitch* (2008). In exploring the use of these strategies within textile design the intention within this series of creative works is to provide a range of case studies of best practice that can motivate the designer to include sustainable strategies within their own design practice.

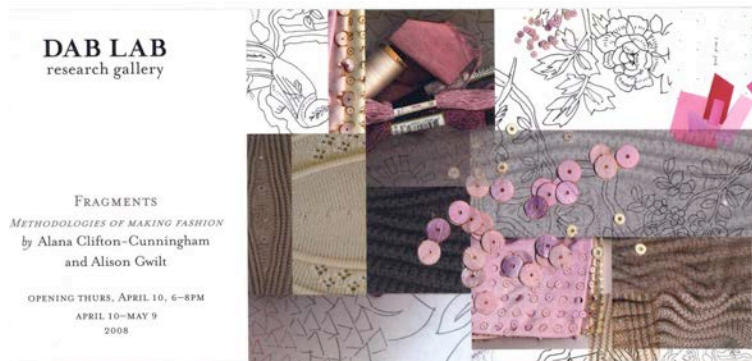
### Significance

Each textile sample provides significance to the field of study through the following:

- 1) *grey wool, blue stain* has been considered to transcend fashion cycles thereby offering a timeless design in an effort to extend the garment lifecycle further.
- 2) *pink hemp, hemp sequin* can be utilised within a fashion garment that once it has come to the end of its useful life the garment can be recycled with similar fibres with relative ease, due to the use of mono fibres.
- 3) *white tyvek, print stitch* is a concept for disposable fashion could be applied in the design of garments being created for special / singular occasions, that may result in almost instantaneous disposal after just one wearing.

## SUPPORTING EVIDENCE

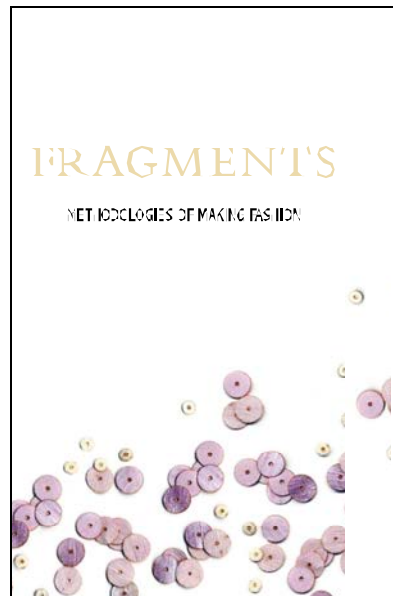
### Exhibition invitation



### Photograph of work installed in exhibition



### Supporting book, cover



## IMAGES OF TEXTILES PIECES



Detail, *grey wool, blue stain* 2008  
Wool/cashmere blend, ink, silk, plastic  
290mm x 370mm



Detail, *Pink hemp, hemp sequin* 2008  
Hemp, natural dye, cotton  
290mm x 370mm



Detail, *white tyvek, print stitch* 2008  
Tyvek, aqueous ink, cotton, aqueous varnish  
290mm x 370mm



## Appendix 2

**“Bird series” Textile experiments**  
**Exhibited in “Fashion Craft: Drawn Threads”**  
**Tower exhibition space, Sydney, Australia**  
**27<sup>th</sup> April-19<sup>th</sup> May 2009**

### Background

The embroidery samples created for this project explore the sustainable strategy of *upcycling*. Through this technique recovered textile waste, that was sourced from a local recycling centre on a singular visit, was reconfigured and reworked in order to create new concepts that could be applied within the luxury high fashion market. The intention of the samples is to show how ornamented textiles can be achieved and applied both uniquely and sustainably.

### Contribution

Produced in collaboration with embroiderers from the Embroiderers’ Guild of NSW, the samples embody the typologies of haute couture fashion garments that are produced within the Paris-based couture industry. In my role as ‘sustainable’ fashion designer, I have designed the textiles samples to show how the high fashion industry can successfully incorporate sustainable strategies.

### Significance

The bird series establishes significance in that it shows how recovered textile waste can be utilized in the manufacture of new products. At the same time the works reflect the collaborative possibilities within creative communities. In this instance the work of the embroiderer is intrinsic to the production of the textiles samples.

