THE NEEDLE HAS A POINT, STITCH HAS A FUNCTION.

Exploring the embroidered stitch in a functional context

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1.1 IMAGES OF PROJECT
1.2 ABSTRACT

This project within the textile design field explores the textile technique embroidery. By using design methods based on words and actions the technique was used in another angle approach that allowed the stitches to be used in a more functional context. This approach differs from how embroidery is traditionally looked upon, an added decorative surface to an already functional object. Embroidery has been explored in a way to see if the technique could be used as something more than just an added surface and if that added surface could be manipulated so that the stitch has both decorative and functional aspects. Stitches have been developed, discovered and realised that they can add density, stability, assembly and form to a material. This has resulted in an alternative way of using embroidery that puts the stitch in the position of being vital to both the expression and function of the object.

1.3 KEYWORDS

embroidery, textile, design, function. stitch, yarn, fabric, material, manipulation
# TABLE OF CONTENTS

## PART 1

1.1 IMAGES

1.2 ABSTRACT

1.3 KEYWORDS

## PART 2

2.1 INTRODUCTION TO THE FIELD

- Embroidery
- Modernism, function and design in general

2.2 MOTIVE AND IDEA DISCUSSION

- Embroidery and art

2.3 AIM

## PART 3

3.1 DESIGN METHOD & DESIGN OF EXPERIMENTS

- Result of pre study
- The aspect of functionality

3.2 DEVELOPMENT & DESIGN RATIONALE

- Continued practical work
- New ideas of what embroidery might be
- Comparing materials
- Knots and couching stitches
- Ideas of development

## PART 4

4.1 RESULT

- New approach to a traditional textile technique
- Selected samples

4.2 PRESENTATION

4.3 CONCLUSIONS AND DISCUSSION

- Application and further developments
- Final words
- Appendix: Explanation of design methods

## PART 5

5.1 REFERENCES
2.1 INTRODUCTION TO THE FIELD

Embroidery

Definition of embroidery: *a method of decorating with a needle on an already existing foundation fabric.* (Harris, 2010, p. 31)

The action of picking up needle and thread, embroidering, has a long history. Embroidery has been a part of different ceremonies and rituals in most cultures and parts of the world. Earliest examples of embroidery has been found in Egypt dated back to as early as 1350 BC in tombs of e.g. Tutankhamun (Harris, 2010, p. 31) High quality embroidery dated from the fifth century has been found in Middle East and China. During the same time Japanese and Korean embroideries and techniques spread to Western Europe. The most famous historical embroidered work is the Bayeux Tapestry, made in 1077 to tell the story of the battle of Hastings. (Prain, 2011, p. 27-28) Embroidery has been both seen as craft, hobby and as a professional activity and the technique has mainly been carried out by women, although some men have also done professional work. (Harris, 2010 p. 33) During the Renaissance the view upon the media changed from art to craft mainly because women carried out embroidery within the home, creating detailed objects for the home and family. This was done without pay, whilst fine art such as painting and sculpture, mainly done by men has always been created in exchange for money. (Parker, 2014, p. 5) Since that period, the fact that embroidery transforms materials and adds meaning to them, has been overlooked and mainly seen as something mindless, simply decorative and delicate. The icing on the cake but without a significant value. (Parker, 2014, p. 6)

Modernism, function and design in general

Definition of function: *the special purpose or activity for which a thing exists or is used.* (Merriam Webster Dictionary [2015-03-26])

Functionalism has been the dominant style throughout many design disciplines for the last 100 years. 1896 the architect Louis Sullivan coined the expression form follows function, which is still very present today. The functionalist following this is aspiring to design as ‘pure’ as possible and aiming to take away any unnecessary ornament. (Dorst, 2006, p. 197) Contrasting ideas to this come e.g. from Italian design group Memphis who claimed that functionality is not only about the practical usefulness of a design but also the objects ability to communicate. Memphis also sees structure as a function; even the most basic structure must exist. In contrast to the functionalists, Memphis approach to function is that structure and decoration are one and that expression is needed for the object to communicate. (Kristoffersson, 2009, p. 102) According to researcher Elvin Karana (2010) the way people differentiate materials from each other is not only based upon an objects technical function but what the materials mean to that particular person.
2.2 MOTIVE AND IDEA DISCUSSION

