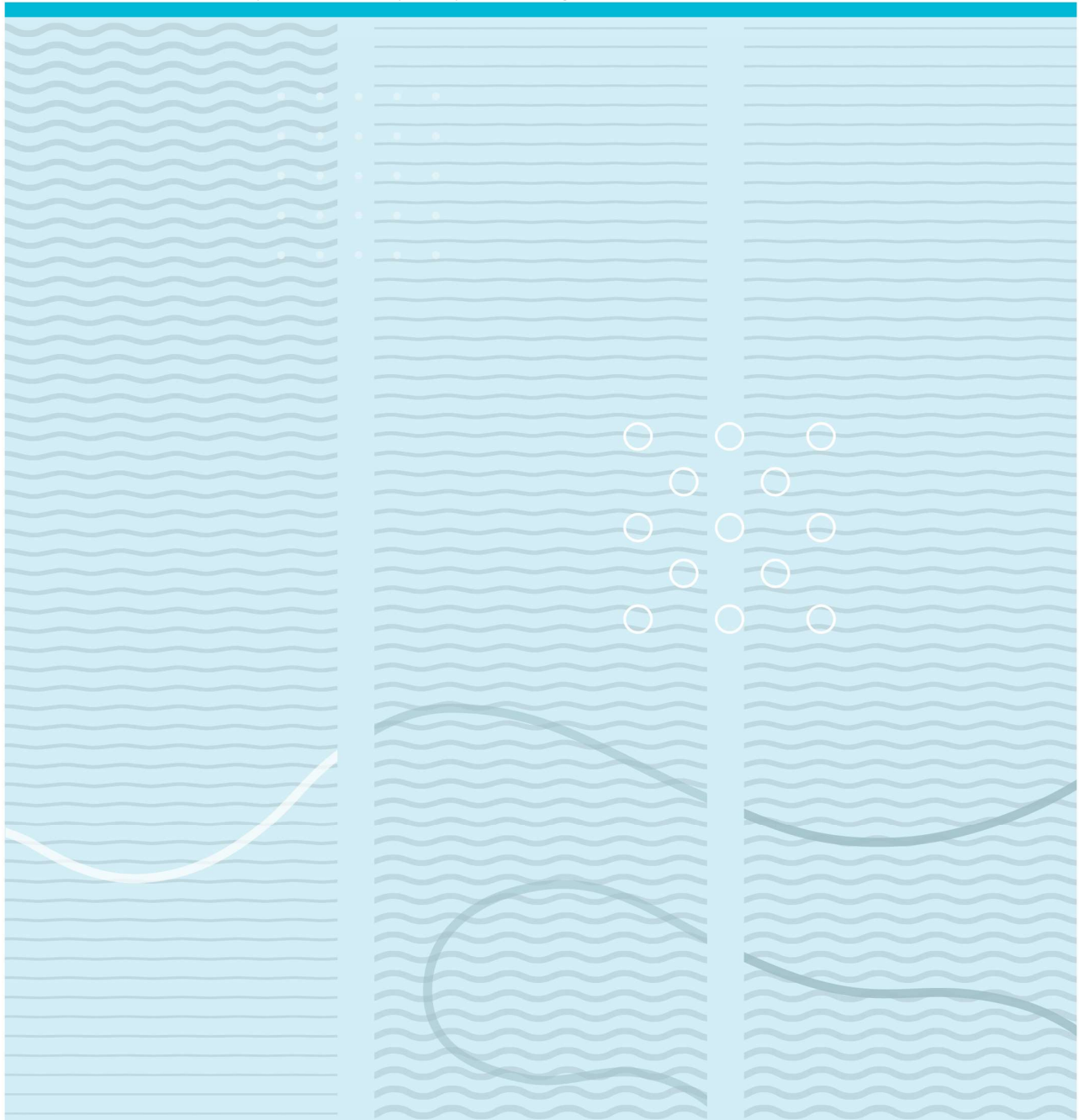


Kseniia Snikhovska

The embroidery of Vyshyvanka

From traditional technique to contemporary technologies



University College of Southeast Norway

Faculty of Art, Folk Culture and Teacher education

Institute of Folk Culture

PO Box 235

NO-3603 Kongsberg, Norway

<http://www.usn.no>

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This thesis is worth 60 study points

Abstract

This thesis includes historical research and analysis on the development of the Ukrainian traditional shirt and its embroidery. I would like to present the embroidery of Vyshyvanka as one of the national symbols of modern Ukraine.

The theoretical discussion is divided into two sections. The first section looks at the historical background of embroidery and its contemporary usage. It shows history of Vyshyvanka and changes of Vyshyvanka's embroidery through the history of Ukraine. This part pays specific attention to how political situations influenced the popularity and ultimately shape the tradition. A detailed description of the last three centuries' impact on Vyshyvanka is given. It was pragmatic to look at existing artefacts as it allows the opportunity for analysis. Also, it shows how old patterns from Vyshyvanka inspire contemporary artists, designers and architects in creating contemporary art, specifically in Ukraine. The popularity of using motifs from Vyshyvanka's embroidery is rapidly emerging. Certainly, there are many artists who use traditional motifs.

My aim has been to show the importance and the value of these traditions. I wanted to give the reader an understanding of Vyshyvanka and its role in national identifications of Ukrainians.

The second section tells about my journey to finding inspiration through Vyshyvanka's embroidery. It includes an analysis of artefacts from Kyiv region from the Ivan Gonchar museum collection. After the analysis I am defining features of Vyshyvanka's embroidery in the Kyiv region. The work with artefacts helped me to highlight the difficulty of creating embroidery of Vyshyvanka. The analysis became a reason why I chose one special embroidery technique as an inspiration for the final object, which became a result of my work with this traditional embroidery.

The practical section became the main emphasis of my project. With my object I'm showing my vision of the modern approach to this tradition. I'm making a stylisation and separating the embroidery from the fabric. However, I am trying to retain the artistic expression which we see in handmade embroidery, even though I am using a 3D printer.

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Foreword

I am very grateful to my supervisors Bodil Akselvoll and Arne Magnus Johnsrød for their patience, support and good advice. I am extremely thankful and indebted to Ivan Gonchar Museum in Kyiv and Ganna Koshmarenko for giving me the opportunity to work with the artefacts in their collection.

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Rauland, May 2017

Kseniia Snikhovska

1. Introduction

“The unique look of Ukrainian embroidery arises from the specific combinations of materials, designs, techniques, and colours.”

(O'Neill T. D., 1984)

This thesis documents the results of my research on embroidery of the Ukrainian traditional “Vyshyvanka” in the Kyiv region. Vyshyvanka can be described as the Ukrainian traditional long embroidered shirt which forms a part of the Ukrainian folk costume. Traditionally Vyshyvanka was considered as an undergarment.

My inspiration and motivation for choosing this topic is the intense renaissance of Ukrainian culture, which has been taken place over the last few years. I wanted to do the research, which is related to my Ukrainian roots and heritage. There are many Ukrainian designers, architects and artists nowadays who use these traditional embroideries and patterns as an inspiration for their works. Therefore, it became interesting for me to find out the reason for the unexpected popularity of Vyshyvanka and its embroidery. From what we can observe in Ukraine nowadays, the Vyshyvanka has become a part of Ukrainian patriotic fashion. Together with the yellow and blue flag it became a manifestation and a symbol of our national identity.

However, the Vyshyvanka is not just a traditional garment as many people think. Its main feature is the unique needlework. Moreover, the tradition of making this embroidered garment is much deeper and has a more sacred meaning than any other part of our folk costume. Many different patterns could be used on the Vyshyvanka. They could vary depending on regions and areas. According to folk beliefs, each of its patterns has a specific meaning. Moreover, there are famous designer brands who are creating designs for their modern Vyshyvankas with the help of ethnologists to fill their designs with protection symbols of our ancestors.

I decided to concentrate on Vyshyvankas from the Kyiv region (Figure1). I had several reasons for this. Firstly, it is the area where I come from. Also the embroidery on the Vyshyvanka from the Kyiv area has not been researched individually, it was just briefly mentioned in the context of the general description of traditional clothes. Earlier, Vyshyvankas was a part of the traditional folk costume, and that is why there were made just general analysis and researches on its history.

There are many books, which are describing the embroidery of western Ukraine, because it is rich in colour and has a big variety of embroidery types. However, the embroidery of north Ukraine, where the Kyiv region is located, is simpler. Still, it is a part of our heritage and it is original, so it definitely deserves to be described. Therefore, it was important for me to do this research.



Figure 1: Modern map of Ukraine with highlighted Kyiv region

The Vyshyvanka is typical in all parts of our country, and other Slavic cultures have similar traditional shirts. However, there are some features which distinguish the Ukrainian Vyshyvanka from others. To determine them became a real challenge because each region of Ukrainian developed a particular use of colour, design, and stitching techniques. (O'Neill T. D., 1984)

Ukrainian women were using about 250 types of embroidery stitches, based on the 20 techniques. (Poniatushyn, 2016). There are plant motifs, animals or abstract geometric patterns, all of which are inspired by history and symbolical meaning. There are hundreds of different variants of Ukrainian embroidery to be found on different Vyshyvankas.

Moving to the present, the modern tradition and what Ukrainians define as Vyshyvanka currently is any embroidered dress or more often shirt, which contains traditional patterns. For some it is currently an expression of patriotism, for some a festive outfit or a fashionable thing, some believe that it symbolizes loyalty to tradition, and for some it is – a guardian, a symbol of protection.

1.1. Vyshyvanka today

“After the revolution, everybody wanted to show their patriotism, and how to show it in the right way, an easy way, was just by wearing vyshyvanka.” (Borrelli-Persson, 2016)

Every nation has its own cultural features and history. Ukraine also has these, but unfortunately, for a long time it was forgotten. Nowadays people in Ukraine create a new understanding of our cultural features and national identity. We try to revive old traditions, customs, popularise language and find out what identifies us as Ukrainians among all other nations.

The revival of Ukrainian traditions was further triggered by recent political events in the country and the ongoing war in Eastern Ukraine. Scientist and researches are interested in exploring Ukrainian traditions now more than ever.

Embroidered shirts and national colours are always present on cultural occasions, national celebrations, festivals and even at the concerts of some modern Ukrainian artists such as Sofia Rotary, Ruslana, Nina Matvienko, Jamala and bands like T.I.K. and O.E., Zlata Ognevych etc. Here are examples of stage performances of two Ukrainian singers wearing modern Vyshyvanka (see Figure 2 and 3).



Figure 2: Jamala during her concern in Alfa Jazz Fest



Figure 3: Zlata Ognevych at her concert in Chicago 2016

1.2. Contemporary designers

Nowadays, the Ukrainian embroidered garments and its patterns are at the peak of its popularity. Patriotism entered all aspects of Ukrainian's lives. We support national producers like never before. Many Ukrainian brands were founded on the basis of traditional patterns and clothes (especially Vyshyvanka's). "Made in Ukraine" became a new trend with the production, which we are proud of. (Satenstein, 2016) One of the first contemporary designers who transformed Vyshyvanka into modern style was Oksana Karavanska (Figure 4). About her collections was said: *"The aesthetics of the collection are beautifully reflected the Ukrainian culture and traditional hand stitched embroidery while being updated with fashion forward elements."* (Kogan, 2015)



Figure 4: Oksana Karavanska. Fashion show in Chicago in 2015. Photo by Maksym Prokopiv

You can definitely see ethno-motives in her designs. However, in my opinion, the following designers more claim to the title of an ethnic brand. The "Varenyky fashion", one of the Ukrainian fashion ethno-brands, became one of the representatives of the "Vyshyvanka trend" (Figure 5 and 6). On their official web-side, it states:

"Varenyky Fashion is a young Ukrainian brand. The idea of interweaving eternal with modernity is the basic philosophy of the brand, which reflects in combination of age-old traditional embroidery and modern trends." (Varenyky fashion, 2015)

Their garments are a new vision of the Vyshyvanka tradition. In their designs, they are using traditional patterns and authentic symbols taken from old artefacts. The main concept of the brand is using old Ukrainian protection symbols and embroideries in their hand-made shirts. (Rodygina, 2017)



Figure 5: 'Stars' red playsuit with long pants



Figure 6: 'Ethno' dress

Recently Vyshyvanka became popular on the international stage. In 2015 the American edition of the world known fashion magazine “Vogue” named the Ukrainian embroidered shirt the hottest trend of the season. (Satenstein, 2015)

1.2.1. Vita Kin

Vita Kin is the artist who gave international fame to this traditional Ukrainian embroidered shirt. Her collections of dresses are based on Vyshyvanka. In Kin’s collections, the Vyshyvanka is going back to its original long length, like a dress, and it has the authentic tassels (Figure 7). The well-known international fashion magazine Vogue wrote: “The sudden rise and appreciation of Ukrainian traditional dress on an international level can be credited to Vita Kin, the designer of the eponymous Vita Kin,

who uses the name of Vyshyvanka, in her label's Instagram handle. Recently, the designer has become an international sensation..." (Satenstein, Your Favorite Bohemian Garb Is Actually Traditional Ukrainian Costume, 2015)

Not all embroideries Vita uses in her works are originally from the Ukrainian Vyshyvanka, some of them are from the Ryshnyks (Ukrainian traditional embroidered towels) and recently she started using traditional patterns from other cultures. However, she still calls her designs "Vyshyvanka by Vita Kin".



Figure 7: Vita Kin's Vyshyvankas from official Instagram page

1.2.2. Ksenia Schnaider

Ksenia Schnaider based her Spring-Summer 2015 collection on Brocard patterns (for a detailed description of these kind of patterns see paragraph 3.2.4. All dresses in the collection have pixelated prints of bright floral and geometric patterns, which are very similar to Ukrainian embroidery (Figure 8). In this collection, she is showing her creativity by developing a new way to use these traditional patterns.



Figure 8: Mercedes-Benz Kyiv Fashion Days: Ksenia Schnaider Spring-Summer 2015

There are many more designers who have adapted Ukrainian embroidery patterns into their designs, but the above designers are the most renowned for using Vyshyvanka as an inspiration for modern fashion designs.

1.2.3. Other examples

The popularity of the Vyshyvanka and traditional patterns has touched many aspects of Ukrainian life. Kyiv's football team has Vyshyvanka's patterns on their home uniform, the pupils are wearing Vyshyvankas for their graduation, students are painting traditional patterns on the walls and streets, architects design buildings inspired by patterns of this traditional embroidered shirt. (See Figure 9-10)



Figure 9: Building in Kyiv “Vyshyvanka”



Figure 10: Buildings with embroidery patterns in Kyiv “Patriotika”

1.3. National celebration

Fashion historian, critic Myroslav Mel’nik said: *“By wearing the vyshyvanka, each of us highlights the love of the nation, honouring tradition and believe in the bright future of Ukraine.”* (Mel'nik, 2015)

Each year, on the third Thursday of May, is the official national celebration of the Vyshyvanka Day. The holiday is not tied to any state or religious celebration. On this day, every Ukrainian wear embroidered clothes and goes to the job at the university, school or kindergarten (see Figure 12). There are also parades all around the country, the biggest usually in Kyiv on the Independence Square. This festival aims to preserve the old folk traditions of creating and wearing the national embroidered garments (see Figure 11).

However, similar celebrations take place not only in Ukraine, but around the world in places where present Ukrainian live in diaspora (see Figure 13). I was lucky to take part in two Ukrainian meetings in Oslo and in Berlin. In both of them took part many Ukrainians, their foreign families and friends and everyone who had Vyshyvanka, was wearing it.

In my work I decided to join this patriotic movement and dedicate my project to the Vyshyvanka and its embroidery. I think that the synthesis of traditions with modern vision and technology is the way forward. The transformation of old patterns is a great solution, which gives many opportunities for design.



Figure 11: Procession parade of Vyshyvanka in Kyiv. Photo: Leonid Alekseev



Figure 12: Ukrainian Parliament on Vyshyvanka day 2016



Figure 13: Vyshyvanka day in Japan 2016

2. Methodology

2.1. Earlier work in the field

“The traditions and secrets of embroidery have been kept and studied by many historians and experts. Embroidered works have been collected piece by piece. Although many collections have been lost during wars, preserved pieces were restored and described in various publications.”

Translated from original Ukrainian text (Kosmina O. , 1994)

There is a huge amount of books and sources on topics connected with the Ukrainian costume, symbolic and embroidery (more details in “Bibliography”). I also have found several books about the history of the Vyshyvanka and about the ornaments of traditional clothes. There are many catalogues with pictures of Ukrainian embroidery and examples of traditional techniques with schemes. At the end of the 20th century, two research books were written on Ukrainian embroidery techniques by Ukrainian and American researchers. I use these books as the historical foundation for my analysis of artefacts. There are reseaches on Ukrainian national patterns and embroidery of western Ukraine, which I used to find the features of the Kyiv region. A book based on Hutsul Embroidery (western Ukrainian embroidery) written by Dmytro Pozhdzhuk, Olena Nykorak et al. served as a great framework for my research. In their work the researchers describe the history and thereafter analyse the embroidery traditions of Western Ukraine (Ellen Veziant, Dmytro Pozhodzhuk, Katerina Susak and others., 2010). The research conducted in this book specifically interested me because their work was also based on the collection of the folk-art museum.

Another important book was ‘Ethnography Kyiv and Kyiv region’, written by a big group of Ukrainian researches (Artyk, Havrylyuk, Horlenko and others, 1986). This book was very relevant to my research.

Also, it would be hard for me to analyse artefacts without the research on Ukrainian embroidery techniques made by O’Neil (O’Neill T. D., 1997).

All these works I mentioned just partly connect with my research topic. Most of the historical background information I had to put together from historical and cultural

research sources and then use my knowledge on the topic to analyse it and make my own conclusions.

2.2. Main problems and research questions

When I started my research, I was thinking about making it about the embroidery of Vyshyvanka in general. But then I found out that this topic are too broad and that I needed to be more specific. That is why I decided to focus on the specific area of the Kyiv region.

I concentrated on the phenomenon of evolution of embroidery and patterns of Vyshyvanka in the Kyiv region. I also discussed its manifestations in the modern world. I wanted to define what is special about this kind of embroidery, and how, and why it changed especially from the 19th century.

