

# Bunaco Tableware

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 Univerzita Tomáše Bati ve Zlíně  
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Univerzita Tomáše Bati ve Zlíně  
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Ústav prostorového a produktového designu  
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## **ABSTRAKT**

V mojí bakalářské práci se zabývám návrhem setu stolního nádobí z ohýbaných bukových dýh. Jedná se o tradiční japonskou techniku bunako a výsledné produkty jsou dokončeny přírodním lakem. Cílem je navrhnout stolní nádobí z přírodních materiálů, které budou vysoce kvalitní, jak po stránce funkční, tak estetické, se silným ohledem na minimální negativní dopad na životní prostředí.

Teoretická část se zabývá historickým vývojem stolního nádobí a stolováním. Především se zaměřuje na japonský způsob stolování a japonskou kuchyni.

Praktická část se zaměřuje na současný trend ekologického myšlení a jeho opodstatnění. Obsahuje analýzu trhu produktů, které jsou vytvořeny technikou bunako.

Praktická část ukazuje vývoj konceptu a jeho finální podobu.

Klíčová slova: udržitelnost, přírodní materiály, Japonsko

## **ABSTRACT**

In my bachelor's work I concentrate on design of a tableware set, made from thin beech veneer. It is made by traditional Japanese technique bunaco and final products are finished by natural lacquer. A goal is to design tableware from natural resources, which have high quality, as functionally, so aesthetically, with strong aspect on minimal negative impact on our environment.

Theoretical part is about historical development of tableware and dining. It is focused Japanese way of dining and Japanese cuisine.

Practical part is focused on current trend of ecological way of thinking and its foundation.

It contains market research of products created by bunaco technique.

Practical part also shows progress and development of a concept and its final look.

Keywords: sustainability, natural materials, Japan

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Prohlašuji, že jsem na bakalářské práci pracoval samostatně a použitou literaturu jsem citoval.

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Ve Zlíně, 18. 4. 2012

Jakub Mikuláščík

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## INTRODUCTION

The main idea of my bachelor's work is to design sustainable and environmental friendly product, a set of tableware, which meet all functional requirements, but also satisfy need for product, which has minimal negative impact on our environment.

This need and belief, that we should care about our surroundings, is much more apparent now, when we are witnesses of changes of planet Earth. For many countries and nations it is obvious for many decades, others try to ignore even now. But even without threat of destruction of our natural habitat, it is our responsibility to care about nature and environment we live in. Not just for us, but also for next generations and future of the humankind. With development of industrial civilization, we lost connection with nature and become more dependent on technology. We should realize that industrial era ended, we are living in communication era, where we are still dependent on technology, but it is not just for our survival, but also for entertainment and communication with others. Technological progress gives us more free time, than we had ever before. All this happen, thank to our invention and understanding of natural order. We build our industrial civilization on unsustainable resources, as a coal and oil, with assumption it will last forever. This short period of our long history ended and it's time to realize it.

If you look at the Scandinavian countries or Japan, they are nations with advanced technology, but they are strongly connected with their cultural history and nature. They understand of a legacy of their ancestors and they take a best of it. They benefit from natural resources and also take care of it with responsibility and love with their land. This is the connection we all should find.

With this belief in my mind I created set of tableware, using traditional Japanese technique, but using resources from my neighborhood. The material is a beech wood. The beech tape is coiled around a core piece. I used only exact amount of beech stripes I needed for each product. Tableware is finished by Urushi lacquer. It is designed for Japanese cuisine, plate for sushi, bowl for miso soup, small plate for soya sauce, but thanks to a variety of shapes of the tableware you can use it for any type of food you like.



## **I. THEORETICAL PART**

## 1 TABLEWARE

Tools you usually use for dining is generally known as tableware. The plates, glasses, knives and forks are tableware. It is a necessary equipment of each household and its shape and function has not been changed for hundreds of years. In western countries we usually use a plate for the main meal, a deeper plate for soup. Spoon, fork and knife are traditional silverware. It is not as common for us to use chopsticks and bowls as for people from Asia.



