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Full Circle: the future of sustainable fashion manufacturing in New Zealand

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Abstract:

Many fashion businesses in New Zealand have followed a global trend towards inexpensive off shore manufacturing. The transfer of the production of garments to overseas workers has had consequences for the wellbeing of local businesses, fashion designers and garment makers. The gradual decline of fashion manufacturing also appears to have resulted in a local fashion scene where many garments look the same in style, colour, fabric, cut and fit. The excitement of the past, where the majority of fashion designers established their own individuality through the cut and shape of the garments that they produced, may have been inadvertently lost in an effort to take advantage of cost savings achieved through mass production and manufacturing methods which are now largely unavailable in New Zealand. Consequently, a sustainable local fashion and manufacturing industry, with design integrity, seems further out of reach. This paper is focussed upon the thesis that the design and manufacture of a fashion garment, bearing in mind certain economic and practical restrictions at its inception, can contribute to a more sustainable fashion manufacturing industry in New Zealand.

Rationale:

The business sector and in particular the creative industries of New Zealand have followed a European model in the 20th Century. In the fashion sector the global trend of transferring the making of garments off shore has also been adopted. Now with manufacturing overseas tied to volume production and lowest price, New Zealand's market, in excess of 4 million consumers, can not subsume the vast numbers of garments needed to satisfy small home brands, using clothing manufacturers offshore who operate on economies of scale. The market for cheap fashion is being supplied with Chinese imports of non New Zealand labels (Statistics NZ. 2008) and the home garment industry is rapidly disappearing. We argue that it is no longer appropriate to continue to design fashion following northern hemisphere mass production and manufacturing methods which in Australasia in 2009 has outgrown its efficacy. The paper explores a new paradigm towards a more sustainable clothing industry, where wellbeing exists for workers, consumers and businesses in New Zealand, which lies in the exploration of a new approach to design and manufacturing reflecting the expert cottage industry model of the pre Industrial Revolution.

Background

New Zealand started to build an international identity in 1997 when several established designers showed their labels these were the now well known labels *Zambesi*, *World*, *Moontide* and *Wallace Rose* at Australian Fashion Week in Sydney. These designers had some success in building a profile for New Zealand fashion as being 'dark', 'edgy' and 'intellectual' (Molloy, 2004). This mirrored the world interest in a particular genre developed by the film industry such as *The Piano* and *Lord of*

the Rings. However the majority of New Zealand designer fashion, while revered in the national media, may be said to lack originality. This could be a result of the way in which fashion educators, the fashion industry, and hence the understanding of fashion and its design, have developed in New Zealand. We argue that over reliance on inspiration from designer fashion from the Northern hemisphere has retarded the development of a sustainable industry in New Zealand. The recreation of existing designs from the catwalks of London and Paris have created problems for local design companies due to the variance between production methods and processes available in New Zealand and those available to the original designers of the garments.

The expense of achieving mass produced finishes without the plants, machinery and quantity of sales necessary to achieve true cost benefits, is detrimental to the wellbeing of these fashion businesses and their employees. The negative consequences of this practice inhibit the development of a fashion design and manufacturing industry that is economically, socially, ethically and environmentally sustainable. More than 1000 students a year graduate in fashion related subjects (mainly design) each year in NZ and 600 from the Auckland region which is the country's fashion hub (Blomfield, P. 2008). These students are still being taught mass production processes and manufacturing methods, despite the lack of this model in the 'real world' of fashion manufacturing in New Zealand. As this paper is written, one of the largest NZ manufacturers Pumpkin Patch Ltd (children's wear) who had producing 1 million units a year in New Zealand, have announced that they are moving all of their manufacturing off shore to China.

This anomaly between design education and industry will continue to cause problems in the future if not addressed. There is some urgency for a youthful 'new generation' of qualified fashion design and production teachers to enter the education system who understand the restrictions of contemporary manufacturing and are not coloured by their own education and experience often from overseas and dated by decades. We hope that a combination of encouraging 'new blood' in our universities and by developing best practice examples that design in consideration of the nature of the local design and manufacturing industry will become commonplace and eventually result in the replacement of mass produced clothing with distinctive fashion produced locally for the local market.