The research questions of my project are:

- What are the features of Vyshyvanka and what makes this embroidery tradition special?
- How to synthesize traditional embroidery techniques with 3d technologies and to show the embroidery's artistic expression?

The main challenge was to identify the boundaries of my research. It is impossible to do research only on the embroidery of the Vyshyvanka without doing research on the Vyshyvanka and its history. The Vyshyvanka cannot exist without its patterns, because it is the main element which makes it special. I studied existing research on the Ukrainian traditional costume, as well as articles and other data about this kind of traditional embroidery.

Historical events, fabric production development and the political situation have also influenced the changes of the embroidery's shape, techniques and quality. Therefore, my research will be about the history of the Ukrainian traditional shirt and its embroidery. I will try to answer why and how it ended up in the form in which we see it nowadays. As the goal of my project I chose to trace the evolution of Vyshyvanka's embroidery. I will follow the history of embroidery on Vyshyvanka from its past to present.

To give the reader a holistic view of this craft and understanding of the embroidery tradition in Ukraine, I will discuss the following topics:

- The history of Vyshyvanka and its embroidery in Ukraine;
- Colours and materials used in embroidery and embroidery techniques;
- Modifications of the embroidery over the last three centuries.

Embroidery is a neat work which takes a lot of time and patience. With all the technologies at our disposal today, embroidery and fabrics can be mass produced by machines. This also has particular influence on this tradition.

To define features of the embroidery of the Vyshyvanka in the Kyiv region and to draw conclusions and understand this embroidery tradition, I need to analyse actual artefacts. Catalogues of printed pictures and photos are not enough on its own to analyse the embroidery tradition, because it is almost impossible to see the details and define techniques by merely looking at pictures. I had to obtain access to collections of Vyshyvankas that will include samples from areas and periods required for my research. More details about my analysis will be given in paragraph 4.1.

One more complication was the problem of preserving the artefacts. Old samples of Vyshyvankas and its embroidery were made with natural materials. The folk used linen and hemp for making homespun cloth. Unfortunately, these materials could not be saved long, especially in bad conditions. All examples we can see of old embroideries are mostly on photos, paintings or rare artefacts dated not earlier than the 18th century.

2.3. Methods and Materials for research

My thesis consists of two parts: the written (historical) part and the practical part. In the written part I present my research on the topic and analysis of artefacts. My practical part includes a description of the creative process. I also describe my interpretation of the embroidery of Vyshyvanka. I attempt to explain how I synthesized the old technique of Vyshyvanka embroidery with modern technologies.

As a starting point, I studied researches on related topics. I classified the information in order to designate the main theme of my work. I used both written and online resources as references. Additionally, I visited museums in Kyiv to analyse artefacts and also informally spoke to a few of the curators.

The core of the historical study is an incorporation of written works published by Soviet and Ukrainian researchers. I visited Ukraine and was granted access to study the archives

of the Folk Art Museum Ivan Gonchar in Kyiv (also called the Ukrainian Centre for Folk Art). It is a small museum that focusses on Ukrainian folk art. Although small, they have a large collection of artefacts and I received permission to use their scientific resources. In addition to accessing their library, I was allowed to view museum exhibitions and archived materials. The museum cooperates with the University of Kyiv (where I obtained my undergraduate degree), and this made it possible for me to arrange access. Ganna Koshmarenko, the head of the museum's textile department, assisted me in locating material pertinent to my research.

I started my research approximately from the origin of Vyshyvanka's existence. From my research I could not find a definite starting point, however, with the help of existing research on similar topics, I tried to find the earliest history of the Ukrainian folk costume. The two fundamental works which I will refer to are the "Chronicle of Ukrainian outfit" (укр. «Український літопис вбрання») by Zinaida Vasina and "Ukrainian clothes" (укр. «Український стрій») by M.S. Bilan and G.G. Stelmashchuk.

I attempted to establish the progression and evolution of the embroidery during the last three centuries by studying the museum's collection of Vyshyvanka from the Kyiv region. This study culminated in the analysis of artefacts and the collection of photos of the artefacts.

Textile works cannot be preserved for extended periods of time. Therefore, I took detailed photographs of Vyshyvanka and embroidery elements. The photo collection proved to be a valuable addition to museum archives. I felt honoured to contribute in a positive way to the museum, after all of the assistance I received from them. Some of the photos I took, you can see in 3th and 4th chapters and in the Annexes.

I also visited other museums of folk art, but unfortunately I couldn't get access to archives. I was only able to view the few exhibited samples in these museums.

Therefore, most of my research was based on museum artefacts from Ivan Gonchar museum's collection. This collection includes Vyshyvkas from the 18th to 20th centuries. In addition to the above mentioned, I used photos from Ivan Gonchar's old photo collection and reconstructions of traditional costumes made by Z. A. Vasina.

Although I concentrated mainly on embroidery and patterns, I also studied the general symbolism of Ukrainian ornaments. For this, I studied the works of Ukrainian researchers, including "Hutsul Embroidery", written by Dmytro Pozdzhuk and "Lexicon of Ukrainian

Ornamentation” by Myhailo Selivachov. Their research formed the groundwork for this paper.



Figure 14: A map showing these areas (Artyk, Havrylyuk, Horlenko and others, 1986)

Since I decided that the basis of my topic will be “Embroidery of Ukrainian Vyshyvanka of the Kyiv region”, I have to explain what I mean by ‘the Kyiv region’. Its territory had different borders in different historical periods, so I decided to define the Kyiv region as it is currently mapped. To provide a more in-depth historical background, I have to determine which ethnographic regions mentioned in old sources would be found in the modern Kyiv region. Since my analyses concentrated on Vyshyvankas from the last three centuries, I would like to clarify what the “Kyiv region” was comprised of during the 18th to 20th century. For this, I need to cite several sources. The first is “The Ethnography of Kyiv and the Kyiv region tradition and modernity” (укр. “Етнографія Києва та Київщини традиції і сучасність”) made by Institute of Art and Folklore and compiled by V.F. Gorlenko. The second is “Ukrainian folk costumes” (укр. «Українське народне вбрання») by Galina Stelmashchuk 2013. The third source is the book of Ukrainian history written by T.A. Nikolaeva, “The History of Ukrainian costume” (укр. «Історія Українського костюма»). Based on this three researches of respected academics and well-known researchers, with a consultation of museum workers of the Ukrainian Centre

of Folk Art, I made the conclusion that the Kyiv region includes such historical areas as the Middle Dnipro region (The Middle Podneprovye) and partly the Kyiv's and Chernihiv's Polissia (see Figure 14).

2.4. The concept of tradition

The topic of my research is concentrated on Vyshyvanka and embroidery traditions, so it is necessary to explain what I mean by the concept 'traditional'.

As Edward Shils said, "Tradition means many things." The term 'tradition' has a variety of interpretations. At the end of the 20th century, many folklorists asserted that tradition is a 'complex set of relationships between the past and the present, in which the past sets precedent for the present and the present reflects the past in its adherence to a particular tradition' (Green, 1997). Traditional authors or creators are usually anonymous, but their creations: material objects, beliefs, actions, practices, institutions, etc. are handed down from the past to the present. (Shils, 1981)

The fact that 'tradition' has been always something valuable, whether it's as small as some person or family's tradition or in a bigger social context such as that of a community's tradition. Up to this point, I have found no better definition, than that given by Thomas Green for tradition: "One definition of tradition would deem tradition as something passed down from one generation to the next, generally by informal means, with little or no change in the transmission of that item or in the item that is transmitted" (Green, 1997). In a broader context, we should also consider the fact that 'tradition' is often defined as an adjective in relation to specific genres. 'Traditional song', 'traditional dance', 'traditional embroidery' are examples of that.

In this work I discuss the topic of traditional and non-traditional Vyshyvanka and its embroidery. I call 'old traditional' those artefacts which are distinguished as traditional by other researches and art historians. Those are mostly samples dated from the 19th-20th century, made from homespun fabric and decorated with a variety of embroidery techniques and geometrical patterns. The 'New tradition' in the context of this work is Vyshyvankas embroidered with cross-stitches and Brocard patterns. This will be discussed further in Chapter 2 and 3.

3. The history of Ukraine and Vyshyvanka

3.1. Socio-political background

Modern Ukraine as an independent country is very young, but the area has a very rich culture and a long history going back to ancient times. Since the collapse of the Kyivan Rus in the 11th-13th centuries, different parts of the territory of Ukraine were periodically controlled by neighbouring states. In spite of this, villages have always kept its customs and traditions. This confirms the research made by Zinaida Vasina in her book “Ukrainian cronical of clothing”. The focus of her research was on historical facts about everyday life and customs of the people who lived in Ukrainian territory. However, during the rule of the Soviet Union, Ukrainians lost some of their traditions and cultural heritage because of the intolerance of the communist Soviet regime. All manifestations of Ukrainian nationalism were severely punished. This is the reason why there is such a lack of information on traditional Ukrainian life, which was a major challenge when conducting this research. Books (sometimes even entire libraries) were burned and documents were destroyed or falsified because the main goal of the USSR was Russification and the creation of a Soviet "people" of which Ukraine was just one of the republics (Baum, 2006). The preserved historical sources were those which were hidden or taken abroad, by emigrants who tried to save them. In addition, some research was conducted and published illegally. However, the most common option was to publish research abroad. Many representatives of the Ukrainian elite, who wasn't shot or sent to exile, moved abroad. A good example of such a source is the book “Ukrainian embroidery techniques” written by an immigrant from Ukraine, Tania Diakiw O’Neill and published in the USA in 1984. This book is one of the sources used for this research.

In the year 1991, Ukraine gained independence and ever since we have lived in an independent Ukraine. After the fall of the USSR, we once again have the opportunity to live out our own culture and traditions. Scientists and researchers are now, more than ever, interested in exploring Ukrainian traditions.

Unfortunately, some parts of our heritage are lost forever.

3.2. Historical background

When I started my research I noticed one peculiarity: in the beginning of the 20th century, patterns of embroidery started changing from geometrical to florists. The techniques used for embroidery have also changed. These changes occurred drastically. When I went through the museum archives, I couldn't understand why the tradition altered so drastically over two generations. The more I deliberated this phenomenon the more theories I came up with. After studying the museum archives, it became apparent to me that the "the evolution of embroidery in the Kyiv region" should be the topic of my research.

To show the evolution of the embroidery of the Vyshyvanka, it was necessary to go through its history in its entirety. Primarily, this chapter focusses on Vyshyvanka. It also describes the history of Ukraine, because it had a direct influence on changes of the traditional costume and its embroidery.

Historical sources often overestimate the oldness of Vyshyvanka. That is why analysis is required and the facts need to differentiate from the author's hypotheses.

I will not overestimate the historical age of Vyshyvanka tradition, because full garments were not preserved. The "prehistory" which I will describe briefly refers to several sources which were confirmed by archaeologists and historians.

There are some verified artefacts that indicate that this embroidered shirt formed part of a traditional peasant attire. The history of ancient costumes and their reconstruction was based on sculptures, carvings and wall paintings. Care should be taken as some authors would produce reconstructions of possible attires for which there were little evidence. A detailed analysis of Vyshyvanka can only be made from artefacts which date back to the 19th century (and onwards).

3.2.1. Ancient past

The embroidery one of the oldest Ukrainian traditions- has ancient origins, which existed before the 6th century (M.S. Bilan, G.G. Stelmashyk, 2000).

Archaeological discoveries from the Paleolithic era, including Mizyn in Chernihiv and its analogues show the existence of embroidery on the territory of contemporary Ukraine more than 2 millennia ago. According to Herodotus, the embroidery was found on the clothing of the Scythians, who lived on Ukrainian territory during the 7th-3rd century BC.

In Martynivtsi village archaeologists found a small sculpture of a man dressed in something very similar to the Ukrainian Vyshyvanka shirt in Cherkasy (Figure 15). This finding dated back to the 6th century. The statuette of men has a wide band of geometric ornament on the chest. (M.S. Bilan, G.G. Stelmashyk, 2000)



*Figure 15: The statuette of a man from the 6th century (Martyniv's treasures).
Illustration from (M.S. Bilan, G.G. Stelmashyk, 2000)*

According to research from Zinaida Vasina's "Chronicle of Ukrainian outfit", (in two volumes) the tradition of wearing embroidered shirts on Ukrainian territory existed since the Bronze Age, 2500-900 years BC (Vasina, 2003, 2006). In her reconstructions (based on archaeological artefacts and literal sources), she shows the development of the outfit from ancient times to the 20th century. It shows that embroidered shirts were presented in peasant costumes all the way from the Bronze Age, the existing of Cimmerians, Scythians, Slaves and Kyivan Rus (Figure 16). The garments of the upper class of society were always changing. The peasants, although having different varieties of outerwear, always wore an embroidered shirt underneath.



Figure 16: Reconstruction of the folk outfit from the Bronze Age made by Zinaida Vasina (Vasina, 2003, 2006)

Other researchers also claim that this tradition dates back to pre-Christian times. However, a continuous heredity of cultures in any limited space could not exist. The establishment of Ukraine and the analysis of the history of Ukrainian peoples inhabiting the land today indicate that some nomadic tribes periodically replaced others. It is well known that the Ukraine, as well as in most of Europe, was a melting pot of tradition and culture. (Melnyk, 2015)

According to historical-ethnographical research conducted by T.V. Kosmina, the tradition of having patterns on the shirts was brought to the Ukrainian territory by the Slavic tribe (Kosmina T.). Their pagan religion, practiced in the Kyivan Rus' territory before the 10th century, was based on the connection between human and nature, mythology and magic. The religion had many customs and beliefs and the people surrounded themselves with patterns and symbols. Patterns were painted on the walls inside and outside their houses, on the ceilings and stoves for protection. (Kosmina O. , 1994)

It is a well-known fact that the ornaments were an integral part of festive and casual clothing. Accordingly, patterns were considered more than just a part of traditional clothes. Every piece of clothing was decorated with different types of embroidery and

had its own colour scheme and style. One group of ornaments was used for underclothes and another used for outerwear. (Vasina, 2003, 2006)

Amongst the most important patterns were the “Оберіг (Oberig)”, literally translated as “the one that protects”. According to Ukrainian folk beliefs, “Oberig¹” patterns had magical powers that could protect the wearer from evil.

Vyshyvanka was also part of various religious rituals, and cultural celebrations. Clothes, embroidered by the loving hands of mothers or wives were the most valuable. The ancestry believed that some of the embroidered symbols provided protection from evil spirits, the evil eye² and enemies. On the contrary, other symbols could bring happiness, love, health and good luck to the owner and to his or her family. Colours, shapes, placements - each element of the embroidery was important. Even a combination of several ornaments had its function and the group of elements made the power of each other stronger. The daughters usually copied all groups of embroideries from their mother's or grandmother's shirts with some additions of their own. I think this is how embroidery schemes were passed on from generation to generation. Ganna Koshemarenko told me that the entire garment could be duplicated, but from my research I can attest that I was unable to find any exact duplicates of Vyshyvanka.

The embroidery tradition survived and assimilated even after the ‘Christianization’, which started in the Kyivan Rus' territory in the 10th century. In the 11th century in Kyivan Rus was opened its first embroidery school, organised by the sister of Vladimir Monomakh – Ganka, where girls learned to embroider with golden and silver threads (Kara-Vasilyeva, 2008). However, these types of threads were used just for the garments of the elites. The differences between these garments and those worn by the peasants were significant. (Vasina, 2003, 2006)

In the 16th -18th century, Kachanivka in the Chernihiv region, Hryhorivka in Kyiv region, Velyka Burimka in Cherkasy region and others became embroidery centres in Ukraine. (T. Kara-Vasileva, A. Zadolokina, 1996)

¹ **Oberig** is an object that protects, guarding from something. (Ozhegov. S.I. Ozhegov, N.Yu. Shvedova, 1949-1992)

² **The evil eye** is essentially a specific type of magical curse, and has its roots in magical thinking and superstition. (Radford B., 2013)

3.2.2. Changes during 19th- 20th century. Soviet time

This historical period was the most interesting for me, due to the changes in embroidery techniques and patterns, which occurred during this time (as mentioned earlier). There are unfortunately no written sources I could find which explains this. So I had to construct my own theory to explain these changes.

It is common knowledge that during the 19th -20th century there were several terrible events on Ukrainian territory. The population decreased threefold. Some villages were completely eradicated. This was caused by two world wars, civil wars, three famines, repression and numerous mass deportations under the Soviet regime.

3.2.3. Chronology of events

After the First World War (1914-1918), we had a mass famine 1921-1923. It took place mostly in the southern regions of Ukraine. During these three years, village people living on the most fertile land in Europe suffered from hunger. This was a result of the political regime of the Soviet Union. Food and whole crops were forcibly taken away from the people. Those who didn't obey, paid with their own and their entire family's lives.

Ten years of peace followed, which was interrupted by one more mass famine- genocide in Ukraine. Officially named "HOLODOMOR 1932-1933".

The shocking Soviet policy was not limited to rural areas. "The Executed Renaissance" is the official term for the Ukrainian artistic and literary generation of the 1920's – early 1930's. This generation gave birth to highly artistic works of literature, art, music and theatre. In response to this, they were persecuted and murdered, or sent to Katorga to die by Stalin's totalitarian regime. (Solzhenitsyn, 1974)

The loss of intellectual and artistic elite proved devastating for Ukrainian culture, but it was followed by even worse events. "The Great Purge" or the Great Terror was a campaign of political repression in the Soviet Union which occurred from 1936 to 1938.

The exact data is unknown, but by some estimates this number reached 30,000 people. The next calamity to hit Ukraine was the Second World War, in which Ukraine was dealt another vicious blow. Thereafter, in 1946-1947 there was one more Holodomor, which affected most of the Ukrainian territory. To this day, there are still survivors of this period. It wasn't seen much in the cities, there was just a food shortage. However, it affected the

villages in the most horrible way. From my great-grandmother's words, I know that bodies were laying on the street and no one even paid attention. Everyone was trying to survive and to feed his or her family somehow.

Why do I mention all these horrible facts in this research about the embroidery? The reason is the direct connection of the lives of the village people and their craft. These events affected all of the population, but the villages were affected the most. Rural people were crucial for the preservation of culture, traditions and art. A large gap between the generations developed. I think that this generational gap resulted in the severing of the transfer of traditions.

