KNOTS

A work about exploring design possibilities in draping based on principles of a knot.

Jennifer Larsson 2017.3.04.

THE SWEDISH SCHOOL OF TEXTILES
UNIVERSITY OF BORÅS
Line-Up 5
2. Introduction to the field 13
2.2 State of the art 15
Ragnheiður Ósp Sigurðardóttir 15
Comme des Garçons 16
Joseph 17
3. Method 19
4. Development 21
Poplin Shirt 21
Velvet Pants 23
Overview: Color and Materials 25
Jacket 26
Overview 28
Checked Dress 29
Red Sweater 31
Overview 33
Dotted Dress 34
Lightweight jacket 35
5. Result 37
Line-up 37
5.2 Technical drawings 38
Shirt 38
Pants 39
Sweater 40
1. Abstract

This work is an exploration of design possibilities within draping based on a knot. This to show alternative possibilities and expressions through the knot in construction of clothing. The knot serves as a draping tool, has a function in each garment and is also decorative.

The result is performed in 7 outfits based on experiments draped on a mannequin or my own body. The experiments are developed mainly through the branching strategy (Jones 1992) achieved with draping sessions in different materials, sizes and placements of the knot.

Having the knot as a starting point allows alternative expressions in construction of well-known garments. It is also suggesting a method of closing a piece of clothing using the garment itself which could be developed further in 2D pattern construction.

____________________________________

Keywords

Knot - Construction - Draping - Volume - Fastening - Decoration
Line-Up
2. Introduction to the field

2.1 Introduction

The area of my research concerns garment construction through draping using one or several knots. It is an investigation of alternative ways of draping in relation to the knot and the body. The work is showing the value of the knot in each garment and that it influences the behavior of the material and therefore also the fit and form of it on the body.

What intrigued me to this investigation was the aspect of the knot in dress and how to make it interact with the body through using it in draping, such as the ancient way of dressing. One early example of this is an Ancient Middle East Egyptian wall painting where a variety of garment types has been found. There are theories of how these kind of garments could have been worn and wrapped around the body, fastened with a knot or a pin (Tortora & Eubank 2010). References can also be drawn to ancient greek dress that could be a rectangular fabric usually fastened with a pin or a knot (The Met 2017).

FIG. 2. EGYPTIAN WALL PAINTING, C 1415 B.C SHOWING A VARIETY OF COSTUME TYPES BEING PINNED OR TIED.

FIG. 3 GREEK MARBLE STATUE OF A WOMAN, LATE CLASSICAL PERIOD, 2ND HALF OF THE 4TH CENTURY B.C.

FIG. 4 ROMAN COPY OF GREEK ORIGINAL BY KEPHISODOTOS, EARLY IMPERIAL, JULIO-CLAUDIAN CA. A.D. 14–68

FIG. 1. SUGGESTED WAYS OF DRAPING SOME ITEMS OF EGYPTIAN WRAPPED COSTUME.
The knot in accessories and details

Usually, the knot is defined as a fastening, or in mathematical terms as a thread or a cylinder where the ends are connected to each other (Landahl & Hallnäs 2015). The knot is universal and carries a simplicity that is intriguing. A material tied or folded upon itself could in garments be used or worn as an ornament or may be used to create surfaces, enhancing certain body parts, creating volume or simply to hold up a pair of pants. The most common way of applying the knot is in accessories. - scarves, ties and bows etc. However, in this work I wanted to look more closely to what the knot could do to a garment in the aspect of form, construction and expression. In this work the knot is treated as decoration as well as a function of creating form, entering a garment or making it stay onto the body.

