Value Definition in Sustainable (Textiles) Production and Consumption

Introduction

This chapter explores the notion of value within the context of the process and products of textile design, and to some extent the transformative process implied through production. This provides an invaluable lens for exploring the unique qualities and types of value that textile designers engage with, especially where pure designs are militated by the need to develop solutions for tackling industrial and societal issues such as environmental sustainability. These values are framed here as forms of capital which are conceptual, cultural and material, forms which a textile designer draws upon and imbues with their own expertise to create intellectual capital in terms of ideas, qualities and design. In the context of sustainability, the future economic, ecological and human sustainability of the global textiles industry requires the full utilisation of the textile designer’s intellectual capital.

The term ‘textile’ is used throughout this chapter, rather than ‘fabric’ or ‘cloth’, as both ‘textile design’ and ‘textiles’ can not only represent the actions of creating a material through knitting, weaving and fusing fibres, but also reference the processes, techniques and finishes that constitute its production. Without textiles, the creative industries of fashion, architecture, interior design, automotive and transport design would be unrecognisable. Textile design is practised within specific cultural and industrial contexts, and is described through a specific terminology developed over centuries of tradition and practices (see Denton and Daniels 2002; TheTextile Institute 2018). ‘Textiles’ also makes reference to the technologies and industries of printing, embroidery, finishing, embellishment and surface manipulation which are applied to fabrics for decoration or improved performance. In this way the term ‘textiles’ is positioned as a material, as an industry and as a
unique set of interlinking cultures and traditions of practice. The value a textile designer brings to the creative and cultural industries is typically tacit (Polanyi 1966) and embodied, but these skills are a key part in the research and development, design, production and supply chains of many industries (see Kane and Philpott 2013, 2016), and this chapter has broader resonance for wider issues of production and the creative and cultural economy.

The chapter is organised as follows. Beginning with an exploration of sustainability in textiles, the chapter then examines what value means in the context of textiles, and how this shapes textiles design and production under a broader imperative of environmental sustainability.

**Sustainability**

Sustainability in the textile design context relates to an emerging and urgent awareness of the effect of human activities on the human and ecological environment, and is discussed within this chapter in relation to the fashion industry. De Montfort University’s sustained approach to impact is key to the university’s work as articulated in its commitment to public good and its selection as a designated ‘hub’ for achieving (SDG 16) the United Nation’s Sustainable Development Goals (SDGs)—the first UK university to be chosen as such. In the context of textiles, sustainability relates to the use of environmentally sustainable materials and processes, as well as disrupting current models of manufacturing towards more socially and economically responsible (as well as ethical) production methods, which speak to wider goals of carbon neutral production, peace and justice. Challenges include: waste creation and disposal, resource depletion, climate change and emissions, air, earth, or water borne pollution and effluents, water and land availability and security, and the challenges and opportunities of globalisation, which can either alleviate human poverty through gainful employment or enforce exploitative business models which oppress individuals and lock people into destitution (EllenMacArthur Foundation 2017; Fletcher 2008; Remy et al. 2016).

These challenges are addressed within the 17 UN Sustainable Development Goals for 2030, a set of global goals to improve both human experience and the natural environment (UN 2018). Each goal in turn can be seen as relating to aspects of textile design practice and production. Of particular relevance to textiles are SDG 5 (Gender Equality), SDG 8 (Good Jobs and Economic Growth), SDG 12 (Responsible Consumption and Production), SDG 13 (Climate Action), SDG 14 (Life Below Water) and SDG 15 (Life on Land) (UN 2018). As global cultures are increasingly built around consumption as a defining characteristic, textile design researchers can help mediate the pace and focus of this consumption, moving it from unsustainable practices toward circular or

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regenerative economies (EllenMacArthur Foundation Website 2017), and from mass fast-paced consumption, to slow, thoughtful consumption (Fletcher 2018). Such challenges will increasingly require interdisciplinary or transdisciplinary (Piaget 1972) approaches in order to develop transitions toward sustainable futures within the textiles industry, and textile designers have an increasingly important role to play within this, due to their specific competencies and skills. In this context, sustainable growth and innovation will need to develop upon the textile designer’s ability to direct their practice within the context of environmental resources and human sustainable development, through employing and developing on their embodied, tacit knowledge bases. One potential approach to this is through engaging with research and practice within the emerging field of ‘Transition Design’, which is practised by transdisciplinary teams who focus on solving particular problems in order to transition towards sustainable futures. In this chapter, this approach will be discussed in relation to the development of sustainable models of textile design, particularly for the fashion industry. To develop strategies which address these issues, textile designers must bring their knowledge capital to such teams and embed sustainable development and production approaches within industry and consumer practices (Andersen and Earley 2014; Afterburner 2009; Fletcher 2008; Blackburn 2009; Fletcher and Tham 2014).