Before the 19th century peasants made the clothes themselves. They had to plant hemp, flax, weave, sew and embroider. In dire years, people were selling all their belongings to feed themselves. However, during the Soviet Union period, a large percentage of machines for weaving cloth were destroyed in order to not distract the women from collective-farm work.

In the late 19th century the Provincial Board of Collectives began to organize production cooperatives for embroiderers and weavers. It was the beginning of the mass production of cloth. To buy factory cloth was easier and faster. Because of that, even the rural population went to town to buy factory-produced fabrics.

All these reasons led to the extinction of the tradition of using homespun cloth, which subsequently affected the techniques of embroidery patterns and the quality of the thread. (O'Neill T. D., 1984)

Materials for cloth and threads before 20th century

The fabric used for Vyshyvankas before the 20th century was homespun and even-weaved. Materials used in early Ukrainian embroidery were simple, and native to their time and region. The best type of fabric for embroidery is even-woven cloth, preferably linen, hemp or cotton fibre. (O'Neill T. D., 1984)

There were various types of embroidery threads which were also homespun. The museum collection of Vyshyvankas shows that in the Kyiv region, there were mostly twisted threads made of linen and hemp.

Colours

Each region of Ukraine developed a particular use of colour, design, and stitching technique for its embroideries. These combinations are so specific that ethnographers can tell which region an embroidered shirt comes from, and natives of that region can often identify the village in which it originated. (O'Neill T. D., 1984)

From my analysis (paragraph 4.2), I can define the colour scheme of the Kyiv region. The most common colours were: white, natural (light cream), brown, red, grey and black. In samples from the 20th century, we can see a bigger colour range, because of the appearance of factory thread.

The most interesting type of embroidery for me is with “white on white” embroidery, when threads were used in their natural colours (the same for fabric and for embroidery). There are many examples of Vyshyvankas in this thesis in the attached annexes, which show this tradition of using natural colour of the thread (Annex 1). “White on white” embroidery was quite common in the Kyiv region, but could also be seen all around Ukraine. The best showing of this tradition was displayed at an exhibition in Ivan Gonchar’s museum in July 2016. That exhibition included samples of “white on white” embroidery of Vyshyvanka from all around the Ukraine (several photos from it, you can see in Annex 9).

We can, however, also see examples coloured with natural materials (like insects, plants and minerals) threads from the 19th century. To show a contrast between the fabric colour and threads, threads were bleached in the sun. Another common colouring technique practiced in the Kyiv region was colouring with oak bark, which gives a brown colour to the thread. For grey and black colours soot was used. For colouring in red, cochineal, a special insect, was used. This insect was scarce and these red threads were quite expensive. Red colour was therefore the colour of elites and displayed status. That made Vyshyvanka with red embroidery very valuable. In general, in the Kyiv region white, red and black colour schemes can be found.

Symbols and patterns

The patterns on Vyshyvankas before 20th century were mostly geometrical. How you can see on artefacts (Annex 1), Vysyvankas were embroidered with stylized floral motives. The most common element on old Vyshyvankas was the rose (mug). That is a full-fledged symbol of life, the lily is a symbol of the spiritual life of purity and perfection. The

octagonal star deserves separate consideration (the 'full rose' element) as it remains one of the most popular geometric motifs in Ukrainian embroidery. Octagonal star is sometimes formed by combinations of direct cross (a symbol of masculinity, Sun) and oblique cross (a symbol of the feminine, the Moon) patterns. This star is a symbol of nature itself. In addition to the stars, we can see compositions with "S" - motives as part of a diamond in a square with eight branches. (Varyvonchyk, 2012)

Embroidery techniques

A big variety of embroidery techniques can be found on Vyshyvankas from all around Ukraine. On artefacts before the middle of the 20th century we can see more than 5 techniques used on one Vyshyvanka (annex 1). I had to define which techniques were more common for the Kyiv region (see paragraph 4.3). In the analysis of artefacts I am naming used embroidery techniques. Therefore more details on this topic will be present in Chapter 4. During my analysis I found out that the same techniques have different names around the world. Since my research is based on Ukrainian embroidery, I decided to use sources based on Ukrainian embroidery techniques. The most helpful for me was the research of Tania Diakiw O'Neill. In her book, she collected detailed information about embroidery techniques around Ukraine including instructions how to make it. The goal of her research was similar to mine, a quote from her book follows: *“Unfortunately, the knowledge and use of many of these techniques are dying out. In recent times, cross-stitching has displaced another, more ancient stitching techniques, which give beautiful and interesting effects.”* (O'Neill T. D., 1984)

I think she achieved her goal as her book is currently used as a source for students in the embroidery department at the Institute of Decorative and Applied Art in Kyiv.

An English translation of names and description of all techniques is made in “The Art of Ukrainian embroidery” by Olena Kulynych-Stakhurska. There are some differences between her and O'Neill's translations, so I decided to use O'Neill's names for techniques as a matter of preference. In her book there is a comprehensive list of techniques used in Ukrainian embroidery traditions. I only mention the names of those which were used in the Kyiv region since this is the topic of my research.

New materials and a new embroidery technique

I think that the historical events I described earlier became the reason why the cross-stitch became the most common embroidery technique in the 20th and 21st centuries. However, there is a unique sample of geometric pattern made with an old embroidery technique on silk, which is used on other Vyshyvankas from the Kyiv region dating from the 19th-20th century (Annex 8).

However, political events and technological innovations are not the only reasons why embroidery traditions have changed from a big variety of techniques to just cross-stitch.

3.2.4. Brocard & CO

One of the most common patterns on the modern Vyshyvanka found nowadays is the "Brocard rose" made with the cross-stitch technique.

The first designs with the cross-stitch patterns appeared in Russian newspapers, which copied the paintings of Italian, Dutch and German patterns. Small-format booklets and albums were published in Moscow, Kyiv, St. Petersburg, Odessa, Mogilev and spread around the cities and villages of Central Russia, Ukraine, Belorussia, Bessarabia. These booklets were published as an annex to the popular magazines. These booklets contained drawings in the "folk" style, printed patterns with bright ornaments and embroidery schemes. (Arbadskaya, 2016)



*Figure 17: From the album of patterns. Annex to the "Rodina" magazine. 1902
(Arbadskaya, 2016)*

The rapid expansion of cross-stitch technique contributed to the creation of the commercial for the perfume company "Brocard and Co" of which the founder and owner

were Heinrich Afanasievich Brocard, a Frenchman by birth. The goal of this commercial was to sell cheap soap to the village population. So to make people more interested, an addition to the soap was printed sheets with an embroidery scheme. There was a variety of flowers and other patterns based on cross-stitching techniques, which was really popular in Europe of that time. The most commonly found on Ukrainian territory was the rose. For this reason, the pattern received the name "Brocard rose". This rose pattern can be seen on many Vyshyvanka from late 19th century until present day. The schemes were collected by people and passed from hand to hand. That is how it was spread all around the Ukrainian and Russian territory.

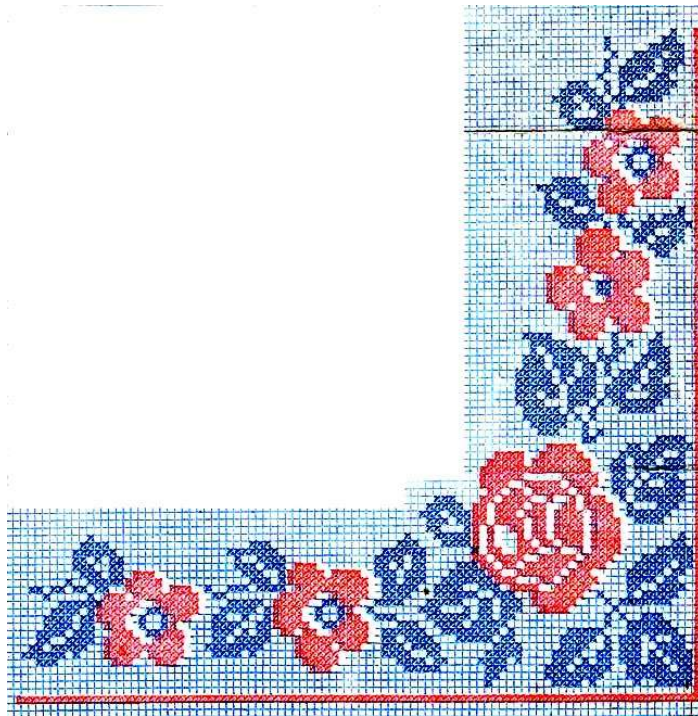


Figure 18: Leaflet with the roses "Brocard and Co", 1902 (Arbadskaya, 2016)

As mentioned previously, traditional patterns found on Vyshyvanka had a deep spiritual meaning to the Ukrainian people and the commercialisation resulted in the embroidery losing its spiritual meaning and acting merely as decoration. That is why one of my aims was to establish which patterns are from the ancient spiritual tradition and which were invented in the 19th century and used just as a decor. Artefacts with Brocard patterns you can see in Annex 7.

4. Embroidery on Vyshyvanka in the Kyiv region

4.1. Work with artefacts

The part of my research included the work with artefacts in Ivan Gonchar's museum. They have an amazing collection of authentic Vyshyvankas from all over Ukraine. It is a rarity when one can closely examine each detail of the old embroidery. Collections like this one is rare nowadays. During the time I spent in the museum archives, I took pictures of all available Vyshyvankas from the Kyiv region. The pictures I collected helped me in my analysis as I was able to distinguish features of Vyshyvankas in the Kyiv region.

I was lucky to see an exhibition of Vyshyvankas from all around Ukraine (see Figure 19 and Annex 9). I was comparing authentic Vyshyvankas from different regions. Ornaments, patterns and colour spectrum could significantly vary in different areas. There are some areas with very distinctive embroidery. However, there are no clear guidelines for determining the difference between areas and it is even difficult to identify the specifics of the region.

'If to talk about national identity, the embroidery is very slick soil. It is an element that is present in many Slavic cultures. It is difficult to distinguish the difference between Ukrainian embroidered shirt and neighbouring nations. In Ukraine itself, each region has its own specifics with no clear guidelines.' (In my translation) (Mel'nik, 2015)

Each Vyshyvanka in their collection is unique. Ganna Koshmanenko, the head of the textile department, helped me with my work and told me that there is no Vyshyvanka that is similar. That makes each sample priceless.



Figure 19: Photo from an exhibition of Vyshyvankas in Ivan Gonchar Museum in Kyiv (July 2016). Photographer: Kseniia Snikhovska

4.2. Analysis

For the analysis I chose artefacts from each group and made a general description of it, analysed its material, colour, embroidery technique and patterns.

The tables in this subchapter show the process of analysing artefacts (see Tables 1-7). They contain only some samples, however similar non-written analysis was made with other artefacts which I worked with (see Annexes). The names of embroidery techniques used in the analysis are based on Tatiana O'Neill's research and also described later in this chapter (see Table 8).

Groups of Vyshyvankas:

1. Old traditional embroidery

It consists of Vyshyvankas with a variety of embroidery techniques and geometrical patterns. Ganna explained to me that these samples are what researchers call 'the original tradition'. We cannot be certain which patterns were used before the 19th century, however many art historians believe that similar patterns were used earlier. Most of the artefacts are from the 19th century. (See Annex 1 and Figure 20)



Figure 20: Example of Vyshyvanka from "Old traditional embroidery the 1st part of 19th century. Photographer: Kseniia Snikhovska (2016)

These Vyshyvankas are distinguished by a great variety of embroidery techniques such as: 'backstitch zigzag', 'zanyzuvannia', 'plaid from cross stitch', 'long-armed braid', 'lyshtva protiahanka (single row)', 'reverse protiahanka', 'nightingale's eye', 'pierced eyelets' etc. The edges of the garments were also made in special ways with a variety of 'toothed edged' techniques. There are several methods in which the fabrics could be connected, but the most common were 'gatherings', 'puffs' and 'prutyk'. Descriptions of these techniques together with examples of artefacts and schemes of embroidery will follow below. Vyshyvankas in this group are all long and made with homespun fabric (linen, hemp) which is quite heavy compared to contemporary fabric. (See Table 1)

Table 1: Analysis of Vyshyvankas from 'Old embroidery tradition' group





Photo of Vyshyvavka	Code of the artefact	Dated	Area
	KH-21013	The beginning of the 20th century	Kyiv region, Pereyaslav-Khmelnytsky area, Village Mazinky
	Description		
	<p>This traditional, long Vyshyvanka has detailed and neat embroidery. Fabric: Homemade, presumably linen, home-spun twisted thread. Decorated: sleeve and bottom of the shirt. The colours of the thread: light brown, dyed with natural materials (presumably with oak bark). Embroidery and techniques: Handmade embroidery, made with several techniques: satin stitches such as <i>lyshuva</i> and <i>reverse protiahanka</i>, square <i>pierced eyelets</i> worked in groups, long-armed braid "<i>kosychnka</i>" and <i>nabyrannia</i>, solid stitches such as <i>zanyzuvannia</i> and <i>yavoriv stitch</i>. The insets separated from the sleeve part with "<i>pyhlyks</i>". Collar has no special embroidery scheme or symbols, but has nice made edgings with two techniques: <i>toothed edge</i> on the top, two rows of <i>backstitch on the bottom</i> and <i>gatherings</i>. Embroidery on the insets are separated from sleeves with <i>pyhlyks</i> and <i>gatherings</i>. Symbols and patterns: Vyshyvanka decorated with traditional geometrical ornaments: S-figures (sigma), oblique crosses, leaves, the hop branches in zigzag composition half-rose elements, zigzag and thin braid.</p>		
Photo of Vyshyvavka	Code of the artefact	Dated	Area
	KH-10735	The beginning of the 20th century	Pereyaslav-Khmelnytsky area Village Stovpyagy Kyiv region
	Description		
	<p>This Vyshyvanka has a traditional look and shape. Fabric: Home-spun linen. Decorated: sleeves and bottom part. Colours of the thread: Natural colour, not dyed thread. Embroidery and techniques: Handmade embroidery, made with <i>zanyzuvannia</i>, long-armed braid "<i>kosychnka</i>", <i>lyshuva</i> and <i>cut work with "window"</i>. Collar has edgings made with two techniques: <i>toothed edge</i> on the top and one row of <i>backstitch</i> on the bottom. As a decoration collar has <i>gatherings</i>. Embroidery of sleeve made with <i>reverse protiahanka technique</i>, <i>lyshuva</i>. Bottom part embroidered with <i>zanyzuvannia</i>, <i>cutwork with "window"</i> and <i>nabyrannia</i> techniques. Symbols and patterns: This shirt decorated with traditional geometrical ornaments Branches designed like broken line, leaves (periwinkle), zigzag lines, W-shape elements, horizontal S-figures.</p>		



Photo of Vyshyvavka	Code of the artefact	Dated	Area			
	KH-647	The end of the 20th century (probably from the beginning of the 20 th century and were much older, but was renewed)	Kyiv region Pereyaslav-Khmelnytsky area Village Vovchkiiv			
				Description		
				<p>This Vyshyvavka is completely different from other old samples. It has old geometrical patterns made with traditional techniques, but did not, as accurate as other samples.</p> <p>The embroidery made with traditional ornaments and structure, but extremely unusual colours.</p> <p>Fabric: Homespun linen</p> <p>Decorated: Just sleeves and cuffs.</p> <p>The colours of the thread: Mixed natural colour thread with factory made orange, blue, green, grey, yellow and red threads.</p> <p>Embroidery and techniques: Ornament is wide and cover almost all sleeve. The top part of the sleeve embroidered with <i>nightingale's eye</i>, <i>lyshtva</i>, <i>zanyzuvannia</i> technique. The main part of the sleeve is decorated with <i>lyshtva</i>, <i>backstitches and cross-stitch</i> techniques. Looks like embroidery was made by two different people, because some elements are neat, but others are spoiled. Branches designed like broken line. Half of the line made with <i>reverse protiahanka</i> and the other half with <i>plait technique</i>. The embroidery on the cuffs is simple and consist of the zigzag line of cross-stitches. In the places where it is connected to the sleeve, were used <i>prutyk</i> joining technique and many <i>gatherings</i>. Edges made with toothed <i>edge for cuff</i> technique. On one cuff is also present the row of backstitches made with blue thread.</p> <p>Symbols and patterns: Vyshyvavka decorated with traditional geometrical ornament. Patterns have horizontal composition. We can see star crosses, rose element and half-leaves in the space between star-crosses. The main part of the embroidery is zigzag line with additional to it half-roses elements (or hop branches of carnation) and small branches on the top and on the bottom.</p>		
						
Photo of Vyshyvavka	Code of the artefact	Dated	Area			
	KH-14239	The beginning of the 20th century	Kyiv region Pereyaslav-Khmelnytsky area Village Tashan			
				Description		
	<p>Vyshyvavka with classical 'white on white' embroidery, even though it has an additional factory thread on the bottom and on the collar. As other shirts from Pereyaslav-Khmelnytsky area, this one also has with accurate and detailed embroidery.</p> <p>Fabric: Home-spun linen</p> <p>Decorated: Collar, sleeves, cuffs and bottom.</p> <p>The colours of the thread: Not dyed thread (maybe whitened), made with natural materials. A small addition of purple and blue factory threads.</p>					

	<p>Embroidery and techniques: The collar of this Vyshyvanka has <i>looped edgings</i> and many <i>pyhlyks</i>. The embroidery, which has one line of ornament. The inset's embroidery is attached to the sleeve embroidery and has no separation between them. On the sleeve, it was also used <i>nightingale's eye</i>, <i>zanyzuvannia</i>, <i>lyshtva</i>, <i>zanyzuvannia</i> technique. The embroidery in the middle of the sleeves was made with single row of <i>reverse protiahanka</i> technique. The connection made with gatherings on both sides and <i>backstitch</i>.</p> <p>Symbols and patterns: Vyshyvanka decorated with traditional geometrical ornaments.</p> <p>The composition of patter is horizontal and consist of two zigzag rows of W-shape elements on the top and the bottom. The main part of embroidery on the sleeve has combinations of horizontally oriented S-figures. The space between S-figures filled with <i>leaf motif</i>. Small rhombuses are located on both sides of the line.</p>
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Floral with a contour

This subgroup is separated because of different style of pattern. There are also used geometrical patterns (floral motifs), however, with different stylisation. One more feature of the embroidery in this subgroup is a contour. (See Table 2 and Annex 2)

Table 2: Analysis of Vyshyvanka from 'Floral with a contour' subgroup

Photo of Vyshyvavka	Code of the artefact	Dated	Area
	KH-14232	The beginning of the 20th century	Kyiv region Vasylkivky area Village Glevaha
Description			
	<p>This Vyshyvanka is traditional and long, but unusual from a first look. However, we can see similar patterns on other samples in Kyiv region from that period. The most unusual feature of this artefact is an additional ribbon with natural colour embroidery on it. It is inserted into the fabric on the chest.</p> <p>Fabric: Most likely it is factory fabric with an inserted piece of homespun fabric.</p> <p>Decorated: Here we can see the bright embroidery on sleeves and almost invisible on the chest.</p> <p>The colours of the thread: For embroidering were used red and black threads on the sleeves and natural colour thread on the chest.</p> <p>Embroidery and techniques: Here we used simple embroidery techniques such as traditional <i>lyshtva</i>, 'chain-stitch' and 'stem-stitch'.</p> <p>Symbols and patterns: 'Full-rose' (or periwinkle) motive combined with brunches.</p>		
			

2. **Old to ‘new’** (by ‘new’ I am referring to ‘Brocard’ patterns) or “mixed”

At the end of the 19th century- till the beginning of the 20th century a transition from the old to the new tradition occurred. Mostly this group Vyshyvankas consists of two kinds of patterns: traditional geometric patterns and Brocard patterns. However, in the beginning of the 20th century there were other variations of patterns and samples which were unusual for the Kyiv region technique. It was impossible to classify them in one category since they all have significant differences. Therefore, this group consists of five subgroups:

- **‘New’ patterns and ‘old’ techniques**


I have just four samples of Vyshyvankas in this group which dates from the beginning to the middle of the 20th century. These are Vyshyvankas embroidered with Brocard patterns, but are variations on the traditional embroidery techniques, namely ‘chain-stitch’, ‘Old-Kyyivan flat stitch’, ‘stem-stitch’ etc. The samples of Vyshyvanka in this subgroup were already made with factory fabric, including the thread used for embroidery as well. (See Table 3 and Annex 3)



Figure 21: Samples of Vyshyvankas from “‘New’ patterns and ‘old’ techniques”.

