

Olga Rusakova

# CREATION OF AN ART JEWELRY LINE

Bachelor's Thesis  
Degree Programme in Design

November 2016



**KYAMK**  
University of Applied Sciences



# KYAMK

University of Applied Sciences

Author Olga Rusakova	Degree Bachelor of Culture and Arts	Time November 2016
Thesis Title Creation of an Art Jewelry Line		38 pages 5 pages of appendices
Commissioned by Teros		
Supervisor Minna Malja, Master of Arts, Graphic Designer		
<b>Abstract</b> <p>This study was inspired by the author's own interest in contemporary experimental Arts. The objective of this project was divided in two perspectives: To research art jewelry field and to create an art jewelry line based on a concept stated by the author. The statement was based on associations and feelings of the author caused by nature. Creative goal of the work was to express the view of the forest as a mysterious world and capture it with help of material. To create the line, epoxy resin as a main material was chosen. The chance to get acquainted with epoxy and work in an equipped workshop was given by the commissioner company Teros. The work process was described in this study step by step.</p> <p>The research part of the project covered common history of art jewelry and review of unusual materials used in the field. During the research this area was also studied through its representatives. The gathered information helped to create a clear picture about the direction of Art. After analyzing the information the original idea of the line has been improved. New knowledge about ways to work with resin facilitated the practical part.</p> <p>The result of this work consists of unique art jewelry line. The creative goal was implemented and the author's idea was fully expressed in the line. The gathered information was applied to the design and production processes. Therefore, the final products turned out even better than were planned.</p>		
<b>Keywords</b> Art jewelry, contemporary art, epoxy, plants, nature, forest		

# TABLE OF CONTENTS

## GLOSSARY

1. INTRODUCTION .....	7
1.1 Concept.....	7
1.2 Background of the project.....	10
2. COMPANY AND MATERIAL.....	10
2.1 Collaborating company .....	10
2.2 Material .....	11
3. RESEARCH.....	12
3.1 From Fine Jewelry to Artistic Jewelry.....	13
3.2 Distinctive materials for art jewelry production .....	15
3.2.1 Synthetic materials.....	15
Plastic.....	16
Epoxy resin.....	17
3.2.2 Natural materials.....	18
Amber.....	18
Porcelain.....	20
3.3 View on art jewelry through the representatives .....	21
Annamária Mikulik.....	21
Marie Grewenig .....	22
Lorena Lazard.....	23
Alidra Alic.....	23
4. DESIGN PROCESS AND PRODUCTION.....	24
4.1 Brainstorming and sketching .....	25
4.2 Searching for organic pieces .....	26
4.3 Preparing organics .....	26
4.4 Creating forms.....	27
4.5 Placing plants and fiberglass .....	28
4.6 Preparing epoxy .....	28

4.7 Hardening.....	29
4.8 Final processing .....	30
5. CONCLUSION.....	30
REFERENCES .....	33
FIGURES.....	37

## APPENDICES

Appendix 1: Examples of the inspiring drawings

Appendix 2: Raw sketches

Appendix 3: Examples of the ready pieces

Appendix 4: Example of application of the jewels in daily life

## GLOSSARY

### Modern art

Art that was produced in the late 1860s through the 1970s and that rejected traditionally accepted forms and emphasized individual experimentation and sensibility.

### Contemporary jewelry

A direction of jewelry art emphasizes creative expression and design and characterized by the use of a variety of materials, often commonplace or of low economic value.

### Artificial stone

A material containing stone chips and cement, mortar, or plaster that is seasoned for several months, then polished for a finish that simulates stone.

### Amber

Hard translucent fossilized resin originating from extinct coniferous trees of the Tertiary period, typically yellowish in color.

### Industrial design

The art that deals with the design problems of manufactured objects.

### Epoxy resin

An adhesive, plastic, or other material made from a class of synthetic thermosetting polymers containing epoxide groups.

## Polymer

A substance, which has a molecular structure built up chiefly or completely from a large number of similar units, bonded, together, e.g. many synthetic organic materials used as plastics and resins.

## Pigment

A substance used for coloring or painting.

## Fiberglass

Textile fabric made from woven glass filaments.

## Synthetic material

Material made by chemical synthesis, especially to imitate a natural product.

## Natural material

Material existing in or derived from nature; not made or caused by humankind.

## Porcelain

White vitrified translucent ceramic.

## Demoulding

An action of removing from a form.

## 1. INTRODUCTION

History of artistic jewelry is not that long as history of jewelry in general. Nowadays, the development of this field is at its peak. The main purpose of this direction is a creative expression of an artist, creating unique jewelry pieces. An author can apply to the variety of non-traditional jewelry art materials, use new techniques of processing and sometimes paradoxical constructive solution for the most complete disclosure of his creative vision (Klimt02.net what does contemporary Jewellery mean?, 2008).

Contemporary jewels are unique and individual things. They are not designed for mass replication. Artistic jewelry can be used as functional things, but first of all they are created to be displayed in exhibitions, art spaces and showrooms. Creators of art jewels are not jewelers, they are artists. Their goals are to express themselves through the jewels and say something to society (Klimt02.net what does contemporary Jewellery mean?, 2008). Contemporary jewelry art is a part of modern art as well as painting sculpture and architecture. Furthermore, all these areas can be inspiration for each other.

The objective of this project is to research the field of contemporary jewelry and create an art jewelry line bearing the knowledge and experience obtained during the study. Although, the idea of creating a jewelry line was born long time before the actual start of the work, the deep research was needed in order to structure the concept and get more information about the chosen material.

The thesis work consists of research of art jewelry as a field of modern art and of the detailed description of the materials and production methods, which were used.

### 1.1 Concept

Nature is a secret. Although humanity has managed to explore it from the point of view of science we can never fully comprehend its philosophy. Nature doesn't have a purpose and at the same time has prominent destructive

aspects but it is still abounding with value. (Crosby 2002, 21). The natural world frightens and attracts us in an equal measure. We feel the internal energy of plants and animals, of earth and water and its effect on us (EcoWatch, 2014)

Nowadays, people try to get closer to nature. While forest is a natural human's habitat, we live in a world of computers, skyscrapers and gray colors.( Yoga and nature essay at yoga nature, 2014) Therefore, we especially seek the energy and power of nature and therefore we try to bring at least a small piece of nature to our daily life (EcoWatch, 2014). For this aim, people use plants in interior design, eat organic food and use floral patterns in fashion industry.

I regard nature as an endless source of inspiration and materialize my observations in the form of artwork. For a long time, I was working on series of drawings inspired by silhouettes of trees and animals and their fabulousness. I tried to reflect the mysterious sense which nature gives to my soul and picture the images which tree trunks, moss or even a flower growing in the middle of a swamp created in my mind. The drawings were also inspiring in the process of creating the line. They defined the basic color palette of the future jewelry line. One of the drawings is shown in Figure 1.