Cultural Capital and Value
Textiles are globally ubiquitous, and their development and use transcend cultural, historical and geographical boundaries, particularly when made into fashion garments (Harper 2012b; Schneider and Weiner 1989; Schoeser and Boydell 2002). Textiles and textile designers contribute value through multiple layers of processes and activities, developed overtime through the cultures of textile design education and design for manufacture (Entwistle 2000, p. 1; Gale and Kaur 2004). The textile design process requires the designer to draw upon their cultural, material and conceptual capital, which enables them to design technically or aesthetically relevant and marketable textiles. Such capital arises through a layered and nuanced set of skills: the manual dexterity acquired through crafts practice; the ability to draw upon honed critical judgement skills to direct colour, proportion, motif and layout choices; and the ability to understand consumer desires and markets. Textile designers not only need to be able to draw, repeat and create designs for development into fabrics, wallpapers and accessories, but to understand the ‘technical and business worlds of textile processing, marketing, communications and distribution’ (Thackara 2015, p. 89).
Established research subjects and paradigms which intersect with textile design investigate and advance the aesthetic, industrial and scientific development of textiles (Braddock Clarke and O’Mahony 2005), or focus on textiles as objects in material culture (Candy 2005; Banerjee and Miller 2003). Research within scientific or industrial domains has focused on value creation through innovation via the qualities, structures and functions of textiles, or new applications or adaptations of existing processes and techniques within the field. These develop textiles which problem-solve or enhance performances, particularly within the domains of fibre, yarn, colouration and fabric production, and result in knitted, woven and non-woven textiles for development into products. The focus of these textiles includes the innovations created through interdisciplinary research, or fusing techniques. Examples include pairing digital approaches with traditional crafts (Bowles and Isaac 2009; Kane et al. 2016; Akiwowo 2016), developing fabrics which use nanotechnology (Braddock Clarke and O’Mahony 2005, p. 6), or using enzymes as coloration agents (Shen et al. 2018). These textile design approaches are inherently imbued with tacit cultural or conceptual value, which the designer selects or capitalises upon in order to create a relevant and useful textile for product development and product enhancement, thus creating market capital and value. The cachet of a luxury woven cashmere or couture embroidery on lightweight silk enhances the appearance and enjoyment a garment conveys and adds value through material and conceptual value, and aesthetic values, to both an individual garment and the fashion brand as a whole.

Material Capital and Value

Material capital is measurable, but much of the value a textile designer brings to society is tacitly embedded within the processes and concept development of the design. As textile design occurs for fast-paced and rapidly evolving or market-responsive industries (as seen in fashion design), understanding of both value and values in relation to design has become more than an optional extra for textile designers, and should form a key part of the education of textile designers. In particular, value and values function as drivers for understanding the ways consumer behave when making purchasing and consumption priorities or activities, in many different ways. For instance, the use value versus the exchange value of a textile when converted into a garment can be measured against its market or sale value, as an individual unit which contributes towards the £28 billion the fashion industry directly contributes to the UK economy annually (British Fashion Council 2016).

The values which a textile can facilitate and come to embody include enhanced social relationships, a change to a sense of identity, a link with a memory or occasion, or an affiliation or loyalty to a
brand, and the brand values it represents. This is particularly the case with evocative brands with a distinctive set of brand values associated with them, such as People Tree, Levi’s, Gucci or Chanel. The established fields of branding and marketing in relation to fashion understand the consumer as adopting the ‘brand values’ when making purchasing decisions (Posner 2015). This is particularly key at the luxury end of the textiles market, where provenance, geographical links and artisanal craftsmanship intersect to differentiate from the lower market sectors, and provide perceptions of quality and heritage (Collins and Weiss 2015). Increasingly, consumers express not only their sense of identity through conspicuous consumption or brands, but in wearing clothing which aligns with their own identity or position (as discussed in Chap. 6), their ethical values or principles they wish to communicate via their clothing through an alignment with a brand, such as People Tree or Birdsong. Large corporations now realise that sustainable and responsible production form part of the ethical and brand values they must communicate, and that engaging with sustainable practices ‘protect and augment’ their reputations, particularly with younger consumers (Fletcher 2014, p. xv).