FIG. 5. EXAMPLES OF HOW THE KNOT IS APPLIED IN GARMENTS.
2.2 State of the art

*Designers working with knots*

**Ragnheiður Ösp Sigurðardóttir**

The Knot Cushion by the Icelandic product designer Ragnheiður Ösp Sigurðardóttir is influenced by her scouting background. She decided to look into knots and came across The Ashley Book of Knots, a collection of knots from all over the world. The pillow is made from tying a tux head with long knitted tubes that are stuffed. In her work, the knot is treated in a different context and to create something more than a fastening. Like Sigurðardóttir, I want the knot to be the main feature in my creation, the difference lies within the context and placement of the knot. Sigurðardóttir is approaching the room and other objects in relation to the body while I intend work with the knot on the body to develop an alternative draping method of clothing.

![FIG. 6. KNOT CUSHION BY RAGNHEIÐUR ÖSP SIGURÐARDÓTTIR](image)
Comme des Garçons

"The ceremony of separation" is a collection where the knot and the bow is a co-occurrence element integrated in the garments. My interest relates to this due to how it is used to create volume but also as decoration and expression rather than actual function - said that the function lies in the construction. In my investigation I want the knot to be decorative but also serve another purpose - an opening or closing and a tool to find form on the body through draping.

Ann-Sofie Back

The Swedish fashion designer Ann-Sofie Back has been working with the knot in her Spring/Summer 2014 collection. Here the it interacts with the body differently than in the previous example but in a more applied way. However, in Back's collection the knot does not serve as a tool or an element of entering the garment but more as an embellishment. It seems as it is attached afterwards to reach a certain expression. In my work the knot will be central in the process of the draping and serve as a tool to construct the garment. What is interesting in Back's work is the placement of the knot.
The Spring 2016 ready-to-wear collection by Joseph is similar to the previous example in which way the garments are presented - commercial with a distinct focus on the knot. The articulate way of working with the knot is similar to how I want to approach it, although, in my work the knot will be addressed as a tool of development and in some cases an alternative way of closing the garment. This work is viewed upon in terms of how garments are combined and use of colors and patterns regarding repetition and composition.
2.3 Motive

With this work I want show alternative possibilities and expressions through the knot in construction of dress. The idea is to develop garments where the value of the knot in each outfit serves the purpose of making the garment fit to the body, to build form and at the same time be decorative.

The knot is a common element in clothing and accessories. It may be used to create surfaces, enhancing certain body parts, creating volume or to simply hold up a pair of pants as well as it is common in accessories - scarves, ties and bows etc. Nonetheless, what I want to contribute with this work is a construction technique that explores the design possibilities in draping based on principles of a knot. This investigation will show how it can be achieved with the knot as a tool within draping material onto a body.

2.4 Aim

The aim of this work is to explore design possibilities in draping based on principles of a knot.
3. Method

My work is build upon three components: Material, body and the knot. Through draping material on a body, the knot is a tool to find garments within the material. The knot and the body are key elements in my method.

In my practical work the draping is the main focus. Madelene Vionnét (1876-1975), known for mastering the bias cut and constructing and draping her dresses directly on the mannequin. Her dresses were inspired by Greek peplos, a plain rectangle of material fitted about the body with shoulder knots and waistband. Starting from simple geometrical figures she would build a structure with natural anchor points - on the shoulders or the waistline. To achieve this she worked, with pieces of toille on a wooden doll with movable parts that helped her to find the right balance between the proportions of the body and the fabric. Materials commonly used was crêpe de chine, romani, satin georgette and silk chiffong (Kamitsis 1996). In my investigation I want to challenge myself by using materials opposite to these archetypical materials often used in draping to enhance the way the fabric falls etc. and to bring in garment references through details. This so that the outcome becomes something else than what the classical expression of draping might be.

The focus of this work lies within draping and building the garments in a direct manner. The garments has been developed on a full size mannequin or on my own body, mostly draped in the final fabric and sometimes in toille-fabric. The knot is used as a tool to frame and to enclose the material on the body and to create points where it is pulling the fabric in a certain direction and creating heaviness in the garment. The knots I have used is mostly the Overhand Knot and the Square Knot and in some cases the Clove Hitch. The material is interacting with the knot so that it is creating form and fit. It is also of great importance to look at the garments as a unit as well as single pieces.
During my process I will work according to John Chris Jones’s (1992) Branching Strategy. This means that the design actions are independent of each other. He is describing different design strategies in order to transform devotions to the final design and he is listing a number of them, where one is Branching Strategy.