*Figure 1 Example of tableware*

### 1.1 History

First history records about dining manners can be found in Ancient Egypt and Greece. We can learn about their habits from wall-paintings and manuscripts thanks to Homer and others.

In Ancient Greece, people were laying on couches around a small square table. Three couches for one table, so servants or slaves could remove the table after a meal and served another one. Table was used as a table and a plate at the same time and people tasted and ate with their hands from it. This meal had two parts. First, called *deipnon*, was for satis-

fraction of a body and it had three courses, a starter, meat and sauces and finally sweets and fruits. Second part, called *sympozion*, was for satisfaction of senses and spirit. Guests were entertained by musicians, poets and courtesans, but also guests and host itself recited poems.

In Ancient Egypt they used alabaster bowls for cold dishes, ceramic pots for warm meals and big ceramic jars for beer.

Dining was social event and everyone ate at the same time. Food was served on tables on big plates and bowls. Forks and knives were not common yet and generally people ate with stripes of bread or bare hands.



*Figure 2 Wooden spoon*

They had a spoon for soup, but it was different than nowadays. It was carved from wood, with a short handle and it was quite shallow. They used it as a shovel and they threw their food to themselves. There was not enough tableware, so if a nobleman wanted to have some big feast, he had to borrow it wherever he could. Water, wine and other drinks were in big jars and there was only a cup for toast, which was passed around a table. Host drank first, after him the second most important person and then the rest of the company. People in The Middle Ages already knew a fork, but it was forbidden to use it by church council,

because it was too similar to a Devils pitchfork. They used only a big iron fork with two blades and it was for taking meat out from a pot.

Common people ate from big plates with bare hands, and they used a spoon for soup. [1]



*Figure 3 Common people*

Tableware as we know it today appeared during Renaissance period in Italy, France and the rest of Europe. Each guest had his or her own glass or a goblet, and ate from their own plate or a bowl and used a spoon, fork and knife. Cuisine was different back in The Middle Ages, they ate a lot of sauces, so a shape of the spoon changed as well. People generally wore small blades with them and they used it as a knife and fork as well. The blade became rounded lately because those blades were quite dangerous when the nobles had a dispute among themselves. [2]

## **1.2 History - Japan**

There are not many historical documents where we can find relevant information about dinning manners and habits of first Japanese people. But we can learn a lot from artefacts which remain to this time. The oldest artefacts are ceramic bowls and iron kettles. Ceramic technique was brought from China and it became very popular through ages and nowadays Japanese ceramics is one of the best. [3]



Figure 4 Japanese Pottery

Though we can only assume about a private life of the first Japanese people, we have a lot of historical records from Tokugawa period (1603 – 1867). Valuable information, not just about eating habits of upper class, but about habits of regular citizens as well was recorder.

Japanese meal was served on a serving tray or a small table, not on large tables, which were popular in Europe at that time. Those who could afford more gracious lifestyle usually ate at these individual trays on short legs. Sometimes the individual trays had drawers under them so that after a meal each person wiped out the dishes and utensils on the tray and stored them away until the next meal.



Figure 5 Serving Tray

People in countryside usually sat around open-hearth fireplaces and ate food from the pot over the fireplace.

Since food was served cut up so that it could be eaten with chopsticks, it was not necessary for everyone to have a knife at the table. One for the kitchen was enough. Chopsticks were made of wood but made to last; even those without lacquer could be used for years. These were not the disposable chopsticks found in contemporary Japanese restaurants.

In Tokugawa period, each household member had a set of chopsticks, a rice bowl, and a teacup, which no one else used, and that is why it did not matter much that washing was perfunctory and in cold water. A lot of food was also finger food. Chopsticks in restaurants were usually lacquered for easy cleaning. Disposable chopsticks came into use in the nineteenth century.