The material value embodied within the textile designer arises through varied steps, gained through a lengthy process of education in design research, development and manufacturing techniques. However, much of this knowledge remains tacit. This is partly due to a historical bias towards the view that other forms of design and material culture are viewed as rigorous and befitting academic study, but fashion and textiles have had an ‘image problem’, which has not been acknowledged widely within the discourse (Tseelon 2001, p. 435) but is slowly improving. The global challenges posed by the need to redesign the fashion and textiles industry will require not only technical and design knowledge but an understanding of how to situate fashion and textiles within theoretically informed positions. Firstly, through the textile designer’s understanding of the structures, processes and properties of fibres and fabrics, and their surface decorative or performance treatments, but also through their awareness of the potential for manipulation and creation into products and outcomes. This expertise will become increasingly key as a type of tacit knowledge required in order develop marketable solutions to pressing environmental issues in relation to textiles; such as the finite nature of resources, issues around energy consumption and climate change, and the human or social impacts of fashion production on its workers. The textile designer's power is in their sourcing and development of fibres into materials for industry, particularly fashion, and their selection of processing techniques, such as dye classes or the materials used in embellishments. Textile designers are loci for key selection points and sourcing of materials within the fashion supply chain, and as such, they are a ‘starting point for change’ (Fletcher 2014, p. 7). How fibres and fabrics are created and sourced will become an increasing area of focus for brands, manufacturers and consumers.

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expressing their ethical positions, and this requires textile designers who can use their particular skill sets and competencies to respond to this.

Circular Textiles and Value Creation

One proposed scenario for balancing clothing production with finite resource management is a closed loop, or the adoption of ‘circular design’, in which the end of the life of the garment or product is considered at the point of its conceptualisation, without loss of resources through waste sent to landfill. This is conceptualised as a new framework for production, the Circular Economy. This approach, championed by the Ellen MacArthur Foundation Website (2017), is becoming increasingly recognised within the industry as an ideal, but provides huge challenges for industry as it will disrupt and change current economic models and chains of production, which can be complicated and hidden from view. The challenge to embed circular design principles in the textile and fashion design supply chains extends beyond simplistic, unilateral or isolated solutions to making fashion sustainable. Simplistic approaches, such as an emphasis on ‘natural fibres’ over ‘synthetic fibres’, can result in one problem being substituted by another, or in focusing consumers on an area of production which is less problematic, and green-washing over a far more pressing issue. Developing truly sustainable fashion and textile production and supply chains requires an awareness of the impacts of entire product lifecycles, including, ‘cultivation, production, manufacturing, distribution, consumer laundering, reuse and final disposal’ (Fletcher 2014, p. 9).

This approach requires the specialist knowledge of fibre and fabric which textile designers possess, for example, on whether to design fabrics which should be recycled, upcycled or composted at their end of life, and this must be built into the design process at the start of the design cycle, not worked around at the end, where fabric and fibre shredding and recovery end in poor-quality textiles mostly destined to landfill (see Remy et al. 2016). Responsible production is also dependent upon an appreciation of the context of the manufacturing of these fibres into fabrics, and then garments, and an understanding of the effects of a particular process in a particular location. For example, whereas polyester production from oil to final fabric is energy-intensive, it uses minimal water in its production, so could potentially suit production in countries with high sunlight but low water, as an alternative to cotton production. Or other alternatives to oil-based synthetic fibres could be sourced, such as ‘Ingeo’, which uses acorn-
derivative to create a fibre which uses between 62% and 68% less fossil fuel in its production, and wind power–generated electricity, resulting in 80–90% fewer greenhouse gas emissions than traditional polyester production (Burke 2008, p. 58). However, responsible production would look at the opportunity costs of corn growth, and whether the land it is grown upon is needed for local food production, or if its growing creates water scarcity affecting local people. Innovative approaches and fibre developments are implicitly linked with not only corporate social responsibility in relation to production, but with understanding the values a brand expresses to the consumer. However, until they are developed into desirable textiles for use in manufacturing, such innovations cannot attend to pressing industrial economic sustainability issues, and require the interpretation, aesthetic and developmental skills of the textile designer to create covetable, desirable textiles with longevity. There is also a growing awareness that the combination of finite global resources and a huge increase in the numbers of garments people own will necessitate a restructuring of the entire fashion and textiles industry, including all of the different value and supply chains. For example, the explosion of the fast fashion industry in the early 2000s produced an increase in the number of garments individuals were buying, with a third as many garments purchased in 2006 than in 2002, and women owning four times as many clothes as in 1980 (Allwood et al. 2006). A reasonable supposition is that current models of production and consumption must be disrupted to achieve this.