Figure 1. One of the Inspiring Drawings.(Rusakova, 2016)



The aesthetic aspect of the project inspired by the patterns and shapes that plants and their shadows form in the dusk forest. In the play of light and shadows, silhouettes of trees seem to come alive and you are not already sure: they are plants or mystical forest creatures.

This project is an experiment in the use of new material and on the creation of art jewels. The practical idea of the experiment is creating of an art jewelry line and saving the feelings and my own view on nature in a wearable way. It is an attempt to preserve nature outside the natural world. Putting organic pieces into a resin is a try to save the power of the magical forest atmosphere. The aesthetic of the line is reflected in the mood board. (Figure 2)



Figure 2. Mood Board of the Project. (Ermolenko, 2016)

This way of using epoxy has something in common with amber. The precious natural resin conserved and saved pieces of nature thousand years ago and brought them through the centuries. Its value consists precisely in forever-sealed ancient organics and in the energy of earth and seas, which the amber was absorbing during the centuries.

Although epoxy is not a precious material with a rich history, but it has a significant feature: epoxy can hold any required shape and color and only an artist or designer decides what to place inside. Thereby, jewelry made of epoxy can become analogous to amber jewelry and carry through years not only organic pieces but also feelings of their creator.

## 1.2 Background of the project

While working as a designer assistant I met the owner of the furniture company Teros. The company specializes in producing engineered stone furniture. The owner told me about the working process and the materials. Then I got an offer to study in the company's workshop and cooperate as an industrial designer. I was interested in this work so I started to learn about the technologies of producing artificial stone. My role as an industrial designer consisted of inventing new table forms and improving the existing ones.

I was experimenting with different materials to find new textures and colors which would attract customers to the brand. During the work, I realized that epoxy resin using as a binder such a decorative and malleable material that reminds acrylic paints. The process of forming the samples was close to the process of painting or drawing. After gathering new information about the material and its opportunities the idea of using it in jewelry production was born.

## 2. COMPANY AND MATERIAL

### 2.1 Collaborating company

The project commissioner is a company called Teros. The company produces engineered stone furniture. Teros works by full production cycle. The process includes developing of required color and texture of the piece then working on ergonomic construction and production itself. The company's workshop is

located in Saint Petersburg, Russia. There is all necessary equipment for full production cycle and ingredients for producing engineered stone. (teros.org)

Engineered stone is the latest development of artificial stones and using in architecture, interior design, landscape design and many other fields from engineering to medicine. The material includes powder of natural stones such as marble, granite or onyx, pigment and resin. In depending on purpose of using the ready stone, fiberglass, fire protection agents or decorative subjects can be added. Ready product resembles in appearance, and may be used in the similar way to, natural stone. (Ltd, 2016)

## 2.2 Material

The material chosen for creating the art jewelry line is epoxy resin. Epoxy is used in production of engineered stone; therefore, the commissioner company had this material in the workshop. The owner of the company let me to use the resin to create the samples.

Chemically, the epoxy resin is a synthetic monocyclic compound. Epoxy materials in demand in almost all spheres of industry. The free form of epoxy resin is not applicable. It exhibits unique properties only in conjunction with a curing agent after the polymerization reaction. By combining different types of epoxy resins and curing agents derived entirely dissimilar materials: hard and tough, harder than steel and soft as rubber. Epoxy resins have resistance to acids, halogens, alkali, dissolved in acetone and esters without slick formation. The cured epoxy formulations do not emit volatile substances and have little shrinkage (composite.about.com, 2016).

Epoxy composition includes two components. When, mixed they enter into the polymerization reaction. Polymerizing component is a hardener. By combining different resins and curing agents obtained a variety of epoxy composition. As the curing agents are using phenols, tertiary amines and their analogues. The ratio of epoxy resin and hardener has a wide range and depends on the composition (Hamerton 1996, 21). Epoxy resin is thermosetting; the reaction of interaction of epoxy resin with a hardening agent is irreversible. It means

that a solidified resin does not dissolve and melt like thermoplastics (Johnson, 2016).

Epoxy is a phenomenal synthetic polymer with great variety of features. Since its appearance, the volume of its production grows. Lightweight, strength, heat resistance and the relative ease of use let to apply the material in various fields (Hamerton 1996, 5).

### 3. RESEARCH

Jewelry art is an incredible world attracting people from time immemorial. It has a long and illustrious history that intertwines with worldwide history, fashion and even politics. To talk about art jewelry is necessary to define first what jewelry is in general.

Jewel literally means a personal decorative object intended for wearing, made from or comprising of precious metal and gems. (Hornby, Gatenby & Wakefield 2001, 703)

History of personal adornments was laid when man first walked on Earth. It is quite understandable that the first decorations were not jewels, and were made of natural shells, bones, rocks and plants, whereby the ancient analogues of modern necklaces, bracelets and earrings were produced. (GG, 2016) The example of ancient necklace demonstrated in Figure 3. It is hard to say that the history of precious jewels was born in those days, because processing of raw materials for jewelry did not exist. However, the desire to adorn and stand out from the other people can already clearly be traced, subsequently leading to the development of jewelry field (LeGrand, 2016).



Figure 3. Stone Age Beads Found at Skara Brae. (bbc.co.uk, 2014)

Precious adornments carry material values and works of fine art at the same time. Personal decorations have a huge meaning for people. They are an integral part of the most important events and areas of human life such as engagement, marriage, statement of personal status and even military field (medals). Jewelry art in general is a part of human history and different epochs ranging from ancient times until the present day. (Druett, English & Dormer 1995, 14)

### 3.1 From Fine Jewelry to Artistic Jewelry

Modern jewelry can be divided into two large groups: fine jewelry and artistic jewelry. Fine jewels for a long time belonged to the category of eternal material values which also keep memories and enormous spiritual power. They can exist for many years and even centuries, creating new history of jewelry. In former times, as well as now, jewels were a measure of solvency of their owner. From the Middle Ages to the middle of the 20<sup>th</sup> century, pieces made of not precious materials existed only as forgeries and copies of expensive items. History of artistic jewelry was in its infancy during this period. Some jewelers such as Georg Friedrich Strass and Daniel Swarovski made a significant contribution to the development of costume jewelry. They invented special methods of imitation gemstones and thereby opened new opportunities

for fake jewelry design. However, they were still creating a history of forgeries and not a history of artistic jewelry itself. (Hesse and Leslie 2007, 59)

The situation changed in the 20<sup>th</sup> century. Changes in society of the late 19<sup>th</sup> century, the development of industry, the growth of the middle class, the revival of high fashion and the production of synthetic resins and plastic paved the way for the development of non-precious jewelry not as fakes but as a field of design. (Woolton 2010, 6, 7)

