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Craft and the Creative Lifecycle: Making in changing times

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1. Introduction

The idea of craft as a process that draws on and develops distinctive knowledge, skills and ways of working, has become established in the craft literature. Discussion around the nature and value of craft is no longer concerned solely with the object, but also with craft as a form of materials consciousness and quality of workmanship, engaged through a process of reflection-in-action (Dorser 1998, McCullough 1996, Johson 1998).

As a consequence, the discourse around the social and economic contribution made by craft has broadened. The applicability of craft knowledge and skills to a range of creative and non-creative careers was first identified in the literature by Crafts Council research published in 1998 (Press and Cusworth 1998). Twelve years on, the idea of craft thinking as a model for professional practice and personal satisfaction has gained wider prominence, with research from an anthropological perspective gaining public and critical acclaim (Sennett 2009, Crawford 2009).

Research undertaken by myself and Mary Schwarz on behalf of the Crafts Council[i] in 2010 builds on this literature by exploring the specific contributions made by craft knowledge and craft thinking to a range of industry, community and education settings. This latest research finds individual makers developing portfolios of craft-related work, applying craft knowledge and processes to the development of consultancy and education services and intellectual property, as well as to that of objects. It also reveals strong personal values around environmental sustainability and social equity as being central to the work of many (Schwarz and Yair 2010).

This observation presents a new opportunity: to investigate the contribution made by craft, as knowledge and process, to the production of sustainable products and services. The products and services produced by makers are too diverse to be analysed within a standard, quantitative environmental impact framework such as 'Cradle-to-Cradle' (McDonough and Braungart 2002). However, qualitative analysis can be used to propose areas where craft is contributing to broad principles of sustainable development.

The concept of a 'value chain', that maps the chain of activities undertaken within a specific company or sector, is useful in framing our analysis. The idea of a 'green value chain' is familiar from the design and management literatures as a means of pinpointing different possible areas of the supply chain where environmentally friendly practices can be introduced (Handfield et al 1997). In this paper, the contribution made by makers to the sustainability agenda is investigated through analysis against a value chain model encompassing distribution, consumption and interpretation as well as creative production.

2. Production

2.1. Materials Innovation:

It is clear that, as materials and process specialists, makers have a distinctive ability to develop new and more sustainable ways of sourcing and working with materials. In particular, interviews show that their work is successful in unlocking the potential of waste materials, in developing new materials innovations in creating sustainable alternatives to conventional production processes.

Several makers we interviewed are specifically motivated by the opportunity to engage consumers with the sustainability by challenging negative perceptions of recycled materials and goods. Barley Massey is a good example here. Barley applies her skills in sewing and knitting, to work with waste materials that would otherwise be discarded. In this work, she consciously strives for reinvention of materials, and with these cushions – robust yet sleek, with a punk aesthetic – the surprise for the consumer is in discovering they are made from used bicycle inner tubes.

Laura Marsden, similarly, draws on techniques learned through sewing and lace making, but as a starting-point for practice-led research into the effects of heat bonding on polyethylene. Laura's research has created a new process for transforming used plastic bags into fashion and interiors accessories, inspired by Elizabethan costume. Here again, the surprise lies in the transformation of a waste material into a marketable object.

Barley's and Laura's work operates on a small scale: their immediate aim is to change individual attitudes and demonstrate potential. Other makers have shown, however, that prototyping new materials innovations on a micro level can produce highly scaleable innovations.

Resilica, a glass and resin composite material sold to the construction industries, uses 100% recycled glass chips, mixed cold with solvent free resins. The manufacturing process is designed to minimize environmental impact – raw materials are sourced from the UK, water used in the production process is recycled, and slabs of the material are custom made to order rather than being cut from large blocks.

Resilica was developed by glass makers Jim Roddis and Gary Nicholson, incubated at Sheffield Hallam University in a knowledge transfer project that fed industry knowledge into craft-based experimentation. Now made and sold by a spin-off company, Resilica has been employed by significant architectural projects including Thomas Heatherwick's Blue Carpet and Martha Swartz's redevelopment of Dublin docks, as well as to furnish UK restaurant chains including the Pitcher & Piano and Costa Coffee. A PricewaterhouseCoopers evaluation projected Gross Value Added from companies selling Resilica of over £3m over 25 years, and income streams from Intellectual Property royalties of up to almost £1m (Arts and Humanities Research Council 2004).

