Printograms

Prints developed directly onto garments

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Abstract

The fast growing revolution of digital printers has made customized printed textiles easy to come by as anyone can order them online. As a result the use of prints in fashion is more common than ever and the difficulty to distinguish individuality rises.

This degree work has therefore glanced through history to search for new possibilities in the old techniques. The discovery is the unexplored potential of light sensitive dyes. A technique borrowed from analogue photography and that dates back to the 19th century, yet there is very little trace of it being used in the field of fashion. The directness of this technique opens for possibilities to create prints directly onto voluminous and irregular forms without the dye interfering with the materials qualities. Hence this work is investigating the relation between print and form and by printing directly onto garments it aims to challenge the hierarchical structure between the two.

Can printing directly onto garments create a closer relation between print and form design? Are there potential expressions in analogue techniques that can’t be achieved digitally? And does it make sense to be analogue in a digital world if it equals individuality? That is what this degree work aims to answer as it takes advantage of the technique’s unique qualities and presents new aesthetic expressions in fashion design.

Keywords:
Photographic Print Design, Analogue, Solarfast, UV-developed dye, Direct-to-Garment Printing
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Methods in print design

The desire to apply colour and print design to fabric stretches over multiple millennia. Joyce Storey (1992) mention in her book The Thames and Hudson Manual of Textile Printing that "various records show that printed fabric did exist about 2500 B.C.", since then the possible techniques and options of chemicals that can be used to create print designs has been widely evolved. Storey continues writing that "Colour can be applied to cloth either chemically or physically. With the Chemical process, the colour becomes part of the fabric, normally via the action of a fixing agent when steamed or dry heated". In the book Textiles and Fashion the author Jenny Udale (2014) states that "Print can be applied to a fabric through the techniques of screen-, block, roller, mono hand or digital printing. Pattern, colour, and texture can be achieved by printing with a variety of media, including pigment, dye, flock or glitter." (Udale 2014).

The majority of techniques to apply colour or print to cloth require an after treatment such as heat or steam. This is limiting the measurements of the cloth that are to be printed onto set by the parameters of such fixating equipment. Therefore it is most often a fabric that is being printed rather than a garment even when the print is intended for fashion. Which creates a certain hierarchical structure between print and form design where they are handled as separate processes.

Direct to garment printing

When speaking of direct to garment printing one is often referring to a process of printing on textiles and garments using specialized or modified inkjet technology. The three key requirements for a direct to garment printer are a way to hold the garment in a fixed position, an inkjet print head, and specialty inks (inkjet textile inks) that are applied to the textile directly by the print head and are absorbed by the garment's fibres (en.wikipedia.org, 2018). Direct to garment printing is commonly used within commercial t-shirt front placement prints, see figure 2. This type of direct to garment print design allows a rather limited print area, it also requires the garment that goes in to the machine to be flat and thin so to fit the machine. Other print machines that allow printing on more elaborate forms such as shoes has been developed but not yet had a major breakthrough. (En.wikipedia.org, 2018)

Other techniques for direct to garment prints

Other techniques for direct to garment printing are airbrushing with textile paint, fig 2 (YouTube 2012), screen printing with pigment inks, fig 4 (Youtube 2013) or tie dye with reactive colours, fig 5. All of which need an after treatment such as heat fixating or steam fixating, this limits the size possibilities of the media to print on to material able to fit a steam pipe or heat press in order for it to become permanent. The tie dye technique is also limited to a very specific expression and the airbrushing and screen printing leaves a coated surface which affects the quality of the garments material. The opportunity to print directly onto a garment that has not have to be entirely flat opens for carefully considered placements and the possibility to print over seams and other details. A technique that does not interfere with the materials qualities would also allow a wider range of expression in materials to be printed while the techniques commonly used in the industry leaves a certain stiffness to the material.
Uv-Developed Dye