It is believed that the jewelry in the modern form first appeared in the 30's of the 20<sup>th</sup> century as an inexpensive, almost disposable accessory to the appropriate outfit. Unlike classical expensive jewelry, non-precious jewelry were created as acutely fashionable accessories. Designers knew that design, which now is in course of time, will lose its relevance and the customer will have to purchase a new product corresponding to the current fashion. Thus, the main purpose of producing jewelry was to create a fashionable image. Jewels of the beginning of 20<sup>th</sup> century were not only forgeries already but their design was predictable and its basis was the idea of production and consumption. (Drutt, English & Dormer 1995, 14)

In the late 20<sup>th</sup> century, the picture changed and time of creating "small things with large meanings" came. Jewelers of this time expressed a whole bunch of feelings thoughts and emotions through the small jewelry pieces. Only their makers could understand the real value of these ornaments because their real richness consisted not in the high cost of materials but in the unique idea and sometimes in the whole world concluded within the pieces. Even if it was not wearable, it was a work of art. (Drutt, English & Dormer 1995, 14)

In the world of vehicles, things made by artist became especially valuable because handicraft was not a translation it was a story told directly by artist to audience or wearer. Artists evolve their ideas through the creating process. There was a direct relationship between the jeweler and the material. (Drutt, English & Dormer 1995, 15, 16)

Wearability was not a primary question for jewelers. It was not a commercial function for getting profit it was an artistic function. Human's body was a part

of artwork which could show it in unique way or a “gallery-wall” which is completely neutral. (Druitt, English & Dormer 1995, 120)

From the above, it can be argued that having passed the long way from seeking for material preciousness to forgeries, in the late 20<sup>th</sup> century, creating jewels finally became an Art. Of course, jewelry as a fashion accessory and a material value continued to exist but from this time jewel as a work of Art was also existed. Jewelers became artists, so the value of their work consisted of making process and of story and feelings contained in it. In the late 20<sup>th</sup> century, artistic jewelry got its own niche in the world of high art and nowadays its development actively continues.

Nowadays, jewelry art can be divided into various groups, such as art jewelry, statement jewelry, concept jewelry, eco jewelry and others. However, all this groups refer to contemporary jewelry art. (Cappellieri 2010, 52)

### 3.2 Distinctive materials for art jewelry production

One of the main reasons for developing artistic jewelry field in the 20<sup>th</sup> century was the appearance of new materials. Since the industrial revolution happened the development of new materials and methods of their production was on the rise. Costliness of the materials has been pushed into the background. Therefore, people started to replace the traditional, expensive materials with the new ones, which were cheaper, more functional and easier to manufacture. The same situation was in jewelry field. (Cappellieri 2010, 7)

#### 3.2.1 Synthetic materials

Jewelers started to search for cheap materials which could imitate the gem stones long time ago, when the production of forgeries and copies was based. During the centuries semi-precious stones and glass were the qualitative substitute. However, in the 20<sup>th</sup> century the great variety of materials let to raise the production of non-precious jewels to the new level. The appearance of synthetic polymers such as plastic and resins became a new stage in

jewelry production. Although the synthetic polymer production was started at the beginning of the 19<sup>th</sup> century only in the 20<sup>th</sup> century the plastic industry reached the level of the automatic mass production. New types of plastic were invented, what gave to the designers an opportunity to experiment with the new forms and colors of non-precious jewels.

## Plastic

The first man-made plastic is Celluloid, invented in 1869 by the brothers Hyatt. This material is based on natural polymer cellulose with adding nitrate and camphor. It was a significant discovery of the time and found an application in various fields. (Hesse & Leslie 2007, 10)

Only after 40 years, the first entirely synthetic plastic was obtained. Leo Bakeland invented and patented a thermosetting phenol formaldehyde resin which was called Bakelite. Since this invention, the plastic industry has developed rapidly. Plastic was applied in almost all spheres of human's life but in art jewelry field formation it occupied a special place. After the appearance of synthetic polymers designers started to develop methods for using the new material to create bright fashionable but at the same time inexpensive accessories (Hesse & Leslie 2007, 14). As mentioned before, the non-precious jewels of the first half of the 20<sup>th</sup> century were conceived as a part of the appropriate outfit, the cheap plastic promoted the active development of this direction. Frequently, the jewels were disposable and replaced by new ones, with the change of fashion trends. This time plastic was a convenient substitute for precious stones.

In the late 20<sup>th</sup> century, when the field of artistic jewelry officially appeared, plastic was particularly in demand, because it gave the opportunity to create art objects of all sizes and shapes and was available for artists. Nowadays, the art jewelry direction is more developed and artists use a wide variety of material in jewelry production, plastic is still very popular. Ease of use and its ergonomic properties attract artists. To create unusual shapes, the basis of silver or base metals such as tin and steel is used. Using new technics, art



jewelry designers create the impressive abstract or fabulous naturalistic forms, for example, the ring presented in Figure 4.



Figure 4. Orchid Ring by Alidra Alic, 2008, Plastic. (theljewelleryeditor.com, 2012)

### Epoxy resin

Hundreds kinds of synthetic polymers were discovered during the 20<sup>th</sup> century, among them is epoxy resin. The first epoxy resin was produced in 1936 by Pierre Castan in Switzerland. The first application for the invented material was the dental sphere. Later, after improving the material by the American researcher Sylvan Greenlee, the consumption of epoxy started to rise. (Gannon 2012, 299) At the end of the 20<sup>th</sup> century epoxy resin became a common inexpensive material and used in production of decorative items for different purposes, including the mass production of cheap ornaments (Ettinger 2007, 112). However, beyond that, epoxy resin used in jewelry art as well as other new types of plastic. Nowadays, epoxy is a familiar material on contemporary jewelry production (Books 2009, 6). The example of its original application presented in Figure 5.



Figure 5. Mutation Rings by Susanne Klemm, Frozen Collection, 2007, Epoxy, Silver. (susanneklemm.com)

### 3.2.2 Natural materials

The idea of creating plastic came from nature. The structure of the natural polymers such as horn, shells, cellulose and amber gave scientists the idea of synthesizing the compounds with similar properties. The manufactured polymers became popular quickly because of the possibility of producing them in unlimited quantities. (National Historic Chemical Landmark, 1993) However, the natural materials are still in use. They have the unique aesthetic and power value for people, so they cannot be completely replaced by synthetic materials.

#### Amber

Amber is a natural fossilized resin from ancient forests. It became interesting for people many centuries ago but first time the origin of the material remained a mystery to people. Many myths and legends surround it. Since amber is the centuries-old natural material, which was a part of the ancient trees, people believe in its magical and medical effect on body. It is considered that amber carried through the centuries not only the useful properties of natural resin but

also the energy of ancient plants. Therefore, the material is especially appropriate for creating jewels which are close to body. It was used in jewelry production for a long time and even after the invention of synthetic polymers amber is still in use because of its history and positive impact on health. Its decorative opportunities cannot be overvalued either. The variety of its colors and textures is huge. Amber can be yellow or almost white, hard or soft; it gives great possibilities for creative work. (Legends and myths of amber: Amber Museum, 2005)

Amber is a semi-precious material. The cost of rare kinds of it is high and it is used in fine jewelry production. For these jewels, large, perfectly processed pieces of amber are usually applicable. Using of the resin in contemporary jewelry is different. Modern jewelry artists prefer raw, textured pieces to perfectly smooth ones. They combine silver and wood with amber, their objective is not to show the preciousness of the material, but to emphasize its natural beauty and with the help of its decorativeness express a creative idea. The example of untraditional use of amber is presented in Figure 6.