The starting point in the project is based on investigations in figure 13 which are examples from a pre-study of the knot in garments. The examples marked with a red frame are "Stage 1" (see figure 12) and the rest of the steps are demonstrated in chapter 4 Development.

As for the way of working with each garment, they are all carrying a certain ways of expressing the knot in construction, but it is also important to look at the garments as a unit and to find a structure. Contrasts are important to find the balance within the collection. In order to discover the right balance in the collection I am looking upon contrasts the way Wucius Wong is describing it in Principles of Form and Design (1993). Contrasts exists in everything and all the time, for example contrasts between colors, objects and situations. Wong is describing contrast as a kind of comparison through which differences are made clear (Wong 1993).

I am adopting the principles of contrasts in proportions of the knot, placement, numer of knots, choice of material and colors. When working with color the I have used the principle of Color Compositions Exploration Tool by Erika Blomgren, Oskar Juhlin och Mattias Jacobsson as a guideline to be more aware of the color choices within the collection.
4. Development

This chapter is demonstrating the design process of each garment.

Poplin Shirt

Fig. 16. Starting point.

Fig. 17. Construction

Fig. 18. Square Knot.

Fig. 19. First toile. The toile is made in stiff cotton and the seam allowance on the shoulders is treated with coating to enhance the roundness the knot is creating.
Fig. 20. Second toile. Details were added, such as a collar and a placket. The ends of the knot developed into the side seam of the shirt and an extension of the left sleeve (see drawing in figure 18).

Fig. 21. Final piece. Here the seam allowance on the shoulders was removed. This because how the edge acted - it did not stay up as expected but was folded backward and was therefore not needed.
**Fig. 22. Placement of the knot in the final material.** The image shows the decision taken after the previous tryout. It shows the pants in the final material and how the placement of the knots were supposed to be. This proposal was rejected due to the role the knot plays. It was a weak way of applying the knot in relation to the body and in comparison to the others it needed to be integrated more in the garment than shown on the image. Instead, material was added in the left leg of the pants (figure 23) and then tied into a knot. This was successful because of the way the material was acting in relation
Fig. 26. Draping session with the purpose to move the focus from the upper body. During the work the knot intended to be placed around the torso. This images shows how the foot was the starting point.

Fig. 27. Four tryouts making the pant. The previous example, and the overview (figure 25) showed that a knot lower down on the body was needed. In this image the calf is treated as "the torso" and the knot is concentrated to this area. This resulted in pants with wide legs were the knot was supposed to shape the material around the calf. Several tryouts was made in toile-fabric:

1. Flare pants with a knot under the knee
2. Same leg as 1. with an added knot around the wrist to build volume.
3. The knot is visible in the front and invisible in the back
4. Only tying the "leftover-material" in the flare to the back
Overview: Color and Materials

Fig. 28. Example of how I have been working with the garments as a unit.

Fig. 29. Example of how I have been using the Colour Compositions Exploration Tool (Blomgren, Juhlin & Jacobsson) as a guideline for choosing colors.

Fig. 30. Looking at color compositions.

Fig. 31. Looking at colors.

Fig. 32. Looking at colors.
Fig. 33. Illustration showing a classic jacket with a knot on the side. During the Design Methods-course the assignment was to illustrate the lineup of the coming collection, not having started the making of the collection. The image shows a proposal of a jacket.

