

KARELIA UNIVERSITY OF APPLIED SCIENCES
Degree Programme in Design

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**CREATING PATTERNS FOR SPORTS AND TRAVELING
EQUIPMENT TEXTILES**

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Title

Creating patterns for sports and traveling equipment textiles

Abstract

The practical purpose of the thesis is to create textile patterns connected to Finnish culture, traditions and nature. The thesis furthermore aims to design new Finnish-looking textile patterns for some multifunction sports equipment, such as bags, backpacks, sleeping bags, tents and apparel.

The thesis process includes theoretical studies on Finnish culture, gathering and analyzing the visual information in order to find the basic elements for the pattern development, the creation of the four main sets of the patterns and the evaluation.

The questionnaire was conducted in face-to-face and online forms to receive feedback from potential customers. The presentation of the product was also sent to some Finnish sports equipment companies in order to get the opinions from professionals of the field. The results of the questionnaire will be used for the future development of the product.

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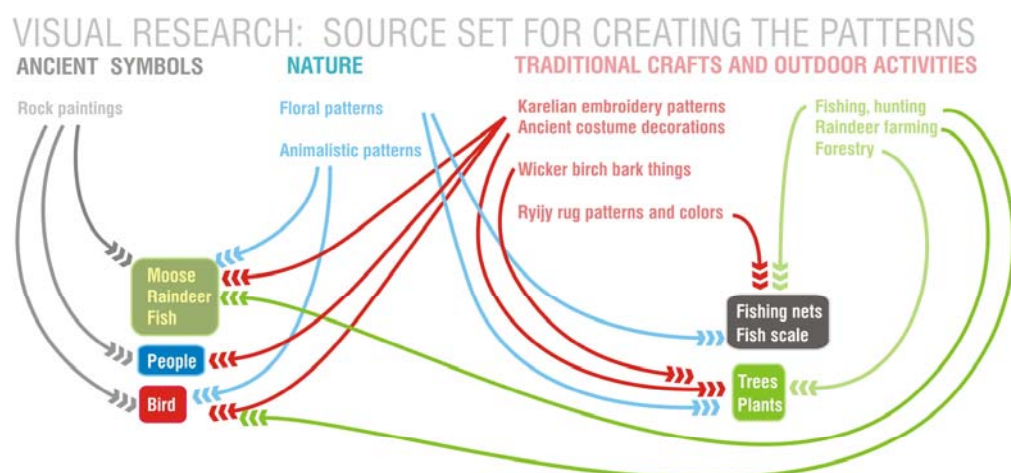
Appendix 1 : Patterns samples

Appendix 2 : Patterns presentation

1 INTRODUCTION

The practical purpose of the thesis is to create textile patterns connected with the Finnish (Nordic) culture, traditions and nature. The idea for the thesis emerged after visiting some sports shops in Finland where almost all the equipment textiles were in solid colors or with patterns what did not resemble anything authentically Finnish. Another consideration was the fact that travelers often want to bring something special home from the places they visited. Obviously, the tourists can buy some souvenirs, more or less useless objects, but the best option is to buy something unusual and useful at the same time, something that directly reminds of the country, its culture and traditions. Sports and eco tourism develop fast especially in Finland where many people go outdoors to engage in trekking, skiing, biking and enjoy the nature. As the part of sports equipment textiles are the most visible. The aim of my thesis work is to design new Finnish-looking textile patterns for some multifunction sports equipment such as bags, backpacks, sleeping bags, tents and apparel.

Three main directions of patterns development arose from the following sources: ancient symbols, traditional Finnish patterns, Finnish nature, and traditional outdoor activities. The first task was to analyze the sources in order to find some intersection points of the themes mentioned above and use them as a base for the patterns development (Picture 1).



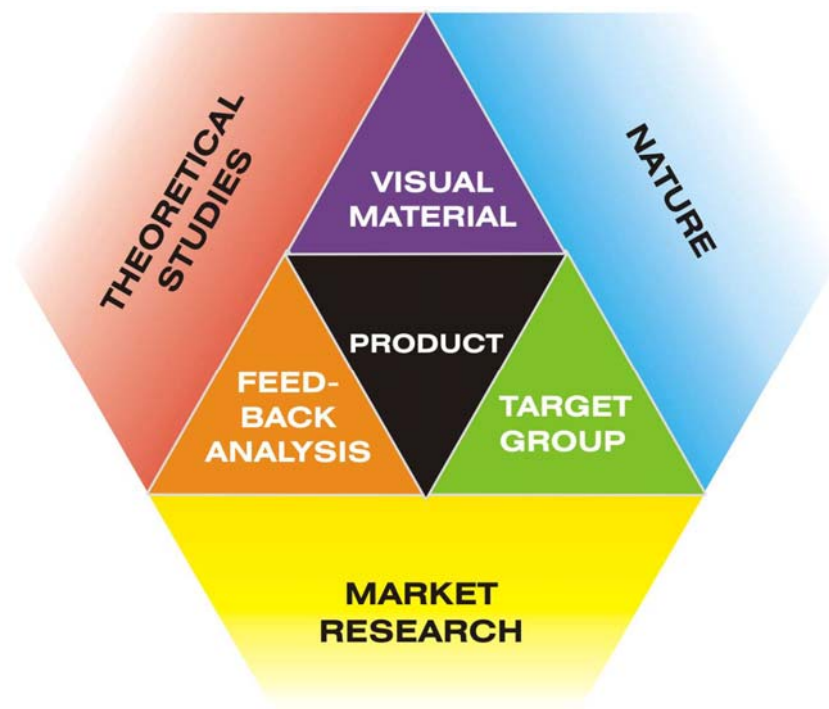
Picture 1. Main directions of the visual research.

As for the target group, it consists mostly of tourists, sportsmen and all the people who enjoy outdoor activities or are interested in Finnish culture, as well as young people, students and children.

2 THESIS FRAMEWORK

2.1 The main directions of the research

As the thesis is practice-based, the qualitative research seems to be an important way of gathering necessary knowledge. There are many interesting and important questions that appear from the very beginning of the research process. On one hand historical and cultural background obviously plays a large role, on the other hand the preferences of the target group is also in an important consideration. The main goals of the market research were to define the target group more precisely, gain a better understanding of the demand for the product and study the market niche of similar products on the Finnish market. Main methods of the research were short discussions with the potential customers, gathering visual information while visiting sports shops and information search on the internet. As for the theoretical studies, they included reading books dedicated to the Finnish history and visual culture and analyzing collected visual material concerning traditional decorative arts and Finnish nature. The diagram (Picture 2) depicts the connections between the main elements of the patterns development process.



Picture 2. Thesis framework

2.2 Market research

As it was mentioned before, the idea of creating the patterns appeared after the visit to a local sports shop in Joensuu. I was surprised with the fact that there was a fairly small amount of interesting sport textile designs and most of them were not Finnish. Against this background the bags and rucksacks by Dakine and Burton looked like a pleasant exception. As to Finnish producers, they usually prefer to use solid colors. To verify whether the first impression was right I visited all Finnish sport shops that I could find during approximately half a year and took some photos. The internet search also resulted in several main Finnish equipment producers' e-shops such as Halti, Karhu, Luhta and Savotta. Analyzing the collected information (my photos and equipment catalogues in internet), I concluded that the first impression was for the most part right. For some reason, very likely higher production costs, the Finnish producers do prefer solid colors such as bright, black, white and army green (Picture 3) although I found several interesting patterns among woven textiles.



Picture 3. Photos taken in Sport Master shop.

During the primary research the initial idea of the target group consisted of tourists and sportspersons have significantly changed. Thanks to the people who had the time to discuss the subject and agreed to participate in the short interviews, I realized that the target group could possibly be much larger. The main questions of the interview were whether people like the idea and if they would buy the equipment where the patterns were used. The reaction was entirely positive and included some children's opinions.

As a result the target group was expanded and now consists of tourists, sportspersons, all the people who go outdoors to engage in hunting, fishing, trekking, skiing, biking and enjoy the nature, as well as children and young people.

2.3 Nature as a source of inspiration

Being deeply involved in the process of patterns creation, I felt necessary to not only follow the decorative traditions but also include my own impressions of Finland and the Finnish nature and traditional activities such as fishing, hunting and forestry. During almost four years what I spent in Finland I took a sizable amount of nature photographs and made many sketches and drawings. The textures of snow, ice, stones, plants covering forest soil, wood and leaves became a part of the source visual material.

3 THEORETICAL BACKGROUND

3.1 Scope of the studies

The scope of the theoretical studies is narrowed by the aim of the thesis. Although the qualitative research includes a theoretical part, it consists mostly of a cultural study from the visual perspective. The purpose of this part of the research is to find out where are the meeting points of different visual traditions in Finnish culture. One of the key questions is how ancient symbols and nature are reflected in Finnish decorative arts and crafts. Another issue is how traditional Finnish outdoor activities affect the visual component of the culture. The meanings of the colors are also essential.

With the kind help of Karelia university librarians, I had found many useful books for the research. Some of them are in Finnish but they were extremely useful as sources of visual material concerning the traditional Finnish embroidery and other decorative arts. Within the constraints of this practical work, it is not possible to trace the origins of traditional Finnish patterns too deep. The most important question was to find some common features that unite most of the works of traditional applied arts. On the other hand it was necessary to leave out some elements what could also belong to other cultures and probably do not look authentically Finnish for the potential customer.

3.2 Ancient symbols

The study of prehistoric rock paintings of the central and eastern Finland provided a lot of information concerning symbols as well as interactions between people and nature in pre-historic times. This knowledge is one of the most important starting points in the process of creating new patterns, which could be associated with Finnish culture.

In the dissertation of the Finnish practical archaeologist Antti Lahelma *A Touch of Red: Archaeological and Ethnographic Approaches to Interpreting Finnish Rock Paintings* by (Helsinki University, dissertation, 2008) the author describes more than a hundred ancient paintings that belong mainly to the Stone Age and have been dated to ca. 5000 – 1500 BC. Almost all were painted on the cliffs of lakeshores with the use of red ochre. “The color of the paint ranges from dark brown to bright red, orange and even yellow, but the different hues do not appear to have been used to create shading or other artistic effects”, the author writes (Lahelma, 2008, 18). A lot of them are located on the shores of Saimaa and Päijänne. Similar rock paintings were found in Northern Sweden, in the Norrland region, in Telemark and Finnmark (Norway), the caves of North-Western Norway and in Russian Karelia.

The rock paintings contain schematic images of boats, elks, humans, handprints and geometrical signs. According to the dissertation, most common motifs of rock paintings are images of elk, boats and men. Archeologists associate them with hunting magic and shamanistic meanings. These symbols could depict ‘spirit helpers’ of shamans in their metamorphosis and spiritual journeys. The author writes: “...the painted cliffs themselves find a close parallel in the Saami cult of the sieidi, or sacred cliffs and boulders worshipped as expressing a supernatural power.

Like the Saami, the prehistoric inhabitants of the Finnish Lake Region seem to have believed that certain cliffs were ‘alive’ and inhabited by the spirit helpers of the shaman.” (Lahelma, 2008, 9). The author (Lahelma, 2008) suggests that elk and some other images are not necessarily related to the hunting in any way. In rock paintings motifs humans never hunt the elk and some of the elk images are highly surrealistic (two heads, enormous antlers, elk-human figure in a boat). This suggests that the elk was probably an essential spiritual symbol in the culture of ancient inhabitants of Finland.

3.3 Traditional Finnish patterns

The second source of visual material for developing the patterns consisted of the following:

- Iron Age costumes and decorative elements
- Ryijy rugs
- Karelian embroidery patterns

● Iron Age costumes

During 20th century on the territory of Finland archaeologists excavated and studied some ancient graves that belonged to the Iron Age. On the basis of their archeological finds the researches made numerous reconstructions of the 11-13th century costumes. The book *Ancient Finnish Costumes* by Pirkko-Liisa Lehtosalo-Hilander (The Finnish Archaeological Society, 1984) contains many photos and reconstruction drawings of Iron Age clothes, brocade bands, silver brooches with engraved ornaments and decorated tools. Among them the items from eastern Finland, from Savo and Karelia are represented. The items themselves as well as the reconstructions provide much information concerning patterns, colors and materials used at the time. It appears that the most common decorative elements of the Iron Age costumes were multicolored stripes, zigzags and swastika. The solar symbol and its modifications decorated women's aprons and mantles not only in Iron Age Finland but also in Lithuania and Estonia.

