NUMERIS PELLISCAPITIS UNIFORMIS
Mathematics and how it can be used in fashion

Degree work of fine arts of fashion design.
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ABSTRACT
The general motive of this work will be to try to develop an new way of using mathematics in a fashion design process. By using mathematics in order to make a way to calculate what will be a part of the collection and what it will look like. The background for this work is mathematics, deconstruction and the skinhead uniform consisting of a bomber jacket, shirt and denim jeans.

The aim is to explore a mathematical formula as a design method for new expression in menswear.

A mathematic formula which decides what garment, material and construction-method to use in an outfit. Using the formula to give me the parts/ingredients, a construction-method and fabric that I can use to make the outfit, after that I use my ingredients/parts to create new shapes out of the parts given to me by the formula.

A strive for a more controlled and distanced relationship to your work is something that I tried to developed in my work by using a mathematical formula as a tool.

There are potentials in using a mathematical formula in designing a collection. But also obstacles to pass in order to have a focused outcome.

KEYWORDS
Mathematics, design, fashion, art, uniform, stereotype, culture, deconstruction, skinhead, bomber jacket, denim, violence.
BACKGROUND

MATHEMATICS
There is almost an infinite amount of different mathematical formulas, different equations for different purposes. They are being applied to everything from constructing buildings to bridges and cars. Almost every object or artefact has in a stage of their making when they are subject-ed to a mathematical calculation, so it is not very strange that it has been used in fashion and art as well.
Mathematics in fashion and art is often used to visualise mathematical formulas and most commonly by the usage of computer software. Bill Goldman, a mathematician at the University of Maryland says that using computers to visualize mathematical objects does more than just creating pretty pictures. When developing software to visualize objects from his own research, he found that, “the exercise of trying to explain math to something really stupid, yet obedient and disciplined,” actually helped him discover new results, even though the computers themselves did not really play much of a role in the discovery. (Lamb.S 2012)

An other common way to work with mathematics in arts is by the use of fractals. A fractal is a self-similar pattern and by self similar it means they look the same from near as from far away. A simple way to illustrate this is the Koch snowflake made by the Swedish mathematician Helge von Koch in 1904. The Koch snowflake can be constructed by starting with an equilateral triangle, then altering each line segment as seen in (fig 1).(Addison, Paul S 1997)

The artist and professor Stan Gudder used fractals in his exhibition “The many worlds of math art’’, where he made different prints with a software program which he gave different kinds of mathematical vari- ables. He believes that the beauty of the work is the result of the fact that it contains an underlying mathematical structure. He also believe that it is a form of art but it is also related to experimental science. Various mathematical principles such as perspective, geometry, optical illusion, duality, convexity/concavity and infinity reveal themselves. They represent an exploration of mathematical functions. The colorations of the figures are also generated by mathematical functions and considerable experimentation is involved in the process.
Gudder also experimented with various types of paper. Some of his work were more suited for glossy paper and others were more pleasing on a matte finish. Through this experimentation with matte and glossy surfaces it also gave a more three dimensional feeling to the two dimensional prints, he explained.
(Gudder, S)
This way of working with code based computer software is also the way that Harold Cohen create his art work. In 1973 he created his art making software program AARON. Cohen’s objective was that AARON would be able to to simulate the cognitive process of drawing like a human, by using programming in other words mathematics, to make AARON create art independently and completely without human influence. The program has since then evolved into a more sophisticated tool. That can do even more advanced paintings. This way of using computer technology as a tool to translate mathematical values is a method that is being used more and more both in art and fashion. This fascination of the potential of computing has resulted in the breakdown of traditional artistic processes. (Cohen, H. 2011)
The word deconstruction in the Oxford English Dictionary is defined as follows: "The act of undoing the construction of a thing". In fashion the term is used in several ways. It is associated to works of Rei Kawakubo for Comme des Garçons, Hussein Chalayan, Martin Margiela, Helmut Lang and Ann Demeulemeester amongst many. But what it actually means to work with “Deconstructed fashion” can be debated. Alison Gill writes in her article "Deconstruction Fashion: The Making of the Unfinished, Decomposing and Re-assembled Clothes (1998) that it is usually described on the runway as “unfinished”, “coming apart”, “recycled”, “transparent” or “grunge". (Fashion theory, 1998)

