

Josephine Steed

Unravel: Revaluing the Craft of Knitting For New Emergent Design Contexts Within a Post-Industrial World

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Knitting, Textiles, Craft, Indigenous Cultures, Shetland, Design, Knowledge, Participation, Customisation, Post-Industrialisation

Abstract

Knitting is embedded within our culture and navigates between practice, artefact, and narrative, acting as a rich metaphor for social change (Hemmings, 2010). Knitting can transcend traditional boundaries of craft practice and transfer knowledge from one discipline to another. Sennet (2008) refers to this as the “domain shift” where the principles central to one craft can be transferred to another. A cultural phenomenon, knitting derived from the everyday domestic activity and over history has played an important role within the community, from patriotic knitting to guerrilla knitting, (the term used for creating public art through knitting) and performance. Knitting however has been largely neglected within design and academic research due to its strong association with domestic life. Arguably, it is because knitting is so closely associated with the everyday that it has been overlooked as a craft that can add value to a broader range of design issues. Today, in the face of so much complexity an understanding of a practitioner’s core craft skills is paramount when working in transdisciplinary environments. Within this new context a re-evaluation of the role of knitting is required to fully appreciate the contribution that the craft can bring to current and emerging design issues. Through examining contemporary examples of craft practice, together with designers working across traditional boundaries of knitting, the author challenges past perceptions by re-evaluating the craft and discusses how knitting can be used more expansively in the future.

Introduction

Knitting is often considered as skilful ‘making’ rather than as a system of thinking, blending art, science, technology, and engineering, firmly rooted in three-dimensional thinking. This paper aims to articulate the fundamental knowledge of knitting by investigating the relationship between skill and meaning that is central to the discipline. The primary objective of this research is to determine if knitting as a mindful discipline can potentially bring new meaning to a broader range of complex design problems. Due to its accessibility, knitting is often considered as ‘hobbyist’ where it has been marginalised as an amateur pastime. As artist Sabrina Gschwandtner observes:

“Knitters represent a diverse audience group in terms of age, race, politics and economics (for every knitter using quivit, spun copper, or other high-priced yarns there is a knitter making clothes out of economic necessity.” (Gschwandtner 2008)

This misperception ie. of knitting as a mere ‘pastime’, fails to recognise that it is unique in its simultaneous creation of surface, structure and form. Unlike two-dimensional problem-solving, knitting explores the whole design problem and results in completed products from raw materials. This method uses code reading, together with additive and deductive techniques demonstrating that knitting is a holistic design approach. As a hybrid craft, the skills of knitting occupy the space between disciplines that embraces both craft and industry and that have, over time developed through hand-skills, firstly through mechanical operation and more recently through electronic and digital technologies. In addition to this, knitting is a craft, which is firmly rooted within society where it has always been a method for expressing oral history, facilitating community

engagement and expressing deep personal attachments. To fully understand the importance of this from a social perspective, this paper discusses the role of knitting today within different contexts; in particular within social networks and within traditional indigenous communities. Further to this, the paper explores the relationship between maker, process and product. Through discussing the work of practitioners, different approaches to knitting are examined to illustrate the breadth in which the medium is used. The paper continues by discussing how practice has been transformed through social networks and reviews technological developments that have created new territories for knitting. Finally the paper proposes new hypotheses for knitting that contributes to the role of design and craft in addressing wider societal issues.

Tradition and Origins

Lately, knitting has experienced a revival of interest that questions previous negative suppositions (Hemmings, 2010). where the medium interacts between craft, design, technology, fashion and aesthetics. This resurgence of interest was the subject for the second interdisciplinary conference *In the Loop 2*¹, recently held in Shetland which explored knitting from a broad range of practical and theoretical perspectives within the theme of tradition and origins. This new awareness of knitting extends across society particularly within Europe and North America from socially pro-active knitting groups for instance 'Stitch 'n' Bitch'², to politically motivated performance pieces such as Liz Collins's *Knitting Nation*³. New generations of knitters are emerging who are 'blogging', 'twittering', 'bombing'⁴ and 'guerrilla-ing'⁵ about knitting.

Knitting is everywhere from celebrity magazines to knitting groups in café bars, with websites devoted to sharing knitting experiences, passing on hand-knitting tips and patterns. But is this revival just another passing trend soon to be replaced by another previously neglected handicraft? In short, is knitting sustainable for the long-term?