● Ryijy rugs

Ryijy rugs are traditional piled rug textiles widely used as bedcovers in the Nordic countries from as early as the Middle Ages. Raanu rugs are woven furnishing textiles “in which only the patterns have been piled” (Ylimartimo 1999, 27). According to Ylimartimo the deficiency of materials (e.g. sheep wool) in Southern Lapland caused the development of this method of manufacturing. Pirkko Sihvo (2009, 234), who has studied the history of ryijy rugs, states that they “were common items in the estates of priests before the middle of the 16th century” and “were used as bedcovers in Finnish castles.” Later on “they were used as wedding carpets and to decorate walls and sofas.”(Sihvo 2009, 247)

While in some countries such as Denmark, the ryijy rugs were “gradually replaced by quilted silk and calico covers” (Sihvo 2009, 234) they remained traditional part of the Finnish culture. The long development of the Finnish piled and half-piled rugs provides a great amount of items from medieval to modern times that makes them a perfect target for the visual research. The motifs used in the Finnish rugs designs depend on the time and the function. For example the church ryijy rugs of the early period are usually decorated with crosses and other religious motifs, the rose-motif of wedding carpets is “an example of decline caused by the German books of patterns” (Sihvo 2009, 247), the tulips came from the Orient whereas the fishing net, fish scale, cloudberry and lingonberry patterns which often cover the central field of the raanu rugs obviously reflect the Finnish ways of life and the northern nature. The reality always affected Finnish craftsmen’s works. This short poem what I found during my research describes perfectly the origins of folk decorative motifs:

Annan raanun kaaret – elämän kaaret

Curves in Anna’s rug – curves of life

Anna-tyttö, sokea Anna

Maid Anna, slender Anna

Pohjolan soma neiti!

You pretty girl from the North!

Miten nuo kaaret löydät,

How do you find those curves,

mista raanusi kuviot saat?

*From where do you get the patterns for
your rug?*

Kirkonkatosta, paanujen päistä?

From a church roof, ends of shingles?

Kalan kyljestä, suomuen välkkeestä?

From the side of a fish, shining scales?

Pyytömiehen verkosta, silmien seitista?

*From a fisherman’s net, the web of
meshes?*

Vai näillä vähillä langoillasi,

Or with your few threads, with some knots

muutamilla solmuillasi

Do you search for the curves of your life?

oman elämäsi kaariako etsit

grey like your everyday life

arjenharmaita

red like your feelings

tunteenpunaisia

green like growing

kasvunvihrea

brown like soil

mullanruskeita

Sisko Ylimartimo

Translation

by Liisa Reinikainen

Made in different styles from minimalist to very complex most of these rugs nevertheless have some common features. Similar to the Iron Age costumes the ryijy and raanu rugs show a wide variety of geometric patterns: squares, diamonds and rectangles, triangles and zigzags, multicolored stripes and dots. According to Parsons (1993,77) “the patterns are geometric also for technical reasons. Woven textiles... were made on looms on which it was not possible to create curved or organic shapes.” The same explanation is given in the book *Karjalainen Käspaikka* (Komulainen, Tirronen 1979, 49)

● **Karelian embroidery**

Traditional Finnish embroidery of 19-20 centuries also has strong tendency to simplify the shapes of humans, animals and plants into combinations of geometrical figures. Although not absolutely all of the Finnish embroidery and rag patterns are geometric it is possible to say that this is one of their dominant characteristics. The traditional 18-20th centuries embroidery patterns of the Russian population of Karelia and Ladoga lake region contain similar motifs and geometrical structures but sometimes differ significantly in the use of the line. The contours are often rounded or have rounded corners and compositions look heavier. The natural colors of materials such as black and white wool, bleached and unbleached linen usually appeared as a background for the embroidery or rug colored patterns. The classical colors of the 19-20th centuries Karelian embroidery were red and white. The natural dyes (main colors: red, brown, grey, green and quite rare blue) were used from ancient times until the end of 19th century when “industrially produced dyes were also brought to use.” (Ylimartimo 1999, 27)

3.4 Traditional symbols and images

The amount of recognizable symbols and images that appear in traditional decorative art is not large so it is possible to list almost all of them here:

Human being

Usually it is a highly stylized female figure with tree branches/birds in both hands or with riders/ horses on each side. This motif appears in Baltic region embroidery throughout the ages. According to the most widespread scientific point of view, the

composition represents the pagan goddess of fertility accompanied by two minor deities. (Kosmenko, 1989, 157)

The image of a rider originates from Oriental cultures. The variant with the hawk in the rider's hand could possibly be copied from Persian textiles of 7-8th century. The rider in a jacket or Kazak was probably adopted from the Russian neighbors. (Komulainen, Tirronen 1979, 44-45)

Moose or reindeer

The images of moose and reindeer were popular from pre-historic times. About 30 percent of ancient rock paintings are comprised of cervids. Before Christianity, their images decorated the skins of shaman drums as hunting magic symbols. Later on they appear in the traditional Finnish embroidery and may represent the reindeer rearing.

Horse

The motif probably has the same oriental roots as the image of the rider. According to archaeological finds it was widespread in the North-West Europe already in early Middle Ages. (Kosmenko, 1989, 88)

Bird

The symmetrical composition of two birds with a tree in the middle which is common for Karelian embroidery first appears in Egypt around 6th century. In Christian times, the bird transformed to become a symbol of the Holy Spirit. As for Karelian bird, it is a rooster, the symbol of purity and love (Komulainen, Tirronen 1979, 44).

Hybrid images

These anthropomorphic and zoomorphic figures often appear in South-Karelian embroidery. These fantastic creatures may have tree branches instead of hands or grow from a tree trunk. Among them are two-headed birds and two-headed horses with a tree growing from the back. The exact meaning of these images, obviously connected with the ancient myths has been lost in time. (Kosmenko, 1989, 82-84)

Tree

The tree symbolizes growth, peaceful life and prosperity. According to Parsons (1993, 8) it is the Yggdrasil or tree of life, although it looks a bit doubtful concerning Finland.

In the Viking era the Finns had their own beliefs and almost did not share the Viking mythology.

Eight-point star

Eight-point star appears everywhere in Nordic countries at least during the last four centuries. In Finland the name of the shape is *kannuksen pyörä* (a rowel).

Cross

After the arrival of Christianity the cross motif spread in Scandinavia and became popular among Finnish artisans. It can be found in rugs and embroidery patterns in few basic variations.

Swastika

The ancient solar symbol which was known about 3000 BC and widely used since the Bronze Age by the majority of Finno-Ugric nations. The swastika motif often appears in ancient Finnish, Lettish and Estonian textiles.

3.5 The results of the research: common features

The Finnish traditional patterns have following common features:

- Wide use of abstract geometrical shapes and ornaments such as zigzags, stripes, dots and diamonds
- The tendency to simplify images of people, animals and plants towards geometrical shapes
- A limited number of recognizable images and symbols

The most important common characteristic what unites Finnish and Karelian folk decorative art with pre-historical cultures of the region is that the patterns and symbols reflect human-nature interactions, the people's ability to not only survive in severe climate of the North but also see its beauty.

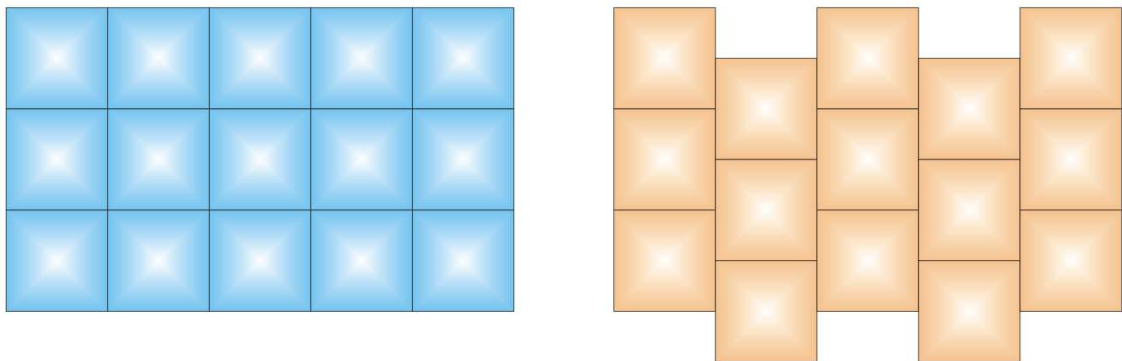
4 THE PATTERNS DEVELOPMENT

4.1 Essential principles and terminology of textile pattern design

Pattern is essentially an image that can be repeated many times on the surface of a fabric. Its lines, forms and color combinations should be balanced and have a rhythm.

Patterns can contain realistic, geometric, scenic images or other textures.

One- and two-directional layouts (Picture 4) are used for arranging pattern units on a surface. The understructures such as the **full-drop** and the **half-drop** help to form the pattern. “The full-drop repeat is a square formation where every other row is dropped full unit. In the more common half-drop repeat every other row is dropped half the depth of the repeat.” (Larsen, 1983, 75)



Picture 4. Full-drop and half-drop understructures

Pattern development is a multistage process what starts with an initial idea and continues through the process of the sketching, color studies, finding a balance between all the elements and appropriate size of the pattern unit. The pattern unit size depends on the purpose of a fabric: what is suitable for apparel is may not be good for the tourist tent.

Color is a fundamental element of textile design. “The use of the color in design is based on a knowledge of color theory, a sensitivity to color and experimentation.” (Larsen, 1983, 86). In order to achieve a color harmony a designer should work out own color scales and think through the use and meaning of each color. A **color plan** concerns the hierarchy of the colors in certain pattern and defines the predominant color as well as the additional companion and accent hues.

The understanding of the manufacturing processes plays a large role in the creation of patterns. For instance, the width of the fabric roll affects the size of the pattern unit. The industrial printing, especially low-cost production methods impose limitations on the

graphic elements and the colors of the design. It is also very important to minimize the waste of fabric with the help of the proper scale and the layout of the pattern.

4.2 The question of authenticity and the basis for development

The Karelia region was a true crossroad for many different cultures. For thousands of years the territory of modern Finland and the culture of its inhabitants was affected by many cultures and multiple waves of migration. Tribes from the East, migrants from the West, the Vikings era, the arrival of Christianity, six hundreds years of Swedish and hundred years of Russian government as well as continuous powerful cultural influence of European countries could not leave without a trace.

The resulting visual traditions inherited and altered different symbols, decorative elements, pattern structures and technologies. Finnish artisans changed them in accordance with their own vision. The shortage of some materials induced them to develop new methods of manufacturing while the peculiarities of a local life gave rise to new symbols and patterns.

The purpose of my visual research was to answer the important question: What is authentically Finnish in the Finnish visual culture? I realized I had to find the essentials what could serve as a basis for the future patterns development.

Analyzing the results of the research, I concluded that I should choose only those elements what clearly reflect the traditional occupations of the Finnish people and their closeness to the nature. In the process of selection, the following elements were chosen:

- Moose or reindeer as the most ancient but still relevant symbol
- Fish scales as the most authentic-looking pattern
- Abstract geometric structures as a dominant decorative trend
- Supporting symbols (e.g. the eight-point star as a common decorative element for all the North European countries)
- Rock paintings as a symbol of lasting human-nature interactions on the territory of Finland from the ancient times to the present.

In the process of creating my first set of patterns, sketching was the most important part. I constantly did quick sketches of interesting shapes what I found during my visual research as well as my own imagined ideas. I also tried different color combinations and pattern structures. When I did enough drawings, collected enough materials and the visual research was almost done I started to use computer to draw my patterns more precisely, experiment with colors and work out color scales, try different layouts and search for a better way to join the pattern units.

4.3 Rock painting patterns

For my Rock painting patterns, I used the images of human beings, reindeer and moose what I took from different photos of pre-historic drawings. With the help of Adobe Illustrator, I drew quite a big collection of the shapes (Picture 5) and started to experiment with the composition.

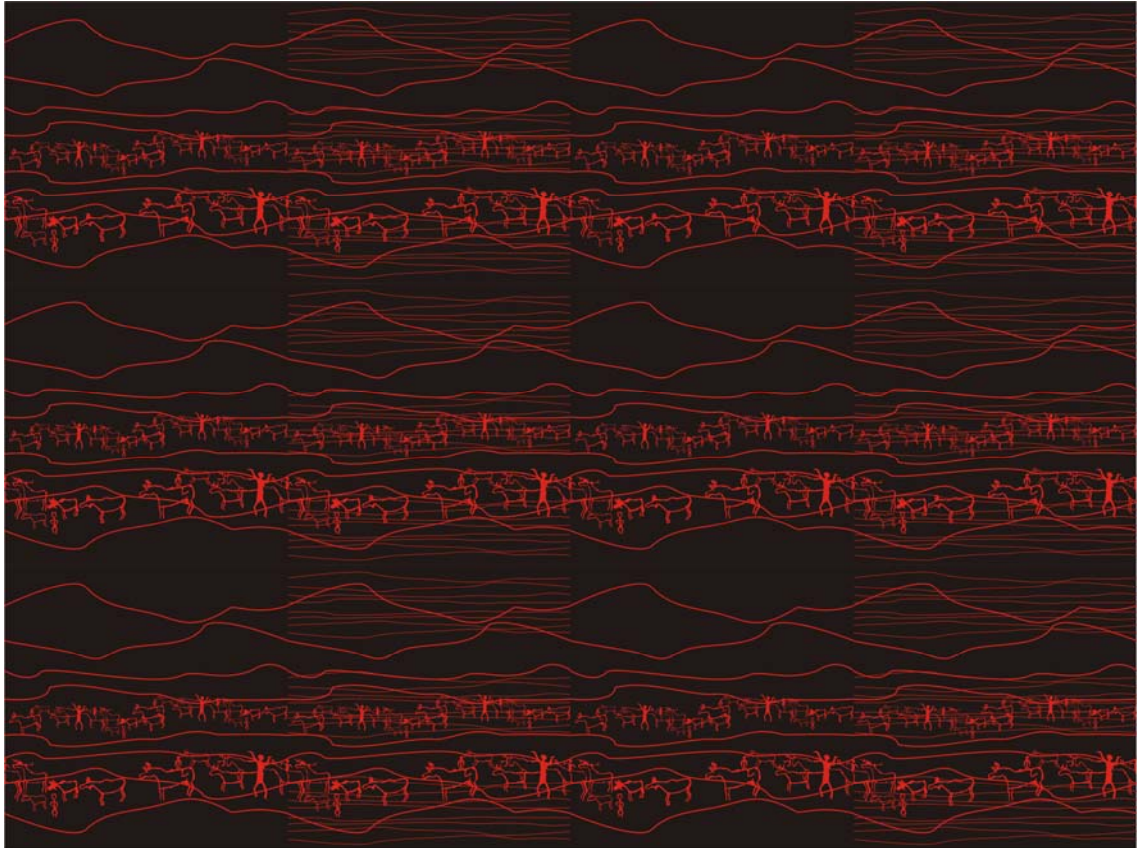


Picture 5. The shapes redrawn from the photos of the ancient paintings.