Martin Margiela's “Artisanal” collections can be associated to the words of Gill to describe them. His garments are made from all kinds of materials and mis-matched fabrics, lining silks, old basketball gloves, ceramics, and you can see the inner mechanics of the garments structure - darts, facings, and zippers. Or old jackets, bags, christmas decorations, lamp shades have been disassembled, recut, tacked, sewn and re-detailed, their seams and inner structure have been reversed and exposed to the outside. (Fig 2) (Fashion theory 1998)

In his Autumn/winter 1998/1999 collection entitled '2000-1' Margiela worked with a series of five "flat" garments where he used displaced panels of industrial garment patterns assembled together to show not just the inner work of the garment but also showing the basic construction of the garments from the start of cutting them out. (Fig 3) (http://www.contemporaryfashion.net)
Rei Kawakubo’s, more known under the label Comme des Garçons, Spring/summer 2011 collection is also discussing another way of deconstruction. In this collection Kawakubo works with dissembling garments and/or garment pieces and then assembling them in all kinds of different ways, upside down, backwards and so on. Or as Tim Banks describes it in a review on style.com “Rei Kawakubo was looking to shake things up, so she literally turned clothes upside down in her new collection for Comme des Garçons”. (http://www.style.com) In one coat there could be multiple garments and garment pieces all put together in a slightly chaotic way. (Fig 4)

(Fig 4) Sketches based on Comme des Garçons, 2011

THE BOMBER JACKET

The MA-1 jacket, flight jacket was first developed in the late 1940s. With the emergence of the jet age created new requirements for pilot comfort and safety. Before the invention of the jet aircraft the pilots used a fleece-lined leather jacket. The problem with these jackets was that with the new jet aircraft you were able to fly on much more higher altitudes and thereby colder temperatures than propeller aircraft. A new jacket had to be developed. The material selected for the jacket was a high quality nylon outer shell and nylon lining and with a interlining made out of a double faced wool material which was later replaced by a polyester fibre fill that was lighter and supplied superior warmth. During the 1960s it was introduced to the public and began to be used outside the military. (http://www.classicjet.com/)

(Fig 5) Bomber jackets from Alpha Industries
The bomber jacket has been used in different subcultures after it was introduced to the public in the 1960s, such as Scooter boys and Skinheads. The last of the two is most famous for using the bomber jacket. Skinheads are members of a subculture that emerged from the working class in England during the 1960s. Fashion-wise, skinheads range from a clean-cut 1960s mod-influenced style to less-strict punk- and hardcore-influenced styles. The later one is defined by the shaved head, Dr Martens boots, rolled up jeans, shirt and a bomber jacket. Due to the rightwing oriented branches in the subculture the skinheads has got a bad reputation in the general public. (Knight, Nick 1997)