# SUPPORTING EVIDENCE

Works installed in exhibition



Exhibition invitation / Launch event photograph

UTS Fashion and Textiles in conjunction with UTS ALUMNI invite you to the launch of:

**"FASHION CRAFT: FASHION TECHNOLOGY"**

An Exhibition to coincide with the Rosemount Fashion Week which considers the relationship between craft and new technology within fashion and textile design.

Opening event: Privately hosted by UTS Alumni, featuring a performance from MATERIALBYPRODUCT.

DATE: Tuesday, 20th April 2009  
 TIME: 1:00pm  
 PLACE: UTS Bauer Hall exhibition space  
 Level 4, Broadway, NSW  
 RSVP: Email: [alumni@uts.edu.au](mailto:alumni@uts.edu.au)  
 Phone: (02) 9514 9861

EXHIBITION OPEN TO THE GENERAL PUBLIC  
 20th April - 10:00am

**SAME AIR, DIFFERENT TIME**

A performance from Melbourne fabric label, MATERIALBYPRODUCT, will coincide with the Opening event.

For the past few seasons MATERIALBYPRODUCT have been creating certain genres and have been playing with the notion of a portable "fashion house". **LAME LAB, INCIDENT TIME** continues this exploration. MATERIALBYPRODUCT to House "Show ROOM" is a performance that will showcase the intricacy, wearability and beauty of MATERIALBYPRODUCT.

UNIVERSITY OF TECHNOLOGY SYDNEY

**FASHION CRAFT FASHION TECHNOLOGY**

PANEL, LAUNCH, PERFORMANCE

**FASHION CRAFT: DRAWN THREADS**. An exhibition of new contemporary works from a collaborative project between UTS fashion and textile designers and the members of the Embroiderers Guild of NSW.

**FASHION TECHNOLOGY: THE SUPINE PROJECT** sponsored by the iconic Australian surfwear company Ripcurl. This exhibition of sustainable fashion garments explores the spicing of progress manufacturing off-cut and post-consumer waste through the experimentation of new textile techniques and processes.

A panel talk will be held, in conjunction with the exhibition:

**"FASHION CRAFT: FASHION TECHNOLOGY"**

Designers and makers panel talk, chaired by Professor of Advanced Textiles & Fashion, Marie O'Mahony

DATE: Tuesday, 20th April 2009  
 TIME: 3:30pm - 4:30pm  
 PLACE: Room 404, Level 4, Bauer Building, Broadway  
 RSVP: 23rd April 2009  
 Email: [alumni@uts.edu.au](mailto:alumni@uts.edu.au)  
 Phone: (02) 9514 9861

Registration for the panel talk is free for UTS staff and students and \$10 for the general public.

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Feature article in Ragtrader, April 24<sup>th</sup> 2009

**IN FOCUS** 2009 APRIL 24

**FORCES & FABRICS**

www.ragtrader.com.au

**When theory practice meet**

**ROSEMOUNT AUSTRALIAN FASHION WEEK IS AN OPPORTUNITY FOR DESIGNERS TO FLAUNT THEIR READY-TO-WEAR COLLECTIONS. BUT SOME PLAYERS ARE ANIMING TO CAST A SPOTLIGHT ON FABRICS TOO, AS RAGTRADER DISCOVERS.**

**Fashion technology: The Ripcurl project**

Two fashion designers, Marie O'Mahony and Marie O'Mahony, have teamed up with the iconic Australian surfwear company Ripcurl to create a sustainable fashion collection. The project is a collaboration between the designers and the members of the Embroiderers Guild of NSW. The collection features garments made from off-cut and post-consumer waste through the experimentation of new textile techniques and processes.