Design as a Professional and Tacit Value

The design methods and practices of textile design are largely acknowledged as under explored in the literature (Kane and Philpott 2013; Tseelon2001; Hodges et al. 2007; Igoe 2010; Harper 2012a; Hemmings 2015), yet are ever more relevant given the urgency to disrupt the industry as a result of environmental and sustainable imperatives. Textile designers are often characterised as providing an unacknowledged or ‘hidden’ service within the design process, whose work is obscured by the wider brands or products their designs and fabrics produce (Briggs-Goode and Townsend 2011, p. xxiii). There is also the hidden element of textile design within the wider creative industries—whereby design methods and practices of textile design are tacit and to some extent unacknowledged and undervalued in shaping other creative sectors. I would argue here that textiles designers require resituating in a broader economic and societal context, as now, more than ever, the value of the textile designer is in their ability to develop models and concepts of consumption, to design new solutions and approaches in the industry. As Goett (2016) notes, textile knowledge engages all the senses, and this sense of the hand processes and craft of the
textile designer, combined with conceptual thinking, contributes to what has been conceptualised as ‘textiles thinking’, a distinct subset of design methods research (Kane and Philpott 2013). In this way, the activities of textile design are “distinctive” and, ‘guided by emotive, haptic, sensorial and tactile qualities’ (Valentine et al. 2017, S966).

While it is seemingly difficult to conceptualise such knowledge, the value a textile designer brings to the design industry is increasingly dependent on explicitly setting out to capitalise on these qualities and create a marketable, commercial product that uses ethical and sustainable principles of manufacturing. Emerging sustainability contexts which a textile designer must be aware of will require textile designers to pull together disparate approaches, competencies and skills, in order to address some of the most pressing requirements of industries, particularly for problem-solving and considering the entire production and consumption cycle of a garment, from growing or polymerising a fibre, through to where a garment ends up after its owner discards it, most often landfill at this point (Ellen MacArthur Foundation 2017). The unwritten physical and embodied application of textiles processes and techniques is key to textile design practice. The weight to put on a squeegee as it pulls through a screen, the tension a warp yarn requires when threading up a loom and the force with which to attach a bead to a fabric when embroidering are difficult to interpret via the written or pictorial form. As Conroy notes:

> ‘The craftsperson becomes tranced by sensual physical processes, getting lost in making, in repetitive but varying techniques of twisting thread, knitting, looping, twining crocheting, almost entering that infant world of sensation and iteration’ (2016, p. 361).

This ‘world of sensation and iteration’ is part of the tacit, embodied knowledge of learning a crafts process, whereby an instructor will physically demonstrate a technique, encouraging the student to adjust the direction or application of force, in order to develop sensitivity to the limitations of their crafts medium for themselves. In this way, the knowledge of making transfers from one maker to the next generation. This embodied world of sensorial experience is reflected in the experience by consumers of textiles and is often the key driver in the selection of one garment over another, particularly with regard to the tactile, sensory feeling of the textiles within a garment (DeLong et al. 2012).

Research within the aesthetic or design historical domains of textiles explores the context which arises through understanding a textile’s history or use, including decoding and articulating their social, cultural, political and geographic origins that textile can embody. Both approaches, scientific or design historical, can research and discuss key discourses around textiles as artefacts of material

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culture, whereby the materiality of the textile is articulated through varied conceptual frameworks which are part of the vocabulary of textile design. Though these values attributed to textiles describe the social agency their use creates, for anthropologists and design historians researching materiality and the ways in which textiles and dress create a sense of identity across global cultures, understanding this fundamentally human approach to textiles is key to tackling the huge disruption and social impacts of fast fashion and the unsustainable nature of the industry as it is currently constructed. Key to this is understanding textiles as an embodied ‘situated bodily experience’ (Entwistle 2000, p. 5). This is the case whether wearing soft pyjamas at the end of a day or dressing in a formal gown for a public event.