"His clothes characterises by a tight and linear silhouette, combined tailor traditions with rebel-youth outfits from all ages represented". (Caianchi. L.c.f Raf Simons Redux .2005). Writing about subcultures from a fashion point of view one have to mention about Raf Simons. Simons Is one of the more innovative menswear designers not defined by his skills on designing but also the themes that are commonly occurring in his collections. In the foreword of his book he writes: " Raf Simons, as the world knows the label, its not me. Or better: not solely about me. It has been, and will always continue to be, about us, about we, about you." (Simons. R. 2005). This passion of the people around him is the things that drives Simons and that is maybe why most of his inspiration comes from subcultures and cultures within society. (De Potter. P. 2005). Collier Schorr writes: " His clothes are not asked to do anything they do not want to do. They can be big or small- tightly f fitting or loosely fitting- depending on the emotion they are supposed to suggest". (Schorr. C. 2005)
MOTIVE
The general motive of this work will be to try to develop a new way of using mathematics in a fashion design process. I will use mathematics in order to make a way to calculate what will be a part of the collection and what it will look like, very much in the same way as Gudder uses his equation to make paintings to illustrate a mathematic formula. The reason why I see that mathematics could be an interesting way of working is because I think it has the potential to develop a way of reducing my own influence over the final result. And hopefully by reducing my influence on it will be a new expression for me as well to others. But by looking at designers as Martin Margiela and Rei Kawakubo is important and also working in a deconstructive way to plausibly make the viewer more aware of the pieces included in the equation. In the same way as Margiela uses recognisable items or garments for the “Artisanal” collections (Fashion theory 1998) it is important to use recognisable garments to apply on the mathematic formula. Therefore I have choose to apply it on the skinhead uniform. Because it is a easily recognisable subculture with a strong expression.
The question is if there is a way of applying a mathematical formula as a working method to develop a collection and can mathematics be translated through deconstructing a garment into variables that can be used in a formula? Is it of importance that the viewer sees the method that has been used in order to make the result?

AIM

The aim is to explore a mathematical formula as a design method for new expression in menswear.

METHOD

“The essence of mathematics is not to make simple things complicated, but to make complicated things simple.” ~ S. Gudder

As Gudder says the essence of mathematics there is a similarity to what is often strived for in design methodology, to simplify, organise and grasp all the aspects of the problem.

One of the risks in trying to solve a curtain problem or answer a curtain question is something that Sir Francis Bacon discusses in his book Novum Organum, where he lists what he called “Idols of the Mind”, he described these as things which obstructed the path of correct scientific reasoning. One of the “Idols” is Idola tribius (Idols of the tribe) were he stats that a human tendency to perceive more order and regularity in systems than actually exists, and it is due to people following their preconceived ideas about things. Number two in the list of false idols is Idols of the Cave: This is due to individuals’ personal weaknesses in reasoning due to particular personalities, likes and dislikes. (Bacon, F 1620/1990)

These weaknesses/risks that Bacon states is also in relation to what Dr Michael Biggs writes about in his paper ‘The role of the artefact in art and design research’. He discusses the problem of whether artefacts have the capability to embody knowledge. Biggs states that “interpretation is a combination of intrinsic and extrinsic factors, and that in order to communicate effectively control must be exercised over the extrinsic factors by proving a context.” (Biggs, M 2002) So in order to understand ones concept it have to be communicated in relation to a broader spectrum than just the mind of the artist.

Both Biggs and Bacon shows that there is a value of extended research to be able to explain and to get a greater knowledge in order to be able to solve the issue at hand better. In their work on experimental design research, Eva Brant and Thomas Binder writes that research aims to expanding our knowledge of design and to give the designer greater experience and exemplars from previous work to every new design challenge, design
research will also provide insights that have a potential outside the particular context in which it is generated. (E. Brandt and T. Binder, 2007). With that showing the importances of that research must produce arguments that are arguable and contestable also for the external reader and not just for the designer itself. So what initiates a research project is an open question to both the designer and the external viewer.

Within the research phase of a project one is faced with factors to be aware of. There is the risk of your own taste taking the over and leading you astray. There is the risk of lack of communication between the observer and the designers work, resulting in a confusion of what is important and what is not. There is also the risk that Clemens Thornquist writes about his book Arranged Abstraction. There he says that there is a risk of echoing existing theories from different fields instead of questioning art itself. And he also writes: “this or these movements in artistic research appears to have overlooked millennia of scientific methods, experimental facts in mathematics, theoretical propositions in physics, clinical developments in medicine etc.; much of which have been explored, discovered, demonstrated and photographed etc.” (Thornquist.C 2012) cf. Kelly, 1995; Armstrong, 2004; Tufte; 2006).

All these factors is something that one needs to be aware of when starting to research something and also while practising ones method, to not be tempted or lured into these as Bacon calls them “Idols of the mind”. (Bacon, F 1620/1990).