Photographer: Kseniia Snikhovska (2016)

Table 3: Analysis of Vyshyvanka from 'New patterns- old techniques' subgroup

Photo of Vyshyvavka	Code of the artefact	Dated	Area
	KH-18284	First part of the 20th century	Kyiv region Vasilkivsky area
	Description		
	<p>This Vyshyvanka is a typical example of the transitional period between old and new tradition. Still long which is typical for that period, but already made on factory fabric.</p> <p>Fabric: Factory fabric.</p> <p>Decorated: Bright decoration of sleeves and bottom part of the shirt.</p> <p>The colours of the thread: Red and black threads.</p> <p>Embroidery and techniques: On this Vyshyvanka we can see embroidery techniques such as traditional <i>lyshuva</i>, 'chain-stitch' and 'stem-stitch'.</p> <p>Symbols and patterns: Floral patterns: roses with branches, berries, leaves and other kind of stylized flowers.</p>		

- Geometrical patterns and cross-stitch

It consist of Vyshyvankas embroidered with geometrical ('old') patterns, but made with cross-stitch technique. (See Figure 22, 23)

These Vyshyvankas are distinguished by new rendition of old patterns. With the exception of two samples of male shirts made with blue and brown threads, all other Vyshyvankas were made in white-red-black colours. These shirts were made from homespun fabric and with naturally dyed thread. (See Table 4)



Figure 22: Examples of male Vyshyvankas. Beginning of the 20th century.

Photographer: Kseniia Snikhovska (2016)



Figure 23: Example of Vyshyvanka from “Geometrical patterns and cross-stitch”.

Photographer: Kseniia Snikhovska (2016)

I chose two artefacts for detailed analysis, but more samples from this group you can see in Annex 4.

Table 4: Analysis of Vyshyvankas from ‘Geometrical patterns and cross-stitch’ subgroup



Photo of Vyshyvavka	Code of the artefact	Dated	Area
	KH-491	Middle of the 20th century	Kyiv region City Dimer
Description			
<p>This Vyshyvanka has a traditional shape and fabric, but embroidery made with cross-stitch. On this artefact we clearly can see combination of traditional geometrical pattern and cross-stitch technique. Also the bottom of the shirt we can see some traditional techniques and imitation of the cut work. This imitation shows that this Vyshyvanka belonged to old married women.</p> <p>Fabric: Home-spun fabric, natural colour (not whitened).</p> <p>Decorated: Rich embroidery on sleeves and bottom part of the shirt, almost invisible decoration on the collar.</p> <p>The colours of the thread: Mostly were used red and black threads. However, we can see the natural colour thread in some places, like on the bottom of the shirt, collar and on the connections of the sleeves.</p> <p>Embroidery and techniques: On this Vyshyvanka we can see embroidery techniques such as traditional <i>merzka</i>, <i>lyshiva</i>, ‘<i>chain-stitch</i>’, <i>protiahanka</i>, <i>imitation of cross-stitch</i> and some others which are hard to define.</p> <p>Symbols and patterns: Traditional geometric patterns such as octagonal star (which is variation of full-rose), rhombuses, oblique crosses, triangles, bloom of potato etc.</p>			

Photo of Vyshyvavka	Code of the artefact	Dated	Area
	KH-101	1922 year	Kyiv region Dimerivsky area Village Demyriv
	Description		
<p>This is a quite unusual artefact. First this Vyshyvanka is short which is uncommon in the beginning of the 20th century and second: the embroidery is really dark (black colour is dominating). This shirt has a rich geometrical pattern made with cross-stitch.</p> <p>Fabric: White factory made fabric</p> <p>Decorated: Embroidered stripes on sleeves, cuffs, collar and chest.</p> <p>The colours of the thread: Red and black threads</p> <p>Embroidery and techniques: On this Vyshyvanka we can see just a <i>cross-stitch</i> technique.</p> <p>Symbols and patterns: On this Vyshyvanka we can see geometrical patterns, such as: windmill, rhombuses, triangles etc.</p>			






- “Combinations”

This subgroup consists of samples from the end of the 19th- to the beginning of the 20th century. These Vyshyvankas show a combination of ‘old’ and ‘new’ embroidery tradition. Some of the patterns are typical Brocard and other patterns can be seen in older samples and considered as traditional. The most common is ‘new’ patterns on the top and ‘old’ traditional embroidery on the bottom of the shirt. More samples you can see in Annex 5.



Figure 24: Sample of Vyshyvankas with the combination of traditions. Photographer: Kseniia Snikhovska (2016)

Table 5: Analysis of Vyshyvankas from 'Combination' subgroup

Photo of Vyshyvavka	Code of the artefact	Dated	Area
	KH-95	1900 yy.	Kyiv region City Kagarlyk
			
	Description		
	<p>From the first look, this Vyshyvanka clear representor of Brocard tradition. On sleeves it has typical big scale floral pattern embroidered with <i>cross-stitch</i> in red-black colours. However, if to look at the bottom of this shit we can see traditional <i>merzhenka</i>. The collar decorated with red thread and zigzag made cross-stitch. The edges of the collar worked with the technique: <i>toothed edge</i>.</p> <p>Fabric: Home-spun fabric</p> <p>Decorated: Embroidered sleeves, collar and chest.</p> <p>The colours of the thread: Red and black threads on the top and natural colour thread on the bottom.</p> <p>Embroidery and techniques: Embroidery on the sleeves was made with a <i>cross-stitch</i>, <i>merzhenka</i> technique was used on the bottom of this shirt and collar worked with <i>toothed edges</i>.</p> <p>Symbols and patterns: Floral motifs, the main element are stylized chestnut flowers. On the bottom we can see the horizontal S-figures and oblique crosses.</p>		
Photo of Vyshyvavka	Code of the artefact	Dated	Area
	KH-738	Second part of the 19 th century	Kyiv region Brovarsky area Village Kalyta
			
	Description		
	<p>This Vyshyvanka is a great example of combination traditional pattern made with old embroidery techniques and Brocard patterns made with cross-stitch. Here we can see 'white on white' embroidery on the sleeves and bottom. On the insets present geometrically-stylized flowers made with grey and red threads, made with cross-stitch technique. On the cuffs we can see a line of Brocard roses, made with cross-stitch, black and red threads.</p> <p>Fabric: Home-spun linen fabric.</p> <p>Decorated: Embroidered stripes on sleeves, cuffs, bottom, collar and chest.</p> <p>Colours of the thread: Natural colour thread, red, black and grey.</p> <p>Embroidery and techniques: This Vyshyvanka embroidered with <i>cross-stitch</i> technique, <i>lyshiva</i>, <i>satin stitch</i> and <i>vekhoploot</i> (which I haven't seen in other samples).</p> <p>Symbols and patterns: Floral and geometrical patterns: zigzags, rhombuses, some unknown stylized flower or leaves and rose motifs.</p>		

- 'Merezhky'

These shirts have 'white on white' embroidery and probably it could go to the 'traditional group', however, there is one feature which made separate this Vyshyvankas from traditional. The name of this subgroup is the name of a traditional embroidery technique. However, samples collected in this section are floral and according to experts, the patterns on these Vyshyvankas are not traditional. For this reason, I separated these Vyshyvankas and placed them in this subgroup, even though these have traditional colours, techniques and materials. More detailed photos you can see in Annex 6.



Figure 25: Sample of Vyshyvankas made with Merezhka technique and not-traditional for the shirt patterns. Photographer: Kseniia Snikhovska (2016)

Table 6: Analysis of Vyshyvanka of 'Merezhky' subgroup

Photo of Vyshyvavka	Code of the artefact	Dated	Area
	KH-23396	The beginning of the 20th century	Kyiv region
	Description		
<p>This shirt has a traditional shape and 'white on white' embroidery. Probably it could go to the 'traditional group', however, there is one feature which made separate this Vyshyvankas from traditional. The patterns and motive on the insets, we can see on the left if not traditional and reminds more Brocard pattern. This short also has non-embroidered sleeve, due to what I can assume that it wasn't festive Vyshyvanka.</p> <p>Fabric: Home-spun linen.</p> <p>Decorated: Embroidered stripe on the insets and embroidered stripe on the bottom.</p> <p>The colours of the thread: Natural colour thread.</p> <p>Embroidery and techniques: On this Vyshyvanka we can see <i>merezhka</i> and <i>lyshuva</i>.</p> <p>Symbols and patterns: Roses on the insets and rhombuses, triangles, W-elements on the bottom of the shirt.</p>			

3. 'New tradition' (Vyshyvankas with Brocard)

Brocard patterns are usually floral motifs made with cross-stitches. The embroidery of this artefacts is really rich. Sleeves usually are very wide, as you can see on Figure 26. The most common are fully embroidered sleeves and the line on the bottom part of the shirt, collar and cuffs. Colours of the threads are red and black. Some Vyshyvankas have added materials (such as factory made lace or colourful fabric). Mostly these are dated from the 20th century. In this group we can still see some samples made with homespun fabric. However, mostly it is factory made linen or even cotton. More artifacts I am showing in Annex 7.


The analysis of this group does not contain of many information, because the only technique which was used is cross-stitch and all patterns are stylized beyond recognition flowers (Table 7).

Exactly this type of embroidery many people, who is not aware of this topic, consider as 'traditional Vyshyvanka'.



Figure 26: Sample of Vyshyvankas with Brocard. Photographer: Kseniia Snikhovska (2016)

Table 7: Analysis of Vyshyvanka from ‘New tradition’ group

Photo of Vyshyvavka	Code of the artefact	Dated	Area
	KH-1005	End of the 19 th century	Kyiv region City Dimer
	Description		
	<p>This shirt shows the approximate beginning of the Brocard tradition. It has a rich decoration of sleeves with typical big scale floral patterns. All embroidery made with <i>cross-stitch</i> and red-black threads.</p> <p>Fabric: Home-spun fabric.</p> <p>Decorated: Embroidered sleeves, bottom and collar.</p> <p>The colours of the thread: Mostly red and black threads, bur on the bottom of the shirt and on the collar, we can see the light blue thread.</p> <p>Embroidery and techniques: All embroidery made with cross-stitch.</p> <p>Symbols and patterns: Floral motives, the main elements are stylized flowers: roses branches, clover and others.</p>		

4. ‘Experiments’

These small group consists of unusual artefact. This Vyshyvanka made with using traditional embroidery techniques and it has traditional shape. However, the fabric of this shirt is silk, which differs it from others. This is one of my favourite artifacts (see Figure 27). It dates from the middle of the 20th century. This unique and unbelievably difficult embroidery work shows the patience and skills of the craftsman. More detailed photos you can see in Annex 8.



Figure 27: Silk Vyshyvanka. Photographer: Kseniia Snikhovska (2016)

4.3. Features based on Analysis

The actual work with artefacts helped me to understand the features of the embroidery in the Kyiv region and to define the most typical patterns and techniques.

During my work with embroidered garments from the Kyiv region, I noticed changes in the patterns. Before the 20th century the patterns had special features. All the ornamental schemes used on Vyshyvankas until the early 20th century were geometrical. Flowers, birds and other elements have been stylized beyond recognition to geometrical symbols. On later artefacts we can see the more realistic depicting of flowers.

I determined the features which distinguish the traditional” Vyshyvanka from its modern look. All of these conclusions were made after the analysis of authentic Vyshyvankas dated from the 19th-20th centuries from the museum’s collection:

Vyshyvanka is a long shirt that functioned as an undergarment for the Ukrainian costumes. This function has become far less common in modern times. In modern times, the Vyshyvanka has become a lot shorter. There were no examples of short Vyshyvankas before the beginning of the 20th century, when the Ukrainian elite started combining them with European cloths.

Vyshyvankas that we define as traditional nowadays are completely different from the authentic Vyshyvankas from the 18th-19th century. Contemporary use of «traditional» embroideries was first used at the end of the 19th century to the beginning of the 20th century.

The old masters were using around 20 different embroidery techniques, but today there are only a few techniques being used.

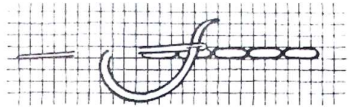
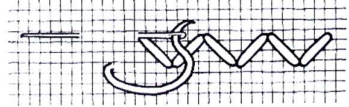
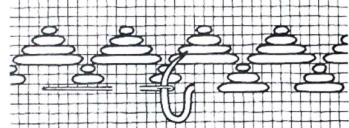
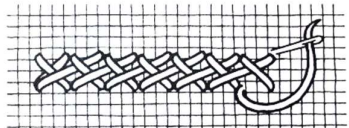

All these changes happened in the beginning of the 20th century and there were many historical reasons why these changes occurred. Unfortunately, there is no specific research on this topic.

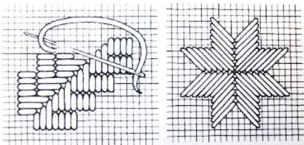
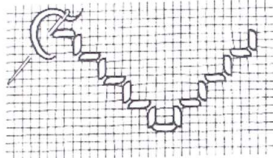
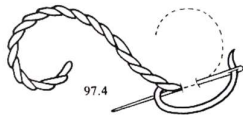
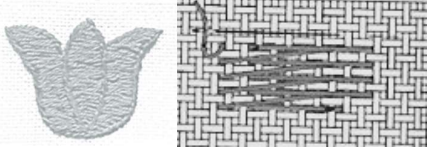
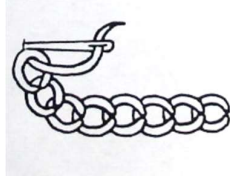
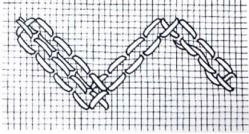
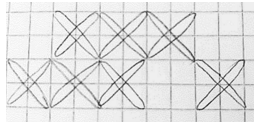
In the Kyiv region, village people embroidered with small geometrical motifs: crosses, branches and flowers. For women's shirts, they used white, brown, grey, red, yellow and blue colours and sometimes highlighted with black. The Kyiv region had therefore contrasting embroidery. However, there are many samples of traditional “white on white” embroidery. In the 20th century more common floral ornaments were used. They even decorated men’s shirts. Floral motifs, usually roses, embroidered with cross-stitch, covered most of the sleeves. (Ponyatyshyn, 2016)

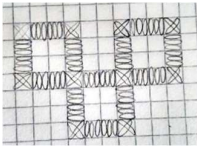
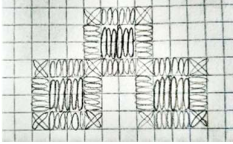
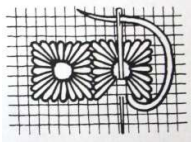
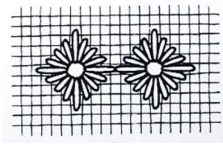
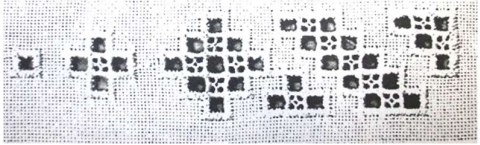
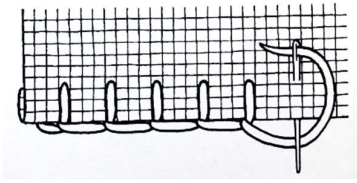
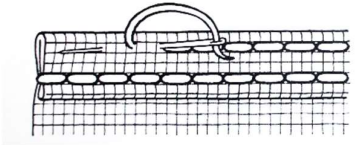
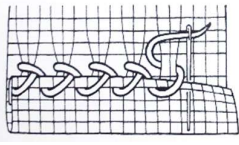
The fabric used for Vyshyvanka was flax and hemp. Each family produced their own fabric. The fabric was homespun and this made it more suitable for more complex embroidery techniques. Threads were also handmade and dyed with natural dyes. Sometimes the people used non-dyed thread which made the embroidery less noticeable. The reason for that was that embroidery had a ritual, but not decorative function, so it was not important that it had contrasting colours as it did not need to be visible. (Kara-Vasilyeva, 2008)

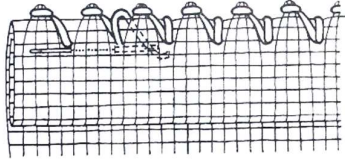
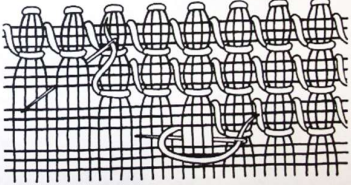
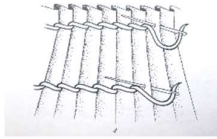
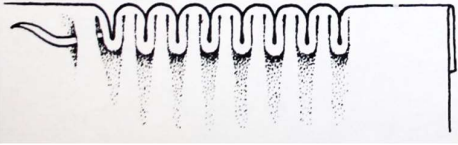
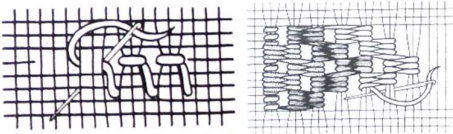
There were many embroidery techniques in the Kyiv region (see Table 8). The scheme of these techniques could vary from district to district. The most common groups of techniques from the Kyiv region are (names and classification based on the research of O'Neill):

Table 8: Embroidery techniques

Solid stitching	
Backstitch	
Backstitch zigzags	
Zanyzuvannia	
Plaid from cross stitch	
Long-armed braid	

Satin stitch	
Lyshtva	
Protiahanka (single row)	
Stem-stitch	
Old-Kyyivan flat stitch	
Chain-stitch	
Reverse protiahanka	
Cross-stitch	
Open work – techniques with holes inside (Cutwork)	

<p>Cutwork</p>	
<p>Blind Cutwork</p>	
<p>Drawn work (eyelets): nightingale's eye</p>	
<p>Pierced eyelets</p>	
<p>Corrected window (Cutwork from Poltava)</p>	
<p>Edging (the techniques of decoration of the edges)</p>	
<p>Looped edging</p>	
<p>Edges worked in backstitch</p>	
<p>Edges worked with prutyk</p>	

Toothed-edged hem	
Chumak's duda	
Intentions and seams	
Gatherings	
Puffs	
Merezhka	

To focus the direction of my research, I will highlight a group of embroidery techniques which I found the most interesting artistically. This group includes variations of an embroidery technique. Its shape inspired me on my practical work, so I'm giving the description of it further.