A significant work, *The Culture of Knitting* (Turney, 2009), probes these questions and considers new understanding and approaches that re-evaluate the value and impact of knitting on contemporary culture and society. As our physical communities fragment and morph into new cyber-space global villages, knitting restores our sense of self and locality by connecting us to people, places and history through the process of making something by hand from start to finish. The following paragraph from an amateur knitter's blog page clearly articulates this connection:

'...the knitter also remembers where the sock was knitted, sitting on the sofa at home, perhaps, or on a splendid vacation, or maybe at the sick-bed of a beloved relative. Each stitch captures the tick of the clock while the curtains stirred the breeze, the vista of the mountains unscrolling through the train window, the love and concern for the person in the bed.' (TECHknitter, 2011)

New Models of Indigenous Knitting

Knitting is an ancient craft (Norbury, 1957) that has always played an important role in the economic, social and aesthetic expression of society. We are all familiar with knitting and it is perhaps because of this strong association with the everyday that it has been largely overlooked within fashion and textile research (Black, 2002; Turney, 2009). Knitting has a long history of connecting people with their environment. Nowhere in Britain is this more pertinent than in Shetland where hand knitting by women has been a prime creative and economic activity for around 5000 years (Fryer, 1995). Knitting today in Shetland still plays an important societal role where due to the Islands' geographical remoteness and links with European traders, the traditions and customs of knitting have adapted and been preserved and continue to be an important contributor to the Island's heritage where the living skills of knitting are still retained (Shetland Government, 2009). Shetland knitting practitioners today for example, Andrea Williamson seamlessly

Plymouth College of Art

combines traditional materials and patterns and demonstrates a renewal of interest in indigenous knitting. As Williamson explains on her website:

'Traditional Shetland knitting which has absorbed influences from centuries of trade links with Europe and Scandinavia is a constant source of inspiration. Old notebooks of patterns collected by family members, and garments that have survived over generations...still vibrant and innovative, are a great reference...' (Williamson⁶, 2011)



Anchor and Crown tea cosy, Andrea Williamson 2011

Inspired by national events such as The Royal Wedding and the Tall Ships' arrival in Shetland, Williamson re-appropriates traditional anchor and crown Fairisle and lace patterns widely used in traditional Shetland knitting giving new contemporary meaning to indigenous knitting.

In contrast, Hazel White's⁷ work *Homefarers' Kist* inspired by Shetland life, uses knitting as an interactive tool for generating collective memories across generations by sharing online photo albums with people who do not use computers. The small box containing knitted pincushions, each one with a different pattern, is associated with people, places or events. Using a 'knitted remote' the kist is an intuitive way of accessing online content and speculates how objects like these might be usefully integrated into our lives. Knitting within this context is intended to engage users with technology in an accessible and unobtrusive way.



Homefarers1, Hazel White, 2009

Perspectives on Knowledge

The value of indigenous knitting cultures such as seen in Shetland has until recently been discounted as less important than more tangible models of knitting knowledge. Knitting, like other craft practices consists of knowledge some of which can be easily understood and articulated while other practices operate on a deeper implicit level. Through post-war industrialisation and globalisation, the designer's vocabulary became simplified into knowledge based on production (Eckert & Stacey, 2005). However philosopher Michel Foucault challenges this perspective of knowledge, by advocating an 'insurrection of subjugated knowledges' that re-values indigenous and naïve knowledge in order to develop a better and more meaningful language appropriate for the real world. (Foucault, 2003) Foucault's comments are focused upon here to illustrate that knowledge is primarily driven by our own human activity and social organization. Therefore the knowledge of knitting as an indigenous craft is by its nature inherently complex and multi-layered mirroring the desires and needs of society at any given time.

Understanding Meaning & Making Through Practice

Knitting is 'easy'. It is essentially created using two sticks or pins based on two stitches. It is highly accessible, portable and simple. This may suggest that little skill or mental application is required to knit and that it therefore does not deserve to be classified as a craft skill. (Gschwandtner, 2007) However this assumption fails to recognise that the actual practice of knitting can also be complex, highly skilled and difficult. In many respects knitting is full of contradictions, cleverly disguising its true attributes thus appearing harmless, nonthreatening and familiar.

It is the 'softer' skills of knitting that enable the medium to address 'hard' issues in witty and creative ways. For example, Freddie Robins⁸ uses knitting to question issues related to domesticity, gender and the human condition. Due to the strong cultural preconceptions associated with knitting her work disrupts the notion of craft being passive and benevolent.

