FROM THE PARTS TO THE WHOLE: RECONNECTING FASHION DESIGN EDUCATION TO ITS ECOLOGICAL IMPACT

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INTRODUCTION

Fashion design has historically not been taught in the context of its ecological impact on our planet, and has prioritised analytical thinking over holistic systematic thinking. The field of design, which includes both the practice and design education, has taken its cue from the dominant paradigms established during the Industrial Revolution, where the emphasis was placed on giving form to products for a consumer, based on the logic of growth in a world of finite limits.[1] The dominant linear "take, make and waste" system of the twentieth century has set artificial boundaries and driven a wedge between the players in this system. The scope and role of the designer has been constrained and compartmentalised as decisions are primarily based on principles of aesthetics, technical merit and the marketplace.[2] This model of design education stifles students' ability to think and act expansively, to step outside themselves and consider the full gamut of human needs[3] and the full context in which fashion operates.

Design education is a powerful place to respond to the contemporary situation, where fashion is now one of the most polluting industries on the planet. As we enter "the century of the system,"[4] it has become apparent that the challenges facing society necessitate an understanding by designers of interconnected systems and networks. It is imperative that fashion design education shifts its focus to prepare designers to deal with complexity and interrelationships in order to address what Alastair Fuad-Luke describes as a "multitude of truths."[5] Through education, fashion designers can be empowered to critique their role as secondary players within a larger system. They can learn to be part of the solution rather than perpetuating problems of the past.[6]

The research questions that drive this paper are the following: If fashion design educators, researchers and practitioners employ systems thinking to search out different "truths" for a more expanded, sustainable view of fashion, will this enable the field of fashion to continue in a world of finite limits? If we widen the scope of fashion design education to factor in its full ideological and authentic context, will future fashion designers enact positive change within the larger networks of society and the environment?

This paper will focus on a recent case study of curricula, "Fashion Activism: Space Between China and NZ,"[7] which was delivered in New Zealand and China during a six-week period from November to December 2015. This cross-cultural, interdisciplinary course was informed by the philosophy, methodology and manifesto of Space Between,[8] a strategic enterprise and research initiative at the College of Creative Arts at Massey University which offers a thoughtful new path for designing, making and using locally produced fashion. The course was also informed by other research methodologies and tools such as design activism and slow design as developed by Alastair Fuad-Luke;[9] the emergent discipline of transition design pioneered by Terry Irwin and his collaborators;[10] the work of Professor Kate Fletcher, a leading scholar in the field of sustainable fashion;[11] and the strategies developed by the Textile Environment Design team at Chelsea College of Arts.[12]

The course was devised and delivered by sustainable fashion researcher and lecturer Jennifer Whitty, director of Space Between,[137] to encourage designers to explore the gamut of issues where fashion may have influence. This paper will critique and question the boundaries of fashion, and aims to embolden students to operate as part of a system which recognises the richness and complexity of the fashion ecosystem from a systemic rather than a solely analytical viewpoint.

PAPER OUTLINE

Our course did not focus on resolved garment outcomes, which is the norm in most fashion design courses. The course was less about what the students created (product/output) and more about how they navigated the challenges presented together (process and people skills). Therefore, this paper will place the emphasis on the course activities and the methodology used, as this is where a shift in thinking occurred in relation to fashion design pedagogy, yielding outcomes which could be shared and adopted by other educators.