Embroidery and art

Questioning and exploring embroidery and bringing the technique into a more contemporary context are not revolutionary. Contemporary embroiderer Jenny Hart (Parin, 2011) is one out of many that tries to bring embroidery out of the world of the hobbyist. Hart’s work tries to challenge embroidery and says, “Traditionally, embroidery is secondary to the functional object it decorates. I wanted to use that sort of embroidery on something that had no function but to be fine art.” (Prain, 2011, p. 55) Embroidery as a technique in the 21st century is a part of the movement of DIY, the return of the hand made and craftivism. Reinventing embroidery and the use of fiber, the oldest material we have, has been a major force for feminist artists. To create political embroideries are a way of reclaiming the technique and making it something different than “humble handcraft dismissed as women’s work”. (McFadden, 2008, p. 9)

Making with thread and embroidery in a contemporary design context is not as widely used as embroidery within the world of art. Embroidery used in design is still mostly a decorative surface and the function of embroidery in design is still viewed upon in a renaissance way. There are designers though, who use thread in a contemporary way. Amongst those is the Swedish-Argentinian designer Anton Alvarez (Alvarez, 2012) and Italian designer Victor Matic. (Matic, 2012). Alvarez has invented a new way of using thread as an assembly technique where the thread is essential. Without the wrapped thread around the wood, there would be no functional furniture. In his 'WWW' bookshelf, Matic has used strings as the main part of the furniture keeping the books in place. Without the strings the bookshelf would be a wooden sculpture, the thread is what makes it a functional object.

This project aims to position itself between embroidery artists and designs with threads. To combine the rebelliousness and inventive spirit from Jenny Hart and other embroidery artists with ideas of design as something functional, using that term in a broad sense. The reasons for embroidery should be clear and undoubted.
AIM

The aim is to explore expressions with stitches where the design can have both decorative and functional values. The project will question what embroidery and stitches are and if and how the technique can be used as a vital part of an object.
PART 3

METHOD AND DEVELOPMENT

3.1 DESIGN METHOD & DESIGN OF EXPERIMENTS

Result of pre study

The project is based upon a pre study (figure 2) where two different design methods were used in order to explore new materials and expressions in embroidery. Methods used in the pre study were Studio Viatopias 'world map' (Norris, 2014) and Richard Serras 'Verb Compilation List' (Serra, 1967), see figure 3 and 4 and appendix 1. These pushed the project into a more experimental direction, avoiding using visual imagery and materials traditionally used for embroidery. The methods were also a way to try out different embroidery stitches to find a few to go on further with in the rest of the project.

After analysing the samples from the pre study (figure 5) it showed that most of the try-outs were done in a way where the embroidery appeared as the traditionally added surface. Very few samples actually had the functional quality the project aims at exploring. To continue the process, another practical phase was needed, similar to what Koskinen (2011) describes in Design Research Through Practice (chapter 4). After the pre study seminar questions about decoration and function came up. To understand what the functional message that the project wanted to show, a definition of the word in relation to embroidery needed to be made. To get more input on the subject matter interviews focusing on discussing the field were carried out in a manner described by Lundequist (1995) in Design och Produktutveckling.
Figure 5. Analysis of the samples. Most of them are more decorative than functional.
The aspect of functionality

During the presentation of the pre study the questions of how to define function and if decoration can be considered functional appeared. To be able to continue the practical work this aspect needed to get a definition that could be used in relation to the field, embroidery. The thoughts about the word were developed after a combination of reading about the subject and during interviews (figure 6) with two industrial designers, a product designer and a textile designer. The interviews was important to get another view on the subject that helped sort out the questions from the seminar.

After the interviews, it was understood that the word function is complex and hard to define. The way you look at decoration is also very different, but most of the people interviewed claim that decoration is “the added extra” but that extra is still very important for the status or value of the object. It’s hard to separate decoration from function than what was assumed at first. During the interviews it was agreed that there’s many layers to the word and for example an object, apart from the practical function, can have a subtle function such as e.g. creating an atmosphere. The function of an atmosphere is harder to grasp and measure than a practical function but a good atmosphere might have a great emotional value and be crucial for the experience of an object. Decoration has aesthetical values that can be very functional. Aesthetics communicates and that is highly functional if you want your design to stand out. What kind of aesthetic people relate to is very personal and not as easy to define, as ‘everyone needs a chair to sit on’.