In each of these three examples, craft skills and materials knowledge were essential to innovation. So too was the application of a creative methodology derived from craft, which involved responding to the affordances and tolerances of the 'green' materials and production processes each maker chose to work with, just as when blowing glass or knitting wool.

This experimental, reflective approach to problem solving – characteristic of craft – is familiar from Sennett's description of craft as a process of 'working with resistance rather than against it' (Sennett 2010). By employing this, essentially craft-based approach, the makers were able to build in materials sustainability from the outset. In the process, they also address one of the key challenges of green design – feeding waste back into the production cycle without the use of energy-intensive recycling processes (McDonough and Braungart 2002).

2.2. Systems innovation:

Whilst also working at the 'production' stage of the production cycle, some makers are more concerned with remaking manufacturing processes themselves, than with stretching existing parameters. One example here is Markus Kayer, whose work includes a range of low-impact, portable manufacturing systems for desert environments. The first, the Sun Cutter, focuses the sun's rays through a glass ball lens to 'laser' cut plywood sheet; whilst the second, the Solar Sinter, uses the ball to heat and fuse silica sand into 3D glass objects. Both machines create functional products, as shown here, but the possibility of transforming abundant natural resources into objects – shared online through networks of interested craft, design and environmental enthusiasts - is the primary creative outcome.

This type of innovation, embodied in processes and systems as much as in objects or materials alone, has particular current relevance. In a culture where web technologies are enabling community based co-creation, there is a strong appetite for invention. As David Gauntlett argues, the impetus to create and share online – within a specialist community of interest, such as the environmental community – is becoming a powerful socio-technological trend that makers, bringing both technical expertise and creativity, are well placed to lead (Gauntlett 2010).

2.3. Social Innovation:

Having begun this section with a very close focus on materials, it is important to recognize also that many makers working in the sustainability field are engaged with wider issues of social innovation.

The Metabolic Media project is a good example here. Inspired by conversations with the chemist Sir John E Walker, textile collective loop.pH created a new, modular approach to urban food production. The structure they created is designed to reduce food miles, whilst also promoting wellbeing by enabling people with limited space to eat healthily and spend time outdoors. Using lace-making techniques, it weaves solar cells into a portable, mesh-like structure that supports climbing plants, whilst charging the batteries of a plant nutrition and watering system.

Yuli Somme's Leaf Shrouds are another example, comparable in their holistic approach to addressing environmental and social issues – in this case, a more human-centred and environmentally sustainable approach to burial than those more commonly supplied by the funeral industry.

By replacing the traditional hardwood coffin with a soft, felted cocoon, the shrouds are made to offer emotional comfort at times of loss. The use of locally sourced wool provides a symbolic connection with the land and with cycles of natural renewal, whilst also helping to sustain sheep farming on Dartmoor. Making a unique contribution to the Green Funeral movement, Yuli's work challenges both the anxiety and the environmental damage surrounding death rituals in Western societies.

These systems-oriented approaches to social innovation through the making of sustainable products begin to blur the boundaries with the consumption stage of the value chain; and it is to this that we turn next.

3. Consumption and Distribution

3.1. Consumption and longevity of use:

Many makers are explicitly interested in slowing consumption by influencing how consumers use the objects they create. In particular, they are concerned with promoting the longevity of ownership and use recognized as an important feature of sustainable design (Blevis 2007), by creating enduring connections between the person and the object, based on emotion, personalization, adaptability and / or rituals of use.

Katherine May's quilts operate in this way. Designed to become heirlooms, they are assembled from the client's previously worn garments – selected for personal association - and sewn into patchworks with an inherent, emotive value. Similarly, Barley Massey's *Remember Me* range incorporates clothing from a distant friend into cushions designed to be held. Amy Twigger Holroyd's knitwear, meanwhile, is designed specifically to remain in style whilst expressing individuality, and often to be adapted by the owner and worn in different ways.

The creation of objects made to last draws on makers' ability to understand people and their sensory, spatial and emotional responses to materials and objects. This aspect of craft knowledge is less well documented by craft theory – with its focus on creative production – but emerges strongly both from our research and from makers' accounts of their own practice elsewhere (Butcher 1998, Bristow 1998).