As it seems the designers mind is a cunning thing, which can both lead one astray and also work in favour for you, if focused on right amount of factors. “The problem for scientist is to surrender to her work, since she is trained to remove herself from the equation. The problem for the artist is to distance herself from her work since her work is her life.” . (Thornquist.C, 2010)

So how do you do if you as a designer do not want the risk of becoming Thornquist’s “artist”?

By looking at work of Harold Cohen and his software AARON one can see the relationship between the artist (Cohen) and the method/software/scientist (AARON). (http://www.aaronshome.com/aaron/audio-video/index.html) One of them working as the artist and one as the scientist, this method of giving variables to create to a software is one way of distance yourself from your “Idols of the Mind”. In Adriaan Keller’s (2005, cf. Brandt & Binder, 2007) dissection he works with industrial designers collection of visual material in their process, the aim is to create and develop new tools that the designer can use in the conceptual phase. Tools in order to make that part process easier and more controlled.
BIRTH OF THE FORMULA
A strive for a more controlled and distanced relationship to your work is something that I tried to developed in my work by using a mathematical formula as a tool. The formula was originally developed together with Jakob Hultgren a Phd student at Chalmers University of Technology. I came with a question: How can I create a formula that can create a recipes for an collection? I also wanted the variables to relate to each other. It started with a discussion of how the variables from the formula would be translated into garments, in other words what would the variables mean?

I suggested to use a list where each part that I wanted to be effected had a specific number. Hultgren suggested to use linear transformations also called Möbius transformation. (fig. 9). The reason for that was that it made it possible to get the values of x, y and z and then transfer them to the next calculation. So the answer from the first equation gives the value to x, y and z in the following calculation. (fig. 9) And also by using the Möbius transformation it made it possible to transform the variables into coordinates in a graph which could be useful in pinpointing where the possible effect would be applied. (Fig. 10) But to be able to use a list with a limited amount of values we were faced with the problem of not exceeding them, therefore Hultgren suggested that we would apply Modular arithmetic (Fig. 11) to be able to stay within the value limitations of the lists.

Early sketches on the formula made by Jakob Hultgren during conversation.
Modular arithmetic:
You get a variable that has a value exceeding the value choose. Let us say it is 48 and you have a limitation of 40, then you see how many times 40 as whole can go in 48. In this case only ones.
Then you subtract, 48-40=8.
So 8 is the answer of 48 mod 40

Möbius transformation:
You have formula one (f1).
The values of f1’s x, y and z goes on to be the values of x, y and z in formula two (f2).
The values of f2’s x, y and z goes on to be the values of x, y and z in formula three (f3).
And so on until you want to stop.

EXPLANATION OF THE BASICS IN THE FORMULA

Fig. 9

Moebius transformation:
You have formula one (f1).
The values of f1’s x, y and z goes on to be the values of x, y and z in formula two (f2).
The values of f2’s x, y and z goes on to be the values of x, y and z in formula three (f3).
And so on until you want to stop.

Fig. 11

Modular arithmetic:
You get a variable that has a value exceeding the value choose. Let us say it is 48 and you have a limitation of 40, then you see how many times 40 as whole can go in 48. In this case only ones.
Then you subtract, 48-40=8.
So 8 is the answer of 48 mod 40

Fig. 10

Graph and cordinates:
The values of x, y and z are x=14 y=4 and z=14
APPLYING AND DEVELOPING THE FORMULA

In the early stage of the formulas life (fig.12) I applied it on a list of archetypes (fig.13) every archetype had a certain value. The archetypes was chosen by x, y decided which material that would be used and z decided which colour.