To be able to understand how to use the word in relation to the project a specific, personal definition about the word function is made. In relation to embroidery there is two important parts to the word function and therefore the definition of function in this project is as follows; the two parts to function are seen as a practical function and an emotional function and they are connected and equally important in a successful design.
3.2 DEVELOPMENT & DESIGN RATIONALE

Continued practical work

To move on from the previous samples decisions to narrow down stitches and materials were made (figure 7 and 8). To differentiate the new samples from the previous ones a decision to sew in a way where the stitches either create a form or where if the stitch were taken away, the form would disappear. Some samples were although mainly an experimentation with scale and materials. A motivational aspect to this project is to embroider in different way than what traditional embroidery generally looks like. Traditional embroidery is personified in the strict embroidery teacher Björk, who was a person met during foundation studies in textile design. Many samples were therefore developed together with the sentence ‘would Björk accept this?’ as a guideline (figure 9 and 10).
New ideas of what embroidery might be

During sampling new ideas of what embroidery (figure 11-14) could add and these ideas could possibly be developed into something functional. Embroidery adds density and this could be used to change the properties of a material in specific places. As can be seen in the blue sample in figure 12, the thread completely changes the appearance and quality of the weave, the thread gives it weight and a natural fold. Embroidery can also assemble materials in a decorative way (figure 14). Embroidery can also be used to hold a shape (figure 13) and to actually be the shape (figure 12). These ideas are what determine the expressions of the new samples.

Figure 11 and 12. Knots are the shape. Density.

Figure 13 and 14. Examples where form and stitches have been explored.
Comparing materials

To understand the functional qualities of embroidery a large amount of samples needs to be done, with a kind of ‘understanding while doing’ approach. Koskinen (2011) claims that prototypes are used to understand existing experiences and contexts, to explore and evaluate design ideas, and communicate ideas” and in this manner different ideas of functionality are explored in more than one sample. The samples shown in figure 15 and 16 are made with the same principle, using a couching stitch to add a thicker piece of ‘thread’ and when fastened partly, pulling the thicker thread slightly. After comparing these samples it became obvious that what materials are combined are very relevant to what the final samples will look like. The samples in figure 15 and 16 became opposites of each other, all depending on material since the same way of stitching was used. This could be a project of its own, using the same stitch just changing the material and observe the changes.

Figure 15. Coaster, cork and monofilament.  Figure 16. Felt, leather and polyester thread.
Knots and couching stitches

In order to understand what samples have the most potential, a decision to narrow down the stitches is made. The continued samples (figure 17) will be made with knots (French and spiral knots) and couching stitches. These stitches are the ones used the most in the first samples. They have a textured feeling and are useful when assembling and stabilising materials. They’re being used in combination with two concepts where either the stitch is the form (figure 19) or the stitch combined with material is what creates the form (figure 18). That approach will be more three-dimensional rather than an added surface that is the characteristic of traditional embroidery.

Figure 17. Selection that represents knots and couching stitches.

Figure 18. Knots create the shape from a flat fabric.

Figure 19. French knot in human scale.
Ideas of development

Even though the aim of the project has not been to develop a product, some ideas of how to develop the samples have occurred. Where and in what context the samples could naturally be put is easier to notice in some of the samples. Those samples feel like they have good potential of actually becoming decorative but definitely a functional object as well. One idea of how a sample can be developed can be seen in figure 20, where ideas of how to communicate that the scale of embroidery matters to show the function of the stitch and to see the potential with the stitch as something more than just added for decoration. The sketches in figure 20 show the potential of using the spiral knot as a backrest for a seat. Of course the seat will be functional without the stitch but it will be less comfortable and less attractive, therefore you can conclude that the stitch can be seen as both decorative and functional in this particular combination of hard and soft materials.

Figure 20. Sketches of placement in relation to a seat.

Sketches seen in figure 21 show the potential of a sample that could be used in relation to light. This sample is made with French knots that are placed very close to each other and that creates a soft rounded shape. This way of embroidering could function as a lampshade and the density of the knots will block out the light close to the bulb, but guide the light where you want it as well as the knots are what creates the decorative textured form.

Figure 21. Sketches of knots in relation to lighting.
RESULT, PRESENTATION, CONCLUSIONS AND DISCUSSION

4.1 RESULT

Alternative approach to a traditional textile technique

This degree project in textile design is the result of an idea about embroidery and how you could challenge and develop the technique when you combine it with functionality; a key element to design that differentiates design from art. The result is a collection of embroidered samples made with different approaches and materials that question traditional embroidery, its value and usefulness. The samples are all experiments where some do not have clear functional aspects as in a practical function, but still have a decorative function. Other samples have a shape or use created by the way stitches has been sewn, making the embroidery an important element to the expression, both as a practical and decorative function.