INDUSTRY BACKGROUND: A LINEAR APPROACH

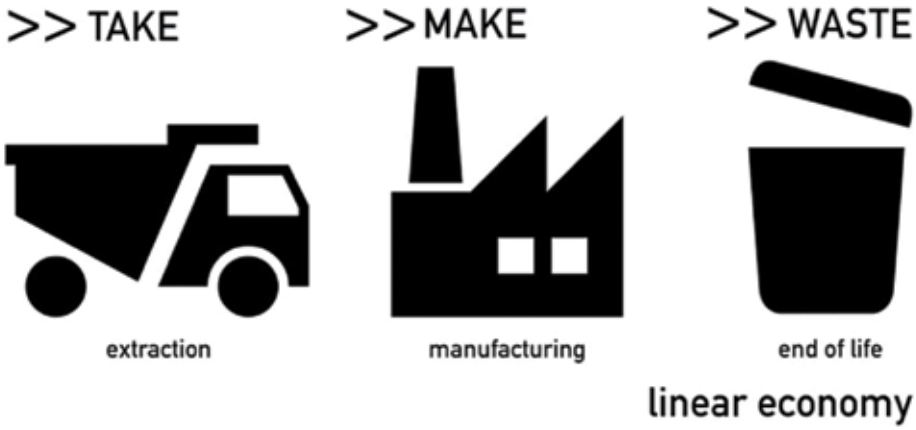

Figure 1. "Take, make and waste:" the linear economy. Image credit: Jennifer Whitty, 2017.

Our current "take, make, waste" linear economic system uses finite resources in the manufacture of goods, which are then consumed and later disposed of (Figure 1). The role of the fashion designer has historically been limited within the system of consumer culture, where the designer exists to provide products or garments to their market or clients, based primarily on principles of aesthetics. This paradigm has led to an unsustainable situation where the global fashion industry is arguably one of the most polluting industries in the world. It could be argued that the same reductivist thinking has been applied within fashion design education, which has focused on the specifics – i.e., the garment, the product, the technology or the specialist knowledge involved – but has often neglected to address the interrelationships between or around garments and their production. It has prioritised an analytical approach, looking at component parts in isolation and has omitted the application of specialist knowledge in its full context, with and for people on our living planet.

Fashion is as much a social and environmental phenomenon or network as it is a technical specialism. The negative impacts of the current system on people and planet can no longer be ignored, and it is time for design education to acknowledge the role it can play (and has played) in this situation.

Aims of the Curricula: Thinking Beyond and Outside the Catwalk

According to Kirsi Niinimäki, the majority of sustainable fashion labels focus on a single narrow approach, which is often the "environmental impacts of manufacturing, substituting materials with eco-materials, or focusing on ethical issues in manufacturing."[14] While these are undeniably important issues to address, they are limited in scope. They do not encourage complex, holistic thinking aimed at improving the fashion system as a whole. They neglect to consider the entire lifespan of a product, in particular the consumption, disposal and re-production phases and the interconnections between these stages. Nor do they acknowledge fashion's social and cultural importance as being on a par with decreasing material impacts.

As educators, it is pertinent that we ask how much of the conventional narrow thinking around sustainability is embedded in educational practice. Fletcher argues that fashion by its very definition mirrors and reflects its context; and that context indubitably includes the people, ecosystems and the very soil involved in its production.[15] Fashion students need to fully comprehend and be competent to act with respect and awareness of the entire system in which their potential activities and outputs will operate. It is imperative to consider a post-growth fashion industry that works towards decoupling revenue from declining material resources. Design educators can prompt engagement with new ways of designing, producing, distributing and experiencing fashion. In order for fashion design to be relevant and responsive to the needs and contexts of the twenty-first century, fashion education needs to prepare its designers to think and act with systems in mind.

The Course Structure

"Fashion Activism: Space Between China and NZ" had four major aims:

- To invite engagement with more strategic and systemic designer roles
- To bridge the gap between professional and personal value systems for a more holistic and embodied engagement with the sustainability imperative
- To set up conditions for shared learning experiences on several cognitive levels
- To offer a framework for opportunity-focused and imaginative explorations of sustainability.

The course received the Prime Minister's Scholarship for Asia (PMSA),[16] a programme funded by the New Zealand government and administered by Education New Zealand. The scholarship's aims include improving the international skills of the New Zealand workforce; increasing international understanding of the strength and quality of New Zealand's education system; establishing connections between New Zealand and other countries through building lifelong friendships and networks; and strengthening New Zealanders' understanding of other cultures. The course was delivered as an elective run by the College of Creative Arts, Massey University, through the college's School of Design.[17] The studio-based course ran for six weeks, with the first two preparatory weeks delivered in New Zealand. The next four weeks were delivered in China at three universities: Xi'an Polytechnic University Xi'an,[18] Tsinghua University, Beijing,[19] and the Shanghai Institute of Visual Arts (SIVA)[20] – all major centres of design, culture, enterprise and industry.