Besides the digital inkjet-machines requirement to print on a slim and even surface it is often the after treatment to fixate a colour to its media that is limiting the possibilities of printing directly onto garments of more elaborate form than a basic t-shirt. It’s usually a matter of fitting the garment into a heat press, oven or steam pipe. However there are less explored print techniques that do not require this type of after treatment in order to be permanent, for example the uv-developed dye called Solarfast. On Jacquard products (2018) website it can be read that “Solarfast is a chemical that fixates to its media by exposure to uv-light. This unique property means SolarFast may be used to easily create photograms, continuous tone photographs and sun prints on paper and natural fabrics in any color”. It is similar to cyanotype, also known as the blueprint process, that was invented in 1842 by the astronomer John Herschel who was trying to find a way to copy his notes. The cyanotype process produce a white image on blue background. One of the first people to put the cyanotype process to use was Anna Atkins (1799-1871), who in October 1843 became the first person to produce and photographically illustrated a book using cyanotypes as seen in fig 7. The process was also used extensively for copying architectural plans until it was made obsolete by photocopying and computer printers.

Sunprints in Art and Fashion

Most examples found on SolarFast or cyanotype being used on textile are such as in figure 9, t-shirt front prints, or figure 10 flat textile cloth. However one can find multiple examples of this technique within the field of art where for example Robert Rauschenberg repeatedly used it in his artworks, see figure 11. Angela Chalmers is an artist who used cyanotype to make negatives of garments as seen in figure 12. Many more art examples like these can be found, although there is not easy to find artist who’s main media is sunprints. It is even more difficult to find examples within in clothing or fashion when searching the internet. There are designers working with the expression of sunprints although they are more likely produced digitally as seen in fig 13. Most examples found is the white and blue cyanotype version while the wider range of colours made possible by Solarfast are a lot more rare.

The Novelty

When direct to garment print design is presented it is often on basic forms such as t-shirts or similarly flat garments, as showed in fig 3, 4, 5, 8, 9 and 10. This project on the other hand aim to challenge the surfaces and form on which a print design is commonly built by printing on more elaborate garments. The outcome of the technique is dependent on factors such as surrounding conditions, weather, how or what it is that is casting a shadow between the garment and the uv-light. What materials the chemical is being applied to and the specific form of this material. All of which this work will explore with the aim of transforming an old technique into something contemporary. Using a technique of which the prints outcome is spontaneous as it is dependent on so many different factors also presents newness in photographic prints as it is compared with the digital process where the exact outcome can be predicted before printing. This is the core of what creates the expected uniqueness of this work.
State of the Art

Engineered Print Design
With digital print technology came the possibility for advanced engineered print placements. A method that allows you to print within your flat garment pieces, this takes careful calculations and can make your print seeming seamless around the silhouette. During this process print and form are created in unity (Bowles and Isaac 2009, p.19) The placement print is so to speak developed to fit in a certain area of a garment and is often applied to a finished garment such as t-shirts. (Townsend 2003). British designer Mary Katrantzou has taken advantage of this technique and successfully created her own personal aesthetic based on digital prints. She is most famous for her photographic motifs as that shown in fig (?) often in relation to embellishments that emphasize the image. Katrantzou sometimes use the digital print technique for more graphic prints such as shown in fig (?), also carefully placed in relation to the garments form. The growing evolution of digital print technology has made it easy for everyone with knowledge of digital image editing to make their own artwork aimed for textile printing. In fact there are several companies that allow you to send in your digital file online and they will print it on fabric for you. The technique has a lot of advantages, for example it is fast produced, it has very little waste of color and it can deliver very detailed images in endless colors. However with a technique needing no actual craftsmanship it is hard to stand out from the crowd of designers working with this method. Perhaps that is a motivation to go back to more analoge techniques of creating print designs.

Print Steered Form
Emelie Johansson a fashion design student graduating in 2014 from the Swedish School of Textiles Investigated a range of classic print designs that she with the help of digital image manipulation distorted. This created an impression of movement within the print that was further enhanced by letting the form of the garment be created with the technique of draping. While Katrantzou carefully engineer her prints size and placement in relation to the garment form Jansson rather let the print distortion steer the shape of the garment.

Print and Voluminous Form
The Japanese brand Comme des Garçons is famous for their maximalistic designs that often feature both enormous silhouettes and expressively colorful prints within one and the same garment. It is easy to see where the seams are placed that a printed fabric has been used. An advantage of printing directly onto garment is the possibility to let the motif run over a seam and therefore not having to consider where to cut the pattern pieces to achieve a good balance between volume and print.