For some makers, this approach – with its focus on the consumer as active participant - goes beyond materials selection and appropriation in use, to become part of the making process itself.

Amy Twigger Holroyd, for example, believes that the more active a consumer is in the making process, the greater the emotional bond with the object and the longer its probable life. Amy aims to transform her customers into makers themselves, initially working to her patterns and eventually creating their own designs. Encouraging this transition from consumption to production does not undermine her own business, as Amy supplies a range of supporting services and products ranging from knitting kits and basic knitting workshops through to advanced courses in 'pattern blagging' and 'stitch hacking.'

Again, these principles may appear to operate on a small scale, but the work of some makers demonstrates potential for scaleability. Ceramicist Justin Marshall, working at University College Falmouth, is developing digital systems that allow consumers to steer product development by – for example – freezing and digitally manufacturing an ever-evolving, computer generated form. Justin's work may appear to be a departure from conventional craft practice; but the software hacking processes he employs involve a process of reflective experimentation that he describes as analogous with his work as a ceramicist (Marshall and Bunnell 2009).

3.2. Distribution and retail:

Looking beyond consumption in terms of making for longevity of use, it is notable that many makers are creating self-directed forms of selling that themselves support makers' environmentally motivated practises. This kind of direct selling is, of course, a noted characteristic of the craft sector. For environmentally engaged makers, however, it has significance in the opportunities it offers for ethical retail – trading locally, using barter and alternative currencies, and positioning the shop as a community hub.

Two makers featured earlier in this paper approach this challenge in different ways. Barley Massey's Fabrications shop in London – shown here – sells knitting and haberdashery supplies alongside locally made goods with a focus on recycling. For Barley, the shop also acts as a 'green' creative and community hub, hosting events, exhibitions and workshops, and attracting new opportunities for sustainable business practice.

A lower impact, 'as and when' approach to retailing is adopted by Amy Twigger Holroyd, whose company offers knitting workshops to summer music festivals, in return for retail space for selling clothes and knitting kits. For Amy, this is part of an activist philosophy focused on creating maximum value and minimum waste from everything produced – the knitting patterns found in Amy's kits can also be bought online and downloaded; and the waste wool from her machine knitting classes is bundled up and sold in the kits. Many other makers, of course, operate lightweight, 'as and when' forms of direct selling through specialist craft fairs, markets and online marketplaces.

Just as makers such as Markus Kayser are challenging conventional systems of material production, others are creating new systems of distribution. Ceramicist Katie Bunnell, for example, is working at University College Falmouth to create distributed manufacture systems for ceramic tableware. Katie's Autochina system enables a high degree of customization against existing designs, and allows products to be made as ordered, without waste. As Katie says, the system also has the potential to be remote, localized, made to order manufacturing on a bigger scale – through existing digital ceramic print bureaus (Marshall and Bunnell 2009).

This is a significant development within the sustainability value chain. Distributed, digital manufacturing services offer the opportunity to reduce the environmental impacts of shipping and warehousing, and are both gaining users and decreasing in cost **(**Weijmarshausen 2010**).** Adapting these services and connecting them with consumers could become another key role for environmentally engaged makers.

4. Interpretation

We have already seen how makers Barley Massey and Amy Twigger Holroyd offer education and workshop services as a part of their product offer. Barley's environmentally-focused education services are in fact much broader than this – working with other makers, she offers recyclable gift wrapping workshops at Christmas craft fairs, and giant knitting and felting workshops at London events and festivals. Similarly, Yuli Somme – also profiled earlier in this paper - sells felt making workshop kits to schools.

Other makers we interviewed – including Karen Whiterod, shown here, work in school to engage children in creative approaches to recycle and reuse; in colleges to develop students' awareness of dynamic between fashion and reuse; and in community workshops to encourage awareness of natural habitats and local environmental issues through making.

In each of these cases, makers are influencing attitudes towards recycling and other environmental issues, by using their craft knowledge and skills in delivering education services. As such, as well as influencing consumer behaviour, they are completing the sustainable value chain, by creating new demand for sustainable product alternatives.

