THE SOCIAL FABRIC: EXPLORING THE SOCIAL VALUE OF CRAFTSMANSHIP FOR SERVICE DESIGN

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ABSTRACT

This paper addresses the social component of craftsmanship in relation to service design. The transferal of crafting skills and knowledge can be considered a service that is co-created between master and apprentice. The social aspects of learning craftsmanship will be discussed in the light of how they could benefit designers in the development of Product Service Systems. Workshops in bobbin-lace making that took place as part of a research project about smart-textile Product Service Systems serve as the foundation of this analysis. A group of designers assumed the role of apprentices in these workshops. The aim was not only to apprehend the basics of this historical craft, but also to get an understanding of the concept of craftsmanship. In this paper we discuss our observations and reflections on being designers as apprentices and how the insights gained can apply to service design.

INTRODUCTION

Services are created by and for people, a fact that guarantees social relevance but also introduces social complexities in creation and delivery. Experts in many disciplines need to cross boundaries and design and develop collaboratively in order to reach valuable results. That is not always an easy task: habits, vocabulary and culture often vary tremendously from discipline to discipline. A manager, an engineer and a designer, could be from the same country but when it comes to their professional expertise they may just as well speak Chinese, Greek and Welsh.

In the development of Product Service Systems (PSS) the process is often taken on with a designerly approach, with “design thinking” as a foundation (de Lille, Roscam Abbing & Kleinsmann 2012). Within this research project on Smart Textile Services (STS) the development of a PSS is investigated from both a designerly and a craftsmanly approach. This paper will discuss the craftsmanly approach to designing and delivering services based on the insights regarding craftsmanship gained during several bobbin lace-making courses, taken as a part of this research.

Crafting together in a workshop, family or other group setting more than the production of practical and decorative objects, historically used to have an important social function. Using this as an example could help cross interdisciplinary boundaries in creating PSS. The social context of craft may offer us an interesting method to reflect on services. We experimented in a real craft setting of bobbin-lace

making to see how service design could benefit from a traditional way of learning and practicing crafts under a master in a group of apprentices. Based on this experience we would like to focus in this paper on what service design could take from and contribute to the social context of craftsmanship.

The STS research is conducted within the Creative Industry Scientific Programme (CRISP), a collaboration between Dutch knowledge institutes and over sixty industry and social partners with a joint aim to develop academic and applied knowledge in the field of PSS.

SERVICE DESIGN

The concept of "service" as defined by Service Dominant (S-D) logic, involves goods representing a mechanism for service provision as well as intangible, dynamic resources, inputs for co-created value, and relational, economic and social processes (Gummeson, Lusch & Vargo 2010). In other words: goods and services are parts of a whole, which cannot be viewed separately. In contrast to product manufacturers, service providers shape the service together with users, who thus become part of the production process (Morelli 2002). Tangible and intangible aspects of services are linked in carefully designed Product Service Systems (PSS), where the tasks of a designer go far beyond the usual focus on form and function and sometimes require the designer to let go of control.

Service design cannot operate on its own. To create an optimal service experience, specialized competence from design disciplines is needed (Holmlid 2007). A range of different stakeholders need to be involved. Service designers work with service providers, managers and marketers, with users and with experts such as psychologists and anthropologists. All bring in their specific knowledge, experience and objectives, but coming from such varied positions often speak a different "language" and may have difficulty understanding each other. Here, designers can add value in the design process of PSS in various ways, by playing different roles (for example leading, facilitating or producing) acting like "glue" between disciplines (Ten Bhömer et al. 2012).

Product Service Systems are developed in an iterative process, going through many cycles of tweaking and adjusting, using tools and methods from various disciplines. It could be argued that services are "evolved" rather than designed, as is the whole field of Service design itself (Stickdorn & Schneider 2011). A service cannot be designed, produced and then supplied in the way a product can. The process of tweaking and adjusting continues in practice, varying with the context in which the service is implemented. Designers are well equipped to intuitively steer and accelerate this evolution, as they can imagine desirable futures and pave the road towards them by quickly connecting many disciplines, methods, materials and tools. This is why they are invaluable to service design.

However, we are of the opinion that a service could not just be designed, but could also be crafted. Let's compare this design approach to a craftsman's approach. "Each of the craft disciplines has a multicultural history that is recorded mostly as objects, many from societies that have long since disappeared. (…) A huge body of objects serve as an enormous reference library for craftsmen." "Craft looks to the past for techniques, visual cues, meanings and ideas." (Metcalf 1993). Where designers are more oriented towards the future, craftsmen come to innovation by retrospection. Here lies an interesting difference, but also an opportunity for the imaginative service designer and highly specialised craftsman to meet and support each other.