Figure 6. Dread Necklace by Pawel Kaczynski, 2007, Aluminum, Silver and Raw Baltic Amber. (Klimt02.net Pawel Kaczynski, 2016)

## Porcelain

Porcelain is a kind of ceramic. Porcelain articles are obtained by sintering high-grade white clay (kaolin), with the addition of quartz, feldspar and other impurities. The material originated in China and has been used for many centuries. (Rawson & Higby 2011, 26) Porcelain is a delicate and light material. It has a wide range of use, and of course its decorative and ergonomic properties made it a compelling material for jewelry production. (Hesse & Leslie 2007, 157)

Although, porcelain used in jewelry production for the centuries, it is still being not a typical material for jewelry production. It is more applicable “*in the arts of the table*” (Exhibition review, 2012). Contemporary porcelain jewels as well as contemporary jewels in general, differ from traditional ones. Porcelain is used to create thin, weightless forms of solid, noble material. Figure 7 shows an example of a modern porcelain necklace. According to Jewelry Curator Ursula Ilse-Neuman in the review of exhibition *A Bit of Clay on the Skin: New Ceramic Jewelry* (2011): *Ceramic jewelry embodies the creative transformation of a humble Earth material by art and industry into a wearable object of great refinement and sensuality.*



Figure 7. Necklace by Evert Nijland, Private Collection, Gold, Porcelain. (Evert Nijland)

Following the above, it can be concluded that in art jewelry field material and way of using it plays the same important role as an artist's statement. Not limiting themselves with the practical aspect, artists create breathtaking silhouettes, sometimes in a huge scale. Although, wearability is not the feature of artistic jewels, material's symbolism and effect on human's body are taken into account. History of the material, its origin and meaning can be a part of jewelry concept

### 3.3 View on art jewelry through the representatives

The direction of the artist's thought is unpredictable. Inspiration for creating something new can come from anywhere: from nature, from people, from architecture. The artistic jewelry field is a quite new direction of Art. Therefore, the artists themselves rather than researchers tell the real history of this area. A complete picture of contemporary jewelry art is composed of the stories and statements of the jewelry artists. Artistic jewelry is a whole world filled with sensations, feelings and metaphors. It is a way of expression of both an artist and a wearer. There is a personal story on the basis of every piece (Abellon 2010).

Annamária Mikulik

Annamária is a Slovakian designer concentrated on contemporary jewelry. She studied different fields of design and all of them are partially reflected in her jewelry. She takes inspiration from materials and the surrounded world. For example, her latest collection is based on paradox of embodiment nature in synthetic materials. (Example Figure 8) Using plastic, silver and textile the artist materialized subtle natural elements. (Klimt02.net Annamária Mikulik, 2016)



Figure 8. Necklace and Earrings, Nature – Fake Illusions, 2015, Silver, Plastic. (Klimt02.net Annamária Mikulik, 2016)

### Marie Grewenig

Marie is a German jewelry artist. The concept of her jewels is based on human's body. She forms the pieces using parts of her body and gestures. Using synthetic material, silver, stainless steel and applying her own body she expresses feelings and emotions which people express with their bodies in daily life. (Example Figure 9) (Klimt02.net Marie Grewenig, 2016)



Figure 9. Brooch, Körper-Körper, 2016, Synthetic Material, Silver, Stainless Steel. Necklace, Körper-Körper, 2015, Synthetic Material, Aluminium, (Klimt02.net Marie Grewenig 2016)



## Lorena Lazard

Lorena is an artist from Mexico. She is Jewish but was raised in Mexico, surrounded by another culture and religion. Through the jewels, she is trying to explore a religious and a secular sphere. Creating the pieces the artist is looking for a connection between her past and present. She uses traditional materials such as gold and silver and alternative ones such as corals, glass and polymer clay to reflect her concept and aesthetic. As a result, ornaments filled with symbols and details are obtained. (Example Figure 10) (Klimt02.net Lorena Lazard, 2016)



Figure 10. Brooch, Origen 02, 2014, Iron, Silver, Enamel, Soil, Polymer Clay.

Brooch, Estudio Botánico 3, 2011 22k Bimetal-Gold, Image Transfer in Polymer Clay  
(Klimt02.net Lorena Lazard, 2016)

## Alidra Alic

Alidra Alic is a jewelry artist from Denmark. Her artworks are astonishing and have an extramundane mood. The artist uses cultural and historical frameworks as inspiration and materializes her vision using self-invented plastic technic. She also embodies the theme of illusion, which is vividly expressed in her haute line. (Example Figure 11) (thejewelleryeditor.com 2012)



Figure 11. Hyacinth Ring, 2008, Alice's Adventures in Wonderland, Silver, Plastic, Adhesive, Strawberry quartz. Orchid Ring 2008: Silver. (thejewelleryeditor.com 2012)

The selected artists represent the different statements and different ways of its expression. Even few representatives of this field clearly show the diversity of ideas, philosophies and stories that can be expressed in jewels. The variety of used materials shows that modern jewelry artists are not limited to the use of basic materials, and continue to experiment and come up with new ideas.

#### 4. DESIGN PROCESS AND PRODUCTION

The idea of creating an artistic jewelry line was born long before cooperating with Teros. The figures and silhouettes of future pieces arose while working on



drawings on the theme of fairy forest. After getting acquainted with epoxy resin and the deep analyze of contemporary jewelry art the idea became clearer and the design process was started.

#### 4.1 Brainstorming and sketching

Although the concept was established, the design process was started with individual brainstorming. This stage included mind mapping and one-minute sketching. The aim of this step was to get an absolutely clear picture of shapes and colors of the future pieces.

After brainstorming the sketching process started. This stage included raw sketches and realistic paintings. The raw sketches were still abstract but already reflected one particular style of the line. The drawings helped to make detailed and realistic paintings. For this purpose acrylic paints which are thick and resemble the structure of epoxy were the best materials. Medical syringe was used to put the paintings on paper in the required form. In this way I got not only the paintings but also two-dimensional models. The examples of the sketches are presented in Figure 12.