**Fashion Craft: Drawn Threads**

Marie O'Mahony and Marie O'Mahony have teamed up with the iconic Australian surfwear company Ripcurl to create a sustainable fashion collection. The project is a collaboration between the designers and the members of the Embroiderers Guild of NSW. The collection features garments made from off-cut and post-consumer waste through the experimentation of new textile techniques and processes.

www.ragtrader.com.au

**ragtrader**

24 April 2009 Australia's premier fashion business magazine

**FREE** to Rosemount Australia Fashion Week visitors

**Standardknit fabrics**

## IMAGES OF EXHIBITION / WORK



*Bird on Cloth 2009*

Cotton thread, silk organza, printed polyester fabric, printed linen Cloth fabric, wire, leather

Embroiderer: Helen Parsons

Stitches: stumpwork techniques using padded satin stitch, long and short stitch, buttonhole stitch, couching



*Bird on tablecloth 2009*

Cotton thread, printed cotton / polyester fabric, printed PVC plastic, glass bead

Embroiderer: Diane Edwards

Stitches: surface stitchery technique using stem stitch, Holbein (double running), satin stitch





*Bird on net 1 & 2 2009*

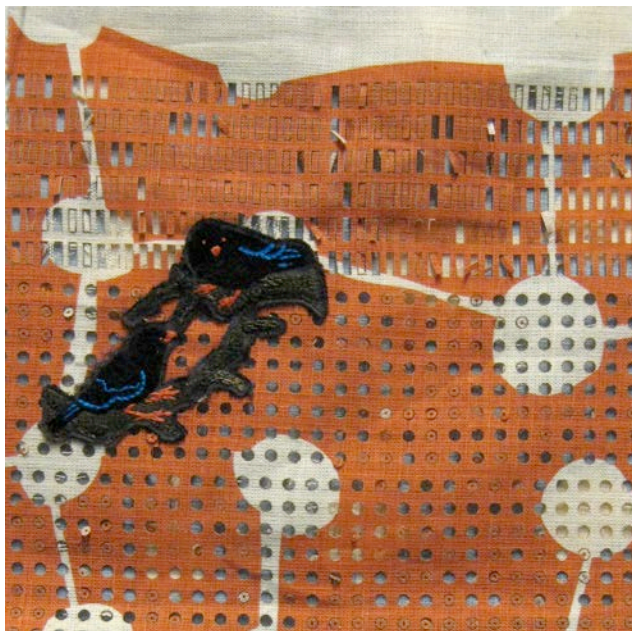
Stranded cotton thread, polyester thread, purl thread, polyester fabric, laser cut polyester sequins, glass beads

Embroiderer (bird on net 1): Margaret Smith

Stitches: surface stitchery and metal thread embroidery techniques using stem stitch, straight stitch, fly stitch, seed stitch, colonial knots, couching

Embroiderer (bird on net 2): Jaci Heyman

Stitches: surface stitchery technique using split back stitch (for foundation outline), chain stitch, straight stitch, French notes, stem stitch



## Appendix 3

### “Fashioning Now: Changing the Way We Make and Use Clothes”

#### International sustainable fashion project

2009, Sydney & 2010, Perth, Australia

#### Background

This project explored the issue of fashion and sustainability, specifically the way in which fashion clothing is produced, used and discarded. It highlighted a variety of sustainable strategies that addressed the problem of textile waste created during the manufacture and use of fashion clothing. The project comprised:

1. An exhibition of international and national examples of environmentally sustainable fashion products
2. A public program offering to support the exhibition including group tours, curators' talks, and tertiary workshops.
2. A symposium for industry and education audiences that featured guest speakers Dr Kate Fletcher, London College of Fashion; Rachel Bending, Director of Bird Textiles; Tracey Mak, Environmental Manager, Instyle Textiles and panel talks.
3. A website, [www.fashioningnow.com](http://www.fashioningnow.com), including in-depth case studies of best practice, strategies for sustainable solutions, resources and a blog

#### Contribution

The author's role was that of project Chief Investigator, exhibition curator, and exhibitor.

Creative work: *The journey of the ornate sleeve*, 2009

The textile creative work was created with the assistance of Zoe Sadokierski (illustrator), Steve Woods (screenprinter, Screenhaus) and Helen Parsons (embroiderer), as an example of localized skills working together in a collaborative model of practice. The textile work was exhibited in the *Fashioning Now* exhibition, and is profiled as an example of best practice on the Fashioning Now website.