5. Cutwork

Cutwork, which in O'Neill's book is called 'Poltavian' is present on Ukrainian Vyshyvankas and Ryshnyks from other regions of Ukraine, namely: the Poltava, Zhytomyr, Rivenska and Cherkasy regions. Variations of Cutwork are also present on Vyshyvankas from the Vinnyca and Ivano-Frankivsk regions.



Figure 28: Fragment of Vyshyvanka Cutwork region made with cutwork. Ivan Gonchar museum collection. Photographer: Kseniia Snikhovska (2016)

Fragments of Vyshyvankas from Kyiv region with this technique can be seen in Annex 9. From Figure 28 above we can see typical Cutwork from Kyiv region. This pattern is made with four squares and a 'window' in the middle. However, one feature here is differs from 'Poltavian cutwork' (see Figure 29): crosses of the cubes weren't made with cross-stitch. We can see cross-stich only on the corners of a 'window'.

The scheme of this embroidery technique:

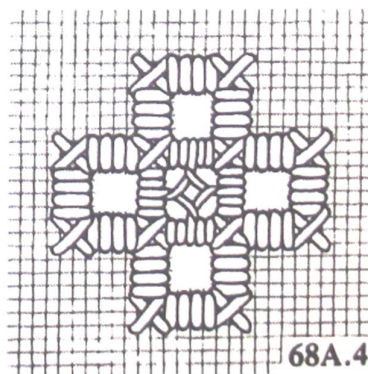


Figure 29: 'Poltavian cutwork' (O'Neill T. D., 1997)

In the Kyiv region, instead of crosses in the corners gradual diagonal stitches are also present. The Cutwork has a different shape, mostly with a 'window' between the cubes.



Figure 30: Fragment of embroidery on Vyshyvanka from Kyiv region. Ivan Gonchar museum collection. Photographer: Kseniia Snikhovska (2016)

This look of technique is the most common (see Figure 30). However, during my analysis I found one more variation: 'Imitation of the Cutwork' (Figure 31). This type of embroidery was used by older woman because it was inappropriate for them to wear shirts with holes (such as in 'Cutwork' technique).

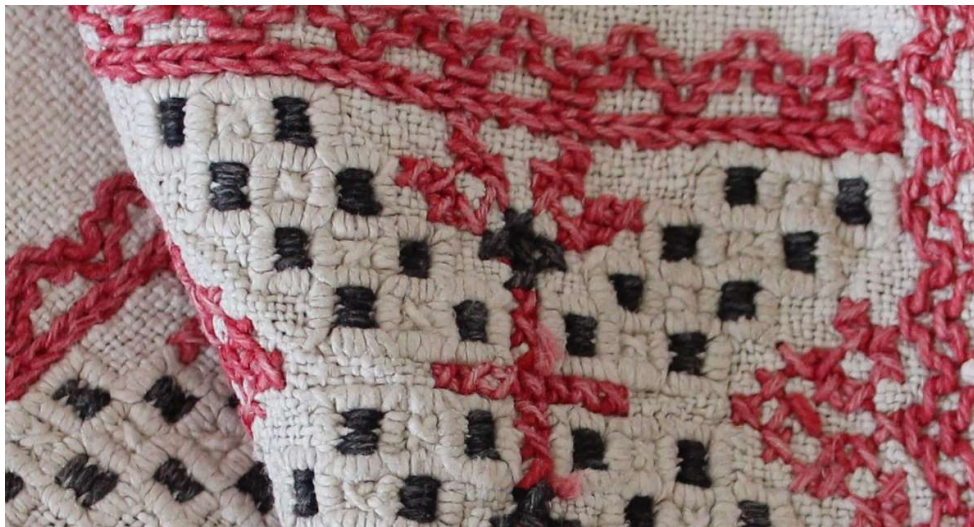


Figure 31: 'Imitation of the Cutwork'. Photographer: Kseniia Snikhovska (2016)

In O'Neill's book, we can see the Poltavian embroidery with crosses in the corners. From artefacts we can see that this type of embroidery was mostly made in natural colours. On some samples it was whitened thread, on others- thread dyed with natural dye (oak bark etc.).

All patterns made with this technique were geometrical: rhombuses, triangles, S-elements, zigzags, crosses, etc. Some of them were placed in sleeves, insets (top part of the sleeve) and on the bottom of the shirt. On men's shirts, this embroidery was placed on the collar and cuffs (see Figure 32-35).



Figure 32: Bottom part of women's Vyshyvanka. Photographer: Kseniia Snikhovska (2016)



Figure 33: Embroidered sleeve from women's Vyshyvanka. Photographer: Kseniia Snikhovska (2016)



Figure 34: Top part of women's Vyshyvanka. Photographer: Kseniia Snikhovska (2016)



Figure 35: Top part of men's Vyshyvanka. Photographer: Kseniia Snikhovska (2016)

There is no way to determine the age or origin of the 'Cutwork' technique, but many historians, who worked with textile, including O'Neill and Olena Kulynych-Stakhurska, state that this technique has been present in Ukrainian Vyshyvankas for a very long time. Artefacts from the early 19th century are a confirmation of that.

There is a possibility that similar techniques are present in traditions of other cultures. For example, the Hardanger embroidery technique from Norway in some of its variations has a shape similar to 'Cutwork'. Upon closer inspection, it is possible to notice differences in the structure of embroidery (see Figure 36: Example of Hardanger embroidery).



Figure 36: Example of Hardanger embroidery

6. Practical part

My practical part is the embodiment of my research. I am presenting my own interpretation and design based on the embroidery tradition of Vyshyvanka. The object which I made, shows my way of adapting an old embroidery pattern to modern technologies and interior design. An inspiration for my practical part was one of the most difficult and beautiful embroidery techniques, called 'Cutwork'. In my design, I took the shape of stitches and separated them from the fabric. As a result, I created an independent 3-dimensional object for the home interior.

6.1. Concept

In my theoretical part I followed the history of the embroidery tradition and showed its changes through time. In my practical part, I wanted to continue this embroidery evolution in the same way as other Ukrainian designers, who also were inspired by embroidery patterns. I wanted to find a way to create the same artistic expression of embroidery, but through the use of modern tools and materials.

In centuries past, embroidery was filled with sacral functions and it wasn't meant to be visible. It made the embroidery valuable and created a unique aesthetic. The trouble is that in today's culture "bigger is better". If you want people to notice something, then make it big and bright. I wanted people to notice the pattern and be able to appreciate its original beauty, so that they would remember this exquisite embroidery technique. As I see it, the tradition of using difficult handmade embroidery techniques will likely not continue very far into the future. My goal was to bring old traditions to the modern environment. I separated the embroidery from its basis (fabric) and combined the unique look of the old embroidery technique with modern tools. It is important to note that I had a goal to create an artistic expression of embroidery in my object. Using special printing settings I wanted to imitate the structure and the shape embroidery and textile create. At the same time, I wanted to preserve the symbolical meaning (which these patterns held according to old beliefs). I enjoy when there are multiple layers of meaning to my work, and when there is a sense of something hidden. Therefore, the most interesting thing in Ukrainian embroidery tradition for me was that the elements of embroidery had

a special meaning and a protective function. I believe that even when you do not know the meaning or symbolism behind certain patterns, they still have an influence on you.

The list below summarizes the criteria which I followed while creating my object. My aims were:

- To use an embroidery technique from old traditional Vyshyvanka from the Kyiv region
- To separate it from the basis
- To create the artistic expression of the embroidery in my object
- To modify the embroidery pattern so that it can be applied as an interior object
- To preserve the “embroidery” shape and symbolical meaning
- To make the object with modern tools and technology

6.1.1. Technology

As stated above, I planned on using modern technologies, so I chose something which could help me in creating my object as I planned it, namely 3D printing. The 3D printer is not new technology, but only recently became accessible to be used for smaller scale projects. It gives many opportunities for creating 3-dimensional objects and it became the main tool used in this practical work.

6.1.2. Material and colour

If to look at available for 3D printing materials, easy to say that there are big possibilities and large selection of plastic. However, my concept required special characteristics of the material. In Chapter 5 I describe the ‘Cutwork’ embroidery technique and showed examples with Vyshyvanka in Annex 9 with it a variety of shapes and colours. This part of the research led me to the colour choice for my final work.

In most Vyshyvankas from the 19th- 20th centuries there were natural colour threads for this kind of embroidery. Using a ‘non-natural’ colour was rare and it is more an exception than part of tradition. So based on these findings, I decided to also use a ‘natural’ colour for the object.

Going through experiments helped me to choose PLA as a material for my final object. The interesting thing is that the natural colour of PLA plastic is quite similar to the colour

of natural linen. Therefore, the colour I chose for my practical part also is imitation of traditional one.

6.2. Choice of embroidery and pattern

The most important part of my practical work was to establish a concept. The decision which pattern and embroidery technique to use as a basis for my object was significant. In the Chapter 4 of my work I discussed in detail the embroidery techniques which were used on Vyshyvanka in the Kyiv region. I wanted to take a small piece of embroidery and do it in large scale. I worked out variants for a composition before I chose a pattern. In the beginning, I considered using an interpretation of the cross-stitch. As I mentioned in earlier chapters, I wanted to show the next step in the evolution of the embroidery, and since this ‘rose element’ became one of the most common patterns in contemporary Vyshyvankas (see Annex 10), I chose to use it. My first sketches were based on the Brocard rose pattern. (Figure 37, 38) I made a scheme for it based on the instructions for embroidering. (Figure 39)

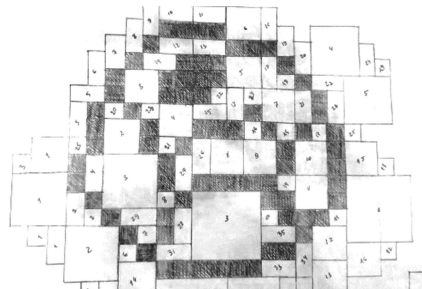
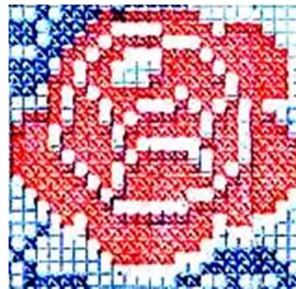


Figure 37: Scheme of “Brocard rose”

Figure 38: My simplification of the element

When I started, I wasn’t sure what function the object would serve, so I was simply playing with shape to see where it will lead me. (Figure 39)

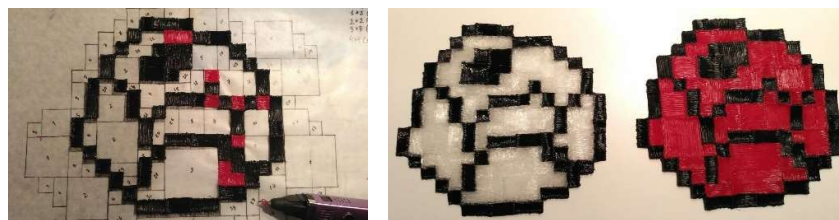


Figure 39: “Brocard rose” with 3d pen

My ideas for the object were to make an installation of an object for the interior. The scheme of the embroidery reminded me of pixels. This led me to the idea of making a rack of shelves. I made a paper model and 3d printed prototype to try the look of this idea. (Figure 40, 41)

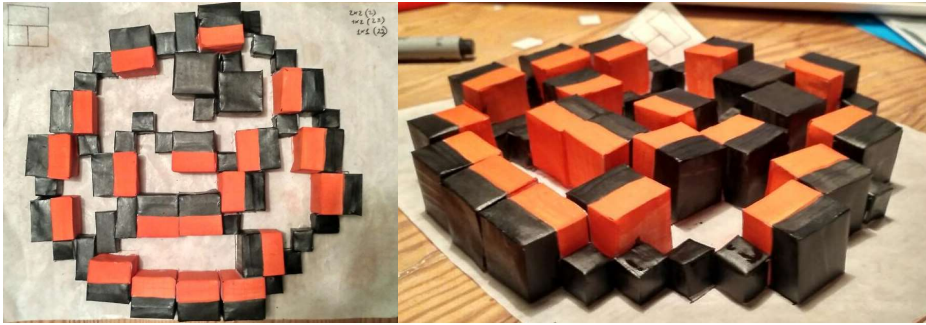


Figure 40: Paper prototype

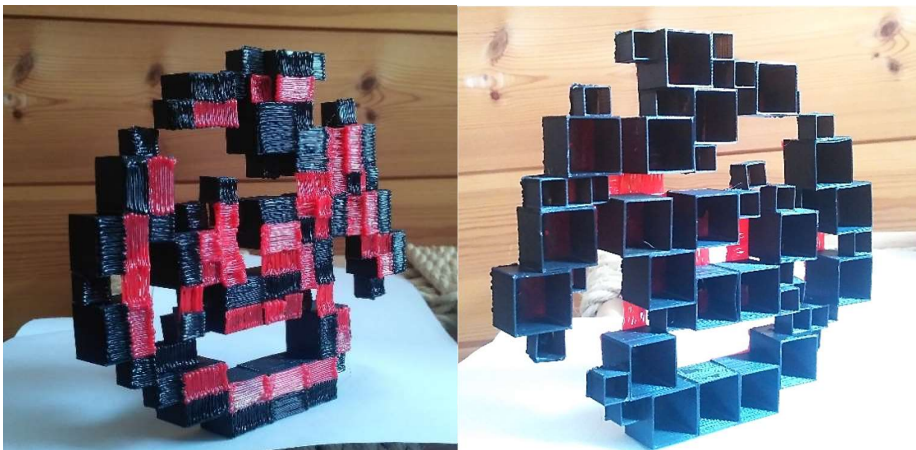


Figure 41: First prototype, racks of shelves based on “Brocard rose”

However, during my work with artefacts, I realised that I cannot make Brocard pattern as a basis for my object. I was inspired by the look and uniqueness of traditional embroidery and I decided to take my practical work in another direction. My new inspiration became ‘Cutwork’ embroidery technique. As you can see in the 5th Chapter of my work, this embroidery technique captured my attention.

I liked the idea of a rack of shelves, so I decided to create it, but with a new pattern as a basis. I wanted to give a ‘second life’ to this old embroidery tradition. In my opinion, this technique is special, not just for its aesthetic appeal and the variety of patterns from different regions, but also for its symbolical meaning. Elements of this embroidery were

symbolic representations of 'windows'. According to folk beliefs, it protected the owner from negative influence and evil energy of his or her surroundings. As this object would be installed in the interior, I thought that it would serve well as a protection symbol for the house. During the design process I thought of adding LED lights on the back wall of the 'boxes', to symbolize light (energy) coming through the window.

The idea was to make boxes and to use embroidery imitation as a decoration on the front side. By 'embroidery imitation' I mean recreating the shape and look of the stitches from embroidery technique.

The pattern I chose as a basis for my final work in O'Neil's book is called 'Cutwork from Poltava' (Figure 42).

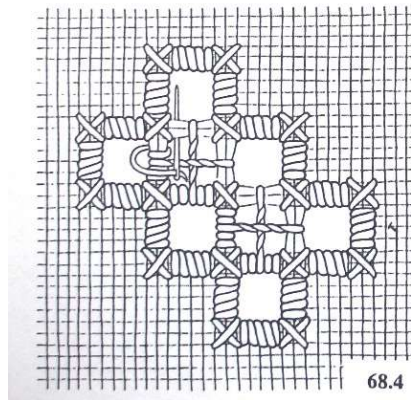


Figure 42: A scheme for the Cutwork embroidery technique (O'Neil)

This technique has a perfect shape for my goal and it looks self-sufficient as a ready-made pattern (see Figure 43). Once I decided on the embroidery technique I had to start by creating sketches. Since I decided to preserve the shape and the look of the pattern, I decided to use one element of this pattern.