![Table](image)

$$F_1(x,y,z) = 3x - 2y + 5z$$

$$F_2(x,y,z) = 3y$$

$$F_3(x,y,z) = x + y - 3z$$

$$F_4(x,y,z) = (x+y)(z)$$

$$F_5(x,y,z) = 3x^3 + 4y + z$$

$$F_6(x,y,z) = x^9$$

$$F_7(x,y,z) = 53 \mod 16 = 5$$

$$F_8(x,y,z) = 54 \mod 17 = 3$$

(fig.12) First experimentation with the formula

(fig.13) Archetype used in the first tryouts of the formula
After the first initial experiments with the formula I quickly realised that the variations of garments and silhouettes was limited by $x$, $y$ and $z$ function. Change was made by making $z$'s function control the construction/deconstruction of the garments. (fig.14) Here I used the same archetype list from the past experiment. (fig.13)

(fig.14) Alternatives for $z$, deconstruction methods was chosen from common deconstruction methods.

After testing the new alternative for $z$ which was successful I realised that it became a constant repetition in $f_2$ due to $f_3$. (fig.15) There for a change had to be made by putting $z$ into $f_3$ counter the repeating pattern of values.

(fig.15)
The new corrected formula worked without glitches although changes was made in the construction list as well to get a more variated result. (fig. 16)

(fig. 16) Updated formula sheet.

(fig. 17) Calculations was made to create the recipe for 14 outfits and sketches was made from the recipes.
Analysing the results from the previous experiment, there was a obvious notion of un focus expression, there were simply too much elements in the calculation which made it hard to grasp. The major problem was the list of archetypes that had to many options and that made it to hard to see the actual effect that the formula made to the 14 outfits as a whole. In order to be able to see a more precis effect experiments was made with altered archetype lists. I focused it on archetypical outfits instead on e.g Classic mens suit, Tracksuit, Army Uniform and the skinhead uniform consisting of a bomber jacket, shirt and denim jeans. From these new lists I made new calculations for each archetypical outfit. (fig.18-18.5).

(fig.18) New Archetype lists.

(fig.18.5) Left: Sketches of the skinhead uniform calculations.
Right: Sketches of Tracksuit calculations.
After considering and reviewing the results a choice was made to use the list of the bomber jacket. The reason why that was chosen was because it had the most potential of giving a mixed but still focused result.

So experimentation started with translating the recipes that was given by the formula. In order to visualise the values to see if there was any potential in the updated list and formula combination. (fig 19)
The exploration of potential shapes in the experiment led to finding one way to illustrate the results from the calculations. The choice of material was made in this phase of the development. By using the material from the archetypical skinhead outfit it will give it an even more recognizable look so it is easier to relate to.

This was also the phase were the prints was developed. The overall print is a mix of skinhead sayings and symbols. (fig. 20)

(fig.20) All overprint. (fig.21) Bears on the loose patch print

The patch print is the symbol of the group/subculture of my own, an own gang symbol, the bears on the loose. (fig.21) The prints and patches was an important tool to deliver the feeling of belonging as a synonym to the skinheads subcultural gang.
Working with the updated version of the formula there was more insights gained of the possibilities and limitations of the formula. By knowledge gained in previous experiments I were able to make develop three outfits(fig 22) through sketching(fig.23) and draping(fig.24).

(fig.23) Left: Sketches

(fig.24) Draping and assembly experimenting.
Reflecting on the finished result of the three outfits findings were made that pointed out that there were still problems to be solved in the formula.

It was still a problem with interpenetrating the recipes. Where the garment was supposed to be cut and with parts of the jacket, pants and shirt that would be used.

Because of the risk of the interpretation taking over changes had to be made to the formula in the manner that it would control even more factors of the garments. Letting the formula to not only be in control over garment, color, deconstruction method and which fabric to use. But also which parts of the garment that should be used, which kind of assembly method that should be used and where the print and patches should be placed. So the formula is in total control of each outfit, thereby taking the human factor out of the equation to gain a more focused work. Also by taking away the shirt as a factor in the equation to make the effect of the formula even more present.
EXPLANATION OF THE FINAL FORMULA
In the final update of formula more functions were added in order to control more parts of the garments. Here follows an explanation of the final formulas functions in its current state. (fig.25) (fig.26) (fig.27)

\[
\begin{align*}
f_1(x, y, z) &= 3x - 2y + 5z \\
f_2(x, y, z) &= 3x + 4y + z \\
f_3(x, y, z) &= z + x + y - 3z \\
f_4(x+y) \\
f_5(y+z)
\end{align*}
\]