Craftsmanship is taught hands-on by passing on knowledge, traditions, telling stories and demanding lots of practice while continuously focusing on a great level of detail and depth. As such the transfer of craft skills and knowledge could be considered a service. This is a service that like other services, as Morelli explained, is being refined in practice by service providers and users. Craft knowledge and skills have been passed down through generations in as many different ways as there are crafts and depend greatly on a social context to be preserved and to evolve.

THE SOCIAL SIDE OF CRAFTSMANSHIP

Some refer to craftsmanship simply as highly skilled manual work. Richard Sennett in The Craftsman (2008) describes his interpretation of craftsmanship as a basic human impulse, an engagement and a very balanced connection between hand and head, but also quotes Karl Marx, "who framed craftsmanship in the broadest possible terms as "form-giving activity." Sennet emphasises that self and social relations develop through making physical things, which enable an "all-round development of the individual." (ibid. p.29) with which he makes an interesting point about the social value of craftsmanship. Crafts are not just about skills, they are a way to express and develop oneself and relate to others.

This social aspect is also beautifully expressed by Betsy Greer, who writes in her book Knitting for Good: "I began to understand that there are benefits to knitting with others beyond just teaching them something new and then setting them free. We can have conversations that unfold just like the knitting itself. Instead of only speaking for a minute in passing, when you are knitting with someone else, you have a chance to see where a conversation takes you without having to rush. Just as your knitting has a rhythm, so do the conversations you engage in while you work. The ease of conversation prompted by craft helps us connect with others beyond our own racial, economic, or social backgrounds, allowing everyone involved to learn about someone new and foster a sense of belonging." (Greer 2008, p. 54-55). So the rhythm of repetitions in practicing a craft serves to develop material consciousness and tacit knowledge, but also as a tool for conversation and reflection which can only occur in a social context.

An important place to practice and proliferate crafts has always been the workshop. Throughout history master craftsmen have shared secrets of the trade with their apprentices in the workshop (Sennett 2008, p.64-65, 73-75). The relation between a master and his or her apprentices is important, but the service of proliferating craftsmanship is not only delivered from master to apprentice. The interactions between apprentices are also a key part, as they help and challenge each other and may compete or share in order to advance. Everyone in the workshop plays a role in the transferal of knowledge and for this being both receptive and willing to share is necessary. Keeping things to yourself is counterproductive. By sharing expertise, the body of knowledge remains in motion, helping both the craft and the people practising it develop. We call this social construction of craftsmanship a "social fabric".

It can be hard to make a clear distinction between craft and design. Not in the least because the design discipline is rooted in the arts & crafts movement. While it is obvious "craft" and "design" are not two words that describe the same phenomenon, it is impossible to pinpoint exactly where the boundaries between the two lie. Because of this it's not the field of craft but the attitude of craftsmanship and its social affect, or social fabric, we choose to discuss here, in order to make clear its value for service design.

CONTEXT OF APPLICATION

Textile crafts have been practiced for many centuries, starting with very simple tools and techniques to create fabrics, gradually becoming more and more complex. All crafts have either gone through a similar evolution or been displaced. Innovations took many generations of craftsmen to mature. Today most textile production has moved from being low-tech and high-craft to being high-tech and low-craft. Hand crafted textiles were once valuable possessions, often being used over several generations, carefully mended as they wore and even used as a way to show off status and wealth, for instance by the use of certain hard to make colours and more refined techniques. Now textiles have become mass produced consumption goods, affordable for everyone and discarded as soon as signs of wear become visible or a new trend appears. Machines have taken over manual labour and much tacit and explicit knowledge, tradition, symbolism and meaning have been lost, being replaced by mechanical and technological knowledge.

New technological knowledge is emerging rapidly and is leading to the development of "smart-textiles". Textiles are suddenly given new properties they've never had before. The use of technology allows textiles to be programmed, to change and adapt, to sense and to react to certain behaviour or circumstances, making them seem very smart indeed. New possible applications for textiles are radically different, ranging far beyond the already very broad ways in which we apply textiles. Therefore services around these products are becoming much more important.