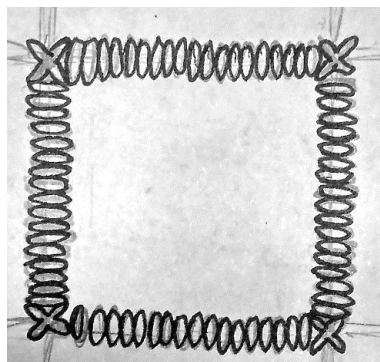


Figure 43: Element from the Cutwork pattern (my drawing)

I started to work with the paper sketches, but I quickly moved to 3D programs such as 3Dmax and Simplify3D. Since I was planning to work with 3D technologies, my sketches also had to be in 3D. It made it easier to plan the shape of the final object (3D visualization). (Figure 44)

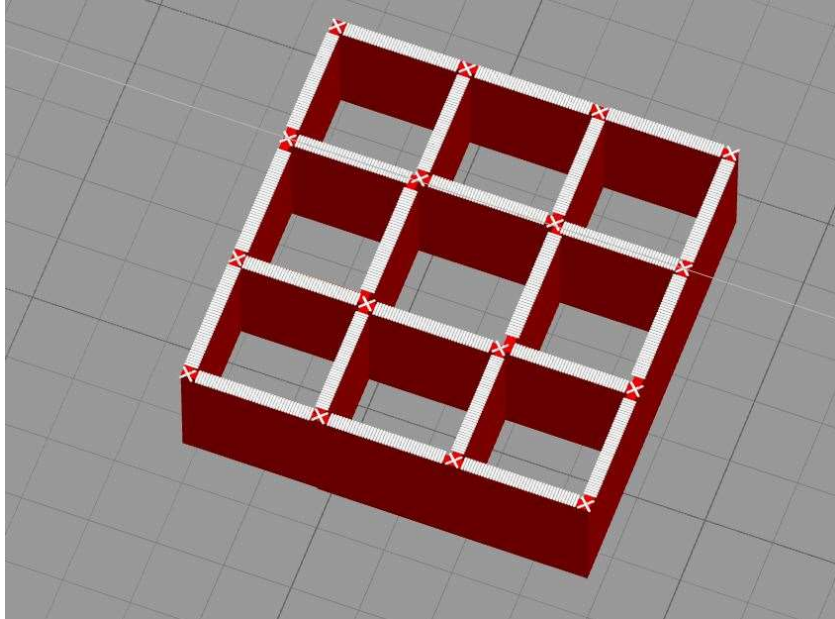


Figure 44: Example with the sketch (embroidery imitation highlighted with white)

To print the 3D models, requires a detailed model with accurate polygons. This requires calculations and technical design. My sketches continued with technical drawings of the side view of the object (Figure 45).

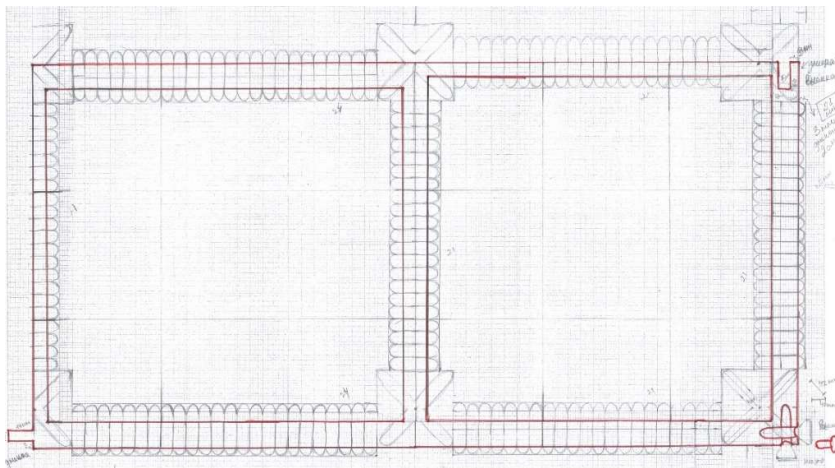


Figure 45: Technical drawing

I wanted to construct my object through the use of both the 3D pen and 3D printer, the figures below show what the first 3D models looked like (Figure 46, 48). It consisted of separated boxes and a pattern on the top. I made modules with two boxes which could be connected as shown in Figure 45 above.

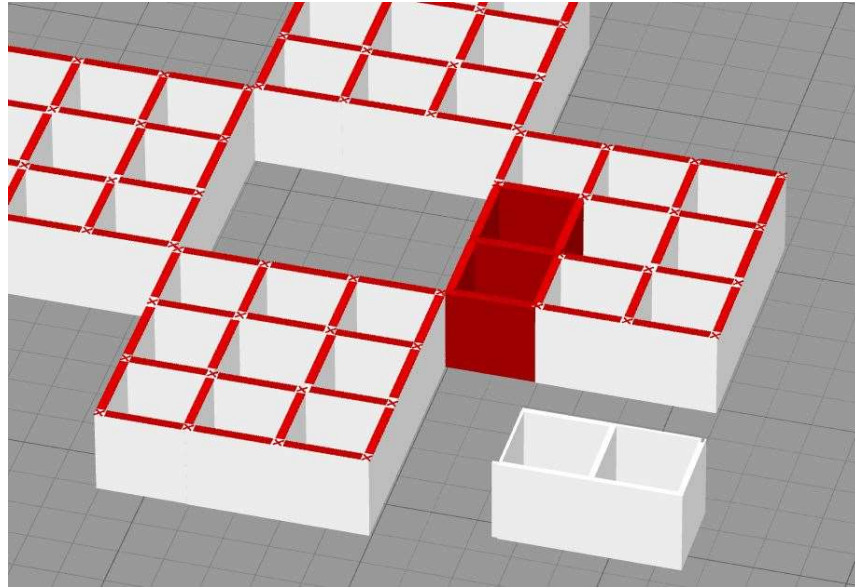


Figure 46: 3D model of object1 and pattern (separated detail highlighted in red)

The first composition (see Figure 46) I based on this sample from traditional embroidery which you can see in Figure 47. It is a fragment of the bottom of traditional Vyshyvanka from Kyiv region dated the beginning of the 20th century. I liked the simple shape of the pattern and transformed it into an 3D object with some additions.



Figure 47: Fragment of traditional embroidery. Photographer: Kseniia Snikhovska (2016)

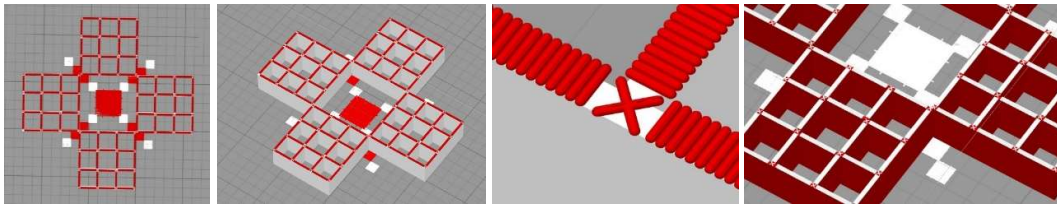


Figure 48: The first sketch of the object (showed in Simplify 3D)

The first variant of composition was a step in the right direction. However, I continued search of design solutions and I made the drawing of an element of the pattern. (Figure 49)

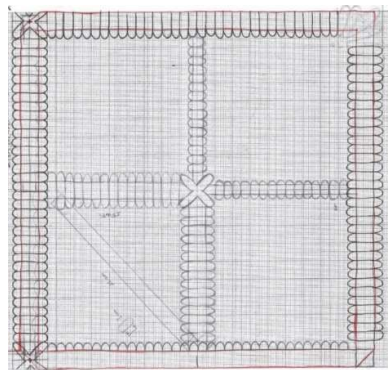


Figure 49: Element of the pattern

Next sketches I made were based on other authentic Vyshyvanka (see Figure 50). This fragment of the embroidery of the shirt is from the beginning of the 19th century. Similar patterns can be seen on other artefacts (see Figure 51) from the 20th century. The drawing repeats the pattern (see Figure 52). I also made a series of small sketches (see Figure 53), based on variations of patterns made with Cutwork on other Vyshyvankas from Kyiv region (see Annex 9).



Figure 50: Fragment of traditional embroidery. Photographer: Kseniia Snikhovska (2016)



Figure 51: Fragments of traditional embroidery. Photographer: Kseniia Snikhovska (2016)

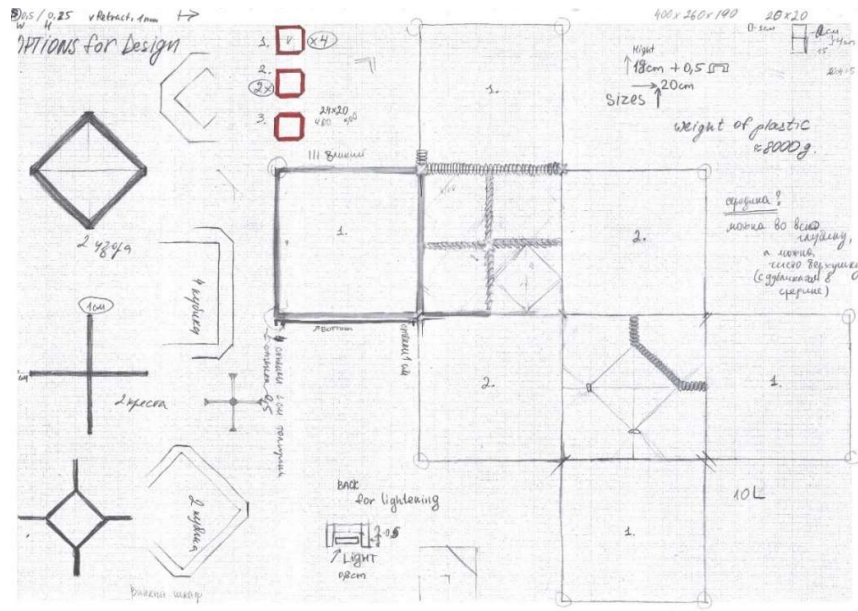


Figure 52: Composition of element

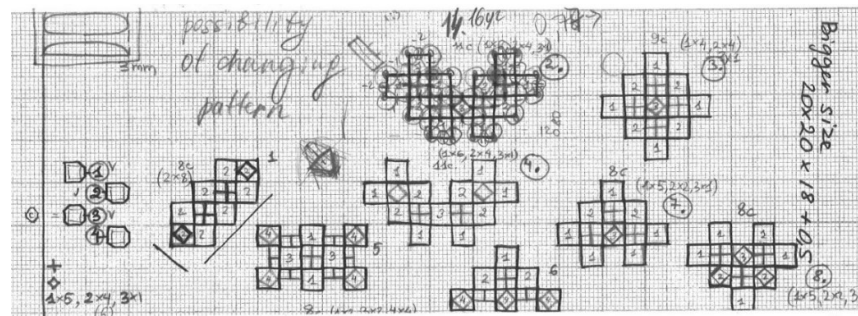


Figure 53: Variants for construction

When the composition was chosen, I started working on the 3D model. The first step was modelling and printing ‘embroidery elements’. These elements were an imitation of life embroidery stitches. I increased the size of these elements to show it in large scale. For modelling 3D objects I used 3D Max. Here I would love to show an example of process of 3D modelling a corner of embroidery imitation (see Figure 54). After modelling I prepared objects for printing using Simplify3D (see Figure55).

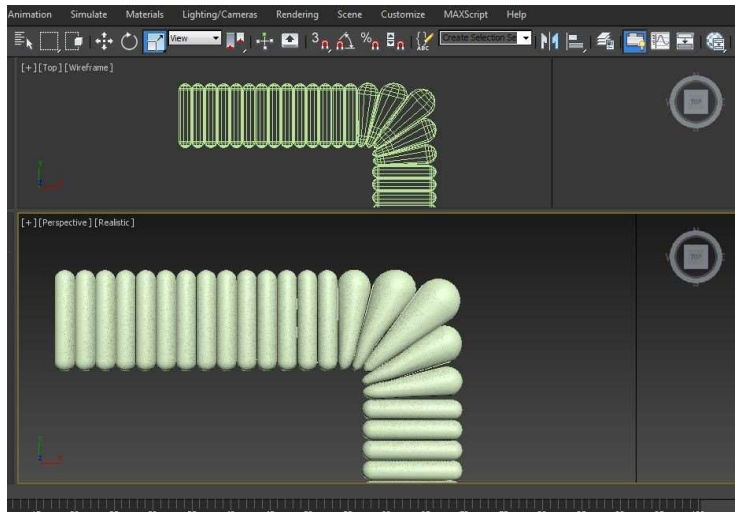


Figure 54: Modelling in 3D Max

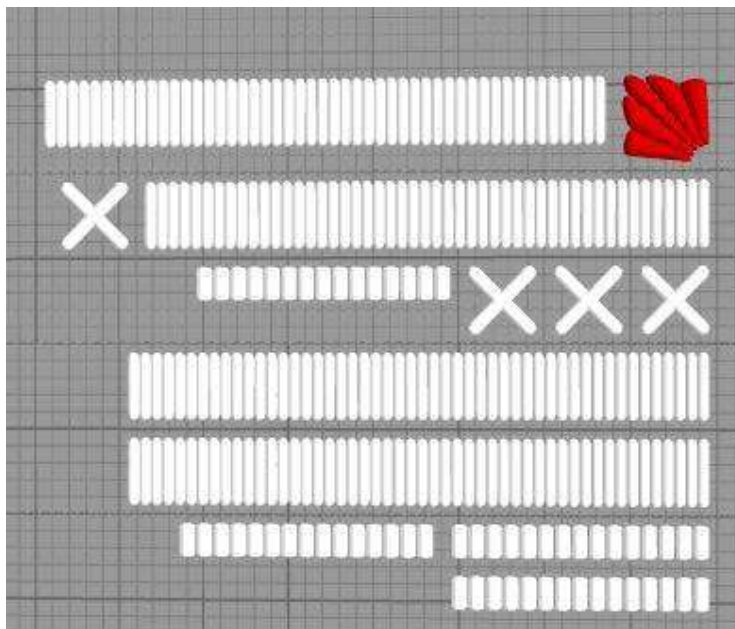


Figure 55: ‘Embroidery elements’ in Simplify3D prepared for test printing

6.3. Technical part

In this part I will describe the process of creating my final object. This description will include all of the difficulties I experienced, the experiments I conducted, which led to the design and technical solution that you can see in my final work. Here I explain the process of choosing the material, 3D modelling (designing 3D objects), preparing the models for printing and the actual 3D printing of my final object.

Experimenting was an integral part of my work. Profi 3Dmaker was the 3D printer which I used for my practical part (Figure 56).



Figure 56: PROFI 3DMAKER

This machine is not easy to use, but it has some great advantages which I could utilize. The large printing bed (printing space) which is 400/260/190 mm which gave me an opportunity to print bigger sized objects.

I learned a few important lessons during my work with this 3D printer. I captured some learning points which I developed through the experiments I conducted with the 3D printer and listed them below:

- It is not enough to know only the basic printing settings. Every 3D model requires individual settings based on size, shape, desired quality, and available time.
- If you are not experienced in printing, you are not able to leave the printing bay because you need to control the printer all the time. Any minute something might go wrong and if you are not able to stop the printing process and fix mistakes you might damage the equipment.

- 3D printing requires not just studying the technology and knowing how to use the program, but a lot of hours of practice. You learn from your mistakes
- You must be really experienced to print out the model you have designed. Even if you just wish to print a simple cube or pyramid you need to know which features of the printer to use, understand the software and of course the filament.
- Changing the quality of the 3D printing can double the duration, therefore before printing you need to decide what is more important: time or detailing (which in 3D printing means smoothness of the surface).

My experiments helped me to understand the nuances of the process. I learnt how to design the object in a way in which it could be printed, because the rules of basic painting and 3D modelling don't always work with the 3D printer. If you design a 3D model without knowing which features to activate, the 3D printer most likely print incorrectly.

6.3.1. Tests with materials (plastic filament)

To decide with the settings and material for the final work, it was important to run some tests on the 3D printer.



Figure 57: An example of the spools with PLA filament

Choosing the material for printing was an important decision. There are a large variety of filaments for printing: PLA, ABS, Flex, Elasthan, Neon plastic, with wood imitation and others (see Figure 56). All of them are just variations of plastic, but each has its own features. Each kind of plastic has its own advantages like flexibility, lightness, strength and disadvantages like shrinking or yellowing etc.

I experimented with most of the above mentioned plastics before, so I had a good understanding of which types of plastics would be suitable for my object. Before I decided which one to choose for my final object, I had to evaluate how these plastics would interact with the printer and shape of my object.

To evaluate if certain types of plastics would be suitable for my object, I experimented with the printing of demo 'boxes'. For this test I used PLA and ABS, the two most common kinds of plastic for printing. Unfortunately, the biggest drawback of ABS plastic is shrinking during printing. As you can see on Figure 58: Unsuccessful test with ABS Figure 587. I was going to print big objects and ABS was too risky to use (see Figure 598).