1. Scale
2. -
3. Subtract
4. Shorten
5. -
6. Extend
7. Combine with top garment No.2
8. Broaden 200%
9. -
10. Add +1
11. Multiply part (based coordinate system) x3

(fg.25) The final formula
The final formula, material list.
The final formula parts and assembly lists

(f4)
1. Studs
2. Snaps
3. Rib
4. 1 needle stitch
5. Suspender straps
6. Suspender straps
7. Zips
8. Lacing
9. Zig-Zag Stitch
10. Lacing
11. Lacing
12. 1 needle stitch
13. Studs
14. Snaps
15. Zig-Zag stitch
16. Suspender straps
17. Lacing
18. Snaps
19. Zips
20. Eyelets
21. 1 needle stitch
22. Zips

(f5)
1. Sleeve x2 + Front x2
2. Front x1
3. Back
4. Front pocket + Sleeve x1 + Back
5. Sleeve pocket + Front x2
6. Sleeve x2 + Back
7. Front x1 + Sleeve x1
8. Back + sleeve x2
9. Whole garment
10. Sleeve pocket x2 + Sleeve x2
11. Front x1 + sleeve x1
12. Back + Sleeve x1 + Front x1
13. Sleeve x4
14. Front x2
15. Front x1 + Sleeve x2
16. Sleeve pocket x1 + Front x1
17. Back + Sleeve x1
18. Back + Front x2
19. Back + Front x1
20. Front x1 + Sleeve x1 + Back
21. Front x2 + Sleeve x1
22. Sleeve x2 + Front x2

(fig.27) The final formula parts and assembly lists
After getting the final formula was ready it was calculated, then out from the results of the calculation 29 sketches was made. (fig.28). The following step was to validate the result and choose the sketches that would give the best expression in a collection of seven. (fig.29)

(fig.28) Sketches made ot from the final formula
(fig.29) Chosen sketches and two older experiments that suited the wanted expression.
Outfit 1

Comments:
Shirt with bomber jacket lining parts attached with snaps.
Bleached denim jeans broaden by 200%.
Outfit 2

Comments:
Shirt.
Bomber jacket with subtracted lining, screen printed.
Assembled with lacing.
Bleached denim jeans.
Outfit 3

Comments:
Sleeveless shirt.
Bomber jacket in 3 different shell fabrics.
Assembled with suspender straps.
Denim jeans broaden by 200%.
Outfit 4

Comments:
Shirt.
Lengthen bomber jacket with screen printed sleeves and patches attached with snaps.
Body is assembled with snaps.
Denim jeans.
Outfit 5

Comments:
Shirt.
Bomber jacket with enlarged body and cut off sleeves.
Bleached denim shorts.
Outfit 6

Comments:
Shirt.
Bomber jacket in 2 different screen printed shell fabrics. Assembled with zippers.
Denim jeans with lacing in the side seam.
Outfit 7

Comments:
Shirt.
Bomber jacket with shorten body and enlarged sleeves, screen printed in black tone in tone.
Printed black denim jeans.
Material

100% PES Screen printed. 100% PES Screen printed. 100% PES Screen printed. 100% PES Screen printed. 100% CO Shirt fabric. 100% PES Screen printed.

100% Acetate Lining. Screen printed. 100% Acetate Lining. Screen printed. 100% CO Hem Rib. 100% CO Hem Rib. 100% CO Hem Rib. 100% PES 100% PES

100% PES 100% PES 100% Acetate Lining. Screen printed. 100% CO Hem Rib. 100% CO Bleached denim. 100% CO Raw denim. 100% CO Bleached denim.
REFLECTION
The results of the formula is what it is, due to the variables that was given to it but also because I chose the fabrics, construction methods, garment parts and assembly methods. It found a way to separate me as a designer from many of the difficult choices and it made me do garments that I would not have don if I was in more control over the collection. The formula gave different results although one could see a pattern in the 29 calculations that was made, this was because of the initial choices of material, construction methods, garment parts and assembly methods.