I did not make any changes to them except scaling. I decided to follow two directions to create both scenic and geometrical patterns for different purposes. The fabric with the scenic pattern could be used for instance in bags, backpacks and rubber boots while the geometrical one, as more universal, probably could be suitable for sleeping bags and apparel. The scenic pattern could represent the traveling of an ancient nomadic tribe. I added the image of landscape with hills as a background to the scenic variant of the pattern. To keep it more abstract and light and in the balance with the reindeer and human being images, I drew the landscape with thin lines (Pictures 6 and 7).



Picture 6. The development of the background for the scenic pattern



Picture 7. The scenic pattern units in repeat

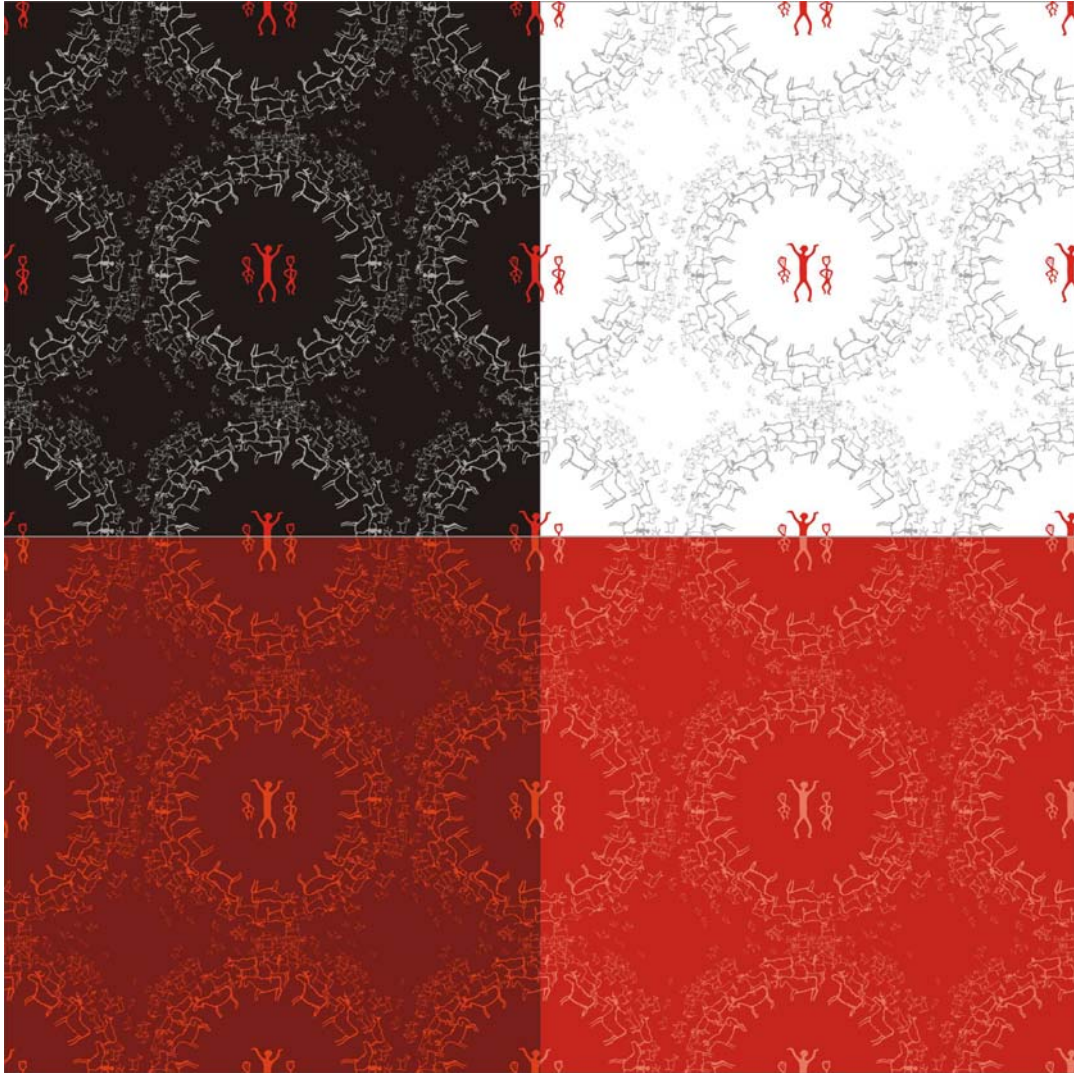
As for the color decision, the red color was chosen as the original hue of the rock painting. The background colors are black or white while the additional colors are the tints of red and grey (Picture 8).



Picture 8. Color scale for the Rock painting patterns

Then I arranged the image into full-drop network and worked with joints. The decision to lower the contrast in the geometrical Rock painting pattern was caused by the fact

that the fabric was supposed to be multipurpose. Interesting details should not attract too much attention otherwise they will outbalance the geometrical structure. One may see the details when examining the fabric closely while the geometrical structure should work at a distance. The series of experiments resulted in two geometrical structures and continued with the color combinations (Pictures 9 and 10).



Picture 9. Rock Painting Geometrical pattern 1 in different colors



Picture 10. Rock Painting Geometrical pattern 2 and its structure from a distance

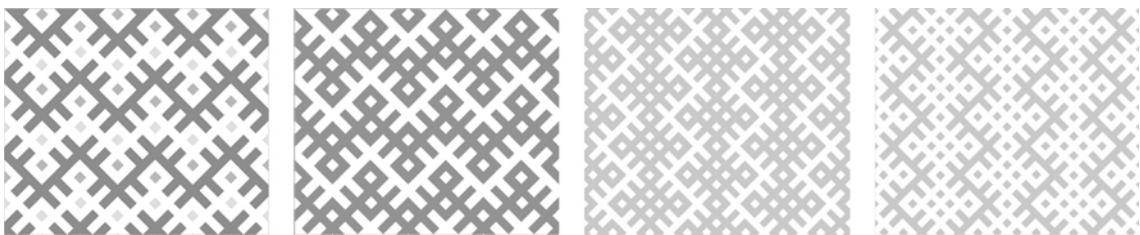
4.4 Patterns based on Karelian embroidery studies

The traditional Karelian embroidery provides a wide variety of geometrical ornaments. The one I have chosen as a basic element originates from East Karelia and it dates back to the late 19th century (Picture 11). In my opinion it has an interesting structure and could probably work well being arranged on the surface.



Picture 11. The basic element forms the structure of the pattern.

When the appropriate spacing was applied I discovered that if the image colors are inverted the resulting structure looks different and more suitable for apparel fabrics. After the main shape was mirrored, I got another structure (Picture 12).



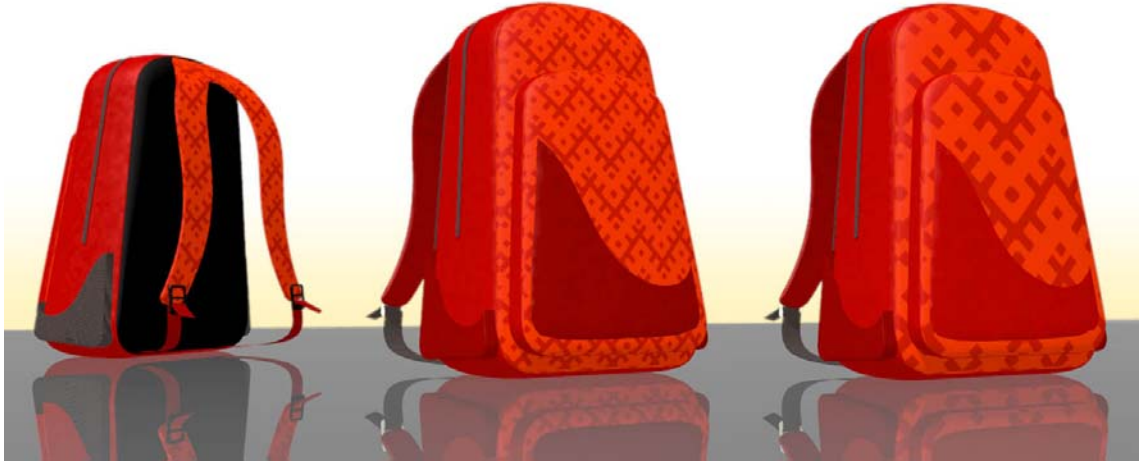
Picture 12. Two structures: the repeated and the mirrored units

At the stage of finding color combinations, I tried to consider the meaning of the colors and color combinations. For the process of creating the color scales, I used key words such as North, winter, frost and forest. In some of the scales, I used the traditional for Karelian embroidery red as predominant or an accent hue (Picture 13).



Picture 13. Some color variations of the geometrical pattern N1

At this stage of my work I started to draw the first 3D models of sports equipment such as rucksacks and do some renderings just to see how the patterns look when applied to the objects and how it affects the pattern size (Picture 14).



Picture 14. The first 3D model, the experiments with the pattern scale

I also decided to make 3D models of backpack and sleeping bag. Later on all the models were used in the presentation.

4.5 Fish scales patterns

The fish scales appears in traditional North Finnish half-piled rugs as a central field pattern from 17th century. Compared with other geometrical structures such as stripe, diamond, zigzag, net and square patterns that are basically Swedish and are usual for rug designs of the time, the fish scales looks more authentically Finnish. It appeared in the areas of Finland where the inhabitants were predominantly hunters and anglers and is not common in Southern Finland, which historically and culturally was more dependent on Sweden and other European countries. So it is possible to assume that the pattern originates from Finland. I found many astonishing variations of the pattern (Picture 15) in the book *Motifs of Life and Beauty of Material Deficiency. Half-piled Rug from Southern Lapland* (Sisko Ylimartimo, 1999) and did some sketches.



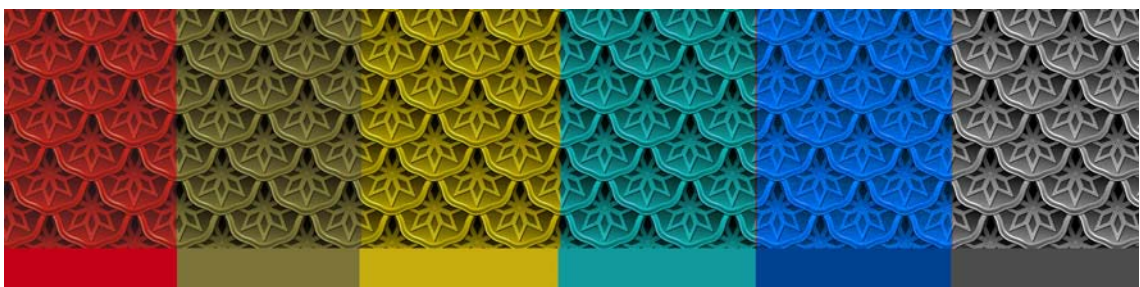
Picture 15. Fish scales patterns. Source: Motifs of Life and Beauty of Material Deficiency. Half-piled Rug from Southern Lapland (Ylimartimo, 1999, pages 20, 58, 39).

To avoid just copying the existing patterns I decided to change slightly the shape of the fish scale and combine it with the symbol of eight-point star (Picture 16). As for the colors, I applied gradients to achieve a tree-dimensional effect.