Through the experience of wearing clothing, sitting on upholstered furniture, or lying under a soft blanket, textiles create a sense of space through their function as a ‘second skin, which prodigiously enhances our pleasure in the first’ (Graves 2002, p. 49). This embodied, interactive experience can lead to the creation of a personal relationship between a textile experience and an individual. This relationship first arises through the processes of making, which arise through what has been described as ‘textile thinking’, a distinct subset of ‘design thinking’ (Kane and Philpott 2013). Such thinking, which is an emerging body of knowledge within the field, slowly following hundreds of years of practice, creates ‘an embodied relationship with materials, characteristic of making, has the effect of activating specific kinds of thinking’ (Pajaczkowska 2016, p. 79).

This type of tacit knowledge has been proposed as occurring through nine forms within the cultures of textiles, creating a ‘challenge for the traditional distinctions between the technical skills of making and the intellectual skills of understanding, knowing and authoring’. These forms, ‘felting, spinning, stitching, knotting/knitting, weaving, plaiting, draping, cutting and styling’ (Pajaczkowska 2016, p. 80) are phrased in such away to focus on the ‘verbs’ of textile design, rather than the ‘artefacts’ or ‘nouns’ created by the processes and techniques, and therefore imply value construction through a transformative process. Textile design is the middle step in a creation process, as textile designers produce objects that are often in the process of becoming something else: clothing, airplanes, upholstered furniture. This conceptualisation of textiles as a part of a process is reflected in Pajaczkowska’s (2016) ‘textiles toolbox’ of 9 ‘processes of the body’ which marry doing with thinking, in order to bridge the gap between theory and practice. Pajaczkowska calls upon the knowledge and experience of practitioners to be used to throw light on theoretical and historical critical positions of textiles, in order to enable the ‘agency’ of textiles to be clearer. This agency occurs not only through the interaction with a textile, but through the curatorial processes of owning, consuming and caring for a textile or garment, in the ‘post-consumption’
Phase. Lury (1996) describes ‘post-consumption’ rituals in terms of the personalisation of an artefact, as a means of reassigning its meaning from that of the manufacturer or retailer, to that of an individual’s own world. These rituals are the means by which an anonymous object—often the product of a distant, impersonal process of mass manufacture—is turned into a possession that belongs to someone and speaks to them, ‘Possession, in this view, is not a static state, but an activity’ (Lury 1996, p. 12).

In this sense, the human relationship with a textile, particularly in the form of a garment, produces an understanding of the performance of wearing or caring for a garment as engaging the emotional and experiential domains. Understanding and appreciating these affective domains is key to encouraging a sense of a relationship between an individual and a garment, so it is cherished, cared for, mended and kept. This ‘agency’ in the textile will become ever more urgent in the growing awareness of the impossibility of maintaining the status quo in current design and manufacturing practices.

Fast Fashion in the Anthropocene

Though not explicitly anthropological in their disciplinary self-identification, the current generation of textile designers who are developing processes and concepts in order to nudge or develop consumption approaches towards more sustainable models is in effect using ethnographic approaches to explicitly record tacit and embodied knowledge.

For example, Kate Fletcher’s concept of the ‘Craft of Use’, part of the ‘Local Wisdom’ (2018) project, encourages users to curate and connect with their clothing, through recording and emphasising the nature of these to create a sense of the value of each garment, opposite the model of fast fashion, with its ‘take, make, dispose’ approach to production, whereby natural resources are taken, made into garments, then destined for landfill (Ellen MacArthur Foundation Website 2017). To set this into context, a recent study by Barnardo's has indicated that a garment is considered ‘old’ by the consumer when it has been worn three times, and on average, a garment is discarded after seven wears (Barnardo’s 2015). A report for the management consultancy McKinsey has this to add about the current, very recent, state of the fashion industry in the US alone: thanks to falling costs, streamlined operations, and rising consumer spending, clothing production doubled from 2000 to 2014, and the number of garments purchased each year by the average consumer increased by 60%. (Remy et al. 2016, p. 2)