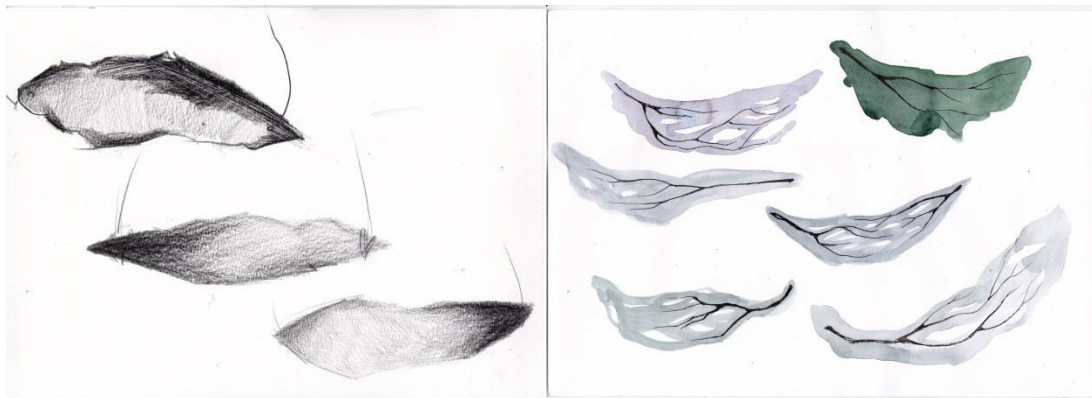


Figure 12. Sketches: pencil, acrylic paints. (Rusakova, 2016)

After analyzing the paintings appropriate colors and shapes were chosen. The stage helped also to select the plants which would be more suitable for realization of the idea. Approximate length, shape and color of required organics were determined.

## 4.2 Searching for organic pieces

Since the main idea of the project was to reflect the magic of forest, the organic pieces I was searching for were supposed to have forestry origin. For collecting the organics forest of Island Kotlin was chosen. The island is located in the Gulf of Finland and its nature has the perfect aesthetics for the project. The main criteria for the plants were texture which would look better in resin and shape which would fit on the shape of the future pieces.



Figure 13. Collected Plants. (Rusakova, 2016)

## 4.3 Preparing organics

The first stage of preparing organics was drying because it is necessary to completely eliminate the presence of water in epoxy resin and in the hardener. As a result of falling water, epoxy resin becomes turbid and loses its properties. Then one part of the plants was colored with acrylic paints. Part of plants was of natural color and the other part was colored in white and silver colors to test the combination of colored pieces with the selected colors of resin.



Figure 14. Organics Colored with Acrylic Paints. (Rusakova, 2016)

#### 4.4 Creating forms

Epoxy resin is a liquid material therefore it is necessary to hold the form in the required shape until hardening. The best material to create a small scale form is foil. It easily takes any shape and does not have any reactions with epoxy. Another material which helps to make and keep the shape of epoxy is regular fine sand.

The process of making the form began with coating foil with wax powder to facilitate removal from the form. Then the foil was shaped and put into the sand so that the sand was supporting its walls.



Figure 15. Examples of The Ready Foil Forms. (Rusakova, 2016)

#### 4.5 Placing plants and fiberglass

Some of the pieces had inconvenient shape. Branches and inflorescences were too voluminous and hard to place into the prepared form. Therefore, among all the collected plants flat ones were chosen. Then the chosen pieces were primarily placed into forms.

When the forms are ready it is necessary to cut pieces of fiberglass of appropriate sizes and forms. Fiberglass is a strong lightweight material which provides strength to the epoxy.

#### 4.6 Preparing epoxy

Epoxy resin itself is almost transparent and colorless. Therefore, it's possible to get any color by adding pigments. The transparency of the color depends on proportions of resin and pigment.

The desired colors were black, blue and violet. After experimenting with proportions the colors were obtained. As a result, I got a transparent black, bright blue and violet bordering on lilac colors.

When the required color is achieved, it is time to add a hardener to the epoxy. After this the material should be quickly poured into the forms. There are three steps of pouring: thin layer of epoxy, putting fiberglass and organics then covering with epoxy. Putting fiberglass is an important moment. It is necessary to spread all fibers evenly and avoid a formation of air bubbles.



Figure 16. Materials: Epoxy, Pigments and Hardener. (Rusakova, 2016)

#### 4.7 Hardening

Curing reaction proceeds under the influence of a hardener, so the resin cures in a static condition within a couple of hours. However, there is one method which helps to speed up the process. Heat is a powerful catalyst for the hardening process.

Therefore, I used an infrared lamp to warm the pieces. Under the lamp the reaction proceeded much faster and after a half an hour the pieces were strong enough for demoulding.



Figure 17. Demoulded pieces. (Rusakova, 2016)

## 4.8 Final processing

The hardened pieces had very sharp edges therefore in order to continue the work and avoid cuts it was necessary to polish them. For this aim a sanding paper was chosen. A coarse-grained paper was intended for primary grinding and a fine-grained one was intended for wet grinding.

When the edges became smooth I started to correct the shapes of the pieces. It was a creative process because during this stage I could make the shape complicated and curvy or smooth and straight. The foil forms couldn't hold these shapes. Sanding machine would be a perfect tool for this step but I chose hand tools, namely, files. Then some of the edges were polished with the fine-grained paper again and some were left raw, to keep the effect of handicraft.

Ready pieces following the concept, were supposed to have texture and color accents. Therefore, acrylic paints were chosen as a decoration. Acrylics are textural and colorful, so the paints could help to add the texture and the color accents to the products.

I used matt acrylic paints of black, pastel violet, metallic and light gray colors. Hard brushes and sponges were chosen as tools. The process was similar to painting on paper. It was possible to make small touches with evident texture or large and smooth ones.

As accessories, waxed cotton cords and metal hooks were chosen. Drilling holes was necessary to install all the details, so when all the pieces had dried, the holes were made using a drill. Then the cords and hooks were installed.

## 5. CONCLUSION

In the conventional sense jewels are pieces created as a part of fashion look or material value. Its preciousness consists in the used materials and their design is created under the influence of trends and customer's requirements. In the late 20<sup>th</sup> century appeared another direction of jewelry field which is known as artistic jewelry. The direction was explored in the study above.

Artistic jewelry is a young direction of the modern art. It was born not long time ago and nowadays its development is on a peak. A diversity of materials and technics lets artists to express their creative ideas through the jewels of any forms, colors and sizes. In the main, art jewels are created of non-precious materials, their preciousness consists in personal feelings and unique vision inserted by the creator. The ornaments can be unique decorations in everyday life and museum pieces at the same time. The utilitarian aspect is not important for jewelry artists; their goal is to convey feelings, emotions and thoughts to the wearer or contemplator of the artworks.

Contemporary jewelry art closely connected to the other fields of Art. Inspiration for creating new art jewelry pieces can come from anywhere. Paintings, buildings, sculptures and even literature, they are all sources of new ideas for jewelry artists. In addition, during the research, it was found that in art jewelry field nature is one of the most demanded inspirational sources. Desire to bring at least a piece of nature to the fast moving city-life and great variety of shapes and colors attract artists and spark to create the pieces in the shape of nature elements or comprising them.