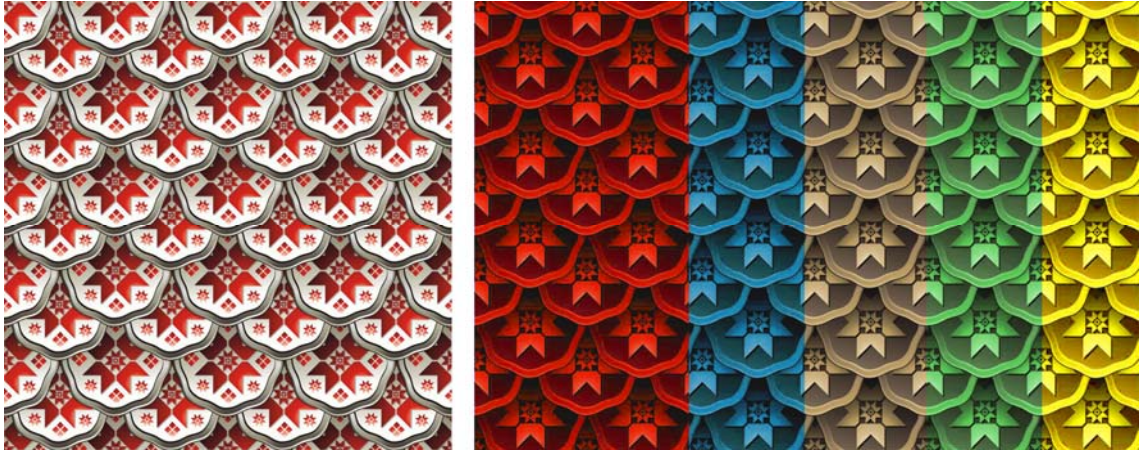


Picture 16. Some of the fish scale pattern units

The predominant color is mostly red. I also kept the combination of red and white as traditional and experimented with other colors using the key words mentioned above (Pictures 17 and 18). Then I put the units into the structure of fish scale using half-drop overlap. The pattern can be used for decorative purposes, for instance for children apparel as well as for backpacks and bags details in the combination with the tints of solid predominant color.



Picture 17. Fish scale pattern №1: experiments with colors.



Picture 18. Fish scale pattern №2 “Traditional” and its simplified variation in different colors

4.6 Other patterns

Experimentation is the essential part of design. During the process of creating the patterns based on traditional shapes, structures and colors, some new ideas emerged. For example: How to show a moose without portraying the animal itself? Or how could I change the military character of usual camouflage patterns?

As the result of the experiments with shapes and textures, two new patterns were created. In one of them I use stars made of moose antlers and the imprints of moose's hoofs on the snow (Pictures 18 and 19).

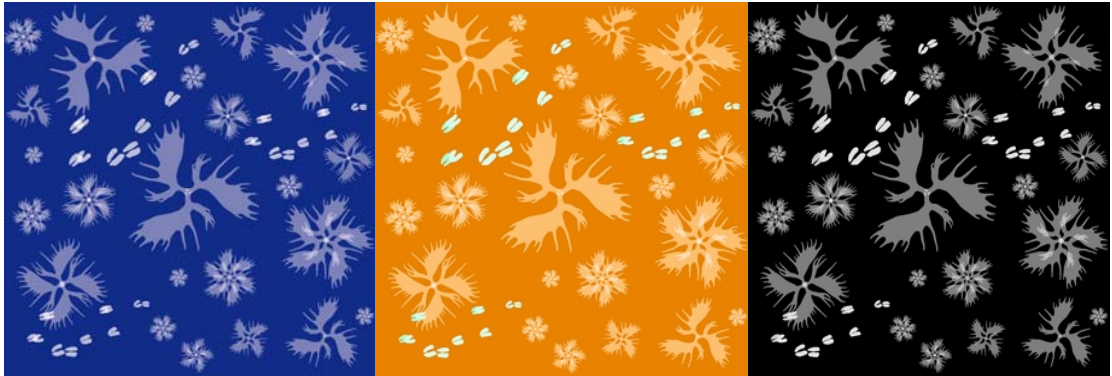


Picture 19. The elements of Moose pattern design: the images of moose antlers and tracks



Picture 20. The experimental “star” or “snowflake” shapes made of the antlers

In this case I permitted myself to play freely with the colors just to see what happens if I detach the colors from the meanings of the shapes (Picture 21).



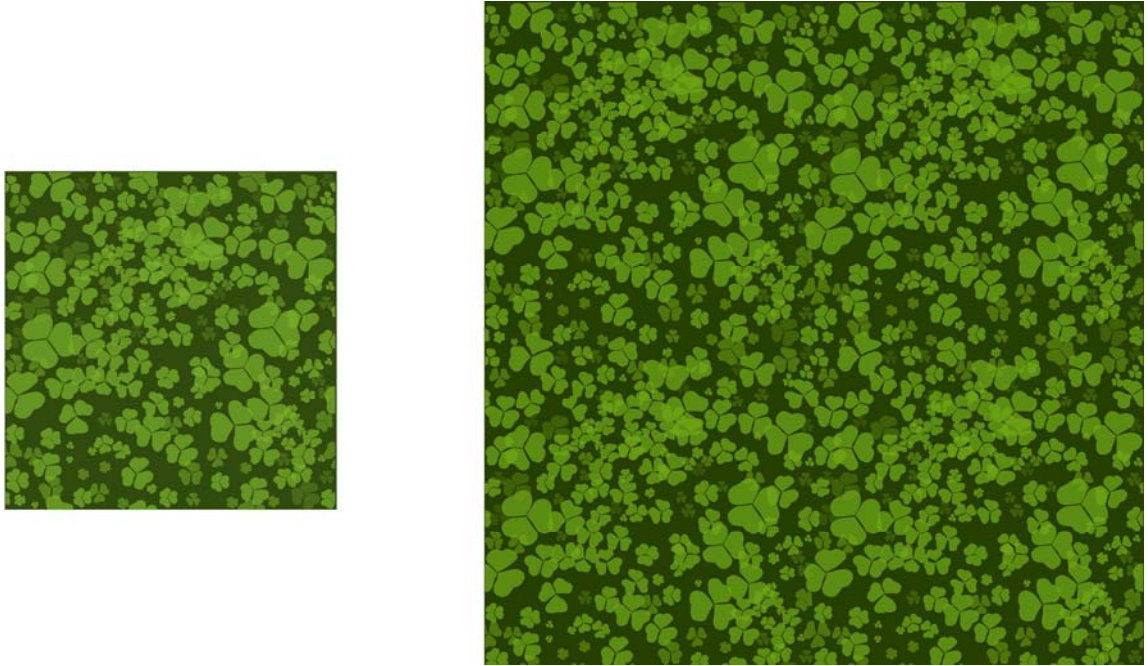
Picture 21. The final variant of the pattern in different colors

The numerous photos of forest floor textures what I took being in Finland (Picture 22) helped me to draw the sketches for the second pattern. The main element of the pattern is the leaf of the wood-sorrel (*Oxalis acetosella*) arranged so that the image look realistic and natural. The wood-sorrel is common plant that grows everywhere in the Finnish fir forests.



Picture 22. The wood-sorrel and some other photos of nature textures

For this pattern, I had to pay special attention to the joining areas. The joins between the pattern units should not be pronounced otherwise it would be useless as a camouflage coloring (Picture 23).



Picture 23. The Wood-sorrel pattern: single unit and repeat

Taking into consideration the main purpose of the fabric (to replace usual military-looking camouflage pattern) the green-khaki color scales were obviously most suitable for it. Nevertheless, I did some experiments with other color scales because the pattern could be suitable for other purposes such as children apparel or, for instance, rubber boots.

5 CUSTOMERS FEEDBACK

The customers' feedback is necessary to evaluate the created product. The opinions of the potential customers as well as the comments from the professionals in the field of sports textile design could help in the future product development. To collect as much responses as possible I decided to follow the simple action plan:

- 1.** Create the presentation of the patterns
- 2.** Send the presentation to several companies in Finland
- 3.** Print it along with the patterns samples as the visual material
for the interviews with the customers
- 4.** Create an internet questionnaire
- 5.** Collect and analyze the results

5.1 3D visualizations and the presentation of the patterns

In order to make an interesting presentation of the product for the potential customers and companies I drew some 3D models of sports equipment (in Rhinoceros 4.0) and applied my patterns to them (Picture 24). Then I created multiple renderings of the models and selected the best ones for my presentation. The presentation itself was created with the help of Adobe InDesign and printed to PDF file.



Picture 24. 3D visualizations

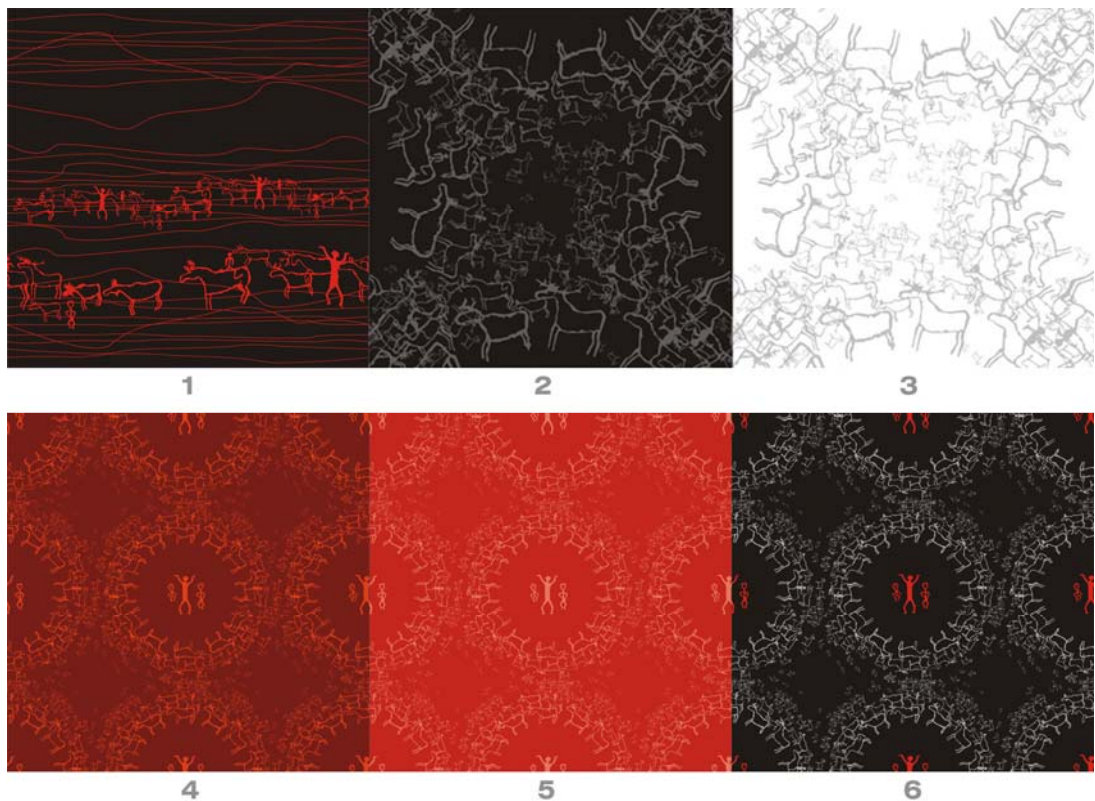
I also printed out the presentation to display it later in interviews. The real scale samples of the patterns were printed out in color as well, at first on paper and later on fabric.

The presentation was sent to the Finnish companies such as Halti, Luhta, Savotta and some others. Although I sent the email with the presentation several times, most of the companies did not give me any answer. The only exception was Halti's Design and Product Management department from where I received an email with quite positive feedback. Nevertheless, I will continue development of the patterns so that I could use them later on as a part of my freelance professional project.

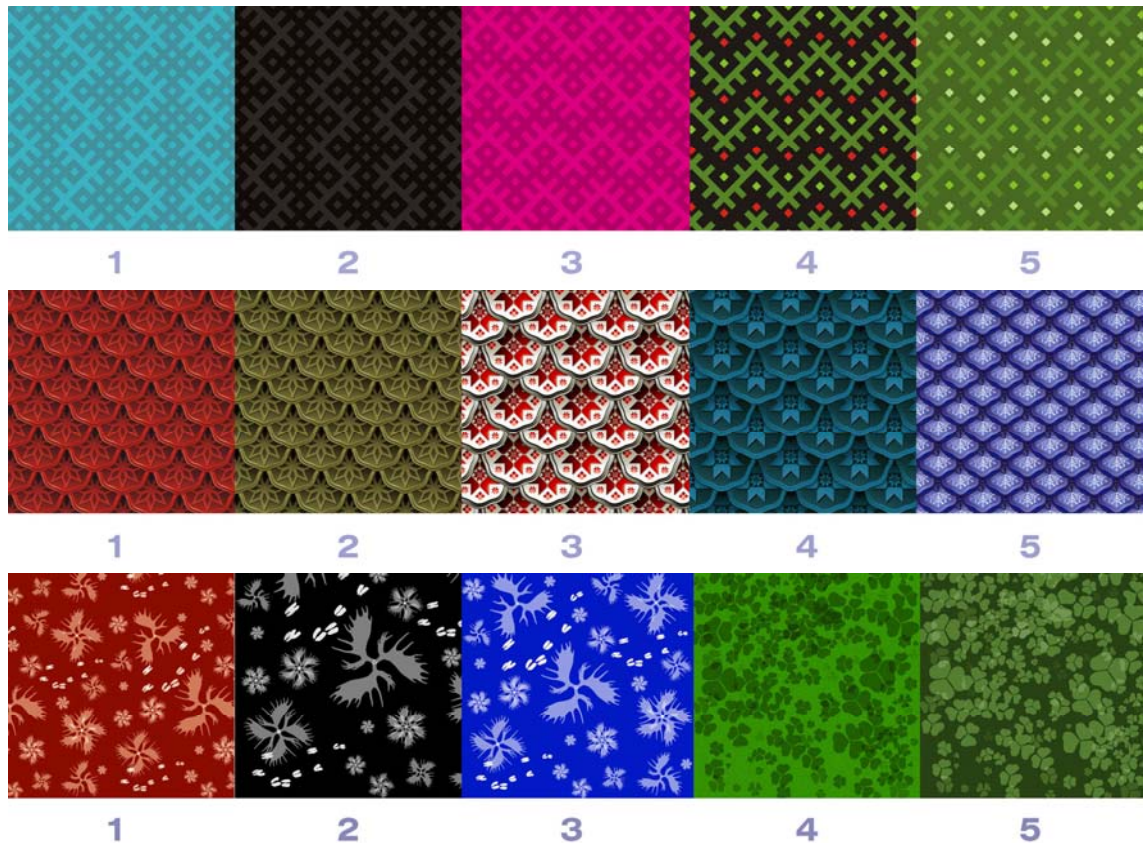
5.2 Questionnaires

In the field of design the realization of any idea demands immediate feedback. It provides the necessary knowledge for the further development of a product or a service and gives the designer the possibility to estimate own abilities and skills.