Breakfast in Tokugawa period might consist of rice, miso soup, daikon, tofu, omelet (tamagoyaki), and daikon marinated in miso (misozuke daikon). With their staple, people were eating miso soup for breakfast, okazu (which means "side dishes") for lunch, and some boiled food (nimono) or clear soup (tsuyumono) at night.

Small pots and pans became more readily available, and even small families in the city could now cook the traditional side dishes that the upper classes had been eating. In the countryside, the diffusion of the pots for steaming rice continued, and more people were now enjoying the type of steamed rice prevalent today, in contrast to rice boiled in an iron pot over a fire in the open hearth.

Traditional Japanese cuisine was developed in Tokugawa period and many customs and habits have remained till nowadays the same as tableware which have been used since then.

[4]

## 2 JAPANESE CUISINE

Japanese cuisine is well-known for its positive effects on human health and longevity. It consists of a large variety of ingredients and each ingredient has to be fresh, first-rate and tempting even from aesthetical point of view.



*Figure 6 Seafood*

Traditional Japanese cuisine knows five different ways of cooking. With boiling (nimono) you can prepare almost all meals, frying (agemono) in sesame or soya oil you make for example tempura meal, boiled salad (aemono) from boiled vegetables and flavoured with a dressing is a part of each meal. You can steam (mushimono) some dumplings or rolls. And the way how to prepare meat is to roast or bake (jakimono), which is popular in Japan.

Rice plays a very important role in Japanese cuisine, it is a part of a large variety of meals and it is consumed with vegetables and fish, with soya sauce or wasabi.

We know several types of rice divided in two categories, sticky rice (mochigome) and non-sticky rice (uruchi-mai). However Japanese rice (regardless of the category) is characterized by its unique stickiness and texture. There are also two ways of cooking the rice. Mi-

zutaki is a method when you pour water in a pot at the beginning of the cooking process, and jutaki, when you boil the water first and then you add rice.



*Figure 7 Rice*

Rice has a very interesting history in Japan. It was an expensive commodity in The Middle Ages because northern part of Japan was not suitable for growing, but in the end of Tokugawa Period almost everyone could afford to eat rice every day.

The most important region for growing all kinds of rice is Hokkaido.

Very popular side-dish is dried noodles, boiled in water. Japanese have many types of noodles, Harusame, similar to the Chinese transparent noodles, Udon, white noodles from wheat flour, or hijamugi.

We cannot forget fish and seafood, which is also an important part of Japanese cuisine.

One of the greatest delicacies of Japanese cuisine is sea urchin (uni). You can try its orange meat with salads or roasted dishes. Popular fish are tuna, eel and sea bream (tai).



Tai as a symbol of happiness, luck and good fortune and is served during celebrations. Well-known fugu fish has to be prepared by a skilful chef, otherwise it could be poisonous. Traditional ingredients are beans (edamame). Soya beans are very healthy and miso paste and tofu are made from it. [4]

## 2.1 Traditional Japanese dishes

Japanese have many traditional meals, but I will mention only few of them.

### Sushi

The most famous one is sushi. Rolls of rice wrapped in green seaweed (nori) and it is filled with raw fish, sepia, shrimps, vegetables or mushrooms. Sushi is known since 7<sup>th</sup> century and first sushi fast-food was opened in 19<sup>th</sup> century.

All kinds of sushi are dipping into soya sauce and eaten with wasabi. Basic one is called maki-sushi, roll filled with rice, fish, vegetable, wrapped in seaweed. Small rolls are called hoso-maki and big ones futomaki. If the seaweed is wrapped in rice, it is called uramaki. Nigiri sushi is roll of rice with fish on top decorated with egg or avocado.



*Figure 8 Sushi*

### Tempura

Traditional tempura consists of shrimps, mushrooms and vegetable. All of it is wrapped in pastry from flour and eggs, fried and served with tencuju sauce.