The result can also be seen as a minimal assembling method that could be used in a product development process. There’s the base material and the thread, that’s what creates the form and the objects potential functionality.

Selected samples and their possible functional aspects

Figure 22.

Figure 23.

These samples (figure 22 and 23) are made where the aim was to make a three dimensional shape where the stitch make and stabilise the form. These samples could be the further developed into soft three-dimensional objects. Figure 22 is made with fluorescence synthetic fabric and light blue wool yarn. Figure 23 is made with wool felt and cotton.
These two experiments are made with embroidered knots. Figure 24 is an idea based on the question ‘what if the knot is both the decoration, the assembly and the wadding?’ The sample is made of wool felt and spiral and French knots in a light blue wool yarn. This could potentially be a product (e.g. pillow) made of 100% wool that allows you to avoid the use of polyester thread in the side seam. Figure 25 is a spiral knot where stitch itself could be seen as an object/product and doesn’t need a base fabric. The knot is made of a knitted wool thread filled with pillow wadding.

These samples are variations of couching stitches where the main idea has been to manipulate the stitch and fabric so a form appears and to make the samples hold the shape for themselves. Figure 26 is made with wool and filling yarn and the fabric is a piece of transparent oilcloth. Figure 27 is made with transparent monofilament thread, cut lengths of cork and a white piece of plastic coaster.
4.2 PRESENTATION

This project consists of about 50 embroidered samples that are created using a wide variety of fabrics, threads and other materials. They are all made in way to challenge and explore the aim of the project; how can embroidery be used in a functional as well as a decorative context? After the process, the answer to that is positive, in certain ways and some of the samples do fit the qualities of being both decorative and also functional. The level of functionality is different in all samples and therefore communicates the subject in many ways. To clearly communicate the result all samples need to be seen at the same time to understand the variety of ways embroidery can be used, apart from how the technique is traditionally seen. To communicate that the project is completely embroidered, examples of how the stitches used in the project traditionally are used, will be shown. This is to communicate the result to people with great knowledge of embroidery that might question it but also to communicate the concept to people with no relation to embroidery. This with the hope to show the potential of the technique when it’s used in another context than the traditional.

To show the potential of the concept each sample needs to be presented physically but also in a printed format, e.g. a catalogue, where each sample will be shown individually with the material and stitches written down. This is important to understand that different materials react in different ways even when the same kind of stitch is used, etc. The printed format will serve as an archive of ideas that can be developed further into a more product oriented context.
4.3 CONCLUSIONS AND DISCUSSION

The purpose of this project has been to rediscover embroidery, a textile technique that historically has been dismissed as something aesthetically pleasing but a bit useless. To put the technique in a contemporary context and allowing the embroidery to fill a surface, create a shape or be scaled up is an approach that makes it harder to dismiss the embroidered stitch as pointless.

Seeing embroidery as purely decoration is an established way of looking at the technique (Parker, 2014) To challenge the technique it was important to explore if functionality could be added as a factor while sewing since that could give another value and use to the technique. If the reason for the stitches appear to be vital for an object’s shape, use or expression - that would mean that this method of embroidering could also belong in a design context and not only a technique used in craftivism and textile art.

The aim was to explore and see if the idea was even possible and if function and embroidery could be combined at all. The result of the project shows that there are many criteria that need to be met to make a successful sample with both decorative and functional values. There’s a fine line between decoration and function and a fine line between embroidery and just a normal seam, especially since the project has not used any figurative motifs that are often found in traditional embroidery. It’s important that the project feels embroidered and not objects combined with thread, because that is the gap. The project is not supposed to be in the same world as Alvarez (Alvarez, 2012) and Hart (Prain, 2011), it’s supposed to be somewhere in between their work and ideas. The result of the project is definitely between these designers/artist since the project is still in an idea stage, not like Alvares who make full scale objects/furniture. The work of Hart is also different from this project aestically, but some similar ideas about embroidery is what they have in common, since Hart also tries to shine a different light to the technique and using it in a different way compared to the traditional hobbist embroidering e.g. towels and table cloths.