In the early stages of the patterns creation, I conducted some short discussions with people who were willing to talk over my ideas. They were my teachers, my acquaintances and their children, some Russian tourists I met in Finland by chance, salespeople, librarians, a manager of a tourist company and a professional artist. At times I just gave quick description of the main idea and asked for their opinions in brief and at other times it was an in depth and productive discussion. I was slightly surprised and completely satisfied with very positive feedback I received in the beginning, so I proceeded with my patterns rather effectively and after several weeks of work the first set of the patterns was ready. To evaluate them I made up a simple questionnaire, which contained the samples of the patterns and a few questions. As I had created four groups of the patterns, I chose some samples from every group for the evaluation (Pictures 25 and 26).



Picture 25. The Rock painting pattern samples for the questionnaire



Picture 26. The geometrical, fish scale and nature patterns samples for the questionnaire

The internet version consisted of six questions:

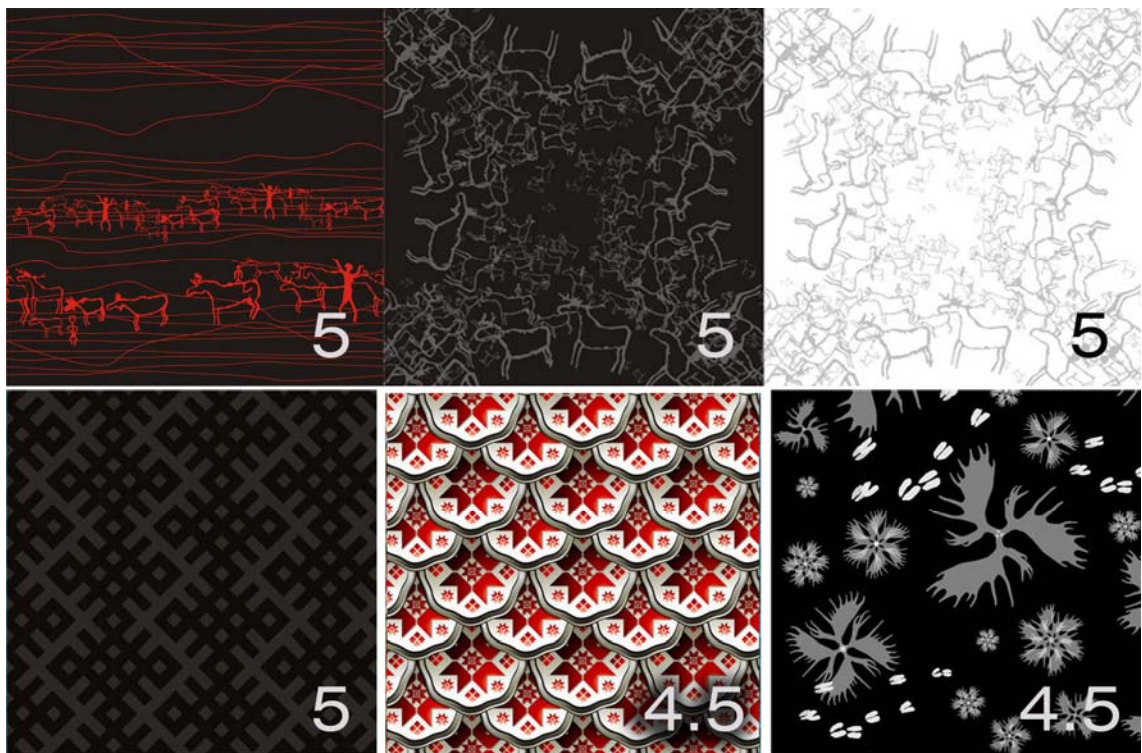
1. Do you see any connections between the patterns and Finnish symbols, traditions or nature?
2. Please rank the each of the patterns on a five-point scale.
3. Are those patterns suitable for sport equipment such as sports bags, cases and backpacks, sleeping bags and sports apparel?
4. Do the patterns look more attractive then they are in solid colors?
5. Would you buy some sport equipment where the patterns were used? (e.g. backpacks, sleeping bags, children clothing, rubber boots)
6. Where else they also could be used in your opinion?

The printed version that I used for the face-to-face contacts with the potential customers was basically the same but I also translated it into Russian. With the help of online and printed versions of the questionnaire, I gathered some opinions and suggestions.

Twenty-four people participated in the questionnaire. Most of them (80%) have answered that they can see the connections between the patterns and the Finnish visual culture and nature. 60% agreed that the patterns look more attractive than they are in solid colors, while the rest of the participants were not sure. All the participants answered that the patterns are suitable for sport equipment and they would buy some equipment where the patterns were used.

As for the last question, I received some interesting suggestions concerning the use of the patterns. The participants suggested that some of the patterns could be used for bed sheets, tablecloth, kitchen towels, curtains, soft furnishings and crockery.

The participants ranked each of the samples on a five-point scale. The picture below shows the patterns, which have got the most appreciation (Picture 27).



Picture 27. The patterns evaluated as the best ones

6 CONCLUSION

The main outcome of the thesis work was the creation of the patterns for sports equipment textiles. The primary set of the patterns contains four different groups according to the directions of development. To evaluate the product the face-to-face and online questionnaires were conducted at the final stage of the process. The analysis of the customers' feedback gave mostly positive results and pointed out the ways to the subsequent development of the product.

Designing the patterns was a multistage process in which various methods, skills and tools were used and I learned a lot that was quite new for me in the field of the textile design. For instance, when some samples of my patterns were printed on different types of fabrics, I saw what had happened to the small details of the resulting image and how the structure of the fabric had affected the line thickness, the brightness of the colors and the contrast levels.

Among the secondary goals of my thesis was to practice 3D drawing as much as possible. It was the reason why I did not use ready 3D models from internet sources for my presentation. Although my 3D visualizations are still not perfect, it is an improvement on all my former use of the Rhinoceros.

Despite the fact that the preliminary theoretical studies were bound by the practical purpose of the thesis they gave me basic overview of the history of the Finnish visual culture, the intercultural connections between Finland and the other European countries, influences of the Eastern civilizations and the ancient origins of the main symbols. I found the subject so interesting and promising with relation to my professional development that I still continue the research although the practical purpose of my current work is achieved.

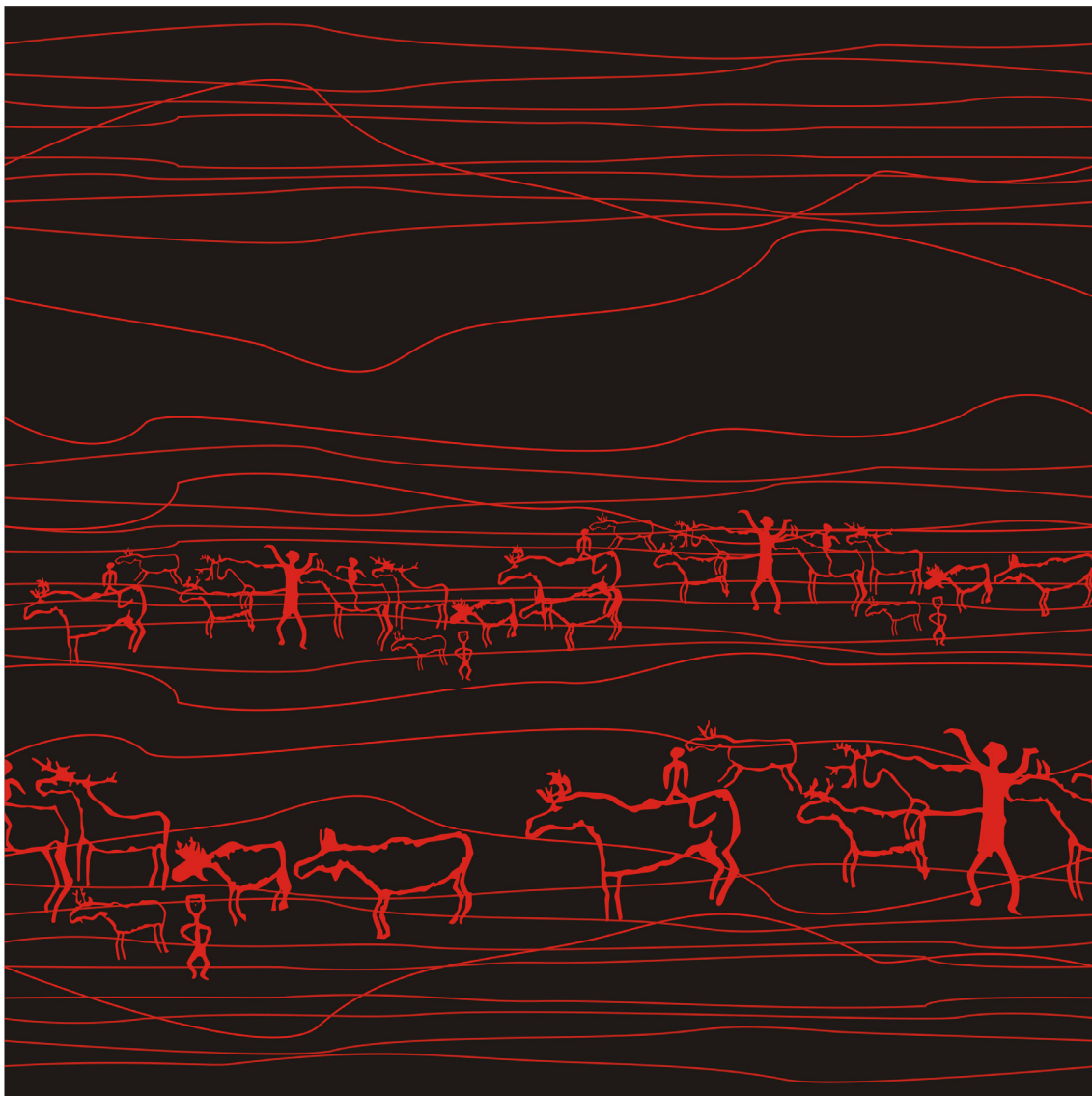
The results of this thesis work will be developed later on and become a part of my freelance professional project concerning the computer vector drawing for photo banks.