Fig. 34. Translating the illustration to a 3D object, with an already existing jacket used as a base. Through patching different materials in the same color onto the jacket with the purpose to form ends that could be tied. The image shows two tryouts, both failing. This because the focus was on the patching and not the tying.
Moving on from the previous tryouts a jacket was draped directly on the dummy. This resulted in a clearer placement of the knot in the garment. This figure shows the result from the draping and the removal of one of the knots in the back.
Overview

*Fig. 38. Example of how I have been working with the line-up in a early stage of the process.*
Fig. 39. The idea is to make the material enclose the body and create a tight garment where the knot is dragging the material backwards.
Fig. 40. First toile. The image is showing a more structured system of tying - this goes along the back - and also a focus around the head. The construction is similar to the one in figure 34.

Fig. 41. Square Knot made into a bow which means that the ends of the knot is not pulled out all the way.

Fig. 42. First prototype. The dresses is based on this prototype. The top was removed from the line-up due to shortness of it and the way it was restricting the arms. Instead it was lengthened to cover the bum and holes were made for the arms.
Fig. 43. Draping session, first tryouts of the Clove hitch. The purpose was to scale up the knot and make the material enclose the body.
Fig. 45. (1.) Toille in a knitted rib. (2.) Toille in a plain knit. The previous garment are all in woven material so here I wanted to work with something knitted.

Fig. 46. Inspiration. To proceed the development I was looking at street style photos to find references to the sweater that was in the making. This to make it appear more as a garment and not get a too drapy expression. Here the decision to add cuffs were made.

Fig. 47. Sketching in Photoshop to find the right color.

Fig. 48. Fitting and draping process.
Overview

Fig. 49. Overview to find a balance in the final making of the line-up.
Fig. 50. The dress is based on elements and constructions of previous garments, for example the white shirt and the red sweater.
Fig. 51. Starting point for the jacket. The aim was to build volume, thereof the choice of material.

Fig. 52. Draping session to find form.
Throughout the process it was important to have garment references in each outfit. For this style I chose a quilted fabric, although this one did not answer the desired look and feel. Instead, a material with more shine was needed to bring out the right associations.

Fig. 53. Overhand Knot

Fig. 54. First toile. Throughout the process it was important to have garment references in each outfit. For this style I chose a quilted fabric, although this one did not answer the desired look and feel. Instead, a material with more shine was needed to bring out the right associations.

Fig. 55. Color sketches in Photoshop.
5. Result

Line-up
5.2 Technical drawings

Shirt

Material that is creating the knot and continuing to an extension of the right sleeve and the left side of the shirt.

Attach end of knot in side to create side-seam

All top stitches 0.3 cm from edge

Material that is creating the knot and continuing to an extension of the right sleeve and the left side of the shirt.

Attach end in sleeve ending to extend

MATERIAL: Poplin
100 % Cotton

7 cm

0.7 cm wide

Collar and placket are added

KNOT

KNOT

KNOT

KNOT

KNOT

KNOT

KNOT

KNOT
Pants

MATERIAL:
Velvet 100 % Cotton

Added pannels to create the knot on the leg.
Seam until red marking. Attach pannels in sideseam below.

Invisible zipper in side seam
Darts

Facing on inside in same fabric as pants.

Invisible stitching on all hems.
Sweater

MATERIAL:
Jersey - jaquard knit
80% Cotton 20% Elastan
Lightweight Jacket

- **MATERIAL:**
  - Quilted
  - Shell fabric

- **Lining:**
  - 5 cm wide
  - Stitched on to mesh lining, top stitch at 0.3 cm.
6. Discussion

During the work I have found my method being successful and intriguing and it has generated many ideas and possibilities. One of the most important parts of the process has been to see the work physically gathered in front of me and to vary closeness and distance to the garments.