Experimental Print Developments
Camilla Arnbert, Surfaced print. Arnberts degreework from 2015 is a succesful example of the relation between print and surface. By using yarns that shrinks in the heat from the transferpress a traditional check pattern becomes something very expressive. This project clearly show that by twisting the hierarchial structure of print and form design new expressions can come to life.

Cyanotype Prints on Garments
Nayuko Yamamoto graduated from Central Saint Martins in 2014 where her degreework collection showed an example of cyanotype on fabric. Yamamotos work is using the same technique as this project will investigate although back in 2014 the Solarfast in multiple color choices did not exist but only the original blue cyanotype. Yamamoto appear to have printed on the fabric before making the garments and unlike this project is not considering irregular and voluminous surfaces.
To investigate uv-developed colour as a technique to create direct to garment print design in relation to irregular surfaces.

**AIM.**

**Motive**

**A Shift in Hierarchy**

In the book 'Print in fashion, design and development in fashion textiles', Marnie Fogg (2006) states that "The most obvious assumption is that the print comes before garment..." suggesting that print and garment often are viewed upon as two separate things, where print design and garment design are commonly not designed in relation to each other. Fogg continues "... but that is not always the case. Sometimes the print is the garment", proposing that the print itself sometimes takes over, with no consideration for the garment or surface which it is placed upon (Fogg 2006) Print design is often a profession separated from being a garment designer. Print is designed to be applied on a fabric that is later applied onto form. It can also be that form is designed and later considered to be made up in a certain printed fabric. By printing directly onto garment one could create a more obvious link between print and form.

**A Link Between Form and Print**

This project as oppose to the common process wants to approach print design as something produced directly onto form. It is therefore a print and form based project. Where both is dependent on each other in the development of the final expression. By building print onto irregular surfaces and elaborate shapes it opens up for new aesthetics within the field of fashion design. By building the print directly onto the form the hierarchy of print design and garment design is challenged and both print and form make equally important parts of the aesthetic outcome. The print become the print that it becomes because of the form and the form is created to achieve the best possible assumed outcome of the print. Form is built with careful consideration of lifting the unique strength of the print technique. How the form moves or is reorganized after the print is developed on it is also determined because of the print and its unpredictable emergence. By building prints directly onto garments more elaborate than a t-shirt one would already challenge the common procedure of printing on a flat fabric surface. By adding for example details such as buttoning, collars and belts as well as ruffle appliqués to the garments one would challenge it even further. These qualities in the garment also aims to prove that the print was made directly onto the garment as it will shade areas from becoming printed.

**New Possibilities**

Printing directly onto a garment opens up for carefully considered placements. By applying the method to garments that are voluminous or has irregular surfaces the possibility to work around the volume or on top of the irregularity appears. As oppose to when printing a flat fabric that is later turned into garment. In order to reach a similar result when printing a fabric it would take careful calculations on how the finished garments ruffles (etc.) fall and so to calculate exactly where to place the print, is likely not possible at all. Since the technique fixates colour everywhere uv-light reaches the surface it is also impossible to know exactly where this occurs and so a unpredictable print appears on the form. The technique will present new aesthetic expressions within the field of garment print design.
**Method**

**Experimental**

A common method within the design research field is that of being experimental. The term experimental means that something is “based on untested ideas or techniques and not yet established or finalized” (Oxford Dictionaries 2018). Experimental is within itself a very open and broad term and a method indicating how to experiment is often needed to limit the range of endless outcomes. In the book *Experimental design research: Genealogy - Intervention- Argument*, Brandt and Binder (2007) argues that the notions of program, experiments and questions are useful as methodological grounding for design research driven by experiments. They state that a design project often is initiated with a research question, which could be described as an aim and a context, which purpose is to frame the experimental progression.

This research is experimental for two reasons. Firstly it is challenging hierarchical structures within form and print design by printing directly onto garments. Secondly because it is using a technique borrowed from the field of photography and that has very little trace of being used within fashion. How this technique emerge is also very much dependent on the form and therefore print and form make equally important parts of the research.