The course brought together a multidisciplinary group of undergraduate students from the fields of textiles, fashion, industrial design, visual communications, Maori visual arts and photography, with a shared focus on addressing issues in the fashion industry and creating positive change. Each university partner brought its own distinctive expertise and complementary approaches to design, technology and business, with an emphasis on internationally oriented design and innovation. Students focussed on the emergent field of design activism, while raising awareness of the contribution that design does and can make to contemporary issues. Students were exposed to the history and contexts of the textile and clothing industry in both New Zealand and China – a "multitude of truths"[21] about

fashion design which included economic, political, social, ecological, ethical, symbolic, philosophical and cultural as well as technical "truths."

Acknowledging the full context of design enabled the student designers to refocus their creative skills on formulating a more pluralistic mode of fashion design. Students were asked to devise a range of creative responses based on issue-led design approaches and frameworks, such as slow design[22] and metadesign.[23] The outcomes were not prescribed or predetermined – rather, students were asked to follow guiding principles and think for themselves about what an appropriate 'fashion' outcome might be in this educational context.

The New Zealand context: Personal and Cultural Truth: Understanding our own Context

It became clear that practitioners must first understand their own relationship with the environment, culture and values before beginning to think about alternative fashion systems, products or services. During the first two weeks of the course, as part of their preparation for travelling to China, the New Zealand students defined their own activist space by analysing their professional and personal motivations in relation to sustainability in a local context. As this was a cross-disciplinary course, the majority of students were not studying fashion as their major. The toolkit known as TED's Ten,[24] developed by the Textile Environment Design team at Chelsea College of Arts, was useful in helping students frame their intentions and navigate the complexity of sustainability issues in a fashion and textiles context.

Students were then asked to create a manifesto – a statement of commitment to he issues they wanted to address and how they would go about implementing change – which they presented to the Chinese students in the form of a pecha kucha (a visual presentation session) to demonstrate their individual practice and values. This manifesto was refined to become the basis for the production of "artefacts," as defined by Fuad-Luke,[25] while they were working alongside Chinese students in Xian and Shanghai.

Figure 2. Rembrandt clothing factory, Lower Hutt. Image credit: Tom Pringle and Jennifer Whitty.

Examining Economic, Political and Technical Truths in the New Zealand Fashion Industry

As a preliminary study, it was important for the students to understand the facts about New Zealand's relationship to fashion from the economic, political, social, ecological, ethical, philosophical, cultural and technical perspectives.[26] New Zealand shows many of the characteristics of other developed Western countries insofar as while consumers are buying more clothes than ever before, most of this clothing is imported, mainly from China. The structures that have led to this situation were examined as students started to explore the wider ramifications of fashion, and the industry it reflects, through field trips to some of the last remaining clothing factories in the Wellington region[27] and lectures on consumer psychology[28] (Figure 2).

Figure 3. Seaview Recycling Centre, Lower Hutt.[29] Image credit:, Tom Pringle.

Whitty introduced the students to the philosophy, methodology and manifesto of the Space Between,[30] a strategic enterprise and research initiative at the College of Creative Arts at Massey University, which offers a thoughtful new way of designing, making and using locally produced fashion. Situated in a tertiary institution working in conjunction with both the not-for-profit and private sectors, the Space Between incorporates the principles of design-led activism as described by Alastair Fuad–Luke.[31] Concerned to address sustainability issues such as resource depletion, consumption and production, the organisation asks if practitioners can find a sustainable balance between the design, manufacture and consumption of garments by reducing the speed, volume and impacts of 'waste-ready' global consumerism. This could be achieved by examining the product-service system to find ways of transforming negative consumption and production patterns (Figure 3).

The China Context: Examining Economic, Political and Technical Truths in the Chinese Fashion Industry

The course group spent two weeks studying slow design[32] at Xi'an Polytechnic University. The course provided students with the opportunity to tap into alternative systems that provided different tempos from those they were

used to and shift perception about what the label "Made in China" means. During our time in Xi'an, we focused on developing responses to two of the six guiding principles of slow design, "reveal" and "expand." (The others are reflect, engage, participate and evolve.)

Reveal: slow design reveals spaces and experiences in everyday life that are often missed or forgotten, including the materials and processes that can easily be overlooked in an artefact's creation or existence.