In my process I have had to be careful not to be too literal and showing off in how many knots I could make within one outfit but to keep some kind of balance. That is why most of the outfits consists of only one garment. As I see it, five of them are solid and three of them are two-parted, for example the outfit with the velvet pants, the checked dress and the top and the skirt. I mention the dress because of the two different patterns within it and how I wanted to give the feeling of two even though it is a unit. About the the top and the skirt I found it necessary to have two different materials in the outfit to break the “one-garment-only” line that was going on. To not make it stand out too much I decided to make it monochrome but in different materials so it can be experienced more as a unit and not two separates. The repetition in material in the skirt is also successful, an element that I see is needed to create a coherence in the collection. In my opinion this could have been done in one or two more garments to make the line-up even sharper.

Other difficulties during the process has been the aspect of placement of the knot. Often it ends up around the torso and I have found it is irregardless the most natural way of tying something onto the body. This because it allows movement in a bigger range than placing the knot on the leg. However, through challenging myself moving the knot around on the body during my draping sessions, I feel that I have developed garments that meet my aim. In each garment I have had the ambition to enhance the weight and the heaviness of the knot so that it would interact with the body and the material. Because of this I think I could have been bolder regarding the velvet pants. I would add more fabric to the knot by attaching more material higher up on the leg and finish it at the bottom as it is at the moment. This outfit would also need a top, I would make a jacket, in the same fabric to make the most out of the rich material.

The black lightweight skirt could also need to be reworked, perhaps placing the knot higher up on the leg. At the moment it come across a bit clumsy and mint work better in a different material. I have found that the quilted material is inspiring to work with and I can see the yellow jacket and the black skirt being the starting point in a collection dealing with alternative expressions in outerwear, also using the knot.

The knot is gathering the material to a concentrated core and the material is spread out from it. This is what I have been arguing in outfit number 7 where the transparency and the pattern are making the concentration and its opposite distinct. In number 3 I have worked with the heaviness in the back and how it affects the material in that direction. In number 1 and 5 it is rather a way of spreading the material around the body with the knot as a center and using the remaining material to cover the body. The knot also creates volume in the material using the body as in number 4, 6 and 8.

Throughout my work I have found possibilities within my method, such as the aspect of sustainability. This because of making it possible to create garments that do not depend on zippers or buttons. A garment could be created in a pure material and in that way become reusable or be decomposed. I also see possibilities in working more freely with the concept and creating something abstract, but also a great possibility in applying the concept in a commercial context. Each garment could be reduced more or less to something more wearable and be directed towards a company.

Another aspect could be developing a new way of closing garments through replacing the zippers or buttons with knots, keeping the placement of the closing. This could generate in alternative pattern construction and optional expression in common garments. In its turn this could lead to a garment that is fully tied together - not using stitches or the like. There is something in the simplicity of the technique of tying and how the knot is simply connecting two materials.
7. References

Books and Articles


Websites

The Metropolitan Museum of Art (2017) http://www.metmuseum.org/toah/works-of-art/06.311/ [2017.03.07]
Images


Figure 3. The Metropolitan Museum of Art (2017) [http://www.metmuseum.org/toah/works-of-art/03.12.17/][2017.03.07]

Figure 4. The Metropolitan Museum of Art (2017) [http://www.metmuseum.org/toah/works-of-art/06.311/][2017.03.07]

Figure 5. Pinterest. (2017) [https://www.pinterest.se/jenlarsson/exjobb/?eq=ex&etslf=3328][2017.05.05]


Figure 9. VOGUE.com (2017) [http://www.vogue.com/fashion-shows/spring-2016-ready-to-wear/joseph][2017.05.07]

Figure 10. Getty Images (2017) [http://www.gettyimages.com/photos/madeleine-vionnet?excludenudity=false&sort=mostpopular&mediatype=photography&phrase=madeleine%20vionnet&family=editorial][2017.05.07]

Figure 11. Grit - Rural American Know-How (2017) [http://www.grit.com/farm-and-garden/do-it-yourself/how-to-tie-knots-ze0z1401zhou][2017.05.26]

Figure 12. Cowboy Bob’s Dictionary [http://www.lemen.com/imageSquareKnot8.html][2017.05.26]