**Circularity**

In the book *Design Methods* by John Chris Jones (1992) the author mentions that when dealing with new design it might be necessary to work with a circular method rather than a linear. Jones says that "Linearity implies that all the critical problems can be spotted at the start with little or no risk of having to write off large quantities of design effort at later stages". When a research uses an unfamiliar technique it becomes necessary that the method is flexible and able to leave major design decisions open in order to achieve good designs. Jones mentions that methodology often strive to be linear but says that "When applied to really new designs it removes the flexibility that is essential for dealing with the instabilities and circularities that have to be explored". Therefore this investigation has had a circular method allowing it to go back and forth between the stages of development.

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**Specific Method**

Experiments in this project will be conducted through "trial and error", which is defined as “a finding out of the best way to reach a desired result or a correct solution by trying out one or more ways or means and by nothing and eliminating errors or causes of failure” (Merriam-Webster Dictionary, no date). The conducting of the design experiments in this project, is in Mäkelä’s (2007) sense “knowing-by-making”, as the knowledge cannot precede the making. The outcome cannot be thought out before-hand, but must be experienced, and through making the experiments and seeing the outcome new experiments can be made gaining from that experience.

Once the project gains enough experience of how the print technique works it will move to a basic design method, one that in the book *Artistic Development in [fashion] design* (C.Thornquist 2010) is called re-imagine. C.Thornquist describes the method as “Design development [towards controlled experiments]: Develop each of the different parts in the collection by sketching, trying out different alternatives of details, garments and outfits as well as overall arrangements”. The aim is to show of the techniques qualities as much as possible, therefore a range of materials that each will have different impacts of the print is used, as well as garment details that will contribute to proving that the print has been developed directly on to the garments is considered in the sketching. The advantage of using a technique that fixates with uv-light is that it doesn’t need to be limited to the parameters of the common equipment used for fixating a print on textile. Hence the line-up will consider common garment types based on the “wardrobe model” and garment archetypes in relation to irregular surfaces as a base for the sketch development in order to differentiate from garments that has been made from a previously printed textile.

The advantages of using a dye-technique that fixates in uv-light or sunlight is that there is no measure limits regarding irregularity in surface or volume of the garment that is to be printed. Therefore an early decision was to apply the technique onto garments of such qualities. So the project will on one hand focus on differentiating from prints created on fabric and on the other it will aim to clearly communicate that it is the garment that has been printed rather than the fabric, doing so by using irregularity in surface to strengthen the relation between form and print in the final expression.
How the Technique Works

1. A source generating uv-light.
2-3. Objects placed between light source and material to be printed.
4-7. The material that has been treated with light sensitive dye. Depending on the distance between the objects placed on top their shadows look harder (7) or softer (5). Areas that are in total shadow (6) remain its original colour. While the areas that are fully exposed (4) becomes the most darkened/coloured.

Making of garment canvas

The garment drenched in uv-sensitive dye and covered with material partly shading it and then exposed to sunlight.

Unpacked garment revealing a negative of the material put on top.

Finished printed garment after washing out undeveloped dye.
Development.

The Initial Steps

The project started with investigating possible techniques for creating a print with the Solarfast dye. The dye appears where the uv-light can reach, therefore a shadowprint appears where the light do not reach the canvas or where it reaches less colour develop in a lighter hue. The print is monochrome and in some cases 2 coloured, yet it is rich in variety within the specific colour.

After gaining enough knowledge of the chemical a sketching process started considering the different properties in the material that would affect the dye and print result. The form sketches also aimed to prove that the print happened on a garment and not on fabric, therefore details and material mixes was considered. Small prototypes in the different manipulations and material mixes was made and the print was tested.
Transparent garments was the initial method, the structure of the material and details such as seams, trimming and closures casted a shadow on the canvas and a negative of the garment appeared on the canvas.
Printing with fabrics

Semi-transparent fabrics such as lace, mesh and nets was used. The results were clear and detailed and therefore considered successful.
Clearfilm Experiments

Thirdly black and white images printed on clear film was tried out. The results was obvious photographic motifs but that due to condense between film and fabric was in some tests blurred. Clearfilm as a method for creating prints was considered harder to control than the initial methods using garments and fabrics yet successful as it clearly communicated the techniques properties. It was decided to use clearfilm as one of the methods for the final prints.
Clearfilm Experiments