Though this all sounds very promising for the future, smart-textiles are still in their infancy and they may benefit from a craftsmanly approach to mature and become a meaningful and welcome addition to our daily lives. In the time of industrialisation "Crafts were considered too time demanding for mainstream (…) but now re-considering some decisions that led us to mass production, they sound inspiring and worth looking into." (Kuusk, Tomico, Langereis & Wensveen 2012). With the emergence of FabLabs and open-source electronics for textiles such as the Lilypad Arduino microcontroller, small scale personal manufacturing or "technology craft" could become a real alternative for mass-production and a way for textile industry to supply to a new kind of demand, delivering services in addition to products. Industry could work much closer with and for end-users who could use their semi-finished products and individualise them, for instance by programming their behaviour, to their personal tastes (figure 1).

Figure 1. Smart-textiles capable of measuring stretch as semi-finished products developed in STS project, hooked up to a Lilypad Arduino microcontroller

In this way a deeper involvement of end-users in the production phase could be allowed, shifting from a top-down to a bottom-up development, generating a greater sense of value and attachment through participation and personalisation. It is important we define the narrative of smart-textiles if we want them to be more than gadgets (Tharakan 2011) and crafts may be able to help us do so. Bruce Metcalf (1993) writes: "self-expression needn't be the highest goal of the craft practitioner. In a secular world, craft can serve others by offering a medium for personal meaning--a receptive screen upon which to project significance. Instead of conveying total self-absorption in expression, a craft object can perform a service (…) Craftspeople can move into areas of subject matter that art and design have declared to be irrelevant for almost a century, and in so doing, they can actually become socially responsible." With which he points towards the social meaning that stems from the culture and community in which crafted objects are produced and used, but which may be open to different interpretations. This could be applied to the field of smart-textiles too: meaning and purpose could be

created bottom-up instead of being predefined in the design phase, helping to build a narrative.

EXPLORATIONS IN BOBBIN-LACE

To experience and test the principles mentioned above, the historical craft of bobbin lace-making was studied over the course of several workshops by the STS research group in the role of apprentices, working with an experienced craftswoman as our master. Lace-making was chosen because it was a craft that none of the participants had any prior experience with, so that everyone would start at the same level. This also offered the possibility to explore applications within the field of smart-textiles with few preconceptions. The goal was to learn the basics of the craft, and to get an understanding of the concept of craftsmanship and how that could be useful for creating Smart-Textile Services.

Bobbin lace-making has a long history and its forms and styles differ from region to region, as such a lot of cultural and historical meaning is embedded into the patterns. The bobbin technique is one of many techniques for lace-making. Others are needle-lace, tatting and forms of crochet and knitting. Each is a specialty of its own and most lacemakers only master one of them. Today its symbolism is no longer as alive as it once used to be. The pure pleasure of making is now the main incentive to practice this craft, as it is nearly impossible to sell handmade lace commercially and compete with modern machine lace (Verhaegh 2012). Some lace-makers however, manage to sell their work as art.

The lace-making workshops took place in March 2012 at Museum de Kantfabriek, a museum devoted to hand- and machine lace-making and its history. To keep the craft alive, the museum hosts courses in lace-making and offers experienced lacemakers a place to come for meeting and practising their craft and to present and sell their work.

EXPERIMENT AND TRADITON

Our lace-making teacher Mrs. Verhaegh was an attentive older woman with a great passion for her craft which she had been practicing for over thirty years. She herself had a very formal training at a traditional school for handicraft and after that taken many advanced/expert classes from other very experienced lacemakers she admired. After she had thoroughly studied the theory and history of lace-making and mastered the many traditional techniques of bobbin lace she started experimenting with more modern forms of lace. Her taking this direction is quite exceptional. She told us that many if not most lace-makers are concerned with preserving the traditions as they are for the future and only few try to create new work from the old techniques. After many years of practicing traditional bobbin lace-making she was convinced that the only way to preserve the craft she cares so much about, is in fact by building on the traditions, to show that making lace doesn't need to be old-fashioned and can still have value in this day and age.

As designers doing research through design, focusing a lot on making and reflecting as a meaningful way to do research (Kettley 2010), we immediately started to experiment with new materials and tried to control and transform the techniques we were taught in different ways - regardless of our lack of experience - which our teacher was intrigued (and despite her own experimental work maybe slightly shocked) to see. We tried making lace with conductive yarns, creating a plus and a minus side to our lace, which could be used in a soft-circuit (electronic circuit built up using soft materials such as fabric and yarns). Another experiment involved using yarns dyed with thermochromic ink (figure 2), so the colours of our lace would change with temperature.