The concept of a new era of human intervention on the planet has been proposed, as a means to consider how humans have entered planetary and geological timeframes. As commonly known,

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geological time is divided into epochs which measure shifts in structures and shapes, such as the Jurassic or Cretaceous periods. The current era, the Holocene, has been suggested as being superseded by another, more human-centric epoch, which has been proposed as the ‘Anthropocene’. Though this remains a concept which is still under current debate by geologists, its use has entered common parlance around sustainable futures, and several dates which mark the beginning of this new era have been proposed, most in alignment of the date with the ‘Great Acceleration’ in human resource use, and corresponding increases in pollution and greenhouse gas emissions, which puts the date within the second half of the twentieth century (Lewis and Maslin 2015a, b; Steffen et al. 2011).

The Anthropocene is defined as a period whereby humans are having an unparalleled effect on the planet’s environment, geology and biological systems, whereby ‘humankind has become a global geological force in its own right’ (Steffen et al. 2011, p. 843). The concept of Anthropocene has the potential to galvanise and direct thought towards the potentially catastrophic consequences of reaching the limits of the earth’s finite resources. As Lewis and Maslin note: to a large extent the future of the only place where life is known to exist is being determined by the actions of humans. Yet, the power that humans wield is unlike any other force of nature, because it is reflexive and therefore can be used, withdrawn or modified. More widespread recognition that human actions are driving far-reaching changes to the life-supporting infrastructure of Earth may well have increasing philosophical, social, economic and political implications over the coming decades. (Lewis and Maslin 2015a, p. 178)

The role of the design industry, particularly its traditional position as persuading people to buy more and discard their objects before they are worn or finished in order to replace them with new things, is at odds with the increasing awareness of the earth’s resources as rapidly depleting and finite. Such an understanding requires a new model of design, as has been widely discussed in the examination of creating sustainable design systems for fashion and textiles, such as the circular economy (op cit). A rejection of business as usual is increasingly prevalent in the fashion and textiles research subjects, with the literature increasingly looking at a disruption of the status quo in order to shift industry practices towards ‘systemic change’ (Delong and Black 2018). Such systematic change will require a shift in fibre selection, fabric development, textile design practices, fashion design practices, buying and supply chain transparency, care of garments, and models of consumption and models of ownership, and such disruption requires team efforts to push it through.

Transition Design

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Technology and innovation have been discussed in the context of the value they contribute to textile design, and how a technological focus strives to produce novelty and innovative solutions to design problems. In sociological and ethnographic approaches to textiles, an artefact is positioned as a meme of global culture, whereby the textile enables people to socially engage and develop ‘domains of meaning’ through the exchange and consumption of a textile, displaying and enforcing social hierarchies and affiliations through dress and adornment (Schneider and Weiner 1989, p. 3). These domains of meaning increasingly also relate to the domains of value, particularly brand values, which a fashion brand demonstrates, and which consumers align themselves with. The creative thinking and skills which textile designers specifically possess have been proposed as more of an ‘opportunity for innovation’ in terms of disruption of manufacturing towards sustainable models (Padovani and Whittaker 2017, p. 2). In particular, artisanal skills or creating sustainable pilot programmes within SMEs (ibid.) or within small teams in larger multinationals such as H&M (Andersen and Earley 2014) are noted as having the flexibility of scale and the swiftness of response required to be innovative drivers for sustainability.

As Jefferies notes (2016, p. 9), 25 years ago textile theorists were concerned with gendered and textile arts readings of textiles, 10 years ago textiles began to be conceptualised as bodies of practice, and the current paradigm shift concerns the ‘artist-as-researcher’, the ‘theorist as artist’ and ‘performing as curator’. As noted, one of the issues that textile design researchers must overcome is the often fractured or disaggregated nature of research on the subject, due to the inherent differences between the knowledge base of process and technique and the knowledge base of concept and design necessary for undertaking the subject (Hodges et al. 2007, p. 324). Therefore, exploring the subject requires researchers to situate themselves within the ‘limitless’ (Hodges et al. 2007, p. 324) possibilities for design which could occur within the varied contexts of the industrial, scientific, design and cultural sectors which intersect with fashion and textile design. Hodges et al. propose that these can be overcome through three objectives for the future development of the subject’s research. These are: situating the subject within the philosophical domain, reviewing and identifying approaches to inquiry that are anticipated to be essential for the future exploration of the field, and becoming transdisciplinary, through adopting methods and epistemologies from other disciplines, but simultaneously ‘sharing’ subject expertise as part of ‘give and take of being openly transdisciplinary’ (Hodges et al. 2007, p. 343). Transdisciplinarity in terms of design research enables interdisciplinary teams of researchers, such as fashion designers, textile designers, product designers, anthropologists, psychologists and material scientists, to work together with experts outside of academia, to draw upon varied cultures and bodies of knowledge, harnessing varied
expertise to explore and solve the issues of sustainability and textiles. Such value identification and creation in relation to textiles are essential for the future survival of the industry within the context of finite resource depletion. ‘This knowledge and the new skillsets transition designers will inform must be integrated from areas such as science, philosophy, psychology, social science, anthropology and the humanities and will therefore challenge existing design paradigms’ (Irwin et al. 2015a, p. 12).