Testing different types of motifs within the clear film print technique.
Objects such as glass, crystals, bottles and light bulbs was placed on top of the solar fast dyed fabrics but did not achieve as detailed motives as previous experiments and where less photographic in its outcome and therefore not developed further within this project.
Testing Different Material Qualities
At this stage the investigation had focused more on methods to create motifs than on the form to print on. It was an obvious move to start making fabric manipulations on which to print upon. The different qualities that solarfast works with was considered and manipulations appropriate to create irregular surfaces was made.
Colour Development
Form Development

After gaining enough knowledge of the chemical a sketching process started considering the different properties in the material that would affect the dye and print result. The form sketches also aimed to prove that the print happened on a garment and not on fabric, therefore details and material mixes was considered. Small prototypes in the different manipulations and material mixes was made and the print was tested.

An early decision to work with elements of recognition within the garments was based on several motives. One, the technique in itself is new enough to not be in need of an experimental form investigation. Two, to let the focus be on the prints relation to the form it was thought that an abstract approach to form would give the viewer too much to reflect upon, risking that the actual focus would come second, incorporating recognizability in the garments is preconceived to give the viewer some ease in what they are looking at and therefore create a better understanding of the directness of the print. Three, to take advantage of details in highly recognized garments that would lead to proving that the print was made directly onto the garments. Four, the form development was mainly created through sketching and using the idea of common garments in a "fashion wardrobe" was a foundation that could lead and also limit the sketching process. Five, materials related to these garments worked very well for presenting the diversity of the technique.

By building irregularities on existing garment types or challenging the traditional material of these the project presents updated and personal interpretations of recognizable garments.

Experiments of draping on a stand with ruffled pieces of fabric along with fabric manipulation try-outs has been the starting point. These have also been test printed onto. With those experiments as the base several sketches has been made to further develop the garments. Sketching from images of actual material in relation to full scale body is a way to be able to stay true to actual potential expressions when translating from sketch to garment. Eventually the full garment is constructed varying between flat construction draping/building on a stand, toiling and re-toiling.
First Garment Prototypes

When the garments is finished it is drenched in the "dye" with the help of a spray colour gun, a brush or a sponge while working in a room with no daylight (sunlight, uv-light). Once the colour component is applied everywhere it's desired the chosen print material is placed onto the garment to block sunlight. Everywhere this material is placed the dye does not fixate and so a print appears. By printing on irregular surfaces the print is broken up and presents a link between the form and the print. Irregularity is also a method to further take advantage of the fact that the technique does not need to be fixated in any other way than with sunlight.
As the project developed and garments were finalized, the line-up strategy changed as it was easier to match the garments, colors and motifs to achieve a cohesive result that would communicate the technique well.
Materials Used for the Final Print Designs
Development - First Look

Material - Bull Denim, Silk Satin, Silk Organza

In this look three garments are featured. Number one is a denim jacket, the details such as collars, front pocket, buttons, a gathered sleeve and fringes/raw edges is preconceived to have impact on the print. Underneath is a wrap-around spaghetti strap top made up in a shiny silk material and in the top layer of the front in organza. As organza is a see-through material it prints through the layers/ruffles.

It is matched with an asymmetrical circle cut skirt in a shiny silk material. The circle cut skirt has a similar expression as the ruffles and has a natural drape that overlaps itself. Therefore interruptions in the print occurred that in the final expression created a link between the form and the print.
Leather is chosen for the line-up as there are very few printing techniques that works with leather without leaving a coated surface. The sunlight developed dye used in this investigation works well with leather without interfering with the leathers natural qualities and is therefore an obvious choice for presenting the techniques uniqueness.

The chosen reference garment is a trench jacket which is rich in details. The collar, yoke, belt and double breasted buttoning will block the colour from appearing everywhere and by so create a link between the form and print. On the back a flower is printed on top of the overlapping yoke, a placement made possible by the ability to print directly onto an irregular surface.