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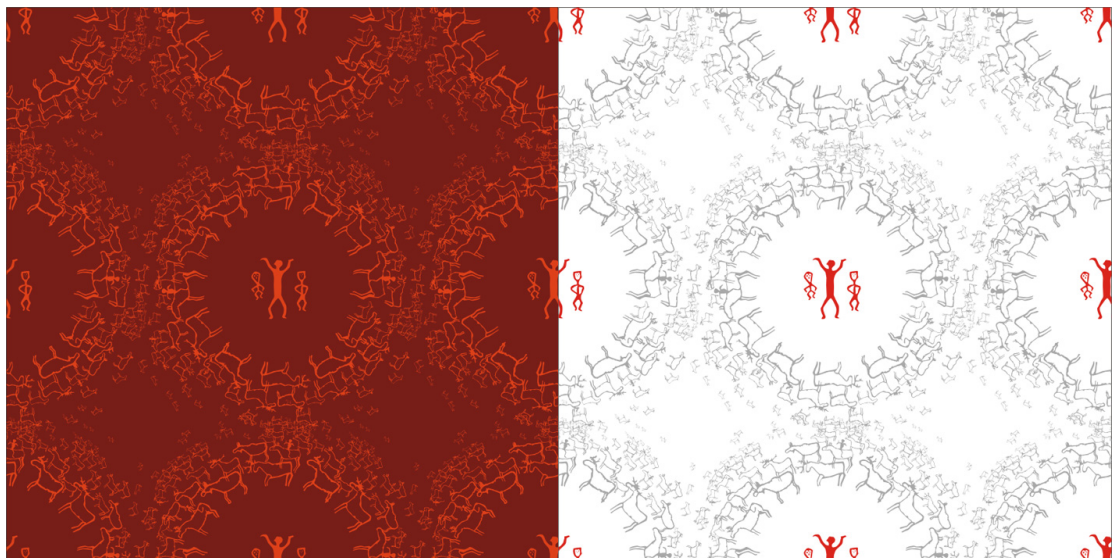
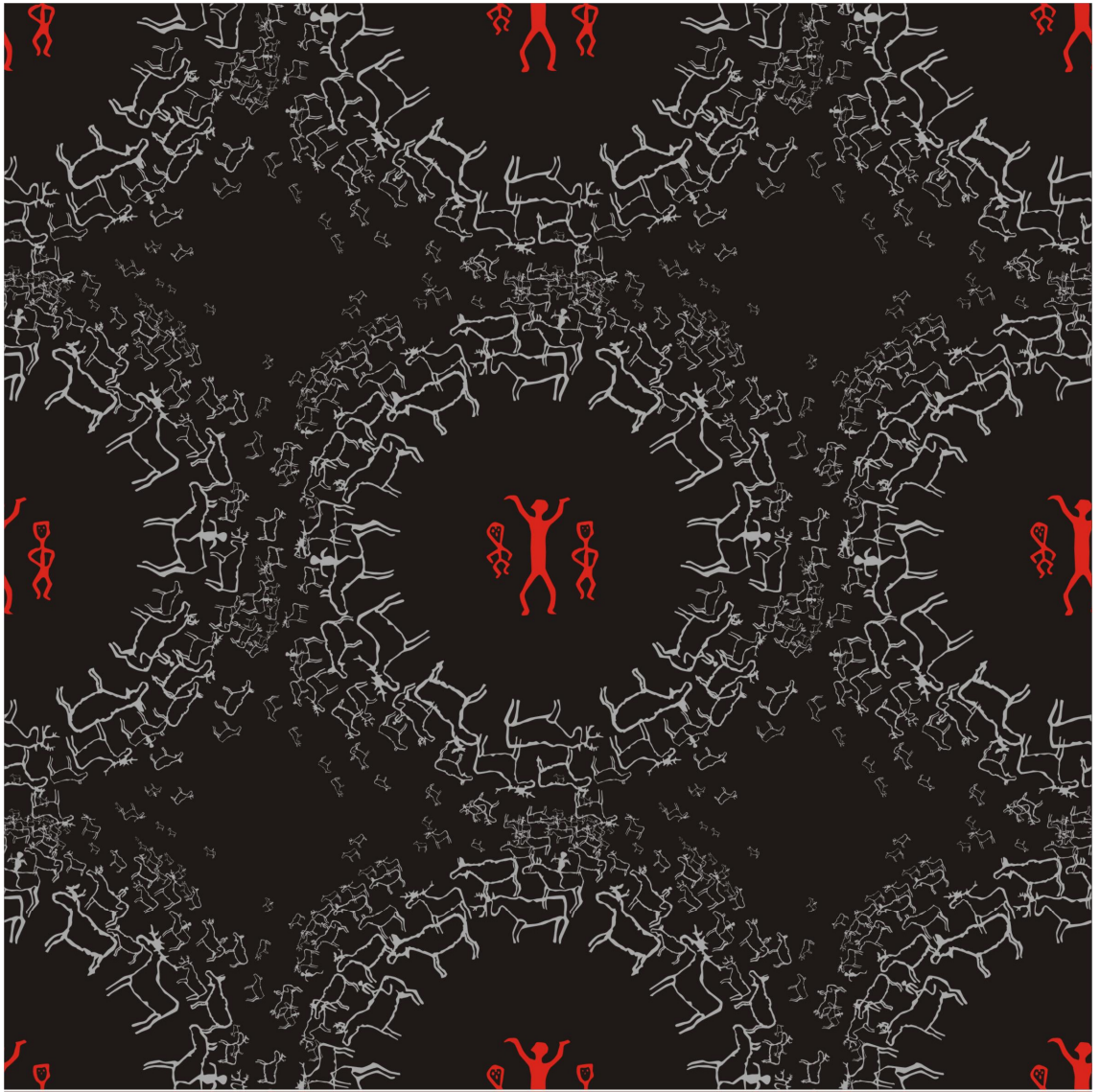
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Patterns samples

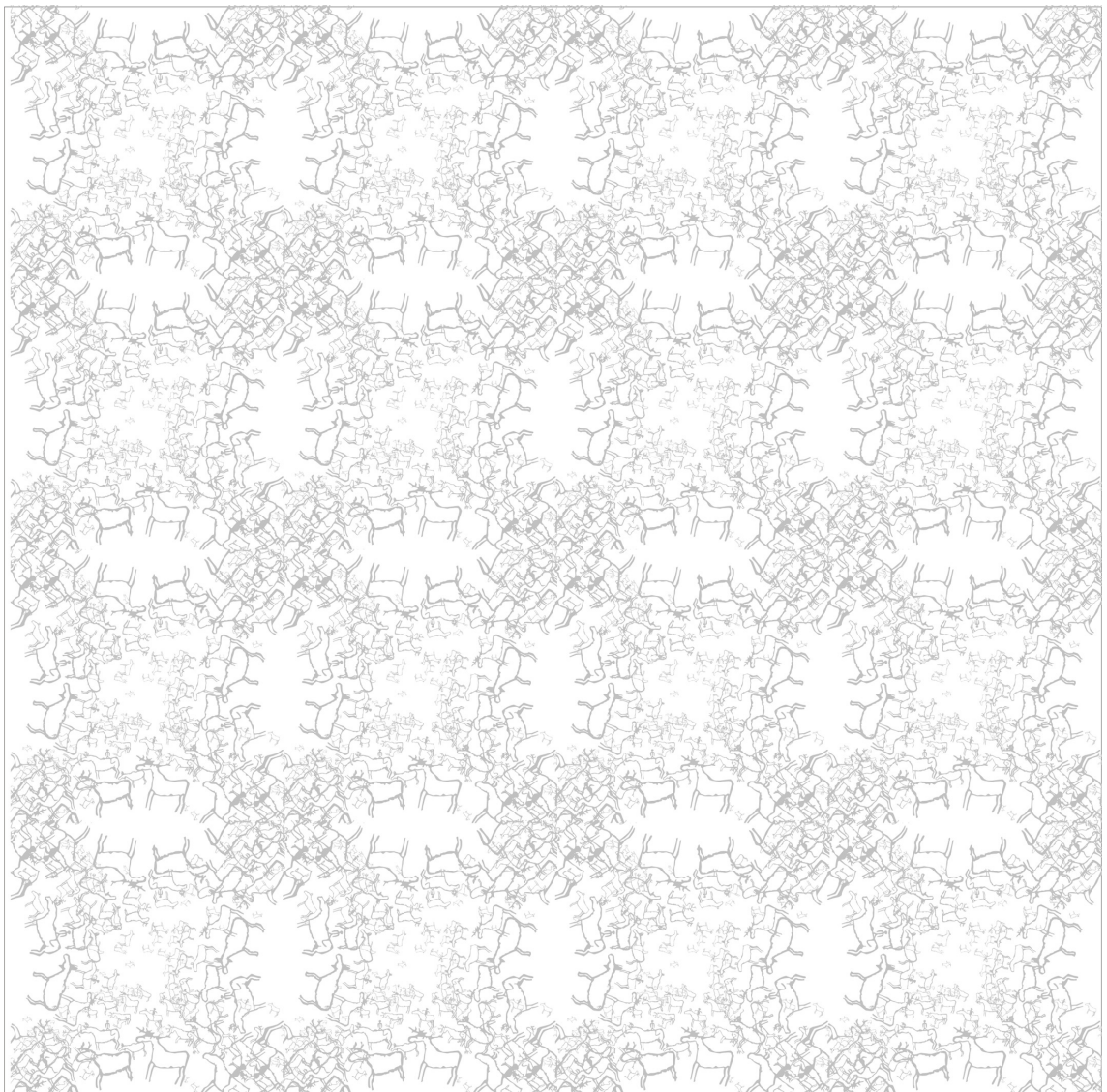
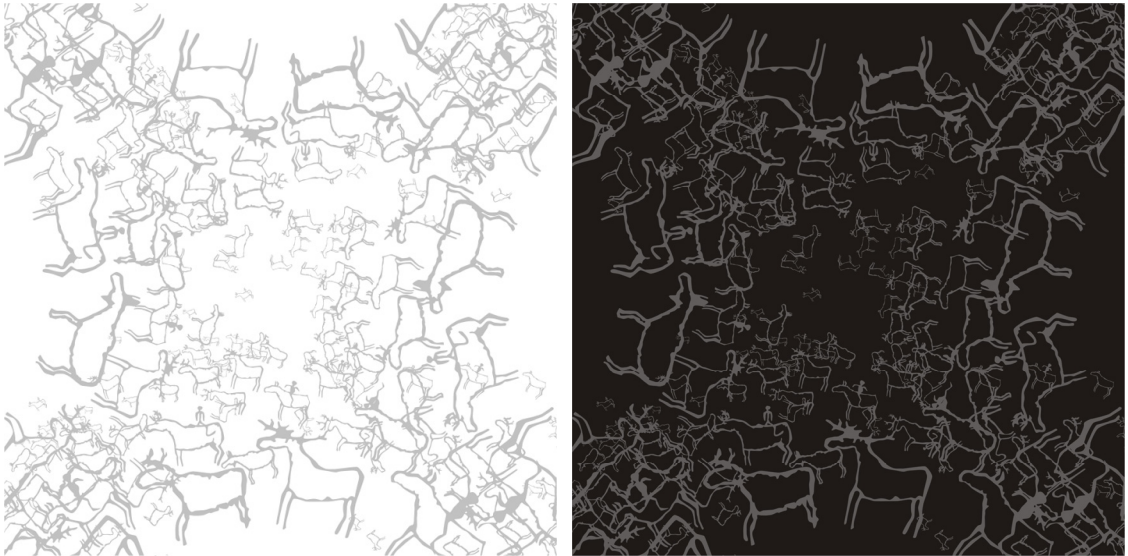
Patterns based on ancient rock paintings



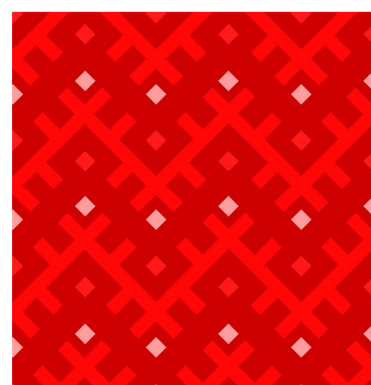
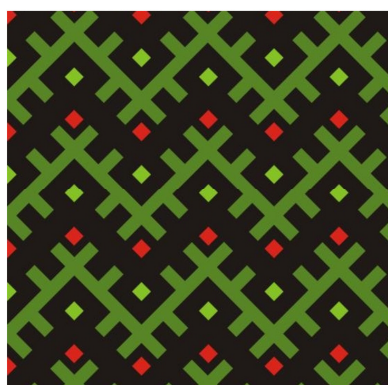
Patterns based on ancient rock paintings



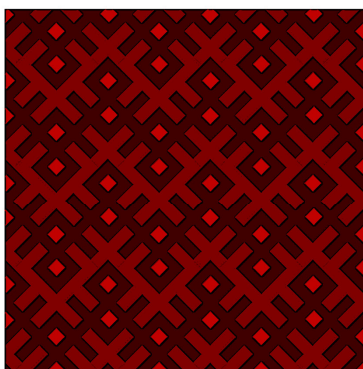
Patterns based on ancient rock paintings