This approach draws from many different theories and paradigms, many of which are of relevance and increasing interest within the fashion and textiles and sustainable futures. In particular, ‘Everyday Life Discourse’ (Irwin et al. 2015a, p. 3) relates to the need to observe and consider everyday, ordinary life and interactions as a means to develop new models and paradigms for sustainability. The quotidian experience of wearing a garment, such as a favourite T-shirt, would be one example which could be drawn from textile design, particularly with regard to laundry behaviours, care and mending activities, as the application of these renders the garment long-lasting or not.

Transition design draws on the concept of ‘transition’ from ecology, in order to explain how ‘complex ecosystems sustain themselves over long periods of time’. Under external stressors, ecological systems transition towards other forms or structures in order to survive (Irwin et al. 2015a, p. 4). This model of behaviour adeptly describes how textiles and fashion are undergoing a sudden realisation that resources are finite and uses a ‘heuristic model to characterise four different but interrelated and mutually influencing areas: (1) vision, (2) theories of change, (3) mindset/posture and (4) new ways of designing’ (see Irwin et al. 2015a). This echoes current, disparate approaches to the field, in terms of developing sustainable solutions to the problem of current models of fashion and textile production, particularly that of fast fashion.

Lindstrom and Stahl (2016) note that in common with other design fields, ‘new ways of knowing’ are required within textile design as a subject—they use the metaphor of ‘patchworking’ to describe a ‘collective making of a patchwork of different kinds of knowledge, experiences, histories and anticipations in relation to ways of living with technologies’ (p. 5).

This approach takes concepts from actor-network theory and material semiotics relating to the material turn within cultural studies, whereby artefacts are seen as co-existing with humans, and influencing behaviours and attitudes, and concepts of feminist materialism. Transition design provides a model which reflects how textile designers can take a key role in the disruption to the established orders and industries of fashion and textiles created by global environmental challenges. As such, transition design transcends not only individual disciplines, but extends beyond the
academy to situate problems, and solutions, to sustainable futures in different communities of expertise, including social groups, political movements and biological or natural systems, to find solutions to complex global, ecological and social problems. The objective of such teams is to ‘provide designers with new tools and methodologies to initiate and catalyse transitions towards more sustainable futures’ (Irwin et al. 2015a, p. 6).

**Emotional Design**

As Donald Norman suggests in his seminal work (2004), feeding user experience back into the design process is key not only for improving the design and function of pieces but also for eliciting an emotional response to designed objects and understanding how brand loyalty arises. A common view in emotional design research is that success in design practice is limited within paradigms of design research in which the world of objects is viewed as separate to the world of people, rather than as an interconnected mode of existence (Norman 2004; Aldrich 2004, p. 368). Within this field, holistic design tools that generate and measure experiential and sensory data have been developed, as a means for understanding the processes within the cycle of consumption: ‘buying, using and owning products’ (Desmet et al. 2009, p. 1).

Within textile and fashion design, emotional design methods are less common, though increasingly used within smart textiles applications and industrial textile design (see Bang 2009; Baurley et al. 2007). Textiles can become ‘repositories of deeply valued personal memories’ (Taylor 2002), and many emotional designers situate design theories within phenomenological philosophy in order to describe processes of design and design evaluation via embodied, affective frameworks. Transition design teams can capitalise on such knowledge, particularly with regard to textiles and fashion, to encourage a ‘slow fashion’ consumption of garments, new models of ownership, such as renting and returning garments and design activist events, which stage ‘sewing circles’ of repair and exchange of garments, rather than buy and discard models (Fletcher 2018) for value creation and intellectual capital exchange.