The second garment is a jumpsuit with frill front appliqués, that together with a repetitive print communicates a link between form and print as the print is interrupted where ever the frill itself blocks parts from being reached by the light.
The bull denim was taken into consideration as a reference to a denim/jeans look. Another common garment type among the mass population. It differs from the cotton poplin that was used in look 1 because of its rigid surface and heaviness, it is also chosen because of its ability to fringe which creates another dimension of irregularity and contributes to a desire trashy aesthetic of the final line-up.

In this work “the jeans” has been interpreted as a wide long fitted trouser with a dramatic application of the ruffles along the lower leg. Details such as front seams, darts, pockets and fly also contributes to underlining the direct to garment printing.

The denim trouser is matched up with a traditional t-shirt, on one hand because it is a common combo and one the other to show that simplicity is also an option for this technique. The front logo is to reference back to the garments often seen with the other direct to garment printing techniques and to further place the work in a contemporary context.
Print Samples

Material used for printing

Digital sketch

Result
A material that worked really well to print upon was the cotton poplin. Its a tightly woven natural fibre material that would produce well saturated and clear prints. It is also connected to the classic shirt which was considered a suitable garment for the aim because of its details such as buttoning, collar and cuffs.

The decision to combine the shirt with ruffles was to create a contrast between the very structure flat surface and the voluminous ruffles that together is creating a very irregular surface to print upon. Having the flat surface and the irregular incorporated in the same garment also communicates a movement within the print as it moves from organized to scattered.

The ruffles is a reoccurring feature throughout the line-up firstly because of its irregularity, depth, movement and overlapping qualities that beneficially works with the techniques ability to be applied onto voluminous surfaces. Secondly because this creates a close link between the form and the print, seeing as the print only appears where the uv-light can reach. Therefore irregular surfaces strengthen the expression of direct to garment printing.
After making a successful printing on leather in look number 2, it was decided to repeat leather as a material for the final line-up but scaling up the print to present a more obvious print motif.

The trench vest is used as a garment reference and the collar and yoke from jacket in look nr 2 is repeated. In this look a frill at the bottom part of vest is incorporated as to add another layer of irregularity. The Collar, belt, front panel and yoke as well as the overlapping fronts all contribute to irregularity to differ the work from prints created on flat fabric.

The vest is matched up with a lace pants and top set, in the same lace that has been used for the print. Gathered fronts on the pants creates an irregular surface.
This look is based on the pants suit, a more formal approach to the concept but that was made up in a silk organza material giving the garment a more poetic expression as the sheerness creates a contrast to the formality of the suit. The interest to work with the suit lies in its details, the collar, pockets and double breasted buttoning all shades parts from being reached by the uv-light.

The decision to work with a transparent material is one on hand to present diversity in the line-up but most importantly because it was discovered that the uv-light will reach beyond the first layer of transparent material and so also create a print on the layer beneath, only a less saturated one. This led to incorporate the ruffles in the pants.
Print Samples

Digital sketch

Material used for printing
The maxi skirt was chosen as part of the line up to give the opportunity to once more work with high volume and a big canvas to place the motifs on. In this final look the decision to mix material qualities was made based on it being an advantage of the technique to be able to print beyond the boundaries of a single material at the time as in the common print processes. The materials used all ties back to the previous garments.

The skirt is matched with a long sleeve cotton jersey top that has been printed from the sides and features the logo print on the sleeves. The decision of matching it with a jersey top is to give the look less of an evening aesthetic and so place it further in a contemporary context.
Print Samples

Material used for printing

Digital sketch
LOOK 1
"The Denim Jacket and Skirt"

Look 3 - Hairy knitted material
A material with a surface that is lose will move and therefore the prints appearance is impossible to predict and will likely become abstract.
Result.

LOOK 2
"The Leather Jacket & Jumpsuit"

Look 4 - Leather
Few techniques allow printing on leather without leaving a coated surface, therefore the material is taken into the line up. The jacket's details will underline that the print was created directly onto the garment. As for the pants it is once more the frills that will break up the pattern and indicating that the print was made directly to the garment.
LOOK 3

"The Denim’s & T-shirt"

Look 2 - Cotton bull denim in white
Using a denim the aim was to reach beyond the regular jeans form but to still take in features related to it.
Ruffles was applied onto the leg in tight rows which gave a standing ruffled surface. The edges was left raw to give a natural threaded appearance that would affect the print result. Besides the ruffles, buttons, a fly and back pockets will prove that the print was created directly onto the garment. The look is completed with a basic jersey t-shirt to communicate the possible simplicity of the technique.
Result.