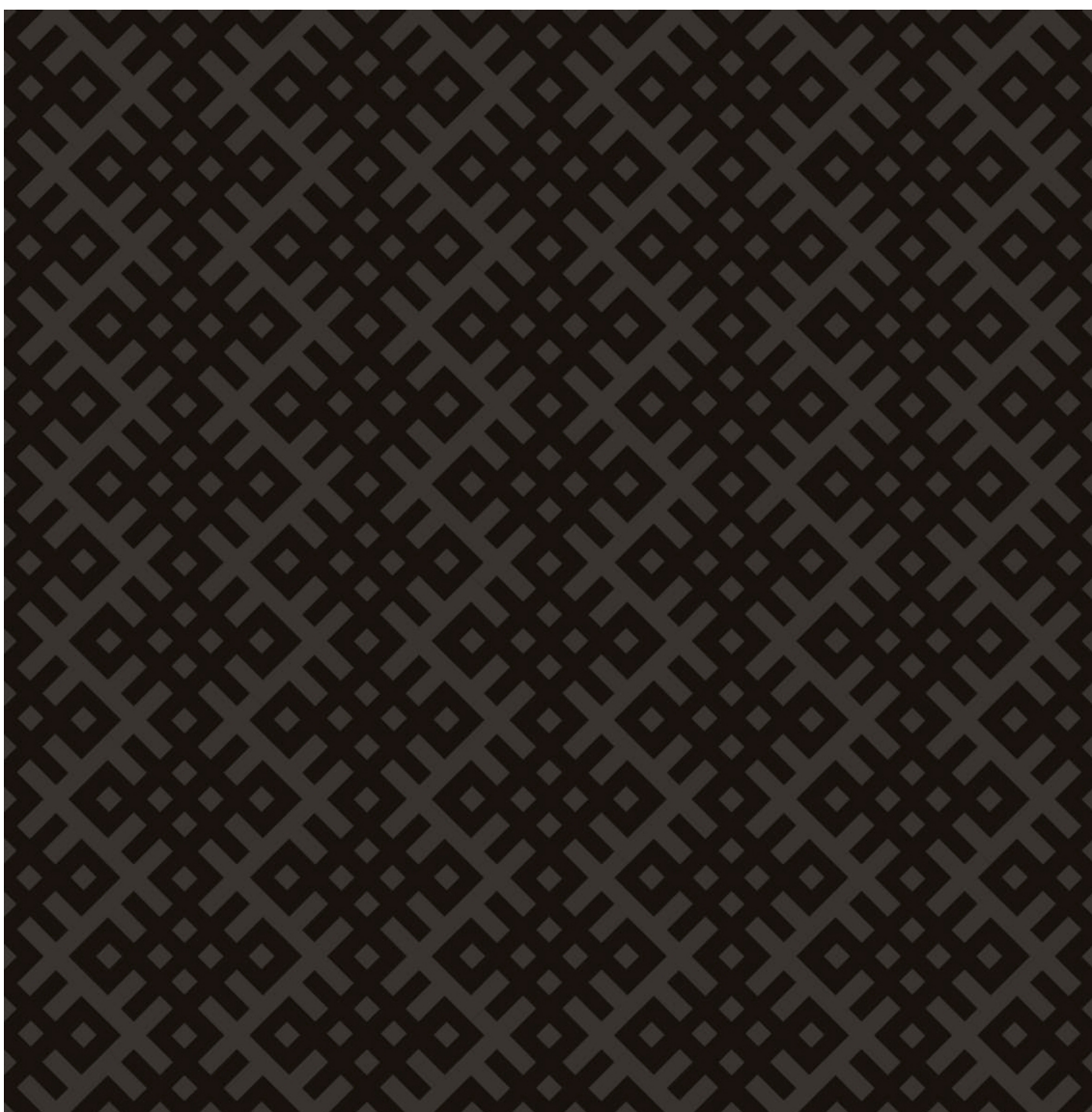
Patterns based on Karelian embroidery



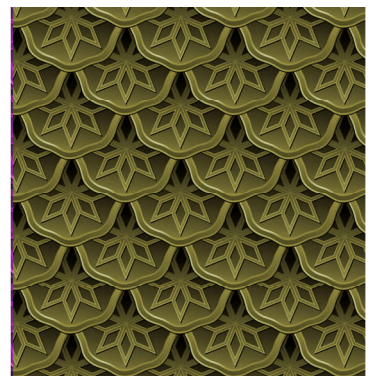
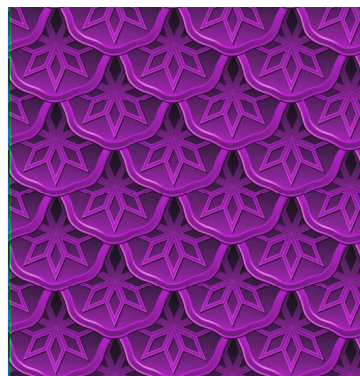
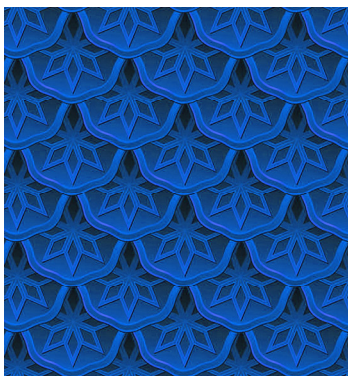
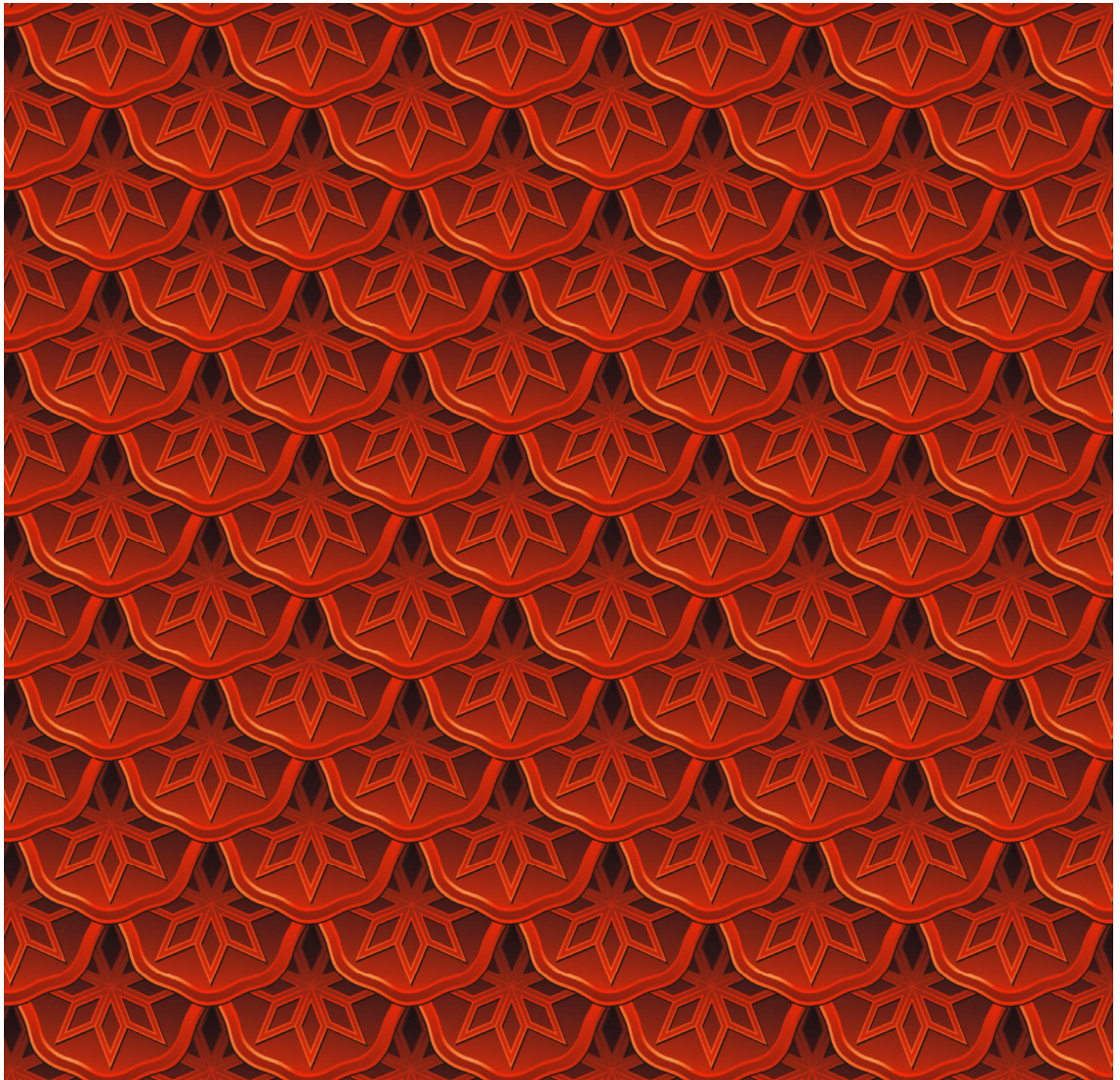
Patterns based on Karelian embroidery



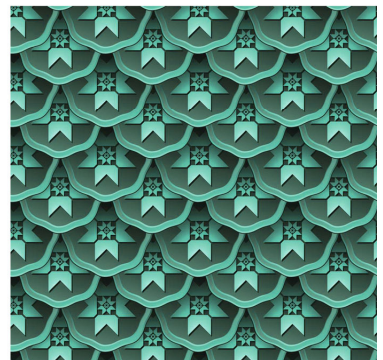
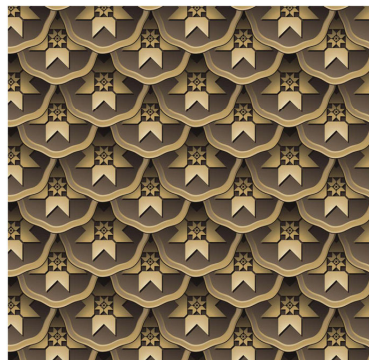
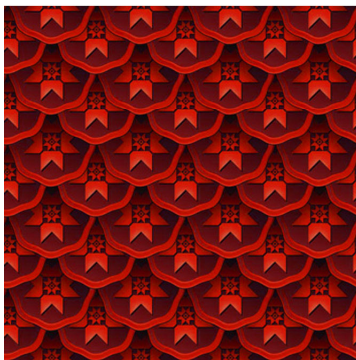
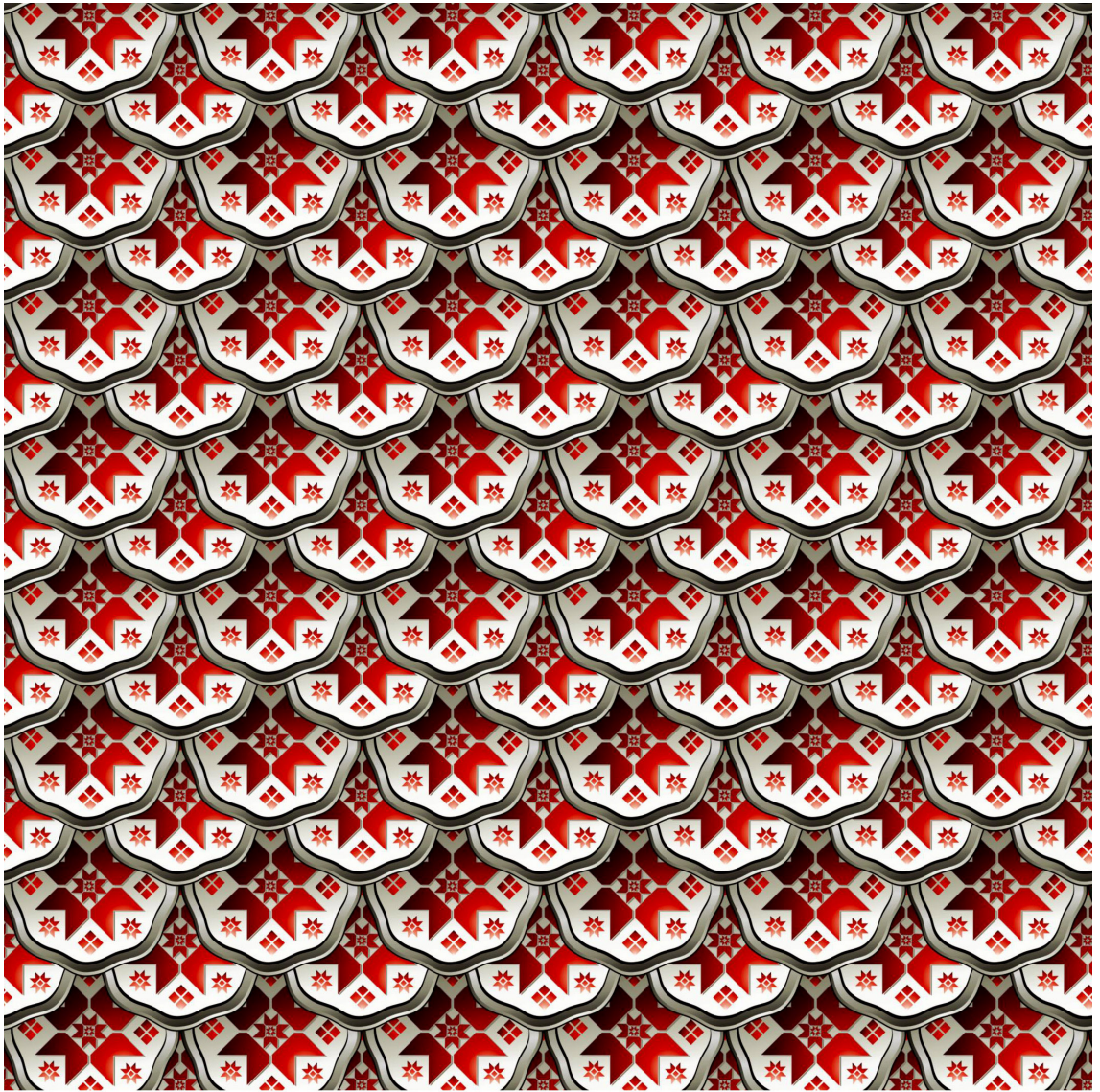
Patterns based on Karelian embroidery