**Phenomenology**

Another transition design concept, ‘Goethean Science and Phenomenology’ (Irwin et al. 2015a, p. 4), understands the part in relation to its whole, in common with phenomenological theory and practice, looking at growth, maturation and demise as part of a holistic system in its entirety. It could be argued that ‘fast fashion’ is such a holistic, phenomenological system, whereby the experience of fast fashion, at first exciting and innovative, has already begun to pale, as consumers
turn away from the quick fix of fast fashion towards other models of consumption and better-quality, 'slower' fashion. This turn away from fast fashion cannot come quickly enough, as current models for dealing with fast fashion garments when no longer required by consumers, through disposal or recycling, are not sufficient and result in three-fifths of all clothing being sent to landfill or incinerators globally (Remy et al. 2016, p. 5). The concept of phenomenology is also relevant for exploring the individual’s user experience of a garment. The phenomenological and existential understanding of a garment as an embodied user experience is something the vocabulary of textiles addresses: drape, handle, flexibility, wear, hue and thickness are all key experiential descriptors which have quantitative and qualitative measures, which collectively contribute to the experience of a textile (Blanco 2014; Franklin 2014; Lerpiniere 2013). Phenomenology is a field which, though not often explicitly connected to textile design, is at the core of what textile designers do: add value to a garment, interior or product through the qualities that are embodied within and experiences created by the fabric or textile. Textiles are a nexus for thoughts, processes, feeling and end products, and require research and design methods which are sympathetic to this in order to be successful. Such existential readings and theoretical perspectives on textiles will also become increasingly important to understanding the longevity of a garment, as a means of moving away from a fast consumption and disposal model of fashion.

Transition design produces results which embed a designed object within a wider societal influence or behaviour. Textile designers, through their training, are ideally equipped for engaging with societal problems from the micro (the performance of a fibre) to the macro (global supply chains and sourcing) and must increasingly use this knowledge to influence and direct sustainable and responsible choices across the entire textile sourcing, design development and supply chain.

Conclusion
As has been discussed in this chapter, textile design is going through a period of disruption and transition, which it is argued will need to change further to address wider issues of sustainability. Within this context, emergent research in ‘textiles thinking’, as a distinct but discrete subject area aligned with ‘design thinking’, has produced many striking new approaches to teaching, pedagogy, research and scholarship. In terms of societal value, if textile design researchers and practitioners are to direct and develop changes from within, they must be proactive within their discipline to develop existing thinking or techniques, which have the capacity to address key issues around sustainability. The skills a textile designer has at their disposal include understanding of fibres and fabrics, of craft and design principles, of methodologies for successful teamwork within

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interdisciplinary and transdisciplinary teams, for concept and idea generation, and of resilience when faced with difficulties. For example, a textile designer must work with and interpret the needs of fashion, medical, interior, automotive and industrial designers and architects, drawing upon a sophisticated range of qualities and attributes in order to be successful. The textile designer must engage with other professionals within the creative and cultural industries, and learn not only the technical and aesthetic competencies required to design a textile for a particular sector or manufacturer, but also work within teams. In this way, most textile designers in industry develop communicative skills, as they have to successfully collaborate with fabric technologists, chemists, colourists, garment technologists, fabric sourcers, licensing designers, fashion buyers, colour forecasters and production technologists and machinists. They must interpret and transcend not only the needs of the customer and their lifestyles, but also the technical constraints of budgets, dyes, seasons and fast output times, and stay within the critical paths of their manufacturing. Increasingly, this complex web of activities must take place within the context of making sustainable choices in terms of fibres and fabrics, consideration of design contexts and consumer preferences, such as ethical considerations, and ensuring manufacturing processes are environmentally and humanly sustainable. In view of these complex skill needs, in this chapter the designer, as one area of creative work, is conveyed as a professional value but one in which there is potential for wider societal value, by addressing larger social issues such as sustainability. In this chapter then, the issue of sustainability has provided an invaluable lens through which to view and ascribe value to textile designers as one subset of the creative industries with complex professional competences, and a higher (social)value as a connector (and nexus) of skills to tackle wider societal issues. In this way, the chapter emphasises the societal worth inherent in a professional means of working.

References


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