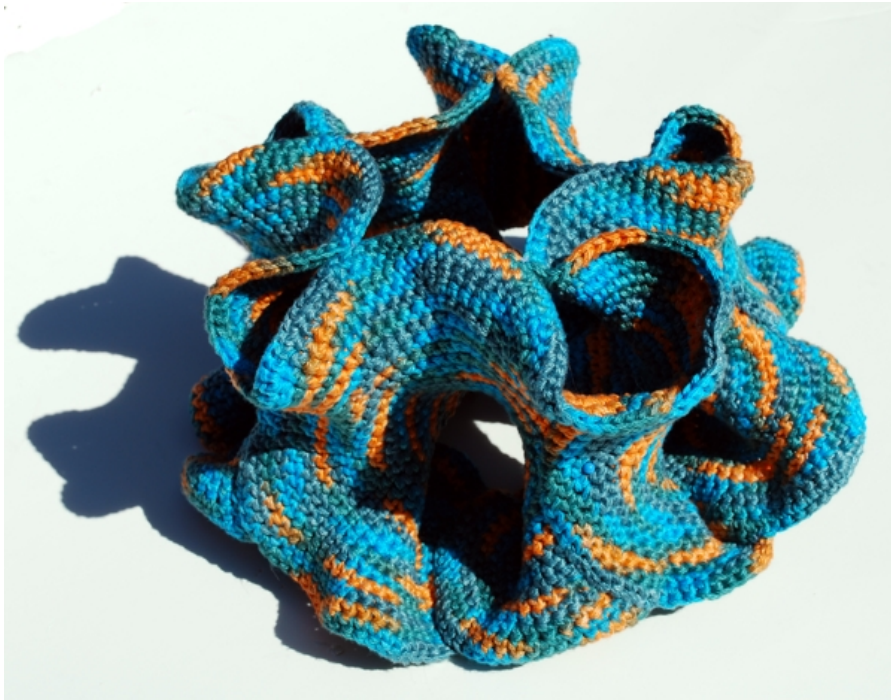


Knitted Homes of Crime 2002, Photo: Douglas Atfield

In *'Knitted Homes of Crimes'* Robins uses knitting as a medium to address crimes by women in a soft yet provocative manner. Through knitting she disrupts our assumptions of the home as a place of safety and domesticity.

An another piece *'how to make a piece of work when you are too tired to make decisions'* focuses on the process of making rather than product as the main driver for her work. This relationship between process and product is central to understanding some of the key attributes of knitting. Each piece of knitting tells a story where the making process is an integral part of the experience, which often results in unfinished pieces. Referred to as 'ephemeral joy' (TECHknitter, 2011), this phenomenon is well known in knitting circles, where the pleasure experienced by the knitter during making, outweighs the need to produce a finished garment. Referred to by Rachael Matthews⁹, co-founder of, Cast Off, a socially engaged network of knitters, as uFO's (un - Finished Objects) these uncompleted knitting projects lie dormant in homes representing hours of invested time and memories. As a response to this Matthews, has created an on-line administration service to invite discussion and to exchange and resurrect 'uFO' Projects. In another sphere literally, a mathematician at Cornell University, Daina Taimina, author of *'Crocheting Adventures with Hyperbolic Plane'* (Tamina, 2009) uses crochet to visually understand complex three-dimensional forms. Tamina invented and uses 'hyperbolic crochet' to describe hyperbolic space, (a space with a negative curvature that increases exponentially). With no formula available for this complex form, mathematicians were unable to physically visualize a hyperbolic curve. It was not until 1997 when Taimina, made the first usable model of the hyperbolic using crochet that mathematicians were for the first time able to visualize this form. Here Taminia further explains:

'I have crocheted a number of these models and what I find so interesting is that when you make them you get a very concrete sense of the space expanding exponentially. The first rows take no time but the later rows can take literally hours, they have so many stitches. You get a visceral sense of what "hyperbolic" really means.' (Taimina, 2007)



Crocheted model of a geometric manifold by Daina Taimina.

The three examples of different knit and crochet practice discussed here demonstrate the diversity of the craft to explore a range of complex issues and contexts. In the case of Robins our assumptions of knitting as 'soft' and non-threatening are manoeuvred away from the familiar safe territory of female domesticity towards a darker and more sinister perspective. Matthews explores the underlying process of knitting, reflecting on why we knit by inviting discussion based upon unfinished object. (uFO). In both cases, their knitting practice is focused on articulating human behaviour and exposing personal lives through knitting. In contrast to this, Taimina's 'hyperbolic crochet' uses soft craft skills to illustrate complex mathematical problems. Through using crocheted models in her teaching of complex geometry she makes mathematics accessible and enables the boundaries of scientific and creative disciplines to converge.