Figure 2. Experiments dying yarns with thermochromic and UV ink

LESSONS FOR LACE AND LIFE

We were however, soon confronted with this lack of skill when our new concepts became too complex for us to realise. The dyed yarns for instance were less flexible than the special linen and cotton yarns provided to us, making it extremely difficult to follow the patterns and get an even result (figure 3). Basic knowledge and some exercise with the lace-making technique had inspired us, but didn't suffice to create the things we conceived of. The difference between our designerly approach and the craftsmanly approach of our teacher was clearly illustrated, also showing exactly where we might complement each other in developing new applications for lace in smart-textiles.

Learning crafts from a master is different from learning on your own from a book or other sources. Life-lessons are shared between the lines. Many of the instructions in our lace-making workshops contained -besides practical information- some life-lessons our teacher had herself learned while studying lace-making. For instance: the importance of working meticulously. You will not learn how to fix your mistakes, until you've understood how not to make them in the first place. In both lace and life carelessness will show. This may seem inapplicable to the iterative process of service design, where failures early in the process are welcomed and expected to lead to a better end-result, but is in fact a valuable lesson about knowing what you're doing first, before diving into the unknown.

Figure 3. Dyeing yarn with thermochromic ink (left) and using it in a traditional lace-pattern (right)

These hidden stories contributed the social fabric that came into existence while practicing craft together. Not just in these particular lace-making workshops, but also throughout craft history. Betsy Greer writes: “One of the remarkable things about knitting and handcrafts is their ability to transcend societal differences, as every culture has its own craft history based on its own idiosyncrasies.” (Greer 2008, p.5).

KNOWLEDGE IN MOTION

Part of the group and the teacher herself were native Dutch speakers, the other part of the group had a very limited understanding of Dutch. All the participants were speaking English, which was a tough challenge for our master. Because English often proved to be too difficult, she explained many things in Dutch, relying on the others to translate. This resulted in different ways of apprehending the instructions between the Dutch and non-Dutch speakers and presents an interesting opportunity to compare how the language of crafts relates to spoken language in this social context. The non-Dutch speakers were learning mostly by doing and copying, the other part of the group was also sharing in stories from experience, which were sometimes hard to translate or didn’t seem relevant at first but made sense later on and in the end gave a better understanding of the concept of craftsmanship. Not having to focus on listening however made the non-Dutch speakers look deeper and more focused at themselves, their movements and non-verbal insights gathered from unspoken communication and group dynamics.

Practicing crafts in a group evokes sharing on different levels, from the very practical to the philosophical, which was easy to confirm during the lace-making workshops. When working/making together, it’s easy to talk about each other's goals and share tips on how to reach those. It could be a simple trick on how to tie a knot to let it disappear into the work or a way to deploy the crafted object to benefit a charitable cause. Everyone in the group can add to this knowledge with the craft project as an instigator or a tool for conversation. This connects well to the co-creation of services with the people that will use these services eventually. Service Design could take inspiration from how, through crafts, co-creation has been achieved over the ages.

By physically working on something and getting into a flow the craft project can become a metaphor for the service that is being created. The crafting can serve as a common language to share expertise and experience between the different stakeholders involved in the service. “Designers are used to work with rich information and creating different kinds of representations. As Schön (1983) puts it, designers interact with these representations in a conversational way. These representations are thus far from being incidental outputs but are rather central inputs in the thought process.” (De Lille et al. 2012). Just as sketches or prototypes are used to discuss a product design, different steps in the crafting process could be used to discuss different phases of a service.

CHANGING SOCIAL STRUCTURES

Craft is closely linked to identity. It has for instance religious, mythical, social and economical layers and can be a tool to cross boundaries between them. Craft has the potential to change social structures and be more than functional and aesthetic even today; in India Gandhi used crafts to educate people about self-reliance and democracy (Tharakan 2012). The social fabric of crafting creates a sense of belonging and of ownership, which is important when working with multiple stakeholders. For designing Smart-Textile Services “Collaboration between these [textile, technology and creative industries] partners will require a sense of common ground” (Ten Bhömer et al. 2012). Practising crafts can bring people of different backgrounds together and facilitate collaboration required between stakeholders for creating great PSS.