Nature also became an inspiration for the project described above. It was started with the creative idea in my mind and during the process of the research it was structured and improved. The research helped me to understand the art jewelry as the field of modern art and come up to the creation of the line more consciously. During the research process a lot of new techniques and methods have been discovered. The examples of using epoxy and plastic by other jewelers not only helped to improve my workflow but also inspired me to experiment with shapes and colors. Furthermore, the research of the other nontraditional materials used in contemporary jewelry production motivated me to start developing a line of adornments using different kinds of plastic with the addition of silver and non-precious metals. The new methods of production and opportunities of using new materials known during the study have become important factors affecting the final result. The research was educational and inspiring, made a great contribution to the development of the project and helped in the establishment of the future plans.

As a result of the work, the artistic jewelry line was created. It fully reflects the concept established at the beginning and stylistically refers to the direction of contemporary jewelry art. During the work process the original concept was not only implemented but also improved. Therefore, the final result, according to the author, is even better than it was conceived.

Epoxy resin proved to be a suitable material for the artistic jewelry creation. The process of work with the material was comfortable and required colors and shapes were obtained quite easy. The play of light and shadows in finished articles convey the view on the forest as on a mysterious world in which plants and their shadows seem to come alive. The texture created using acrylic paints remind the texture of forest plants.

The aim to study the technology of working with epoxy and its application in the creation of jewelry was achieved. The creative challenge of the project implemented. The positive effect of the study on the final results showed the importance of research work, even in projects related to experimental forms of art and design.



## REFERENCES

## Web sources

Amber origin: Amber Museum. 2005. Available at:

[http://www.ambermuseum.ru/en/home/about\\_amber/origin](http://www.ambermuseum.ru/en/home/about_amber/origin) [Accessed: 10 October 2016].

BBC. 2008. See you see me - Skara Brae - Jewellery. Available at:

<http://www.bbc.co.uk/scotland/learning/primary/skarabrae/content/people/evidence5.shtml> [Accessed: 20 October 2016].

Definition of Art Fine jewelry-custom designer jewelry art. (no date). Available at: [http://www.finejewelryart.com/jewelry\\_art.html](http://www.finejewelryart.com/jewelry_art.html) [Accessed: 25 September 2016].

Doulton, M. 2016. Archive. Available at:

<http://www.thejewelleryeditor.com/jewellery/the-sculpted-wonders-of-alidra-alic/> [Accessed: 17 October 2016].

e Bay. 2016. What is the difference between fine jewelry and costume jewelry? Available at: <http://www.ebay.com/gds/What-Is-the-Difference-Between-Fine-Jewelry-and-Costume-Jewelry-/10000000177633017/g.html> [Accessed: 25 September 2016].

EcoWatch. 2014. 10 reasons why you feel so good in nature. Available at:

<http://www.ecowatch.com/10-reasons-why-you-feel-so-good-in-nature-1881977943.html> [Accessed: 14 September 2016].

Ermolenko, M. 2016. Nora (Hole). Available at: <https://vk.com/nora.masha>

[Accessed: 20 September 2016].

Evert Nijland. (no date). Available at: <http://www.evertnijland.nl/guirlandes.html>

[Accessed: 14 October 2016].

Exhibition review. 2012. Available at: <https://artjewelryforum.org/exhibition-reviews/un-peu-de-terre-sur-la-peau-bit-clay-skin-new-ceramic-jewelry>

[Accessed: 20 October 2016].

GG, D.L. 2016. Early history of jewelry: Ancient times to the 17th century - international gem society. Available at:  
<https://www.gemsociety.org/article/myth-magic-and-the-sorcerers-stone/>  
[Accessed: 17 September 2016].

Johnson, T. 2014. Epoxy resin what is epoxy resin. Available at:  
[http://composite.about.com/od/Resins/a/Epoxy-Resin.htm?utm\\_term=transparent%20epoxy&utm\\_content=p1-main-2-title&utm\\_medium=sem&utm\\_source=msn\\_s&utm\\_campaign=adid-0a444a5b-cf2e-45e4-bf83-f75f1d305ac7-0-ab\\_msb\\_ocode-34464&ad=semD&an=msn\\_s&am=broad&q=transparent%20epoxy&o=34464&qsrc=999&l=sem&askid=0a444a5b-cf2e-45e4-bf83-f75f1d305ac7-0-ab\\_msb](http://composite.about.com/od/Resins/a/Epoxy-Resin.htm?utm_term=transparent%20epoxy&utm_content=p1-main-2-title&utm_medium=sem&utm_source=msn_s&utm_campaign=adid-0a444a5b-cf2e-45e4-bf83-f75f1d305ac7-0-ab_msb_ocode-34464&ad=semD&an=msn_s&am=broad&q=transparent%20epoxy&o=34464&qsrc=999&l=sem&askid=0a444a5b-cf2e-45e4-bf83-f75f1d305ac7-0-ab_msb)  
[Accessed: 30 September 2016].

Johnson, T. 2014. What is A polymer discovering the basics of polymers. Available at: <http://composite.about.com/od/whatsacomposite/a/What-Is-A-Polymer.htm> [Accessed: 30 September 2016].

Kings, K.C. 2016. What is engineered stone? | definition of engineered stone. Available at: <http://www.kitchencabinetkings.com/glossary/engineered-stone/> [Accessed: 15 October 2016].

Klimt02.net what does contemporary Jewellery mean? 2008. Available at: <http://klimt02.net/forum/articles/what-does-contemporary-jewellery-meang-benjamin-lignel> [Accessed: 10 October 2016].

Klimt02.net color me this. Contemporary art jewelry. 2008. Available at: <http://klimt02.net/events/exhibitions/color-me-contemporary-art-jewelry-turchin-center-visual-arts> [Accessed: 25 October 2016].

Klimt02.net Marie Grewenig. 2016. Available at: <http://klimt02.net/jewellers/marie-grewenig> [Accessed: 20 October 2016].

Klimt02.net Lorena Lazard. 2016. Available at: <http://klimt02.net/jewellers/lorena-lazard> [Accessed: 20 October 2016].

Klimt02.net Annamária Mikulik. 2016. Available at: <http://klimt02.net/jewellers/annamaria-mikulik> [Accessed: 20 October 2016].

Klimt02.net Pawel Kaczynski. 2016. Available at:  
<http://klimt02.net/jewellers/pawel-kaczynski> [Accessed: 20 October 2016].

Legends and myths of amber: Amber Museum. 2005. Available at:  
[http://www.ambermuseum.ru/en/home/about\\_amber/legends](http://www.ambermuseum.ru/en/home/about_amber/legends) [Accessed: 10 October 2016].

Ltd, H. 2016. Cast stone garden ornaments & architectural building materials by Haddonstone. Available at: <http://www.haddonstone.com/en/subcat/history-artificial-stone> [Accessed: 20 September 2016].