History of fashion and design in New Zealand

The fashion industry in New Zealand is relatively young in international terms. The local industry, over the past 150 years, could be described as being made up of clothing manufacturers and dressmakers, both of which played important roles in shaping the way in which New Zealanders and outsiders understand New Zealand Fashion.

The discipline of fashion design did not develop in New Zealand in the same way it had evolved in Europe; through the Industrial Revolution, influenced by the Arts & Craft period and driven by innovative Textiles & Apparel manufacturing. (Jones, R. M. 2006). New Zealand clothing and subsequently Fashion grew from the latest European designs primarily due to cultural links of the immigrant population.

Designers have despaired of the 'Saturday morning feel' to our clothing and for a good part of our history we waited for the northern hemisphere to dictate fashions to us. (Labrum & McKergrow & Gibson, (Eds.) 2007.)

The NZ market demand centred on fashions from Paris and London which were highly desirable but were far away and expensive to buy. The alternatives to genuine imports were locally manufactured versions of overseas fashions under license agreement. Dressmakers also produced variations of these designs for their clients, often adding their own decoration to the 'design'. It was the norm for Clothing manufacturers often produced blatant copies of well known European designers work, also known as knock offs.

There are two important associations to be made from this core characteristic of the history of fashion in New Zealand. First, New Zealanders developed a high regard for genuine fashion items due to the integrity of design, cut, fabrication and suggestion of buying into a lifestyle. Second, the recreation of fashion garments (imitations), particularly by dressmakers as the real thing was out of reach (geographically and financially), was celebrated rather than criticized. This appreciation of unattainable fashion, resulting in mimicking garments made with a very high level of craft and skill involved, has resulted in acceptance of and consumer support for an industry that today retains the practice of interpreting fashions (copying) from the northern hemisphere for the local New Zealand fashion market.

Current state of the industry

The New Zealand fashion industry has followed the global trend of outsourcing the manufacture of textiles and garments to off shore factories. In particular 30% of clothing in 2007 was imported from China (Statistics NZ. 2008). The move toward off shore manufacture is motivated by the substantial differences in manufacturing costs between garments produced locally and those produced in parts of Asia. This inequity in the cost of labour, hence manufacture, has resulted in mainstream fashion items that are produced quickly and can be retailed relatively cheaply when compared to New Zealand made fashion garments.

The removal of New Zealand government import quotas between 1983 and 1992 (NZIBF. 2008) has resulted in an environment where local designers and manufacturers have no protection against cheaper imports. The greater Auckland region has more than a third of the country's clothing stores numbering 1,389 which was an increase between 2006 and 2007 of 61 stores, employing 2,120 people. (StatisticsNZ. 2007). This indicates an increase in the competition in the retail market place directly importing garments manufactured overseas and selling them cheaply. Interestingly the textile, clothing and footwear manufacturing industry has declined between 2000 and 2007 in the area from 415 factories down to 387 with a loss of 21% of its employees numbering 2800 (StatisticNZ. 2007).

In conjunction with this decline in the manufacturing industry, specifically in the number of jobs available, the practice of training textile and garment workers has diminished and consequently the number of skilled workers available in the marketplace has declined. (Jenkins, J. & Fraser, K. 2000). This has resulted in a 'generation gap' in the industry in terms of technical skills (Blomfield, P. 2002). It is our belief that although this practice is not largely supported at present it is vital to re-

establish the training of workers before these skills become irretrievable. This is an instance where the 'jet lag' between UK and Europe and New Zealand has an advantage. These skills remain in the workplace but are not being passed on to the younger generation of workers due to pressure by employers to remain competitive with mass production methods.