Since all participants were trying to learn the same basic skills in the lace-making workshop, it was easy to compare each other's work and estimate how everyone was progressing. This led to a friendly sense of competition (I’m faster than you! My work looks neater!) encouraging each other to try harder. At the same time the person who was ahead would assist the one lagging behind or getting frustrated and explain or

demonstrate again the things they'd just learned. Of course the teacher was also going around, commenting and giving practical individual tips (figure 4). The relations were therefore in a constant flux, but everyone was always moving forward, since it was in our mutual interest to make progress and be able to move on to the next part of the instructions. The teacher drove this further, by taking the work of the person who had progressed the most to introduce the next step. This is similar to a team mental model for describing how knowledge is constructed and shared in order to reach a common goal (Ten Bhömer et al. 2012). This model is used for service design in another part of the STS research. While in this case the team mental model wasn't consciously deployed, it was a natural by-product of craftsmanship.

Figure 4. STS team members practicing lace-making in the workshop

REFLECTIONS ON EXPERIMENTS

Experiments between traditional crafts and new techniques or technology can serve to preserve these crafts and continue their evolution instead of making them obsolete. Which is valuable also for the development of smart-textiles that can borrow from knowledge, symbolism and traditions created over the ages; *complementing* rather than replacing them, with mechanical and technological knowledge.

Learning from a craftsman in person and practising craft in a group, richer information is shared and not just verbally. This richness can easily lead to new insights and directions. Regardless of their level of mastery of a craft, all apprentices can continuously contribute to the group's knowledge through their personal experience and reflections on crafting. This is co-creation in a new sense that could complement existing co-creation and co-design practise in services. Taken further, crafting could be used as a way to facilitate collaboration, co-creation or co-design and become a service itself.

So far we've discussed our experiences in the light of *designing* services, which was the main goal for taking these bobbin-lace making lessons. As we've seen Metcalf (1993) argues that craft objects can perform a service and we have now shown that crafting could itself be considered a service through its social context. However in reflecting upon the workshops, we have also seen that craft may continue where design cannot. "Given that the service design is not finished until the service is performed, there is a high degree of dynamicity in the deliverable." (Holmlid 2007). The interaction between customer and service provider that shapes the service will change depending on factors such as location, time, mood, personality etc. The designer does not have full control over this, therefore it's worth considering the approach of a craftsman in this situation as well.

The most optimal scenario can be designed, but a craftsmanly approach could improve the service delivery under these changing circumstances because of its evolving nature. The iterative cycles in designing a service take place before production, while in crafts the iterations happen at the same time as production, which allows for quick adaptations. The repetitions in crafting a service may help to create social consciousness and expertise and could thus be applied to refine the service as it is being performed.

Another valuable lesson from craftsmanship for service design is the way skills and knowledge are shared. For craftsmen it is necessary to have certain principles, protocols and traditions. They need to protect their secrets of the trade, but if they are not shared and built upon, the craft will disappear. Sharing creates a narrative, a context and a foundation for the craft in a community. It generates interaction and relationships, which are all important in service delivery too. Service providers need to create a durable bond with their users through interacting with them. Systems and products depend on considerate interactions to become a comprehensive Product Service System.

Ultimately it is the deliverer of the service who plays the role of experienced craftsman and the designers of the service should cater to him or her and offer the best tools to create a desirable end-result. Just as a hammer could be used to fix the leg of a chair or to swat a fly, it is up to the craftsman how to use his or her tools and up to the designer to consider different needs and to try to take into account all possible scenarios to provide them. To achieve this the service designer and all stakeholders involved can take inspiration and examples from the methods of traditional craftsmen, be they lace-makers, woodworkers or goldsmiths.

FUTURE RESEARCH

To continue this research into of Smart Textile Services we intend to further test these findings in practice, doing research through design. By taking a craftsmanly approach, we would like to create a social context from which a narrative can arise alongside the technological developments and more meaningful and empowering examples of smart-textile PSS can be created.

One way we are doing this is by creating an interactive patchwork of knowledge. We're inviting people from different backgrounds in textile and technology, including textile manufacturers, technology experts, designers, traditional craftsmen and tinkerers to exchange skills and knowledge in a craft setting. Their expertise is represented in different patches that are combined together to become part of a larger patchwork in which new connections can be made between high-tech and high-craft and between product and service.

These connections are made hands-on, with groups of stakeholders. Rather than becoming a co-designed smart-textile product, the patchwork will serve as a conversational tool that invites a discussion both with words and with hands and facilitates knowledge exchange between different groups in an informal way inspired by the concept of the social fabric. Looking at craft as a service, combining high-tech with high-skill, we expect to be able to achieve more profound results than if the technology was leading.

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