#### Significance

The project received funding from the NSW Environmental Trust and was an original body of work that was significant to the field of study in the area of sustainable fashion and textiles. The project was included in the Sydney Design Week festival, as part of its scheduled program of activities and the exhibition travelled to the Fremantle Arts Centre in 2010. The project engaged design students and designers in industry, and more than 3000 visitors attended the events. As an emerging field of research the project brought together theorists and practitioners to discuss different scenarios for a fashion industry in Australia, and contributed significantly in raising awareness to the problem of textile waste.

## SUPPORTING EVIDENCE

Exhibition invitation



**FASHIONINGNOW**  
changing the way we make and use clothes  
28 July - 29 August 2009

Opening 28 July 6-8pm. To be opened by Dr Gene Sherman  
Fashioning Now highlights the diversity of sustainable solutions currently being explored by designers, researchers and manufacturers, while predicting possible scenarios for a future fashion industry.  
Curated by Alison Gwilt & Timo Rissanen

Symposium: Tuesday 28 July, 1 - 6pm, UTS Bon Marche Studio  
See [www.fashioningnow.com](http://www.fashioningnow.com) for full details of accompanying talks & workshops

This project has been awarded by the New South Wales Government through its Environmental Trust.  
Supported by UTS, Aunty, The Co-op Bookshop, Oyster Bay Wines and Coopers Brewery. Media partner Zine. A part of Sydney Design 09, presented by the Powerhouse Museum.

UTS GALLERY  
Level 4, 702 Harris Street Ultimo  
Monday - Friday 12-6pm | 02 9514 1652  
[www.uts-gallery.uts.edu.au](http://www.uts-gallery.uts.edu.au)