Key inhibitors to a sustainable design and manufacturing industry in New Zealand

Garment manufacturing in New Zealand is still a very complex process requiring skilled workers as automation is still at a minimum. There are a few highly productive factories in the Auckland region such as Bendon and Cambridge Clothing with retail supplied from further afield in Hamilton and Rotorua, supported by specialist factories and dye houses for jeans, shirts and suits throughout the country. These factories relied upon volume manufacture for efficiency and had no offshore competition due to duty and quota restrictions on imports. NZ Factories supplied the country's fashion consumers. When these restrictions were removed most found they could not compete with overseas manufacturers and closed. Those left have scaled back and volume of local production has declined or is nonexistent. The country is small and does not have multi brand stores therefore batch size has reduced; before a garment maker could demand a run of 200-500 garments per style, now 100-200 per style is usual and NZ designers rely on exports to Australia to boost numbers to make a line viable for home manufacture.

Supplying at this scale has made mass manufacturing processes of fashion redundant in the country. The latest statistics available highlight the prevalence of micro business (1-5 employees) in the New Zealand business landscape. The table below shows the 2008 statistics for businesses by number of employees; ninety-six

percent of businesses in New Zealand have less than 20 employees (StatisticsNZ. 2008). Manufacturing small runs by a plethora of boutique style individual design labels has created a 'bespoke' limited edition market, the potential of which is still unrecognised.

Number of employees	Number of businesses		Total employees	
	2001	2006	2001	2006
0	169,966	219,964	0	0
1 to 5	66,669	80,607	156,150	189,810
6 to 9	14,775	18,015	106,740	130,040
10 to 19	11,980	15,090	160,300	202,350
20 to 49	6,937	8,172	208,440	241,160
50 to 99	1,982	2,309	134,760	158,830
100 +	1,652	1,934	706,620	843,250
Total	273,961	346,091	1,472,990	1,765,440

Number of employees in Businesses in New Zealand

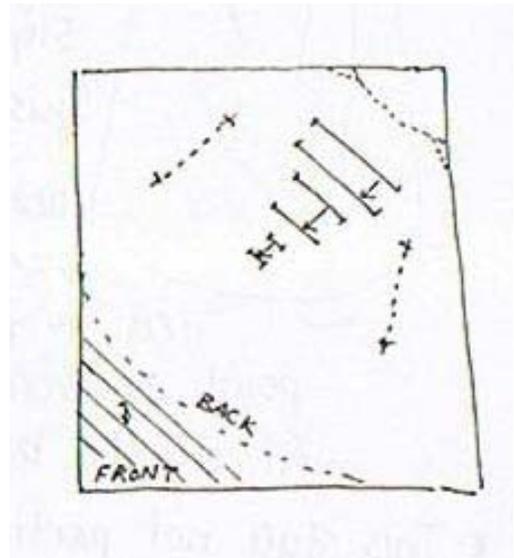
As a coping mechanism, design companies were able to continue to produce locally through the use of Cut, Make and Trim suppliers. 'The Cut Make and Trim (CMT) system is a pivotal supplier in the apparel production chain doing the bulk of the garment manufacturing business. A CMT factory may in some cases take a garment entirely from fabric to completion (including cutting, making and trimming) and in some cases includes pressing, buttons etc' (Blomfield, P. 2008). There are however other CMT suppliers and outworkers who are only interested in doing parts of the manufacturing. There are permanent jobs in design companies driving work around

between makers. While the use of CMT factories is solving an ongoing manufacturing problem it is not an elegant solution.

Fashion design as a solution to build a more sustainable industry

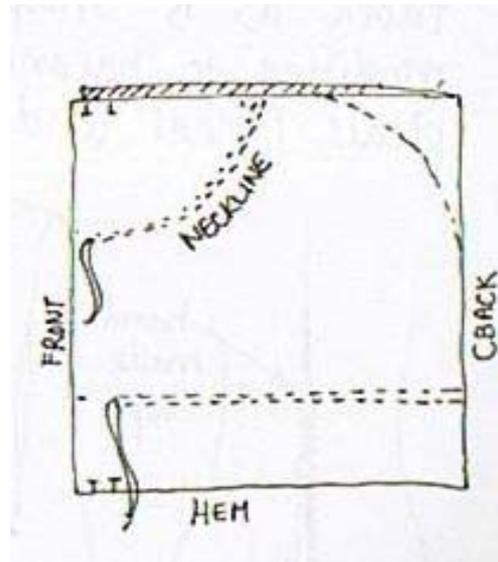
We argue that design of garments, in consideration of the production and manufacturing methods and business structures in the local market, is a means of developing fashion that supports a sustainable industry. This section provides an overview of a collection of prototypes that have been developed to address key bottlenecks in the manufacturing process for start up micro businesses in New Zealand. The example garments shown as proof of concept are part of collection entitled 'Full Circle' and were designed and made by the paper co-author Angie Finn as part of her dissertation for Bachelor of Art & Design (Honours).