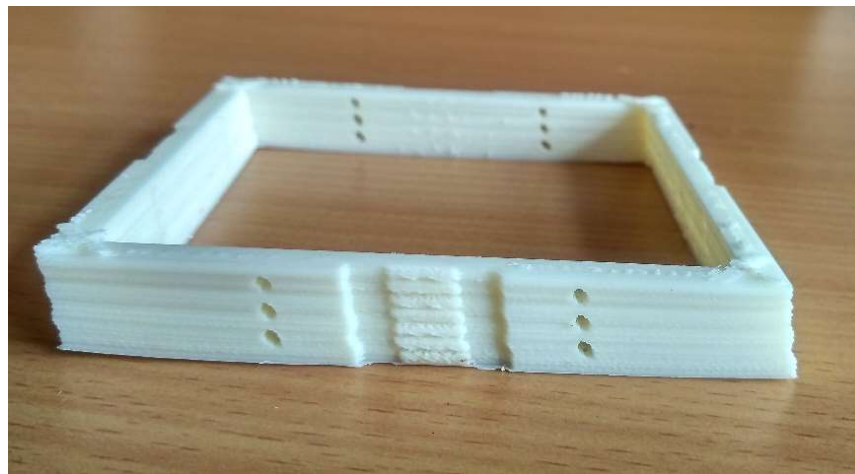


Figure 58: Unsuccessful test with ABS

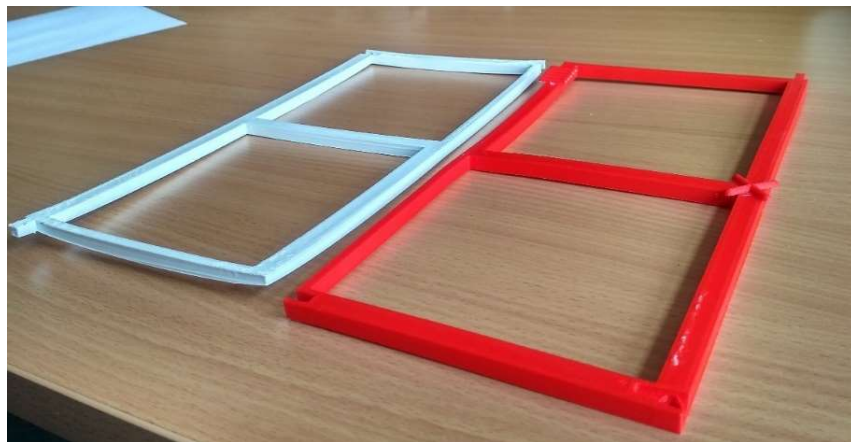


Figure 59: Comparing plastic types. The white object is made with ABS and the red with PLA

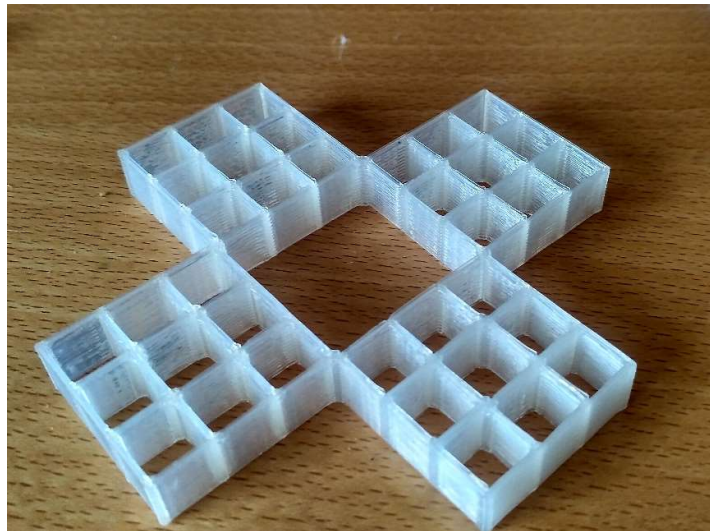


Figure 60: Test with PLA

Points I noticed during these experiments:

- The same type of filament coming from different manufacturers can have its own features. For example the printing temperature for PLA can vary from 175 to 220 degrees Celsius, for ABS it is from 210 to 270 degrees Celsius. However, the best solution is experimenting with new filaments because the temperature makes a big difference in quality and influences the whole process.

- The diameter of filament is one of the most important dimensions. It is one of the biggest problems for many beginners in 3D printing. Diameter of filament can vary because of environmental circumstances. If you do not keep it vacuumed or in special plastic bags with silica gel, the filament absorbs moisture from the environment or dries up. This alters the diameter of the filament and can cause problems. An example of this is if the diameter of the filament is smaller than the value specified in the settings, the 3D printer will leave air gaps in the model. That is why before printing the filament has to be measured and the measured diameter needs to be added in the settings.

- The consequences of not knowing this feature can spoil the 3D model with many holes and an unstable structure. Usually package with filament says 1.75 \pm 0.05mm, but as practice shows this range can be much bigger. The range of this value is 0.9-1.1 (diameter of filament 1.65-1.81 mm). However, this is very individual and have to be checked before printing.

- The experiment showed me that even with an extra 'skirt' (the term from 3D printer settings, which means support for the object) it could still shrink too much. Therefore, from my experiments I found the PLA (see) to be the safest and the best variant of plastic for my work. Even though details made with ABS are easier to connect (with acetone, which doesn't work with PLA), I still chose PLA for its other advantages over ABS. For my object I ended up using 195-200 degrees Celsius printing temperatures. My experiments showed that the PLA was the most optimal temperature for the type of plastic I chose.

6.3.2. Testing various settings

The surface of the object is an important attribute of the design solution. In 3D printing it depends on print settings. Since I was doing an imitation of the embroidery technique, I wanted to imitate the textile surface in my 3D object as much as it possible.

In the object1 I wanted to make embroidery imitation I was going to have vertical lines along the perimeter of the cube, which remind embroidery stitches. They had to be on the top of the boxes, which required to print them together. Unfortunately, unsuccessful experiment showed me that it is better to print all details of my object separately. I was going to use different settings for the main object (boxes) and for decoration ('embroidery imitation'). I had several reasons for that:

When I chose to print with 'fast settings', the printer couldn't print the lines

When I used 'more detailed' printer settings, the printing time for 20 cm³ boxes was around 50-70 hours

6.3.3. Connection of elements

All details of my object had to be printed separately. Therefore, one of my tasks was the connection between pieces. Since I decided to use PLA plastic, I had to try different ways to connect the elements. I conducted a few experiments with different methods of connections. There were three methods of connections which I tried. First and most obvious was gluing. Marianna Brilliantova assisted me with this. During her work for the Future Tradition project she made experiments with gluing plastic. So I could use her experience, but it was necessary to check if the glue would work with my type of plastic. I tried "Cosmo SL-660.130" glue made by Weiss and it worked well for connecting 'embroidery imitation elements' to the 'boxes', but it wasn't strong enough to connect

the boxes to each other. Secondly, I tried soldering. Officially the only way to connect PLA details is to solder them with a soldering iron. Unfortunately, this was not a method I could use since it left yellow marks on the plastic. Finally, I tried to use a mechanical connection, this was the only suitable option for connecting the boxes.

After several tests I ended up with an interesting solution for connecting the boxes. The idea was to make some boxes with sticks, and others with holes to connect them via a 'male-female' connection system (see Figure 61)



Figure 61: Experiments with the connection (attempt at printing a full scale object)

Since I knew the way to connect the boxes, the next step was to model boxes according to the sketch (see Figure 62).

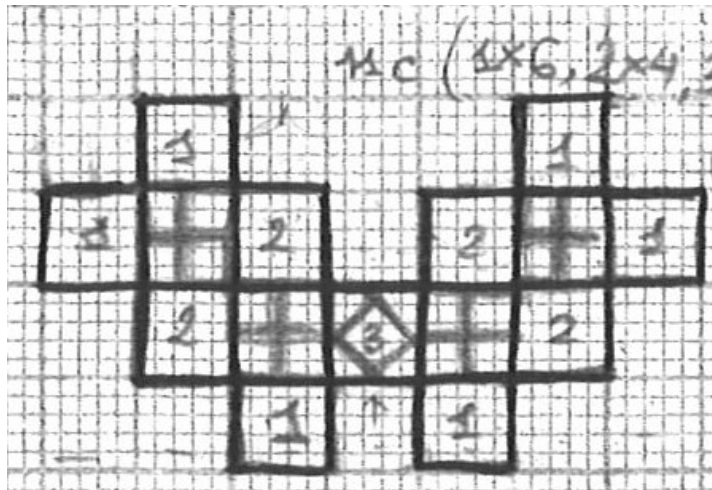


Figure 62: Sketch for final object

So in the end, I had 'box' modules in three variations: cubes with 2, 3 and 4 cut angles (see Figure 63).

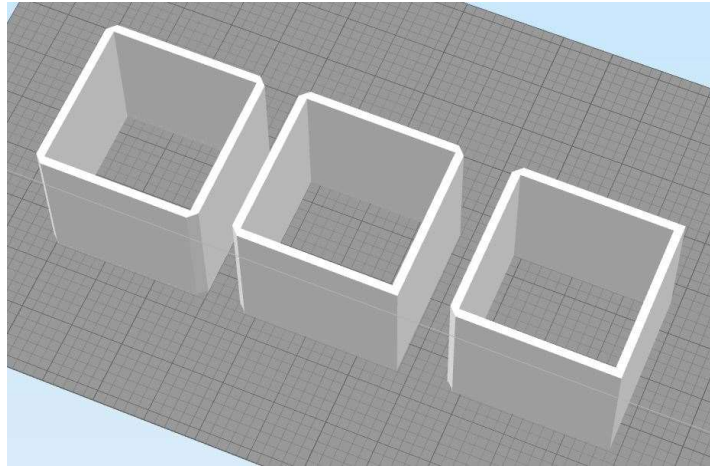


Figure 63: 3D model of three variants of cubes (shown in Simplify3D)

6.3.4. LED strips and metal construction

The use of LED lights involved the insertion of a metal construction behind the object. The metal structure absorbs heat, which serves to prolong the life of the LED lights. That became a reason why in the back wall of the model had to be reassessed (see Figure 64, 65). I had several options for designing it. The first one required the L-shape metal construction which could reliably support the entire structure and second was to put LED strips and metal construction (see Figure 67) in the recess. Both options you can see on Figure 65.

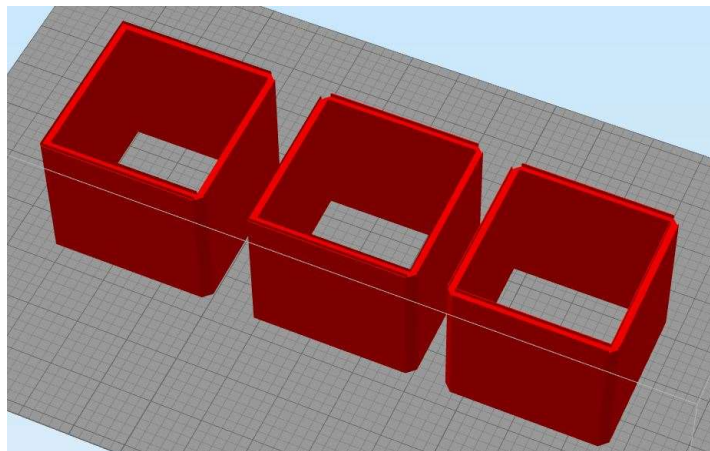


Figure 64: 'Boxes' with recess for tape lights and metal construction

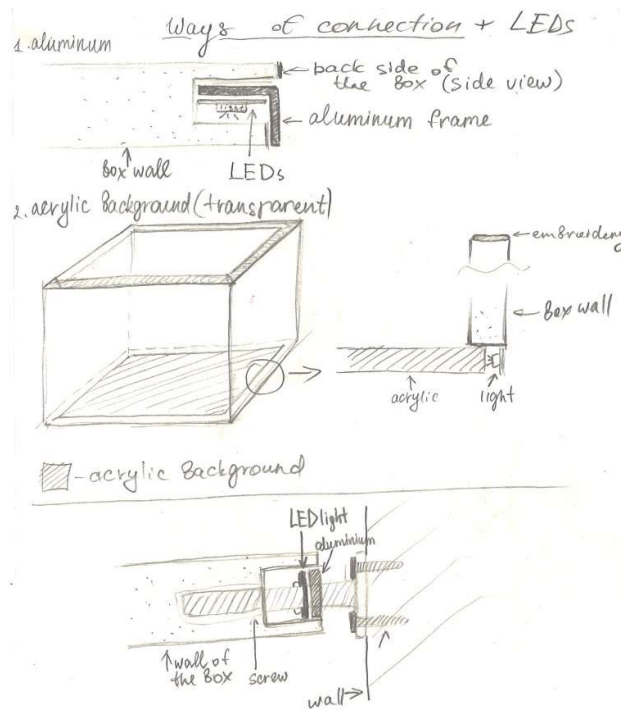


Figure 65: Sketch of the construction with LED lights

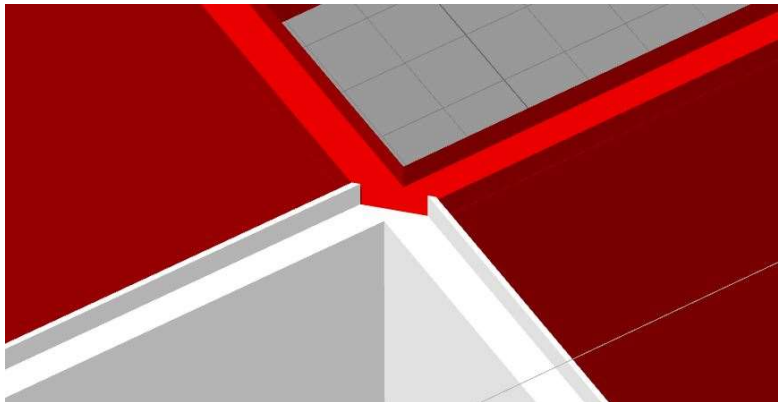


Figure 66: Intersection of the 'boxes' in Simplify3D

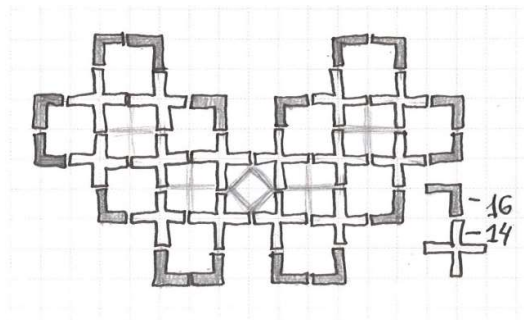


Figure 67: Drawing for the metal construction

After solving all technical issues I started printing my object. Here I would like to show some illustrations of this process (Figure 67-69)

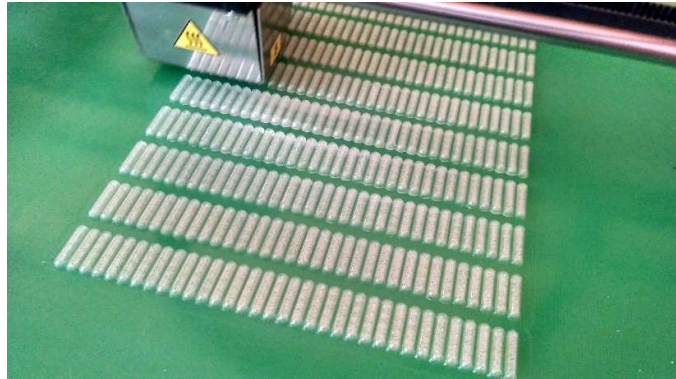


Figure 68: 3D printing process



Figure 69: 3D printed imitation of 'embroidery stitches'



Figure 70: Glued 'embroidery imitation' on the box

6.4. The result

In total, printing of the final object took 236 hours. As a result, I have constructed an object which shape imitates the pattern of traditional embroidery technique. A suggested function for this object would be a wine rack. It should be displayed as a functional piece of art for the interior.

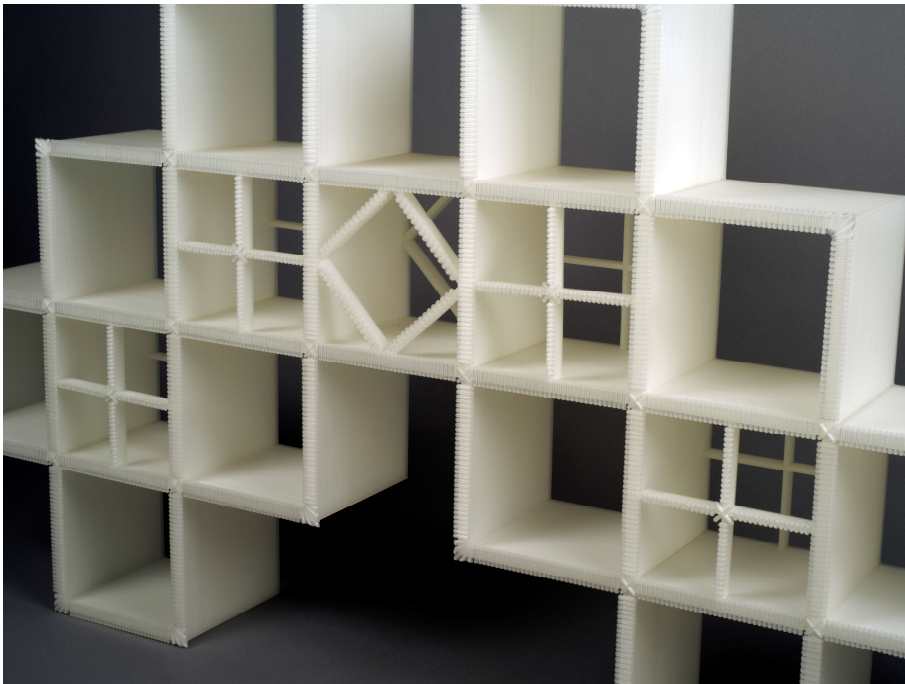
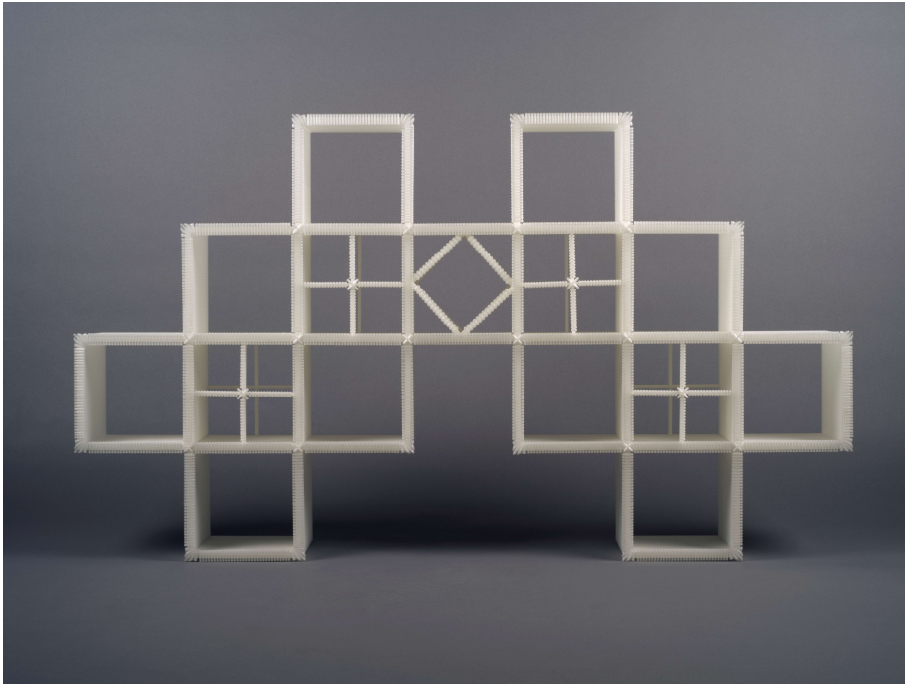