Symposium attendance, 28<sup>th</sup> July 2009

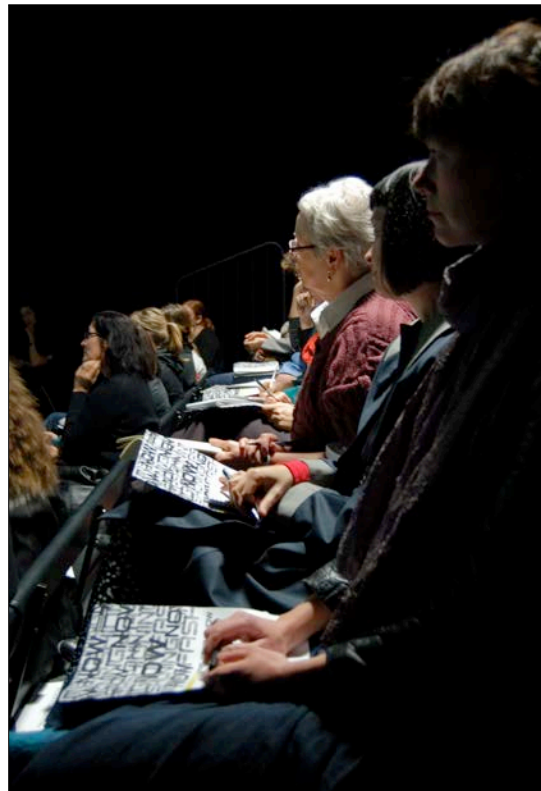




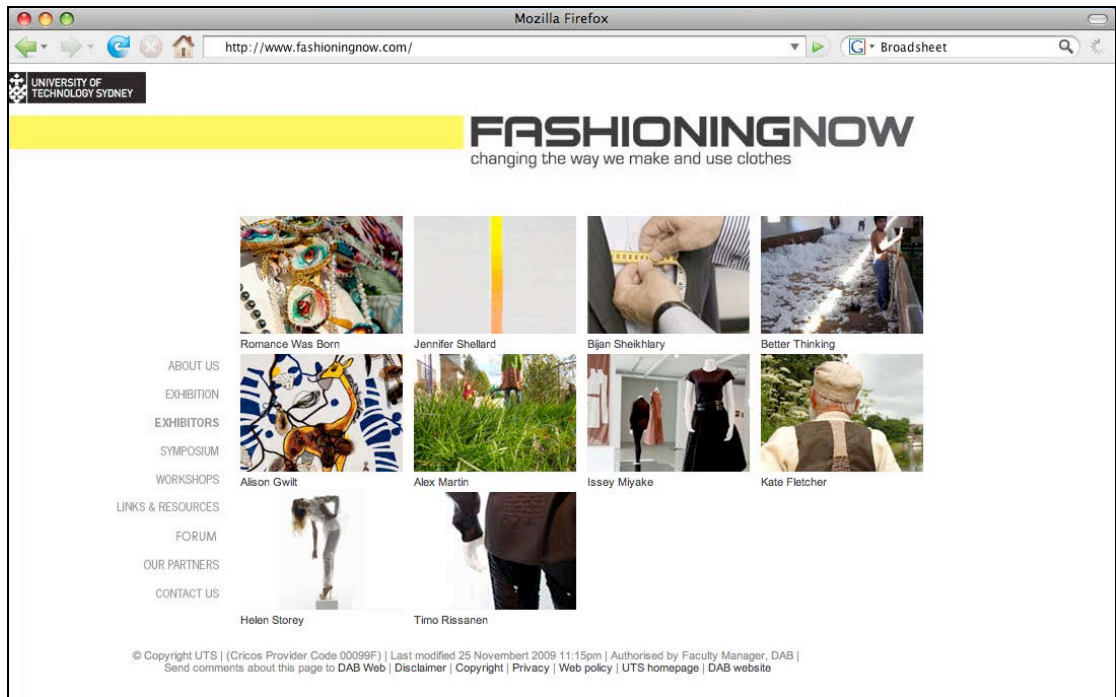
Exhibit detail: Australian designers, Romance was Born



Trash-to-treasure tertiary workshops, run as part of Sydney Design Week 2009



Screenshot of project website



Press coverage: Australian Financial Review, Sept 2009 / Sydney Design Week brochure

FASHIONING NOW at Sydney's University of Technology this year was devoted to what the curators called "ingenious strategies ... to address the problems of textile waste created during the manufacture and use of fashion". The program included fashion garments, textile objects, photography, fashion illustration and time-based media — the latter, we guess, being where Professor Helen Storey and her famous 'Disappearing Dress' appeared on the bill. The professor from the London College of Fashion is an artist/designer who has collaborated with scientist Professor Tony Ryan OBE from the Sheffield University to create "real solutions for a more sustainable world". Her disappearing dresses are made from textiles that dissolve on contact with water and are developed by a team from the University of Ulster. Nick Knight's short film of the dissolve (see still below) is at [www.stowstudio.com/wonderland](http://www.stowstudio.com/wonderland).

**NOW YOU SEE IT...**

**THE COMPANY WE KEEP**

# TALKS

AROUND SYDNEY

**DAVID TRUBRIDGE: CULTURAL DESIGN**

In association with the exhibition *Sustain one*, contemporary design. New Zealand designer David Trubridge addresses how good design (however worthy) is not enough to sustain humanity unless it also addresses some form of cultural/spiritual nourishment. Says Trubridge: "Design is looking for new meaning and relevance. In the past all cultures were defined and expressed by their artifacts and art... we too could find cultural and spiritual nourishment from long lasting objects and this may reduce the never-fulfilled craving for consumer goods."

**1 AUGUST 12 NOON**  
CORN LECTURE THEATRE, EGG  
COLLEGE OF FINE ARTS  
SELWYN STREET  
PRIDGINGTON  
FREE ADMISSION

**AUSTRALIAN INSTITUTE OF ARCHITECTS TALK: SPECIFIC OBJECTS**

Architects Penny Collins and Huw Turner present projects that reflect the diversity and uniqueness of their context, from outback Australia to the beaches of the Bahamas. Introduced by Michael Dyball.

**4 AUGUST 6:30PM FOR 6:30PM**  
TUBCOLAN  
3 MANNING STREET  
POTTS POINT  
COST: \$10. FREE TO RMA MEMBERS

**AUSTRALIAN INSTITUTE OF ARCHITECTS TALK: RICHARD FRANCIS-JONES**

An opportunity to view the recently completed Surry Hills Library through the eyes of its architect Richard Francis-Jones. Francis-Jones of FJMT gives a presentation about the building, followed by a site tour and drinks.