The aim was to design concept garment prototypes that eliminated waste and limited manufacturing processes in an attempt to support sustainable manufacturing for micro business in New Zealand. These garments have also been designed to limit the number of sewing and cutting operations to allow garment makers to develop skills to a high standard before attempting to produce more complicated designs. We use them as a key example of how design can be used to solve business problems and produce a strong design aesthetic through strategic fabric, process and pattern engineering.



Left: 'Tuck front Square' by Angie Finn, 2008.

Above: Extract from design diary illustrating the design concept for the simple pattern shape of the design



Above: 'Hooded Gown' by Angie Finn, 2008.

Above Right: Back of 'Hooded Gown' by Angie Finn, 2008.

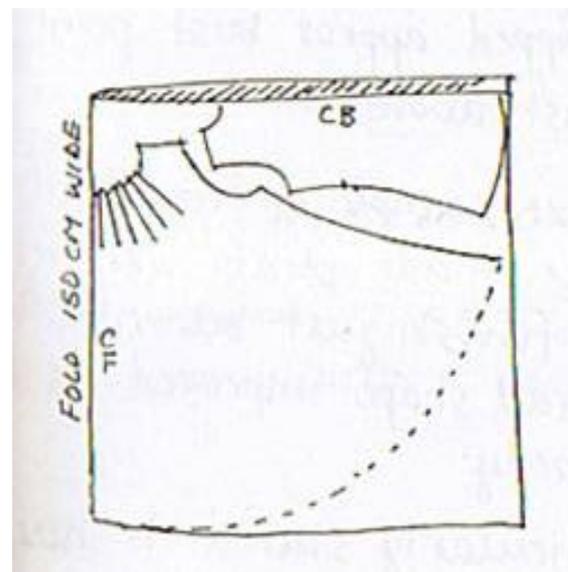
Lower Right: Extract from design diary illustrates the concept for the pattern and hence the final design



Above: 'Pleated Pinafore Dress – Narrow Width' by Angie Finn, 2008.

Above Right: 'Pleated Pinafore Dress – Wide Width' by Angie Finn, 2008.

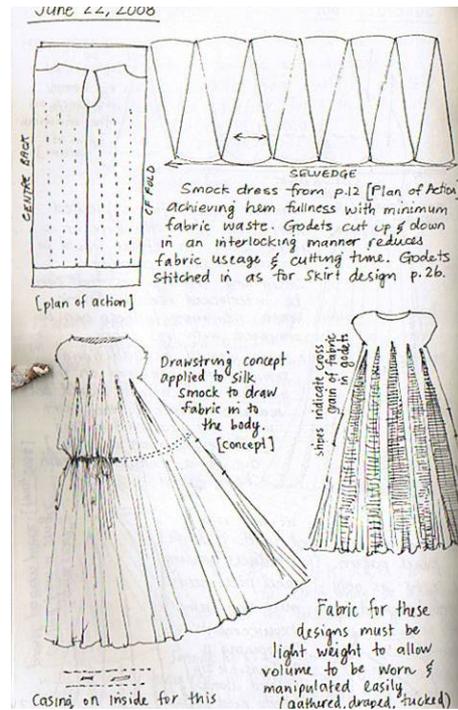
Below: Extract from design diary explaining the concepts behind the design. The width of a selected fabric determines the aesthetic of the design





Left: 'Godet Dress' by Angie Finn, 2008.

Below: Extract from design diary explaining the concepts behind the design



Final Exhibition of Full Circle Collection by Angie Finn, November, 2008.