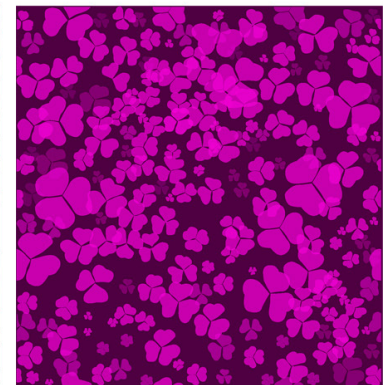
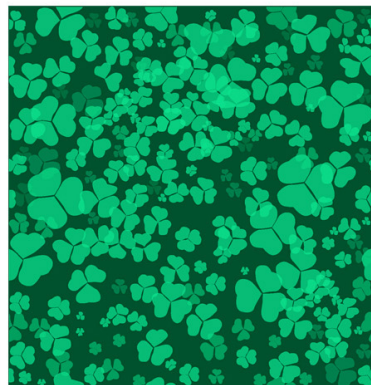
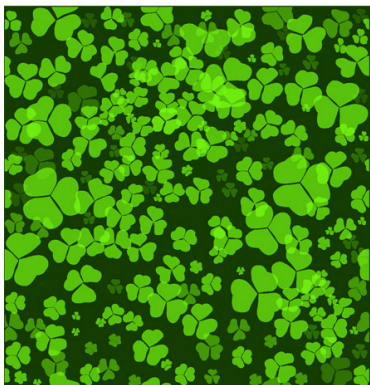
Fish scale pattern 1



Fish scale pattern 2



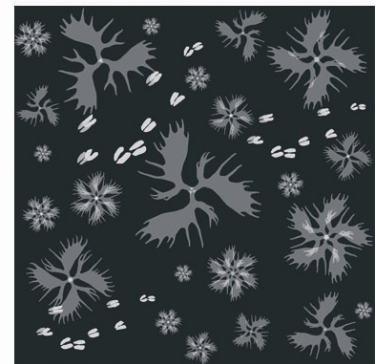
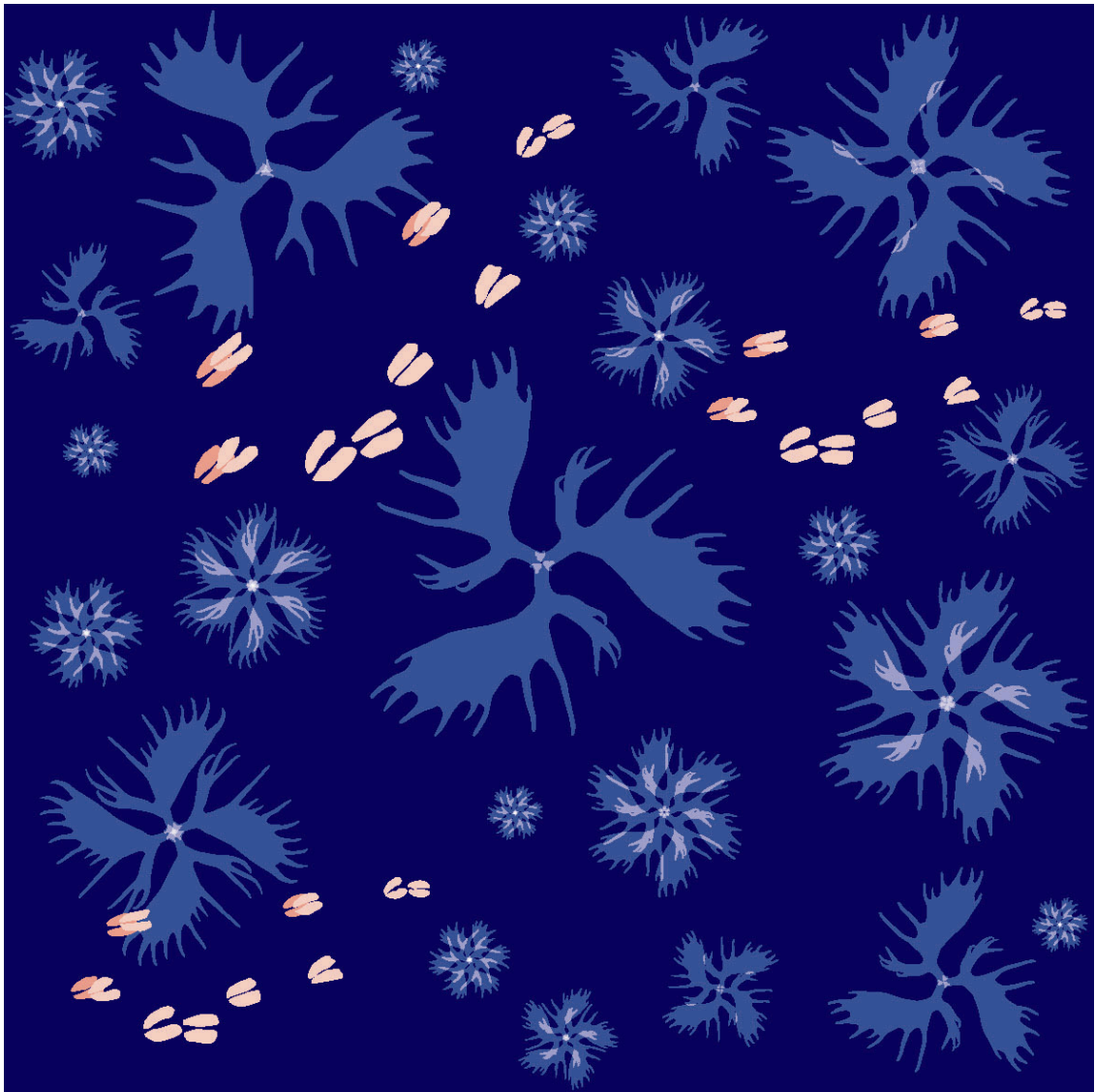
Wood-sorrel pattern



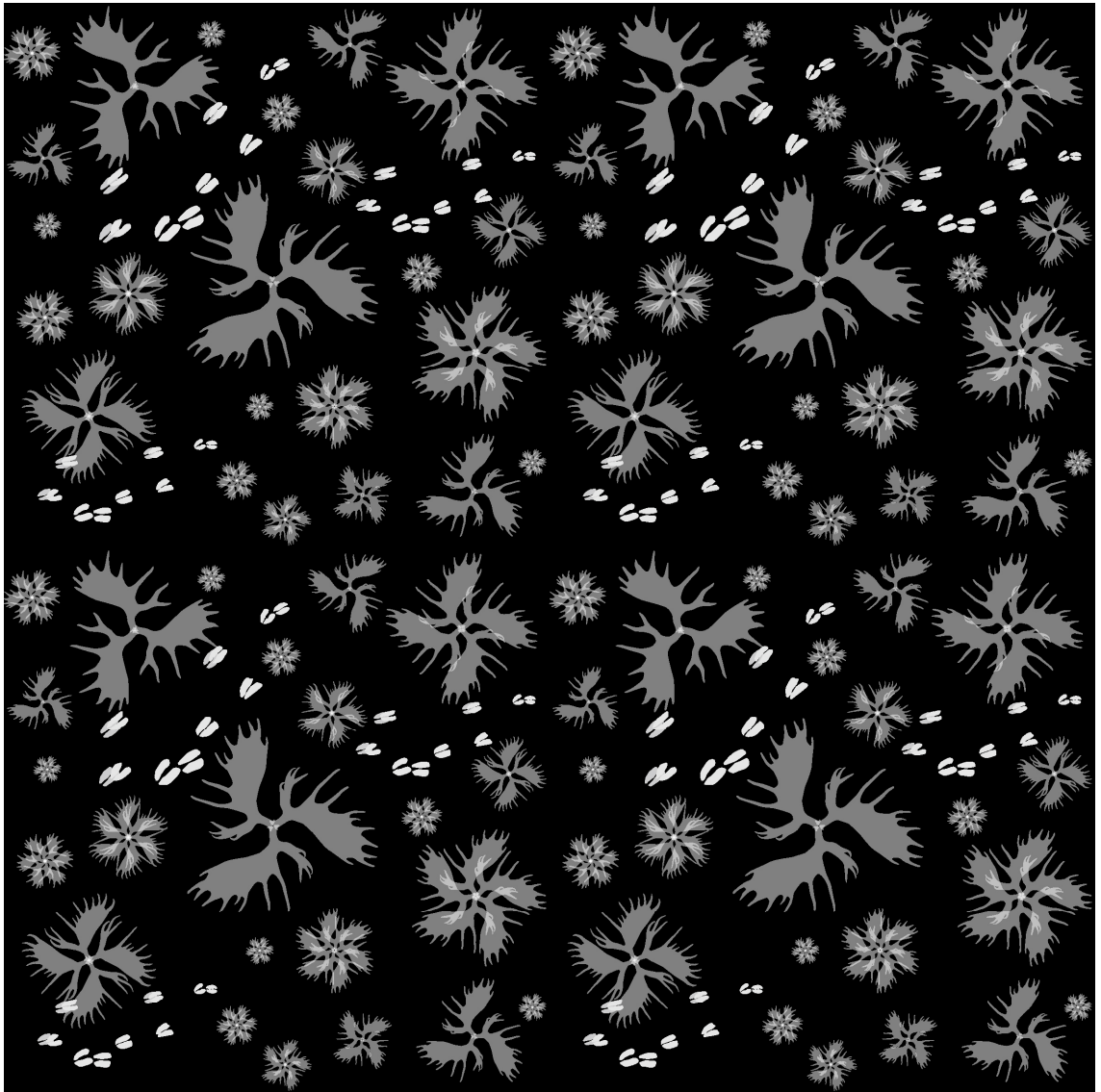
Wood-sorrel pattern in repeat



Moose antlers pattern



Moose antlers pattern in repeat





KARELIA UNIVERSITY OF APPLIED SCIENCES
Degree Programme in Design

Maria Arsentieva

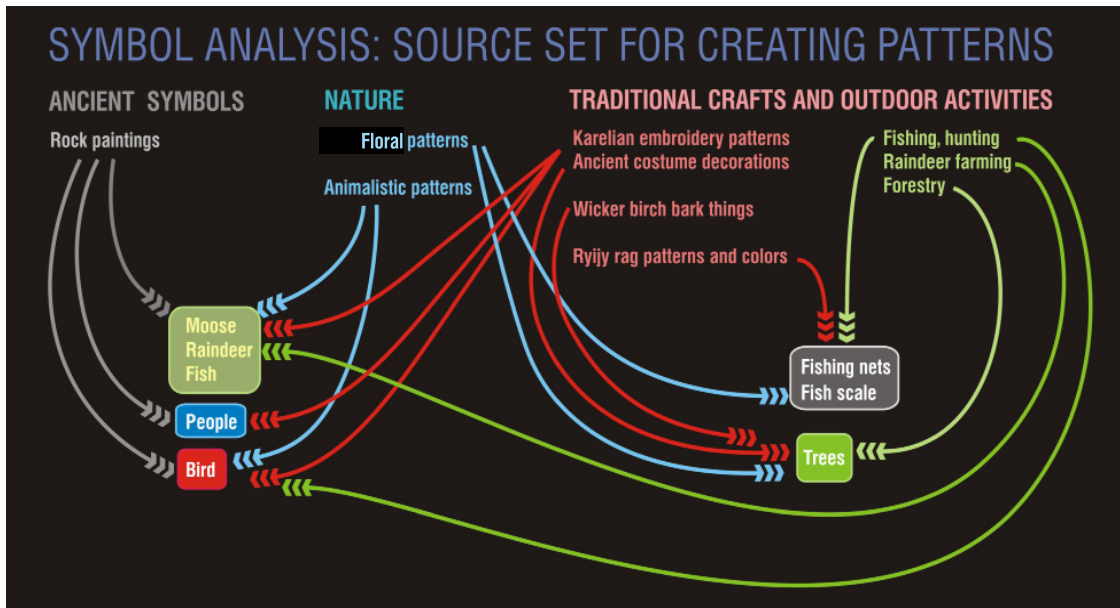
CREATING PATTERNS FOR SPORT AND TRAVELING EQUIPMENT TEXTILES

Obviously the travelers can buy some souvenirs but the best option is to buy something unusual and useful at the same time, something what directly reminds the country, its culture and traditions.

Sports and eco tourism develop fast especially in Finland where many people go to enjoy the nature, ski, walking and travel by bikes.

As the part of sports equipment textiles are most visible.

The purpose of the thesis is to create textile patterns connected with the Finnish (Scandinavian) culture, traditions and nature. The textiles will be designed for some multifunction sports equipment for example bags, backpacks and clothes.



ANCIENT SYMBOLS (Rock painting)

Elk
Raindeer
Fishing boats
Bird

NATURE

Forest plants
Trees, year rings
Animals

TRADITIONAL ACTIVITIES

Forestry
Fishing
Hunting

TRADITIONAL CRAFTS

Embroidery

Birds
Geometrical ornaments of ancient
Finnish costumes

Ryijy rags

Fishing net pattern
Diamond pattern

MAIN COLORS

Red

Light Red
Bright Red
Dark Red

Green

Forest Green
Grass Green
Khaki Green

Black and white

Tints of gray

Blue

Finnish Flag Blue
Dark Blue
Light Blue
Grayish Blue