LOOK 4

"The Shirt"

Look 1 - Cotton Poplin

The first look presents a shirt base with multiple layers of frills building volume onto the shirt. A net fabric and flowers printed on clear film has been used to create a print. The mix of plain surface and irregular surface is important within this look as it lets the print go from very structured to broken up and only emerging at parts of the ruffles. This reflects a link between the form and the final expression of the print.

The net structure is chosen because it contributes to a movement in surface and is a repeated print that is easily followed as it goes from the flat area to the ruffled. The flowers as a motif is chosen for its photographical qualities which is unique for this method comparing it to airbrushing or painting techniques.
LOOK 5

"The Trench Vest and Matching Set"

Look 6 - Voluminous knitted ruffles in white
This look aimed to prove the print method possible to print on a very voluminous form, something far from the traditional method of creating prints in fashion that is on a fabric that is later made into garment. A net fabric has been used to create the print. The jacket is matched with a silk dress to balance the heaviness of the jacket.
Result.

LOOK 6

"The Pants Suit"

Transparent organza
LOOK 7

"The Maxi Skirt"

Look 7 - Multi-mixed materials
In the final look a voluminous frill skirt containing multiple materials tying back to the previous looks is presented. By mixing alot of materials within the same look it will be clear that the print has been made directly onto the garment. The final look will also present a mixing of the hues.
Brand: Elin Holm
Season: Spring 2019
Collection: Printograms
Style name: Leather Rose Jacket
Style no: 19-03
Sample size: S/M

List of Materials
Outer/Main Genuine Leather "Milk"
Belt Genuine Leather "Milk"
Belt Details Metal "vintage silver"
Lining Viscose
Pockets Viscose

Measurements (cm):

<table>
<thead>
<tr>
<th>Front</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>Full Length</td>
<td>Sleeve opening</td>
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</tr>
<tr>
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<td>D</td>
</tr>
<tr>
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</tr>
<tr>
<td>D</td>
<td>E</td>
</tr>
<tr>
<td>Sleeve at Seam</td>
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<td>E</td>
<td>F</td>
</tr>
<tr>
<td>Bicep</td>
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</tr>
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<td>F</td>
<td>H</td>
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<td>Collar C.B.</td>
</tr>
<tr>
<td>G</td>
<td>I</td>
</tr>
<tr>
<td>Collar C.B.</td>
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</tr>
<tr>
<td>H</td>
<td>J</td>
</tr>
<tr>
<td>Fold opening</td>
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</tr>
<tr>
<td>I</td>
<td>K</td>
</tr>
<tr>
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<td>Belt Loop</td>
</tr>
<tr>
<td>J</td>
<td>L</td>
</tr>
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Brand: Elin Holm
Season: Spring 2019
Collection: Printograms
Style name: Leather Frill Jumpsuit
Style no: 19-02
Sample size: S

List of Materials

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<tr>
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<td>Lining</td>
<td>Viscose</td>
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<tr>
<td>Pockets</td>
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<tr>
<td>Waist Flap</td>
<td>Genuine Leather “Milk”</td>
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<td>Waist Closure</td>
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Measurements (cm):

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<td>B Cleavage</td>
<td>K Strap Width</td>
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<td>C Outer leg seam</td>
<td>L Back Rise</td>
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<td>D Pocket opening</td>
<td>M Inner leg seam</td>
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<td>E Frill 1</td>
<td>N Strap length</td>
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<td>F Frill 2</td>
<td>O Strap width</td>
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<td>G Frill 3</td>
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<tr>
<td>H Frill 4</td>
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Brand: Elin Holm
Season: Spring 2019
Collection: Printograms
Style name: Denim Frill Pants
Style no: 19-01
Sample size: S

List of Materials

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<td>Cotton Poplin</td>
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<td>Pockets</td>
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<tr>
<td>Fly + Shield</td>
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<tr>
<td>Button</td>
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Measurements (cm):

<table>
<thead>
<tr>
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<tbody>
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<td>Random mixed measurements</td>
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<tr>
<td>I</td>
<td>Frill width</td>
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</table>
Discussion and Reflection.