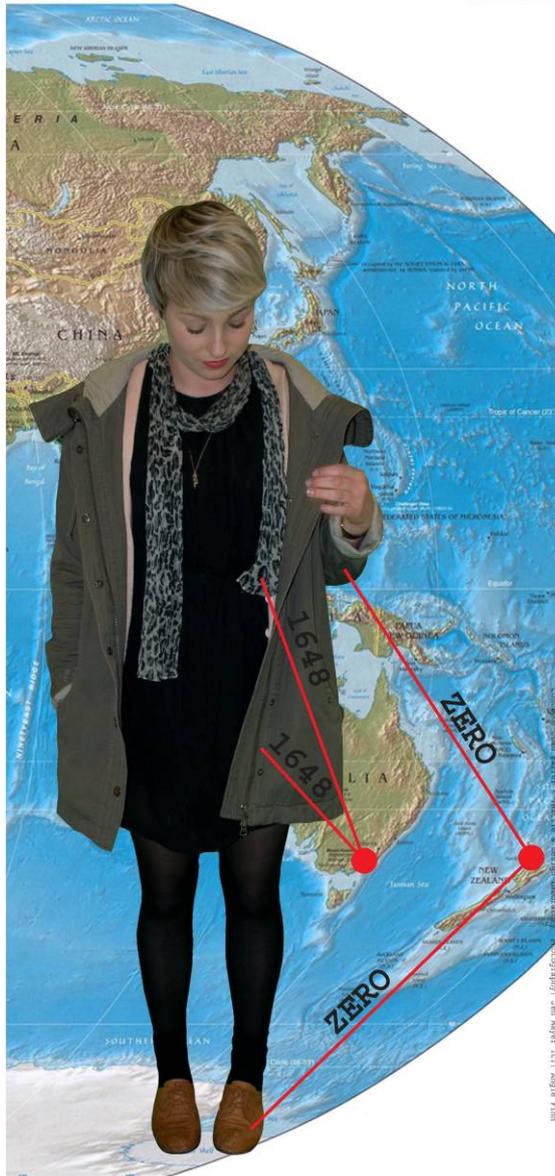
The Sustainable Consumer

The overall success of any fashion product depends upon a designer's knowledge and understanding of their potential customer. The over abundance of clothing choice on offer as a result of cheaply produced imports in the marketplace has seen the emergence of a new sustainable customer. Manzini (2005) talks about enabling and disabling solutions (related to design, production and sustainability) his argument is that human ability to gather, learn from, and utilize knowledge to apply to situations including design and production is now diminished because of the advance in mechanization. In fashion the knowledge which is incorporated into his (Manzini's) 'monological' system of production and has become a disabling phenomena accelerating the loss of essential skills- how to design, make and re use clothes, how to dress, what to wear, and most importantly what to accept as a consumer (Farrer, J. & Fraser, K. 2008). Manufacturing garments off shore appears to be inexpensive but if not effectively communicated to this type of consumer could be a case of 'out of sight; out of mind' in terms of wellbeing for workers, environmental pollution and exhausting natural resources. This suggests a greater need than ever before for transparency in the supply and disposal chain of fashion garments to inform these new consumers.

A recent awareness campaign "Conscience Clothing 08" (Farrer, J. 2008) targets this new breed of consumer. A series of life size images printed on fabric banners shows AUT University students. Information about the garment miles that each piece of their clothing has travelled from the garment manufacturing site , to be worn in New Zealand, is provided and estimates of the carbon emissions that result are also included. The poster 'Sally Grace' illustrates a student wearing clothing from