Expand: slow design considers the real and potential 'expressions' of artefacts and environments beyond their perceived functionality, physical attributes and lifespans.

Figure 4. "Fashion Activism: Space Between China and NZ." The course group visited artisan workshops in Qianyang, Fengxing and Hu counties. Image credit: Jennifer Whitty.

China has a long and glorious history of both the arts and traditional crafts. New Zealand students were exposed to the richness of the country's traditional artisanal culture in rural Xi'an and the surrounding districts of Qianyang, Fengxiang and Hu counties on organised field trips (Figures 4 and 5). The group also visited the Gaoling Culture Center and Shaanxi History Museum in order to broaden their knowledge of local crafts and history in context. With their XPU Chinese partners, students developed creative responses in the form of artefacts (as defined by Fuad-Luke), created with the first two principles of slow design in mind, which they presented to the class. In addition to building knowledge of the industry, students also examined 'fashion' from a consumer perspective. Workshops[33] developed and delivered by Whitty and students from both New Zealand and China considered the question of changing designer and consumer behaviour to develop more sustainable approaches to buying, using and designing clothing.

Figure 5. "Fashion Activism: Space Between China and NZ." The course group visited artisan workshops in Qianyang, Fengxiang and Hu counties. Image credit: Jennifer Whitty.

REFRAMING FASHION OUTCOMES

Part of the objective of this course was allow students to reframe their fashion outputs through a different lens. Fashion outcomes or activist "artefacts," as defined by Fuad-Luke, are characterised by their intention or purpose in relation to the status quo, rather than by their appearance or a predetermined quantity of garments (i.e., a collection). The students were given autonomy to explore or demonstrate sustainability in whatever medium was relevant to their project's' intention. This provided students with the opportunity to take risks and explore different solutions.

Widening the outcomes to include communication strategies was seen as a way of increasing consumer and designer knowledge of the environmental and social impacts of fashion and textile products. Publications, blogs, open-source networks, exhibitions, conferences, festivals, social media and manifestos all contribute to engaging society in sustainable and progressively transformative eco-social practices.

Outcome: "propositional artefacts" which explore and demonstrate their sustainability by suggesting a vision for changing the status quo.[34]

Lachlan Philipson, a visual communication design student, and Matisse Rendle Mitchell, a textile design student, collaborated to create a responsive installation of five patterns, each representing a day spent in Beijing, which were digitally printed onto fabric (Figure 6). The patterns were generated using China's air quality monitoring data

Figure 6. Lachlan Philipson and Matisse Rendle Mitchell's work at the Shanghai Institute of Visual Arts (SIVA). Image credit: Jennifer Whitty.

as variables in a drawing algorithm. They aimed to create a piece that acts as a provocation to generate discussion of the problems of air pollution caused by mass manufacturing and rampant consumerism. Their installation piece spoke of the issues surrounding mass production, consumerism, waste and pollution. This project's manifesto was informed by the TED's Ten no. 8, "Design to reduce the need to consume,"[35] and sought to spark discussion and make people question their immediate surroundings as well as their own impact on the environment.

Outcome: "demonstration artefacts" which demonstrate positive alternatives that are superior to the status quo.[36]

Sarah Gardiner, a visual communication design student, wanted to rethink the role of the consumer and create opportunities for the individual to make interventions in the fashion production process. Her project, The Community Makers, operates as a community of retired craft makers. These makers repurpose unused garments gathered from customers in their local community that have been kept for sentimental reasons (e.g., wedding and birthday dresses), transforming them into functional items that can be integrated into the customer's daily life. "Makers workshop events" are organised by the Community Makers at local venues where they can facilitate collaboration with local community groups. These workshops transfer making knowledge to the new generation in a creative and innovative way (Figure 7).