**11 AUGUST 6:30PM FOR 6:30PM**  
SURRY HILLS LIBRARY  
405 CHRYN STREET  
SURRY HILLS  
COST: \$10. FREE TO RMA MEMBERS  
BOOK: [KLANAREZOO@RMA.COM.AU](http://KLANAREZOO@RMA.COM.AU)

**PATTERNS OF THE PAST**

Everything old is new again in design or so it seems. See the original sources for some of the historical references in contemporary design and explore the rich collection of wallpapers, textiles, floor coverings, pattern coverings, pattern books and manufacturer's trade catalogues in a curator-led viewing of the Caroline Simpson Library and Research Collection.

**4-6 AUGUST 6:00PM - 8:00PM**  
THE MIMI  
CAROLINE SIMPSON LIBRARY AND RESEARCH COLLECTION  
15 MADRAVE STREET  
SYDNEY  
COST: \$20/\$20 CONCESSION /MIM MEMBER  
BOOK: [WWW.MIMI.TAU](http://WWW.MIMI.TAU)

EDUCATION

MAKE YOUR PORTFOLIO STAND OUT FROM THE CROWD: QUESTIONS, ANSWERS AND INSIGHTS

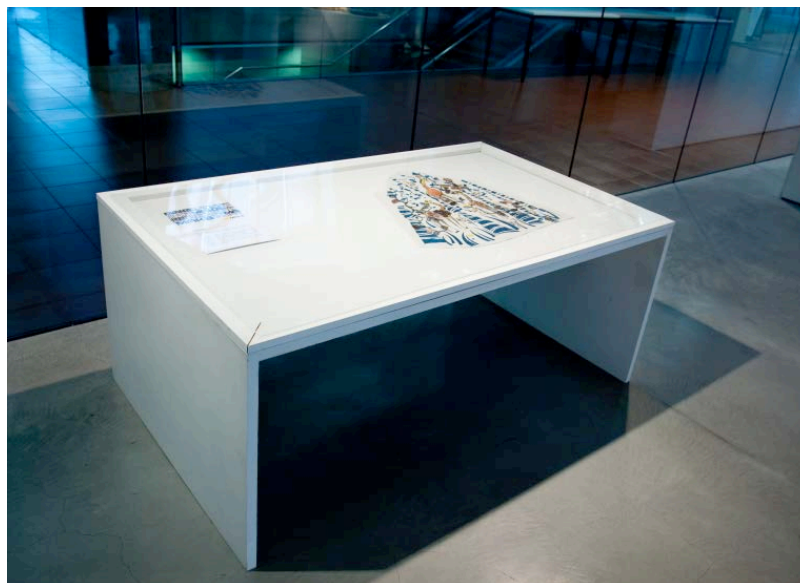
Spend an afternoon with professionals from industrial, graphics, interior, multimedia and trainee design and take the fear out of creating your own portfolio. View a range of professional portfolios and presentation styles, ask questions, receive feedback and focus on what you would like your work to say about you. Meet design professionals by booking in for a 15 minute session to discuss your portfolio.

INTERFACELION SYDNEY/OMIA  
101 CHALMERS STREET, SURRY HILLS  
CONTACT: ALICE HAWORTH FOR MORE INFORMATION: [AHAWORTH@RMA.COM.AU](mailto:AHAWORTH@RMA.COM.AU)

DONEY DESIGN



Photograph of *Journey of an ornate sleeve*, textile piece installed in exhibition



Exhibition opening night, 28<sup>th</sup> July 2009 / Guest Speaker Dr Gene Sherman, Executive Director, Sherman Contemporary Art Foundation



Detail, *Journey of an ornate sleeve* 2009



Full image, *Journey of an ornate sleeve*, 2009



## Appendix 4

### “Shaping Sustainable Fashion”

#### Scholarly book

Published by Earthscan, February 2011

#### Background

This book explores the issue of fashion and sustainability, and specifically the way in which fashion clothing is produced, used and discarded. The book seeks to highlight a variety of sustainable strategies that in particular address the problem of textile waste, which is created during the manufacture and use of fashion clothing.

#### Contribution

The aim of the book is to encourage and educate design students and designers in industry to modify the fashion design methodology to include strategies that result in the responsible production and consumption of fashion clothing. Furthermore, the book aims to raise awareness to the problem of textile waste, and to suggest strategies that can assist the designer and consumer in making informed choices.