Further to this and perhaps more importantly, knitting has become a powerful tool for politically and socially engaged practitioners where it is at the forefront of forging new meaning for craft practice. In her collaborative performance work *'KNITTING NATION: Knitting During Wartime'*, American artist and designer Liz Collins, facilitates large groups of knitters to produce knitted banners and garments that contend with issues of nationalism, globalism and community (McFadden, 2007). In addition politically active knitting groups such as Knitta¹⁰, a Houston-based group of knitters posit knitting as an illegal activity. Ranging in age from twenty-three to seventy one, these 'guerilla' knitters anonymously 'tag' street lamps, public and private property and bring new meaning by juxtaposing craft, graffiti and vandalism together. Thus, they re-appropriate activity normally associated with male-dominated media. As the artist statement for the group explains further:

'We prove that disobedience can be beautiful and that knitting can be outlaw'
(Gschwandtner, 2007)

The Internet

DIY (Do It Yourself) on-line communities drive a new form of creative knit practice through sharing experiences via websites and blogs. Driven by amateurs, these communities consist of hobbyists and enthusiasts who evaluate and learn from one another to bring new methods of interaction between different areas of society where free access to information and resources are blurring previous boundaries. This new wave of practitioners, the 'amateur expert' (Kuznetsov and Paulos, 2010) brings new meaning to knitting not motivated by commercial practice and suggests alternative aims based on personal satisfaction, community values and the intrinsic gratification experienced in the act of 'making'. The widespread use of the Internet has introduced new tools for knitting where practitioners simultaneously use mouse and needle, knitting and blogging, to develop new knitting communities that operate both locally and globally.

A recent project instigated through Ravelry¹¹, a social network for knitters demonstrates the power of Internet craft communities to foster new types of collaborative practice. Called 'The Queen Susan Shawl' project, members recently re-created a 'lost' knitting pattern. Through distributing the only existing record of The Queen Susan Shawl, a photograph available on The Shetland Museum Photographic Archive, knitters from across the world worked in their different time zones, continually, to create a chart of the original design and produce a pattern that could be downloaded free-of-charge from Ravelry. As a member blog posting clearly surmises the project thus:

'Think of it - a piece knitted before the turn of the last century, designed by a close group of family/friends living in an isolated area, preserved in a photograph, being recreated by a far-flung band brought together by technology and a love of this craft.'

In his book 'Making is Connecting' (Gauntlett, 2011) Gauntlett discusses the power of the Internet to drive a new direction for craft. Seemingly contrary to values of hand-making, knitters across the globe have embraced the web as a medium to inspire, encourage, and collaborate with an intensity and pace not previously possible.

New Territories for Knitting

The mathematical coding of knitting, similar to weaving, is inextricably linked to technology where the coding embedded within knitting patterns can be easily translated into the 0 and 1 binary code within computer circuitry. (Seymour, 2009). Technology has for a long time been a major driver within knitting innovation where, in particular, the development of three-dimensional knitting machines in the mid 1990's signified a paradigm shift in seamless knitwear manufacture (Sayer et al, 2006). However, technology also drives other types of innovation, namely a shift from product towards experience. Japanese fashion designer Issey Miyake provides an example of innovation in this area through his A-POC (A Piece Of Cloth) collection. A-POC utilises knitting technology to produce knitted tubular fabric with integrated garment shapes that can be modified by the wearer to create customised body pieces. Developed in the late 1990s, this collection transformed the retail experience for their customer. Through creating a retail laboratory environment, Miyake engaged the wearer as 'co-designer' whereby their input became part of the design process. Similarly, the Considerate Design research project 'Knit to Fit'¹² explores these issues within the context of seamless garment knitting. This project addresses the use of three-dimensional body scan data for extraction of precise body measurements and translation into two-dimensional computer-aided design systems integrated with industrial knitting machines. Its final aim is the direct three-dimensional production of seam free knitwear with enhanced fit and customisation for user requirements.