Museum of arts and design collection database. (no date). Available at:  
[http://collections.madmuseum.org/code/emuseum.asp?emu\\_action=advsearch&rawsearch=exhibitionid/%2C/is/%2C/533/%2C/true/%2C/false&profile=exhibitions](http://collections.madmuseum.org/code/emuseum.asp?emu_action=advsearch&rawsearch=exhibitionid/%2C/is/%2C/533/%2C/true/%2C/false&profile=exhibitions) [Accessed: 19 October 2016].

Rocks, D. 2014. The difference between Swarovski crystal and diamonds - Diamond Information centre, online information centre-diamond rocks. Available at: <http://www.diamondrocks.co.uk/Diamond-Information-Centre/education/diamond-hardness/the-difference-between-swarovski-crystal-and-diamonds/> [Accessed: 28 September 2016].

Society, A.C. 2016. Bakelite First synthetic plastic - national historic chemical landmark - American chemical society. Available at:  
<https://www.acs.org/content/acs/en/education/whatischemistry/landmarks/bakelite.html> [Accessed: 30 September 2016].

Stoly, stoleshnicy i drugie izdeliya iz iskusstvennogo kamnya (Tables, countertops and other products made of artificial stone). (no date). Available at: <http://teros.org/> [Accessed: 10 September 2016].

Susanne Klemm. (no date). Available at:  
<http://www.susanneklemm.com/work/2006-2010/> (Accessed: 14 October 2016).

Y.N.S. 2014. Yoga and nature essay at yoga nature. Available at:  
<http://www.yoganaturesheffield.org.uk/yoga-and-nature/4585553678>  
[Accessed: 14 September 2016]

## Book sources

Abellon, M. 2010. Dreaming jewelry. Edited by Monsa. Edited by Monsa and Josep Maria Minguet. Barcelona, Spain: Instituto Monsa de Ediciones.

Books, L. 2009. 500 plastic jewelry designs: A Groundbreaking survey of A modern material (500 series). Edited by Marthe Le Van. New York: Lark Books, U.S.

Cappellieri, A. 2010. Twentieth-century jewellery: From art nouveau to contemporary design in Europe and the United States. Italy: Random House.

Crosby, D.A. 2002. A religion of nature. Albany, NY: State University of New York Press.

Drutt, H.W., English, H.D.W. and Dormer, P. 1995. Jewelry of our time: Art, ornament, and obsession. London: Thames and Hudson.

Ettinger, R. 2007. 20th century plastic jewelry (Schiffer book for collectors). Loveland, CO, United States: Schiffer Publishing.

Gannon J.A. 2012. History and Development of Epoxy Resins. In Seymour R.B., Kirshenbaum G.S. (eds.) Springer Netherlands. High performance polymers: Their origin and development: Proceedings of the symposium on the history of high performance polymers at the American chemical society meeting held in New York, april 15-18, 1986, 299-307.

Hamerton, I. 1996. Recent developments in epoxy resins report 91, volume 8, no. 7. Shawbury, Shrewsbury: Rapra Technology.

Hesse, R.W. and Leslie, C.A. 2007. Jewellerymaking through history: An encyclopedia. United States: Greenwood Pub. Group.

Hornby, A.S., Gatenby, E.V. and Wakefield, A.H. 2001. Idiomatic and syntactic English dictionary. Institute For Research In

Rawson, P.S. and Higby, W. 2011. Ceramics. Philadelphia: University of Pennsylvania Press.

Woolton, C. 2010. Fashion for jewels: 100 years of styles and icons. Munich: Prestel Pub.

## FIGURES

Figure 1. One of the Inspiring Drawings. Rusakova O. 2016.

Figure 2. Mood Board of the Project. Available at: <https://vk.com/nora.masha> [Accessed: 20 September 2016].

Figure 3. Stone Age Beads Found at Skara Brae. Available at: <http://www.bbc.co.uk/scotland/learning/primary/skarabrae/content/people/evidence5.shtml> [Accessed: 20 October 2016].

Figure 4. Orchid Ring by Alidra Alic, 2008, Plastic. Available at: <http://www.thejewelleryeditor.com/jewellery/the-sculpted-wonders-of-alidra-alic/> [Accessed: 17 October 2016].

Figure 5. Mutation Rings by Susanne Klemm, Frozen Collection, 2007, Epoxy, Silver. Available at: <http://www.susanneklemm.com/work/2006-2010/> (Accessed: 14 October 2016).

Figure 6. Dread Necklace by Pawel Kaczynski, 2007, Aluminum, Silver and Raw Baltic Amber. Available at: <http://klimt02.net/jewellers/pawel-kaczynski> [Accessed: 20 October 2016].

Figure 7. Necklace by Evert Nijland, Private Collection, Gold, Porcelain. Available at: <http://www.evertnijland.nl/guirlandes.html> [Accessed: 14 October 2016].

Figure 8. Necklace and Earrings, Nature – Fake Illusions, 2015, Silver, Plastic. Available at: <http://klimt02.net/jewellers/annamaria-mikulik> [Accessed: 20 October 2016].

Figure 9. Brooch, Körper-Körper, 2016, Synthetic Material, Silver, Stainless Steel. Necklace, Körper-Körper, 2015, Synthetic Material, Aluminium, Available at: <http://klimt02.net/jewellers/marie-grewenig> [Accessed: 20 October 2016].

Figure 10. Brooch, Origen 02, 2014, Iron, Silver, Enamel, Soil, Polymer Clay. Brooch, Estudio Botánico 3, 2011 22k Bimetal-Gold, Image Transfer in Polymer Clay Available at: <http://klimt02.net/jewellers/lorena-lazard> [Accessed: 20 October 2016].

Figure 11. Hyacinth Ring, 2008, Alice's Adventures in Wonderland, Silver, Plastic, Adhesive, Strawberry quartz. Orchid Ring 2008: Silver. Available at: <http://www.thejewelleryeditor.com/jewellery/the-sculpted-wonders-of-alidra-alic/> [Accessed: 17 October 2016].

Figure 12. Sketches: pencil, acrylic paints. Rusakova O. 2016.

Figure 13. Collected Plants. Rusakova O. 2016.