The new experience of seeing how his clothes were made stayed with Tom Pringle, an industrial design major. In his opinion, having knowledge of where something comes from and the process it takes to get to the customer is key to making informed, sustainable choices. His outcome was: ""entrepreneurial artefacts' designed and produced to challenge the status quo of the marketplace were produced in small batches."[37] "Made In China" is a publication and online integrative site that focuses on telling the stories of garment workers and bringing attention and pride

to the craft of making. It aims to reconnect consumers with where and how their clothing is made, while honouring the people who make our clothes (Figure 8). Transparency across the supply chain is a key driver for the Fashion Revolution movement. This project was informed by TED's Ten points: "Using better technology" and "Reducing the need to consume."[38]

Figure 7. "Fashion Activism: Space Between China and NZ." Sarah Gardiner's working with Chinese partners at the Shanghai Institute of Visual Arts (SIVA). Image credit: Sarah Gardiner.

Figure 8. "Fashion Activism: Space Between China and NZ." Tom Pringle's work with Chinese partners at the Shanghai Institute of Visual Arts (SIVA). Image credit: Tom Pringle.

Figure 9. Chinese clothing factory. Image credit: Tom Pringle.

FUTURE RECOMMENDATIONS

Creating innovative solutions – not just for today's society, but also for future generations – is a global challenge. The sustainability imperative has put a different emphasis on what we all do and, as educators and designers, we can access potentially significant power to create positive change. As educators, it is vital that we question the nature and scope of design education in order to prepare fashion students for the ethical, political and socio-economic decisions that they will be confronted with, as well as the role of academia in meeting societal expectations and global challenges. In order to encourage appropriate skills in tomorrow's designers, the course designers have come up with the following future recommendations for fashion:

- expanded roles for designers
- designer as facilitator
- designer as social innovator
- designer as catalyst
- empowering communities
- behavioural change

"Fashion Activism: Space Between China and NZ" enabled students to critique their discipline, redesign design and establish a critical position from which to develop an informed, sustainable practice and attitude to fashion design. For perhaps the first time, this issues-led design course encouraged designers to consider the economic,

social, moral and ethical consequences of their work. Students started to question their past practices and began to envision new values, which they have continued to develop into future work. The course looks forward to a different kind of fashion design profession that encourages collaborative rather than individualistic goals. The kind of shared and emergent learning process experienced on the course expands the notion of design and the designer's role. The cross-fertilisation of personal and professional experiences, a "multitude of truths," value systems, factual knowing and imagination, and explicit and tacit skills were all canvassed.

The tools and the approaches considered in this paper seek to foster conditions for learning which is contextual and systemic in approach and which generates a corresponding body of new skill sets. This type of learning requires an in-depth set of personal creative skills and a broad understanding of the creative process and of what it takes to cope with navigating not-knowing. All of these elements can deepen and enhance designing within shorter horizons of time and more mainstream contexts.

We are currently in a transition to a new type of fashion industry, one based on ecological and holistic principles such as "closing the loop" on materials, community values, and respect for everyone involved in the global supply chain. It is also clear that we, as consumers, designers and educators, need to start respecting fashion from the inside out, and educate future designers to do the same.

Future fashion

We are on the cusp of a new educational revolution as a new narrative of education is emerging. This narrative embraces the vision of a large-scale system for learning that is more open-ended, creative, inclusive and sustainable than in the past. It also envisions a different kind of fashion design profession that encourages collaborative rather than individualistic goals, dealing with and for society. A garment cannot possess sustainability in itself; it is the context in which it was created and operates that deems it to be sustainable or otherwise. Sustainability is both a necessity and an opportunity for fashion – it is time to reassess fashion's impact on the planet. Sustainability is not only about minimising negative impacts, but also about maximising positive impacts and forging stronger links and connections.

Education can be a key driver for change if it is linked with systemic thinking and activist intentions to impart the flexibility and capability designers need for working with the unknown situations of the future. As student Lachlan Philipson said after completing the course and being exposed to its thinking, "There is no excuse to not be a design activist."

Jennifer Whitty is a sustainable design educator, researcher, designer, facilitator, writer and activist. Originally from Ireland, she teaches and practices at Massey University's School of Design in New Zealand as Senior Lecturer of Fashion Design. She is focused on developing new green business models and systems for alternative ecologies of fashion practice, which are connected to and have an impact on society. She strongly believes in the positive aspects that fashion can impart to both the individual and to our culture. Jennifer is involved in taking action to harness this power and to catalyse change in the current system by developing alternative roles for the fashion designer through activism and social innovation.

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