Figure 13. Clove hitch (2017) [http://vmrcc.org.au/boating-safety/common-knots/clove-hitch/][2017.05.07]


Figure 15. Extract from workbook

Figure 16. Extract from workbook

Figure 17. Extract from workbook

Figure 18. Cowboy Bob’s Dictionary [http://www.lemen.com/imageSquareKnot8.html][2017.05.26]

Figure 19. Extract from workbook

Figure 20. Extract from workbook

Figure 21. Extract from workbook
Figure 22. Extract from workbook
Figure 23. Clove hitch (2017) http://vmrcc.org.au/boating-safety/common-knots/clove-hitch/ [2017.05.07]
Figure 24. Extract from workbook
Figure 25. Extract from workbook
Figure 26. Extract from workbook
Figure 27. Extract from workbook
Figure 28. Extract from workbook
Figure 29. Extract from workbook
Figure 30. Extract from workbook
Figure 31. Extract from workbook
Figure 32. Extract from workbook
Figure 33. Extract from workbook
Figure 34. Extract from workbook
Figure 35. Grit - Rural American Know-How (2017) http://www.grit.com/farm-and-garden/do-it-yourself/how-to-tie-knots-ze0z1401zhou [2017.05.26]
Figure 36. Extract from workbook
Figure 37. Extract from workbook
Figure 38. Extract from workbook
Figure 39. Extract from workbook
Figure 40. Extract from workbook
Figure 41. Cowboy Bob's Dictionary http://www.lemen.com/imageSquareKnot8.html [2017.05.26]
Figure 42. Extract from workbook
Figure 43. Extract from workbook
Figure 44. Clove hitch (2017) http://vmrcc.org.au/boating-safety/common-knots/clove-hitch/ [2017.05.07]
Figure 45. Extract from workbook
Figure 46. Extract from workbook
Figure 47. Extract from workbook
Figure 48. Extract from workbook
Figure 49. Extract from workbook
Figure 50. Extract from workbook
Figure 51. Extract from workbook
Figure 52. Extract from workbook
Figure 53. Grit - Rural American Know-How (2017) http://www.grit.com/farm-and-garden/do-it-yourself/how-to-tie-knots-ze0z1401zhou [2017.05.26]
Figure 54. Extract from workbook
Figure 55. Extract from workbook
Appendix: Critique of Anna Thåqvist BA Degree Work

The collection expresses the aim and gives a clear result of the method. It is an interesting way of approaching tufting and it is a nice comparison with hair through skin. The work is beautiful and I appreciate the level of craftsmanship in the garments and I think that is one strong aspect of the work.

The explorations are thorough, though I would have wanted to see more images of the references that are mentioned, the process and samples that was made, because I know there are a few. Reading the report is intriguing and even though it is a bit unfinished I can understand what the work is about and it makes me want to know more about the investigation and the background.

Another aspect that interests me are the context in which these garments are supposed to be shown. I see a lot of possibilities and hard work and I am exited to see more.
Enhancing the scarf though adding fabric and lengthen it. Starting from the head continuing down around the neck. Making the face more visible by adding a red lipstick. In the report Anna is talking about the hair in relation to the body, and here it would be nice to see the face, because I assume that is why there is a scarf there to begin with - to sense the body and to refer to well known garments. Also adding a red sleeve - same reason as the scarf.

Adding more volume in the line-up by changing this outfit to an experiment from Annas Development. She works well with volume and the material and the white would fit the collection. Also it would refer to the wigs she is speaking of in Motive.

Making the entire outfit in this silver material. It brings a nice contrast to the organic materials and shapes.

Bringing down the sleeve to enhance the body and in that way the hairdo.

Adding another outfit from Annas experiments - "Stubble Hair" It is something simple in this outfit that is really nice. The skin color and the fact that it is tight.

Making the entire outfit in this silver material. It brings a nice contrast to the organic materials and shapes.