Looking at the types of complex, socio-environmental and social equity issues we noted makers engaging with earlier, we see still more roles for makers working as educators and interpreters.

Cj O'Neill, for example, ran a community project that enabled young people to express identity and develop respect amongst their peers by graffitiing ceramic plates. Susan Kinley gives communities a creative input to new hospitals and community health centres by running workshops that help to shape the flooring and wall hangings she designs.
Jon Williams runs participant-centred workshops in clay, creating moments of satisfaction and confidence for young children with profound physical and sensory disabilities.
Jo Davis gives young people with learning disabilities freedom to experiment and responsibility for working safely with dangerous processes and materials.

Melanie Tomlinson's work in this field illustrates the benefits for the groups she facilitates, in more detail.

Melanie leads metalworking workshops for people newly arrived from areas of conflict. Her aims are two-fold: to develop self-respect amongst people who can be misunderstood in our society; and to support them in starting to create a social and cultural identity within their new communities.

In the workshops, Melanie guides participants to make printed tin objects that say something personal about the places they originate from and their experiences gaining asylum. Starting with a shared feast, or by sharing maps, she supports individuals in making drawings that transition into metalwork.

Melanie identifies distinctive ways in which making supports participants in coming to terms with their experiences, and in adjusting to life in a new country. Specifically, she suggests that participants gain confidence from creating something beautiful that exceeds their own expectations, and from gaining control over a difficult material; that differing cultural associations with craft materials and domestic objects enable conversation between people from many countries; that people with different languages and cultural backgrounds can communicate

and connect through making together; and that the permanence of metal enables it to represent and strongly 'hold' a particular moment or memory. Overall, she says:

'Putting something out there and sharing it – making it real and permanent – has an almost spiritual element… It's about saying that you don't leave your culture behind, it's who you are and you can make it current in your new culture.'

In these and other settings, craft making can become a distinctive way of encouraging social equity. This type of interpretation and education work both extends and goes beyond the product lifecycle familiar from the sustainable design literature, yet applies similar fundamental knowledge, skills and approaches in the addressing of complex social equity issues.

4. Conclusions

Three main points emerge from our research.

First, it is clear that makers are making significant contributions to the sustainability value chain. They are extending the range of available recycled materials and challenging consumers' perceptions of them; promoting alternative trading and the slowing of the consumption cycle; creating new solutions to socio-environmental problems, and supporting more sustainable consumer choices. Increasingly, makers are also looking beyond the object, to reshape the systems supporting its production and consumption. Despite the micro-scale typical of craft production, with the right connections and partnerships, the innovations produced can be scaleable. In all this work, makers' distinctive knowledge and skills – in knowing materials and making processes, in understanding people's responses to materials and objects, and in engaging creatively and reflectively with the material world – are essential; enabling them not only to critique the way we live but also to propose alternatives.

Second, in the work of the makers we interviewed, it would be inaccurate to imply simply that making enables a creative contribution to the sustainability agenda. Instead, it is more accurate to talk of a cyclical dynamic between ethical values and making: for these makers, environmental engagement has become a creative stimulus in itself.

Each of the makers interviewed for our research has built a working life around values or beliefs that play out through a range of making-related activities. For many, indeed, craft has become a way of making a living whilst remaining true to – and developing – particular values. Individual makers tell us that *'social issues are part of how I define myself'*, and that *'I would feel selfish just making for myself'.* In addition, such values appear often to provide a necessary framework for makers navigating the complexity of portfolio working – providing both creative impetus and a touchstone for making creative and business choices. Satisfaction found by 'making a difference' and creative development, is at least as important as financial stability: for these makers, work is essentially part of a holistic approach to life shaped by strong ethical values.

Finally, it is striking how often makers we interviewed were operating across the value chain, making teaching resources and sourcing sustainable materials for their products, for example, or running workshops and a shop whilst making. For all makers we interviewed, these roles were connected and informed by one another:

'Everything I do, I get something out of it which applies to something else,' was a comment made by one maker that applied to the work of many others.

The dynamic between making and environmental-social sustainability, as we've seen, is productive, distinctive and complex. Makers, as socially engaged creative practitioners, working successfully within a demanding marketplace, have become creative enablers for a more sustainable future.

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