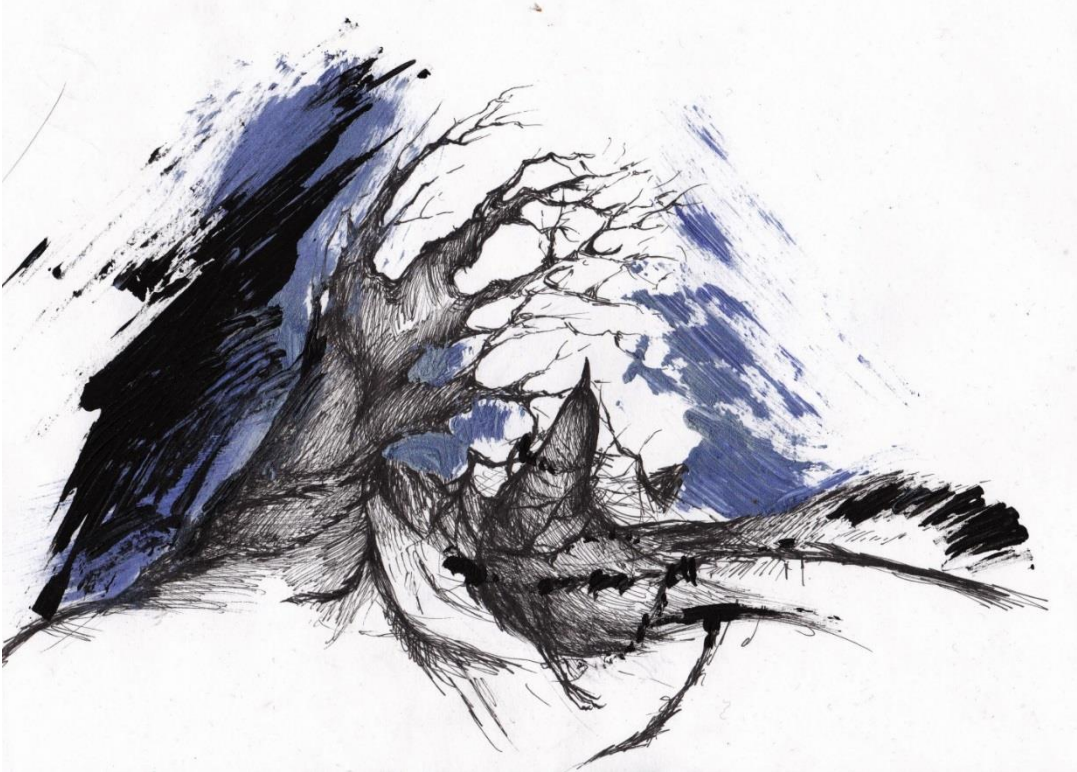
Figure 14. Organics Colored with Acrylic Paints. Rusakova O. 2016.

Figure 15. Examples of The Ready Foil Forms. Rusakova O. 2016.

Figure 16. Materials: Epoxy, Pigments and Hardener. Rusakova O. 2016.

Figure 17. Demoulded pieces. Rusakova O. 2016

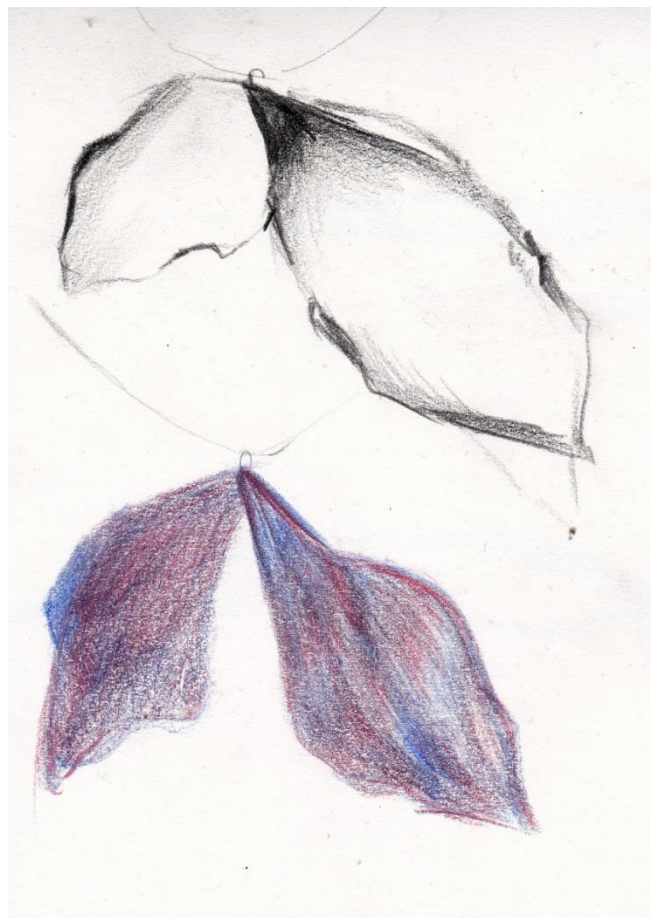
Examples of the inspiring drawings



Rusakova O. 2016

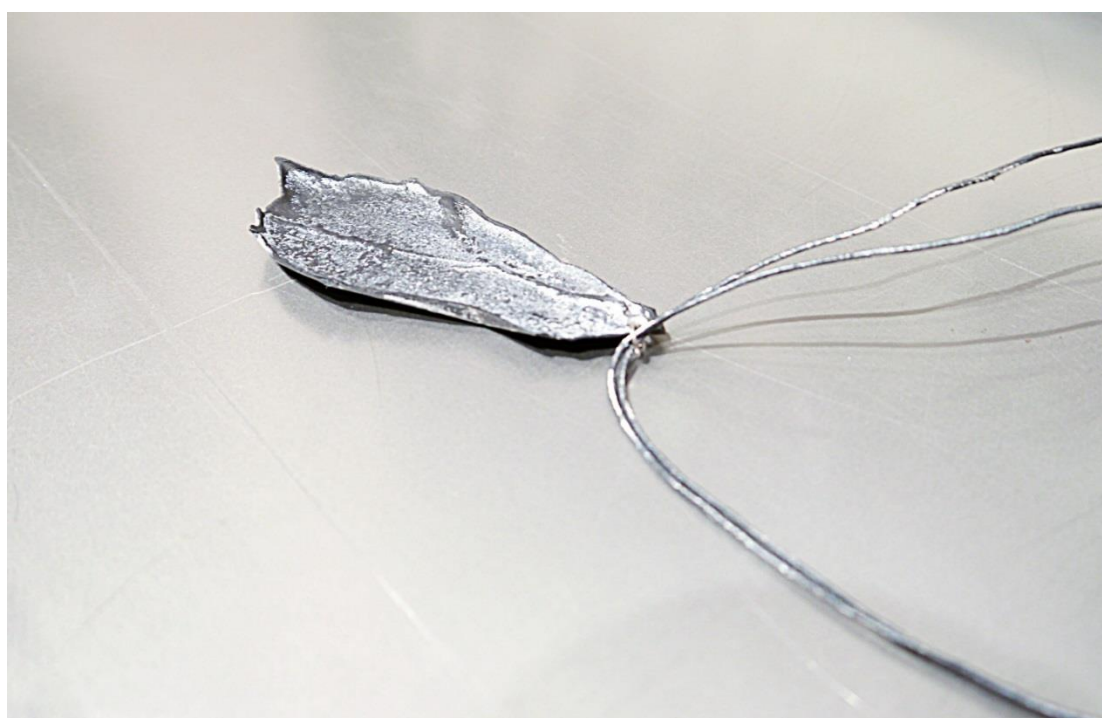


Raw sketches





Examples of the ready pieces



Rusakova O. 2016





Rusakova O. 2016

Example of application of the jewels in daily life (Instagram screenshot)