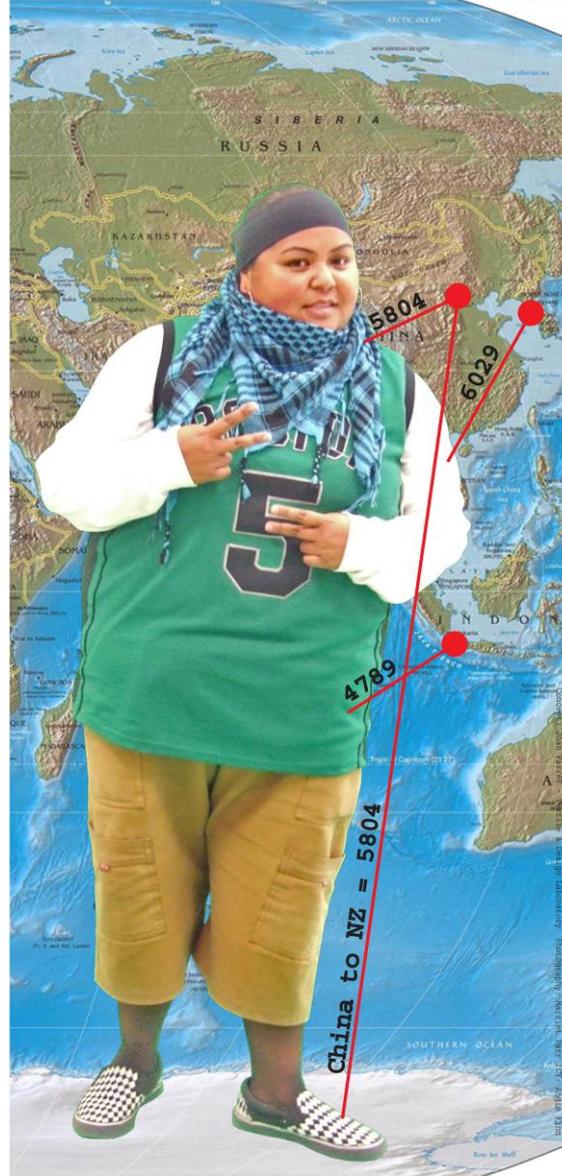
Australia and New Zealand, compared with 'Sam', who illustrates the consequences of clothing imported from parts of Asia. This highlights the potential benefits in carbon terms alone of close to market design and manufacturing.

CONSCIENCE CLOTHING shoot 08
GARMENT MILES
 Sally Grace - Art & Design



Sally Grace's clothing miles $0 + 0 + 1648 + 1648 = 3296$
 CO₂ emissions approx = 0.59 Tonnes

CONSCIENCE CLOTHING shoot 08
GARMENT MILES
 Sam - Art & Design



Sam's clothing miles $5804 + 4789 + 6029 + 5804 = 22426$
 CO₂ emissions approx = 10.9 Tonnes

Posters 'Sally Grace' and 'Sam' by Dr Joan Farrer RCA, 2008. Part of the Conscience Clothing Shoot 08 project.

It is increasingly acknowledged that sustainability is not just about the planet, but profit and people too and unsustainable production in fashion also has negative consequences in economic, ethical and social terms. "Sustainability challenges existing ideas about the scope and potential of fashion and textiles and sets out a broader more interconnected and forward looking picture, drawing on ideas of human needs, industrial ecology, speed and rhythms and participatory actions as well as knowledge and materials" (Fletcher, K. 2008).

Conclusion

New Zealand is at a tipping point with regard to the crisis in the fashion textile industry and indeed its future sustainability. We suggest that there is inappropriateness and a similarity between using a European model for fashion design and manufacturing in NZ as with mirroring the new methods and philosophies of sustainability in the sector, driven by the United Kingdom from retail leaders such as Marks and Spencer PLC, the RITEGroup or by the Ethical Trade Initiative (ETI) models. This has been precipitated by following the European model of design and manufacture overseas too closely. However, a twelfth hour reassessment of the unique capabilities of the new Zealand workforce, coupled with consumers who retain a deep understanding of the artisanal practice of making their own garments at home, has illustrated the opportunity to develop concept research studies in new areas in fashion design and manufacture. This is a 'close to market' concept feeding directly into the paradoxical sustainable fashion consumer. New Zealand's Auckland region could be a testing ground for methodologies, old and new, which could be applied to products manufactured all over the globe. The clean, green New Zealand brand using a smart, educated and experimental labour force is creating perfect

laboratory conditions for testing the fashion textile industry, creating opportunities for change, analysis, new systems and concepts by serial entrepreneurs using the 'number 8 wire philosophy', a metaphor for the pioneering 'can do' attitude that New Zealanders historically possess.

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