Looking at the result one can see that the silhouettes are similar to the original skinhead silhouette except outfit number one and three (p.26), this is because of the jeans that are 200% wider give a more equally wide silhouette from top to bottom. When looking at all the 29 sketches the 200% wider jeans was one of the garments that was more frequently occurring than other jeans construction methods, the reason for this is most likely because of the values given to the first calculation. This could also be because of the order of how the construction methods are place in the construction method list. The fact that this is something that effects the outcome of the garments is something that I have been aware of.

When looking at the collection of the chosen outfits numeric values using the same technique as Clemens Thornquist uses to illustrate Linnea Båganders work in his book Arranged Abstraction (Thornquist. C. 2012) one could see when put into a coordinate system (Fig. 29) that they formed in many cases clusters of points this could have something to do with me choosing which outfits that would fit together in a lineup after doing the 29 sketches.

(Fig. 29) Coordinate system.

As mentioned earlier there is patterns that one could see in the different results of the calculations since this was something that I strived for to get a focused expression it still raised the question what would happen if other variables was given to the formula or what would have happened if it was applied to a different set of garments, or if the jeans where more effected by the formula or if the lists order where changed. One possible outcome of this can be illustrated like following. (Fig. 30)
(Fig. 30) Test with alternative formula.
The changes that was made to this alternative formula is the lists. The construction list, parts list and assembly list was made shorter and made more compact. In the case of the parts and assembly lists they where also stripped down, so they contains less alternatives. Change was also made in (F2) by bringing in the the (y) factor into the jeans so the fabric applications such as prints and patches from the jackets are applied there as well.

The result of this pushes the limits of the expression more then the original form of the formula that has been used in the collection, although it is maybe more expressive by it self I think the expression in a collection as a whole would give a less focused expression.

The result of this pushes the limits of the expression more then the original form of the formula that has been used in the collection, although it is maybe more expressive by it self I think the expression in a collection as a whole would give a less focused expression.

This shows that there are different possibility within the different lists and many different was to use the formula to give a different expression. It is still shows the importance of being consequent in the way one chose to use the variables/ingredients given by the formula in order to get a more focused result.

In conclusion this way of working generates the potential of elude certain obstacles of the process where it otherwise is a risk of getting stuck or losing focus of what’s important of the work. By studying the Baconian method en especially the segment were Bacon describes the “Idols of the mind”.(Bacon 1620/1990). I realised that the dangers of those examples given are risks that one eliminates by letting an external source decide most of the things for you. Of course there is a downside to this method of working. One of the struggles that I came across was the fact of being drawn by to opposing forces where on the one side you have the logic (the formula) and on the other side you have your own will of creating the something that will satisfy your own taste. So it is not the easiest way of working for your own ego, but the satisfaction of something that you crate can generate things that you would have never imagined your self. So there is a great potential in this way of working although there is many possibility’s of new and more refined ways of doing it this work is just one of the ways to do it.
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Appendix.

LAYERD IDENTETY - Emelie Johansson

Emelie’s aim is to investigate cross-sectional cuts in menswear.

In general I like the way Emelie has worked with the cut, especially how you can almost see how there is a horizontal line that cuts through the whole collection when lined up. I think the colors are contemporary to today's menswear trends.

The changes I have made to Emelie’s collection are mostly based upon how I think the collection could get even more clear and more appealing to a customer/client.

I have made changes in the order of the line-up because I think it gives it a better flow and it feels more representative. I have also added the placed print in more places because I think that just the one print feels lonely. I have also added the color on outfit nr 5 pants for the same reason. I have also added a shirt on outfit nr 1 to get a more dressed look. And to counter that look I have added slippers/cut out shoes.