During the process samples with different embroidered stitches in other scales and sizes than the traditional was made. During that process it was possible to analyse that scale has a purpose for how people interact with the embroidery. If the scale is bigger than traditional embroidery stitches and if it’s easier to touch, feel and interact with the stitch, that interaction communicates functionality in a broader sense than what the traditional scale of embroidery does. The interaction creates an emotional value (nice to touch) and a functional value as well (I can rest my head on this).

Materials used in the projects have been many and have been chosen based on their properties and not from a sustainable angle. Sustainability has not been considered in the design process but after analysing the samples, a conclusion you can make connected to sustainability is that the shapes and forms created in the project can be seen as a sustainable assembling method. A sustainable method as in the shapes are created with very few components, a base material – fabric, thread and a needle. No chemicals or stabilisers are used to form the samples; it’s the way of stitching that determines the expression.

One ambition for the project was that the stitches should be able to seen as something with a clear purpose and that the position and reason for the stitch should be hard to doubt. This is an aspect that hasn’t fully been achived since the level of functionality is different in all samples. It is not as clear how to communicate the result, since a certain amount of knowledge about embroidery is needed for the user/viewer. Problems with seeing the large knots as a Scout reference has been an issue that hasn’t been solved. The small scale of the samples is also something that could be seen as diffuse and not clear at all when you try to communicate them in relation to functionality.
The design methods used in the project were useful in the way that they were completely far from how embroidery is usually developed. Although that also came with some downsides, it was sometimes hard to put the design method and the textile technique in relation to each other. They were useful in the way that they opened up for more experimental material choices and that the use of verbs were a different approach than the traditional way to design for textiles, with moodboards/visual reference etc. To think about verbs an actions instead of an image to translate was a useful way to get into the functional way of thinking. The samples that were the result of the design methods were although not very functional at all, but they were a step that was possible to develop further, into the samples with a higher level of functionality. To use interviews as a part of the design process was a good way since it help to clear out definitions and the academic part of the project. The definition that was developed in relation to embroidery became another design tool and a sentence to lean back on when doubts about the project and process came up. The most important tool in the design process has although been the thoughts about Björk, without the clear memory of how she would embroider things, the need to rebellion against her tradition techniques wouldn’t have been so important and the result wouldn’t have been what it finally became.

**Application and further developments**

The result of this project is not a definite end result, it can be seen as a beginning of an alternative approach to embroidery. During the process a lot of ideas and possible directions were set aside to restrain the project and keeping the ambition to an achievable level in comparison within the time frame. The ideas that were saved for later are still relevant for the project’s aim and therefore the theme of embroidery and functionality can be explored further in other directions as well. If there was more time, that time could have been spent making more samples with other aspects to the technique, and also to develop the samples that are now considered less successful than others. The projects value is to show that an experimental way of designing and a reflecting way about functionality can be combined with a textile technique with a very long history. Just that it has customs and ways of making doesn’t mean that there’s no further developments to be made.

**Final words**

The result of this project is not a final, simple answer to the aim. Yes, embroidery has been explored in a new direction, resulting in examples that symbolises the mix of decoration and functionality, sometimes combined but not in all samples. But the project has also resulted in a conclusion that you can’t separate decoration from function. That realisation is good to have and allows decoration and function to be of equal importance for an object. The purpose of an object is not only the function; the decoration also has a point.

Function has a point, decoration has a point, and a needle has a point.
Explanation of design methods

Studio Viatopia

Design methods used in the prestudy were Studio Viatopias “World map” (see figure 28-29) that is a design tool developed by Studio Viatopia under dr Jane Norris. The aim of the studio is “to investigate contemporary theories of time and combines this with alternative approaches to combining materials when making objects. The studio’s aim is to stimulate discussion and debate on new methodologies for combining materials in the design process” (Norris, 2014)

Figure 28. World map of materials.                 Figure 29. World map in its crumbled shape.

One of the tools the studio had developed is this “world map” where the instructions are “Step 1: Screw up this sheet tightly 6 times, then score horizontal lines with your finger from below to stretch the paper. Step 2. Observe which materials are connected on the creases - and combine these to make an object. This method was used to find material combinations.
**Explanation of design methods**

**Verb Compilation List**

Richard Serras “Verb Compilation List” is a design method used in this project in the same way as designer and artist Rebecca Griffths in her book “107 Ways of Doing and Making” where she has gather sculptures from everyday objects all made with one of the verbs from the list in mind (see figures 30-32).

This way of using verbs in the design process was when searching for actions and function within the embroidered stitches.
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Interviews
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Images
Figure 1-32. All photos taken by the author.