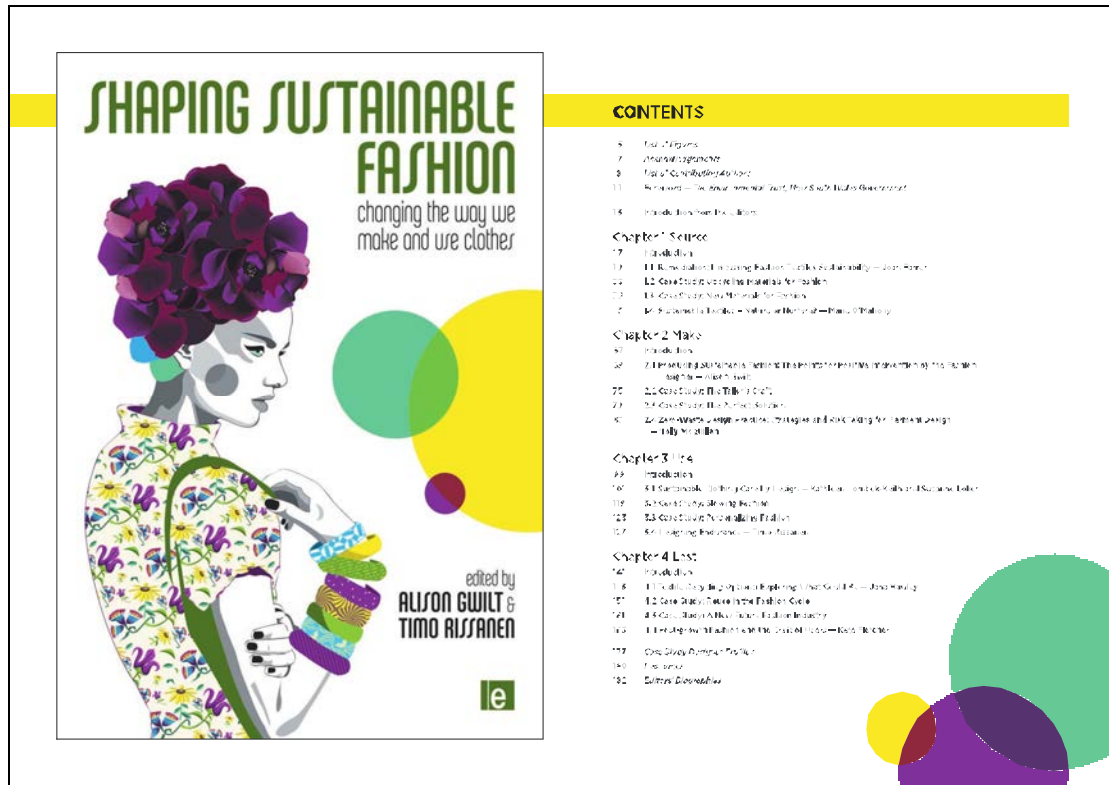
The book seeks to highlight the diverse range of sustainable solutions currently being explored by designers, researchers and manufacturers, whilst predicting possible scenarios for a future fashion industry. Through the presentation of case studies of best practice the book intends to demonstrate strategies that can be applied in differing levels and sectors of the fashion industry. The book follows a lifecycle approach and divides academic papers and case studies of best practice into four categories: *source, make, use* and *last*.

#### Significance

The book has been positively reviewed and discussed by international magazines and publications including: DaMn; New York Times; The Ecologist; The Higher Education Academy, UK; Ethical Style. The book is stocked in art and design bookshops, and libraries within UK, US and Australian/New Zealand universities and colleges. The author has been invited to give lectures about the book at educational institutes in New Zealand, Australia and the UK. Contributing authors include: Professor Marie O'Mahony, Kathleen Dombek-Keith & Professor Suzanne Loker, Dr. Kate Fletcher, Professor Jana Hawley.

## SUPPORTING EVIDENCE

Book cover, contents page



Gwilt, A. & Rissanen, T. (2011) *Shaping Sustainable Fashion*. London: Earthscan