There has been two main focuses in the development of this work. Number one has been to communicate the unique qualities of an old technique into something that could be seen as contemporary. The other has been to take advantage of the technique’s ability to fixate in open air daylight as a technique for direct to garment printing and by so challenge the hierarchical structure of the traditional print contra form process. In the common process the print is made on a regular, flat or relatively flat fabric, therefore it has been of importance in this work to create irregular surfaces to clearly differentiate from the printed fabric by creating irregularity within the garment’s details. This method also creates a clear relation between the print and the form. Where the print emerge is dependent on the form and the form is created to have impact on the print. A surface that has several levels, depth or movement will cast a shadow at other parts of the surface and therefore these kind of structures is relevant to the project. This was predicted to strengthen the expression that the print has been created directly onto the garment and link the final expression of the print placements to the specific form. Hence this work is to be seen as a print and form based research that is proposing new techniques for printing in the field of fashion.

Seeing as the outcome of the print technique is dependent on many exterior factors it creates spontaneous print results and lowers the possibility to re-produce the exact same print twice. Therefore, looking at it from a commercial perspective it would be suitable as a design process for developing prints that would later be produced digitally. The technique could be used to print a prototype that later would be taken apart and then copied as flat pieces that could be re-produced digitally. As the outcome is spontaneous and decided by current exterior factors such as weather conditions it is unlikely that the same expression could be achieved if the print itself would be created digitally from the beginning.

Alternatively one could build a brand on the individuality that this technique represents, by selling garments as unique pieces. The print technique itself has strong expressive characteristics and can serve as a unique addition along side the common techniques.

The chemical used in the process has no significant side effects on its environment and very little water or energy is needed in the development. Therefore it can be considered a sustainable alternative.
List of references:


Townsend, K. (2003) Transforming Shape: A simultaneous approach to the body, cloth and print for textile and garment design(synthesising CAD with manual methods). Nottingham Trent University

Image references


The Iconic Flower by Rebecca Karlsson

Aim of work: To use the deconstruction of the iconic flower prints to investigate the relation between form, print and the body through volume padding and draping to achieve new expressions in dress.

Concept: Rebecca has a clear and straightforward concept where she aims to deconstruct the iconic flower print through material manipulations. This method of working creates an successful and interesting link between print design and form design which is a motivation for the designer. By printing flowers on flat fabrics and then following the lines within the flowers to create material manipulations with the use of elastic drawstrings and padding form has been created simultaneously as the print has been manipulated. In look 1, 2 and 6 this has been very successful as one can see the flower print evolving into something more abstract. Though in some of the examples it is harder to see the flower print in the result and perhaps the looks would have benefit from not having the manipulations of the prints made already within the print making. I would suggest that also in look 3, 4 and 5 the designer could have worked with more straightforward flowers and later only manipulated parts of the material.

Composition:
Since the project has worked with transfer printing polyester fibres has been essential. A good variety of materials has been chosen although I would suggest that a more transparent or lighter material could have been suggested as it would perhaps reach another dimension of form within the line-up. The method overall presents a quite compact result except in look number 5 which is more draped. Maybe the final result could have presented a look where only parts is manipulated also without the padding as in look number 3. The padding is an interesting feature in the final result as it communicates a different shape than the ones using only drawstring.

Prints: The flower prints used in this work are beautifully composed. The iconic flower print as the designer suggest is most obvious in looks 1, 2 6 and 7. Maybe they could have been even more clear in the rest of the looks. The project has worked very compelling with colours. However, since the projects work with a gradually evolving shape, it would be suggested that also the colours could be gradually changing from first look to last look to emphasize the evolving of the de-construction of the print from the photographic flower print into the sketched iconic flower print.

Suggestion for changes: Finally it would be suggested that look number 3 and 4 would be changed. Where the project would benefit from working with manipulating the print and the form similarly to look number 1 and 2. Where the print is manipulated through materials manipulations rather than digital print manipulations.