Figure 71: Final work. Photographer: Ingolf Endresen (2017)

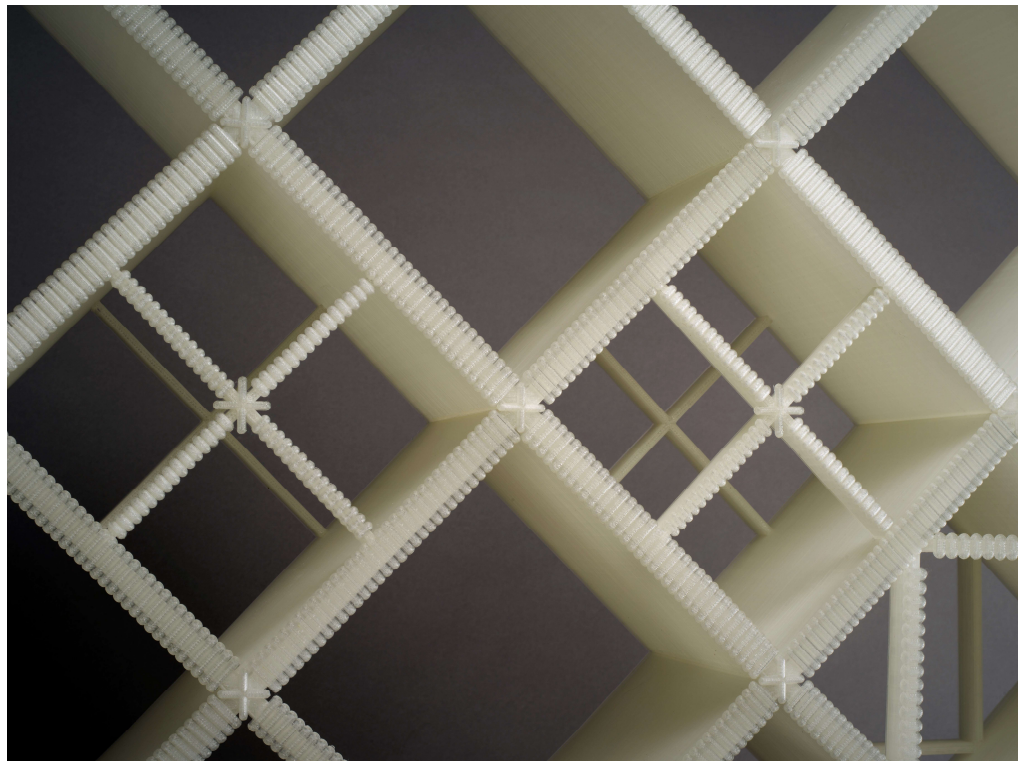
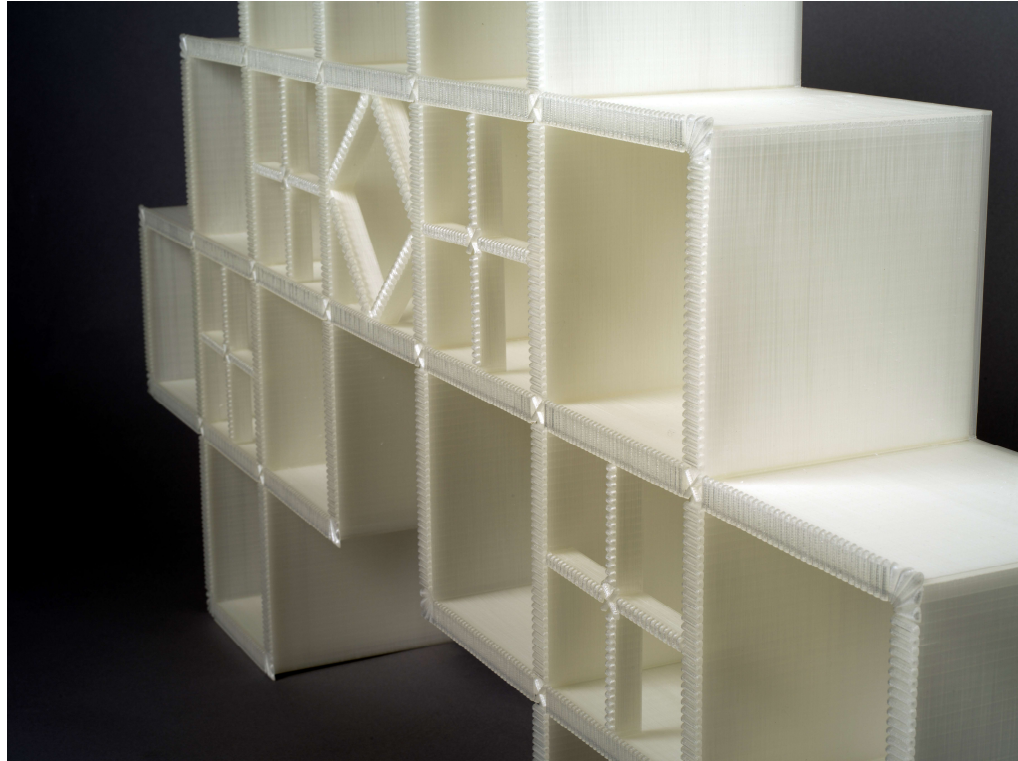


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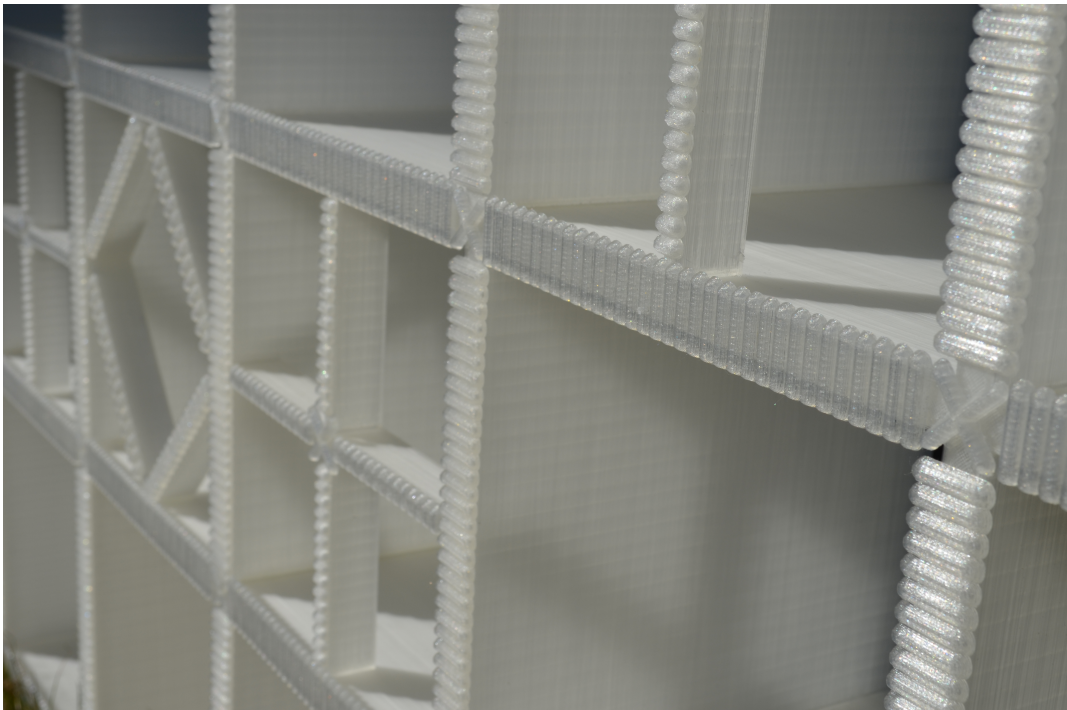
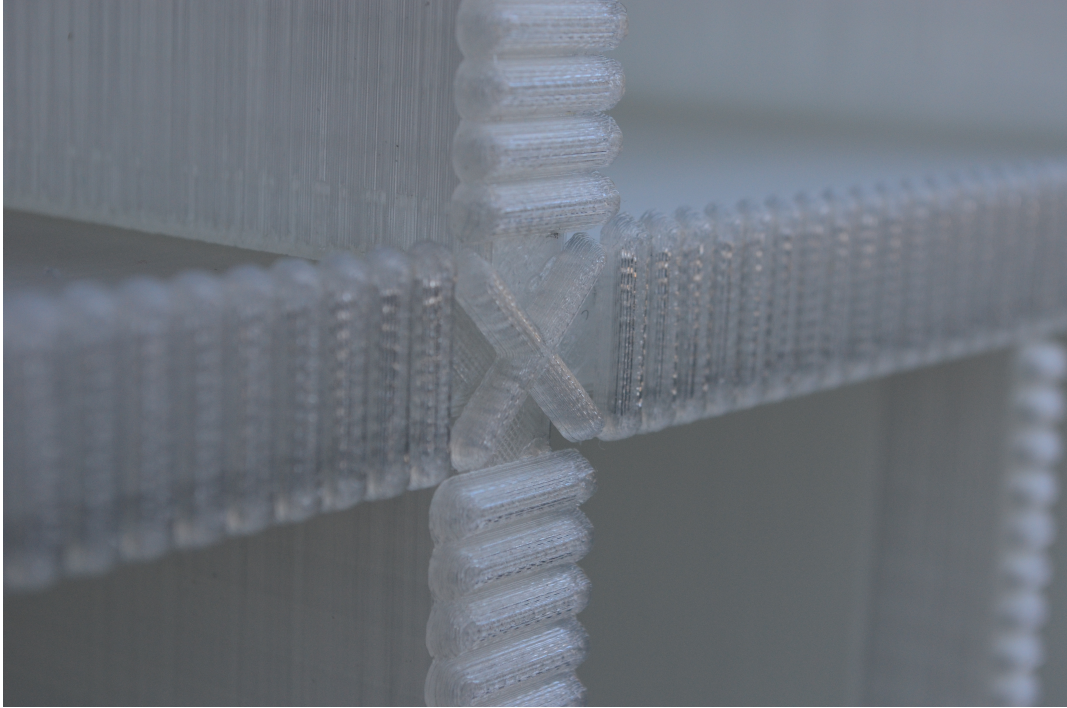


Figure 73: Details. Photographer: Marianna Brilliantova (2017)

Conclusion

Embroidering is hard work, it takes a lot of time and patience. It is sad to see that some embroidery techniques are disappearing with time because these techniques aren't adapting to new technologies. My goal was to show how traditional embroidery techniques could be used in modern design. My thesis describes the embroidery on the Ukrainian traditional shirt Vyshyvanka. In my text I give examples of how this shirt and its embroidery has inspired contemporary artists and designers. In the historical part of this project I followed the history of embroidery tradition of Vyshyvanka and tried to define which patterns and embroidery techniques are traditional. This part includes the changes to Vyshyvanka tradition over the last three centuries. I made an analysis of museum artefacts, to find out the features of embroidery tradition on Vyshyvanka in Kyiv region. However, defining 'the original patterns' became very questionable and almost impossible.

During this research, I found my inspiration for a new design. In my practical work I made a step in the direction of saving the artistic expression of an old embroidery. I developed the idea of using the shape of an embroidery technique and made it 3-dimensional.

I would suggest that my Master project is about the way to synthesize traditions with modern technology. When I started, I would never have guessed that I would end up with this object, but this research took me in unexpected directions. This was an exciting journey which brought me to new design solutions. I achieved the goals which I set at the beginning; I separated the embroidery from the fabric and showed it as an independent object. It is not for me to judge whether it is a good solution, but I would be content if this beautiful and almost forgotten embroidery technique won't stay unnoticed. I created a practical and modern object, whilst trying to retain the artistic expression, we see in a handmade embroidery technique.

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Annexes

Annex 1: Old traditional embroidery



Artefact 1: Vyshyvanka (the beginning of the 20th century). Kyiv region, Pereyaslav-Khmelnytsky area, Village Mazinky. Photographer: Kseniia Snikhovska (2016)



Artefact 2: Fragments of Vyshyvanka (The beginning of the 20th century). Kyiv region, Pereyaslav-Khmelnytsky area, Village Stovpyagy. Photographer: Kseniia Snikhovska (2016)



Artefact 3: Vyshyvanka (the beginning of the 20th century). Kyiv region, Pereyaslav-Khmelnytsky area, village Mazinky. Photographer: Kseniia Snikhovska (2016)



Artefact 4: Vyshyvanka (End of the 19th century). Kyiv region, Pereyaslav-Khmelnytsky area, Village Pidvarky. Photographer: Kseniia Snikhovska (2016)



Artefact 5: Vyshyvanka (First part of the 20th century). Kyiv region, Pereyaslav-Khmelnytsky area, Village Prustrony. Photographer: Kseniia Snikhovska (2016)



Artefact 6: Vyshyvanka (The beginning of the 20th century).Pereyaslav-Khmelnitsky area, Village Pidvarky. Photographer: Kseniia Snikhovska (2016)



Artefact 7: Vyshyvanka (First part of the 20th century) Boryspil area, Village Lubanci. Photographer: Kseniia Snikhovska (2016)



Artefact 8: Male Vyshyvanka (Middle of the 20th century) Kyiv region, city Brovary.

Photographer: Kseniia Snikhovska (2016)

Annex 2: Floral with a contour



Artefact 9: Vyshyvanka (End of the 19th century). Barushivsky area, village Selyshe.

Photographer: Kseniia Snikhovska (2016)



Artefact 10: Vyshyvanka (The beginning of the 20th century) Kyiv region, north part.

Photographer: Kseniia Snikhovska (2016)



Artefact 11: Vyshyvanka (The beginning of the 20th century). Kyiv region, Vasilkivsky

area. Photographer: Kseniia Snikhovska (2016)

Annex 3: Geometrical patterns and cross-stitch



Artefact 12: Male Vyshyvanka (End of the 19th century) Baryshivsky area, Village Selyshe.

Photographer: Kseniia Snikhovska (2016)



Artefact 13: Male Vyshyvanka (1920th) Kyiv region, Fastiv area, Village Zaricha.

Photographer: Kseniia Snikhovska (2016)



Artefact 14: Vyshyvanka End of the 19th century Kyiv region, City Dimer. Photographer:
Kseniia Snikhovska (2016)



Artefact 15: Male Vyshyvanka (1920th) Kyiv region, Fastiv area, Village Zaricha.

Photographer: Kseniia Snikhovska (2016)



Artefact 16: Vyshyvanka (The middle of the 20th century) Kyiv region, City Dimer.

Photographer: Kseniia Snikhovska (2016)

Annex 4: New patterns- old techniques



Artefact 17: Vyshyvanka (Middle of the 20th century) Kyiv region, Vasilkivsky area.

Photographer: Kseniia Snikhovska (2016)



Artefact 18: Vyshyvanka (Middle of the 20th century) Kyiv region, North part.

Photographer: Kseniia Snikhovska (2016)



Artefact 19: Vyshyvanka (Middle of the 20th century) Kyiv region, North part.

Photographer: Kseniia Snikhovska (2016)



Artefact 20: Vyshyvanka (First part of the 20th century) Kyiv region, Vasilkivsky area.

Photographer: Kseniia Snikhovska (2016)

Annex 5: Combination



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Artefact 22: Vyshyvanka (First part of the 20th century). Kyiv region, Brovarsky area. Photographer: Kseniia Snikhovska (2016)



Artefact 23: Vyshyvanka (1900 yy.) Kyiv region, city Kagarlyk. Photographer: Kseniia Snikhovska (2016)



Artefact 24: Vyshyvanka (the second part of the 19th century). Kyiv region, Brovarsky area, Village Kalyta. Photographer: Kseniia Snikhovska (2016)



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Annex 7: Brocard



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Artefact 29: Vyshyvanka (The end of the 19th century) Kyiv region City Dimer.

Photographer: Kseniia Snikhovska (2016)



Artefact 30: Vyshyvanka (the middle of the 20th century). The north part of Kyiv region.

Photographer: Kseniia Snikhovska (2016)



Artefact 31: Vyshyvanka (The beginning of the 20th century) Kyiv region, city Dimer.

Photographer: Kseniia Snikhovska (2016)



Artefact 32: Vyshyvanka (The middle of the 20th century) Kyiv region, city Dimer.

Photographer: Kseniia Snikhovska (2016)



Artefact 33: Vyshyvanka (the end of the 19th century) Kyiv region, Vyshgorod area, village Lubumivka. Photographer: Kseniia Snikhovska (2016)

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Artefact 34: Vyshyvanka (the middle of the 20th century) Kyiv region, Kyiv area, city Kyiv. Photographer: Kseniia Snikhovska (2016)

Annex 9: Exhibition



Vyshyvankas from Rivensky region. Photographer: Kseniia Snikhovska (2016)



Vyshyvankas from Ternopil, Hmelnyč'k regions. Photographer: Kseniia Snikhovska
(2016)



Vyshyvankas from Ivano-Frankivsk region. Photographer: Kseniia Snikhovska (2016)



Vyshyvankas from Vinnyca region. Photographer: Kseniia Snikhovska (2016)

Annex 10: Fragments with Cutwork from Kyiv region

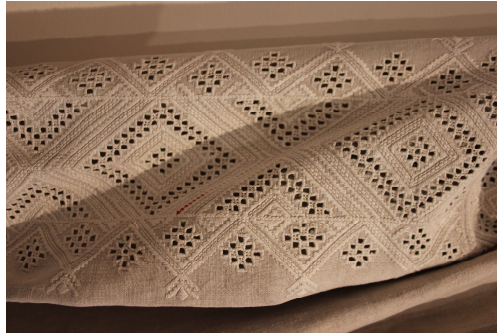


Fragments of Vyshyvankas with Cutwork embroidery technique from Kyiv region (19th-20th century). Photographer: Kseniia Snikhovska (2016)

Annex 11: Fragments with Cutwork from other regions



Fragments of Vyshyvankas with Cutwork embroidery technique from different regions of Ukraine (19th-20th century). Photographer: Kseniia Snikhovska (2016)



Fragments of Vyshyvankas with Cutwork embroidery technique from different regions of Ukraine (19th-20th century). Photographer: Kseniia Snikhovska (2016)