New flexible manufacturing technologies for instance three-dimensional scanning and printing are set to further revolutionise traditional methods of production and have major implications for knitting in the future ((Brand and Vos, 2008).). Initially developed

for the car and medical industries the technology has started to research into softer products such as textiles. The Dutch company Freedom of Creation¹³ are currently investigating the possibility of making stretch materials where 'immediate products' have already been created which mimic the inherent characteristics of knitting. The company have high ambitions where they state:

'Our Goal is to replace traditional knitting' (Brand and Vos, 2008).

When using rapid technological innovations such as three-dimensional knitting and printing, that challenge our previously conceived production methods, a new approach to design practice is required to facilitate a sustainable future for knitting relevant to the demands of increasingly complex twenty first Century technology and customer experience. As Suzanne Lee surmises in her book 'Fashioning the Future':

'Technology is nothing without craft.' (Lee, 2007)

This acknowledgement of the importance of craft is further expressed through the Emotional Wardrobe¹⁴ research project, which focused on how fashion as an emotional and expressive medium can impact on the development of digital systems for clothing. The research discusses a number of issues concerning the future of design where in the face of so much technological complexity an understanding of a designer's core skills is paramount when working within trans-disciplinary environments.

So what next?

A new role for knitting has emerged in recent years within a diverse range of creative practices, demonstrating the intrinsic value of knitting to address a wide spectrum of contemporary issues and problems. Knitting offers another type of perspective on problem solving that, due to its inherent qualities as an accessible media enables complex and often perplexing topics to be explored by both experts and amateurs alike. It is in fact these qualities of inclusivity and accessibility together with inherent participatory and collaborative values, which suggest that knitting skills and knowledge can potentially play a much larger role in addressing wider societal issues. Further, the ability of knitting to transform from raw material to three-dimensional forms suggests much closer synergies between knitting and complex emergent technologies such as three-dimensional printing than perhaps previously considered.

Design and technology is becoming ever more complex. Different approaches to design are therefore necessary with particular emphasis placed on interactions involving process, experience and meaning rather than necessarily finished product. As the requirement of textiles becomes progressively more sophisticated a singular approach to design is no longer sufficient. Where increasingly trans-disciplinary collaborative models are required, experts from across the sciences and design disciplines need to be brought together to explore new territories. Further research is now required that examines the broader knowledge base of knitting to reveal the potential benefits of knitting methodologies which can be applied within different scenarios. In short, we need to find out if knitting can be developed into a system of thinking that can add value to complex design problems.

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End Notes

¹ a collaborative event between Shetland Museum and Archives and the University of Southampton Library in September 2010 in Shetland.

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² Stitch 'n' Bitch is an international social knitting network. Set up by Debbie Stoller in 1999, in New York, the network has been at the forefront of inspiring a new generation of knitters who are politically and socially active.

www.stitchnbitch.org (accessed on 2011, 12th Sept)

³ American artist and designer Liz Collins has created a series of multi-media, site-specific installations and performance projects called '*KNITTING NATION*', as a response to working in the textiles and fashion industries, and has staged several exciting, large-scale events involving a small army of uniformed knitters and manually operated knitting machines.

www.lizcollins.com/projects/knitting-nation (accessed on 2011, 12th Sept)

⁴ Yarn bombing and guerrilla knitting are types of graffiti that use knitting or crochet rather than paint or chalk.

⁵ Ibid

⁶ Shetland designer Andrea Williamson

www.andreawilliamson.co.uk (accessed on 2011, 12th Sept)

⁷ Hazel White is a designer and researcher at the University of Dundee

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⁸ Artist Freddie Robins

www.freddiebobins.com (accessed on 2011, 12th Sept)

⁹ Textile artist Rachael Matthews is the co-founder of the Cast Off knitting club - a democratic and proactive knitting club

www.castoff.info (accessed on 2011, 12th Sept)

¹⁰ Knitta is a group of artists who began the " knit graffiti" movement in Houston, Texas in 2005 www.knittaplease.com (accessed on 2011, 12th Sept)

¹¹ Ravelry is a free social networking website, beta-launched in May 2007. It functions as an organizational tool for a variety of fiber arts including knitting, crocheting, spinning, and weaving. As of November 13th, 2010, Ravelry had over 1 million members worldwide

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¹² The Considerate Design Project is a research collaboration between London College of Fashion, The Open University and The Engineering Design Centre at Cambridge University funded by the research councils AHRC and EPSRC

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¹³ Freedom of Creation

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¹⁴ The Emotional Wardrobe (EW) was a Phase 1 Designing for the 21st Century Research Cluster supported by the EPSRC and AHRC

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