*Figure 9 Tempura*

### Soba and udon

Soba are noodles boiled in fish bouillon and served with variety of ingredients, such as fried tofu, mushrooms, vegetable...

Udon noodles are bigger and white. Noodles are boiled in bouillon with egg and fish paste (kamaboko).

Both types could be served warm or cold (zaru-soba, zaru-udon).



*Figure 10 Noodles*

### Ramen

Chinese noodles boiled in chicken or pork bouillon with fish roll (naruto), and bamboo or bean sprouts. Originally it is from China, but it became very popular in Hokkaido and all Japan.



*Figure 11 Miso Ramen*

### Terijaki

Technique of cooking used with grilled or roasted meals. It is sweet soya marinade. [5]



*Figure 12 Terijaki*

## **II. PRACTICAL PART**

### 3 WHAT IS A ROLE OF A DESIGNER?

What is a role of a designer today? First of all, we should think about design as a word. What this word means and how we understand it.

#### 3.1 Definition

I tried to find a definition of this word and I found many. It seems there is no world accepted definition of “design”. However, we can find some similarities.

For example this is etymology of the word “design”:

Encyclopaedia

Design:

From Latin designare “mark out, devise,” from de-“out” + signare “to mark,” from signum “a mark, sign.”

De signo: about the sign

Originally in English with the meaning now attached to designate (1646, from Latin designates, pp. of designare); designer (adj.) in the fashion sense of „prestigious“ it is first recorded 1966; designer drug is from 1983.

Thesaurus

Noun

1 (...) plan, blueprint, drawing, sketch, outline, map, plot, diagram, draft, representation, scheme, model.

2 (...) pattern, motif, device; style, composition, makeup, layout, construction, shape, form.

3 (...) intention, aim, purpose, plan, intent, objective, object, goal, end, target; hope, desire, wish, dream, aspiration, ambition.

Verb

1 plan, outline, map out, draft, draw

2 (...) invent, originate, create, think up, come up with, devise, formulate, conceive; make, produce, develop, fashion; informal dream up.

3 (...) intend, aim; devise, contrive, purpose, plan; tailor, fashion, adapt, gear; mean, destine.

From this example, we can understand that design is a general human activity. Every human being designs which means every planned human activity is a design. But it is also specialized human activity, because designers have chosen natural human activity as their profession.

*“Everybody designs who devises courses of action aimed at changing existing situations into preferred ones.”*

*Herbert Simon, The Sciences of the Artificial, 3<sup>rd</sup> Edition p.111. October 1 1996 [7]*

### **3.2 Conclusion**

Designers have worked here from the beginning of humankind; however it was not a specialized profession, but just an occupation. Artists, artisans, architects, lately engineers, technical drawers, pattern drawers are known as industrial, product or graphic designers nowadays. With the Industrial Revolution continued in the 60<sup>s</sup> of the last century, the now globally used term designer was introduced for the first time. Since then we have become marketing tools and we lost ability to think and act as a visionary. A designer became a follower instead of a leader.

*“The proper study of mankind is the science of design, not only as the professional component of a technical education but as a core discipline for every liberally educated person.”*

*Simon, Herbert A., The Sciences of the Artificial. 3<sup>rd</sup> Edition p. 83. October 1 1996. [8]*

Designers became stylists and we are highly regarded for something which is the lowest level of our profession and we are happy about it. Styling still means everything. We are wasting our capacity of innovative thinking in creating of new shapes instead of developing of new values.

Our final output is not a product, it is an idea. The idea which could make a difference. The idea which could help people live easily along with nature and without regrets.

## **4 BUNACO - INTRODUCTION**

Bunaco or beech coil is a traditional Japanese technique which uses beech wood in very efficient way. By using the least wood possible makes bunaco very ecological. Each bunaco product is hand-made. Skilful artisan coils beech stripes for exact amount needed and after that he or she slides the coil little by little to create a form. Every inch of beech stripe is used and nothing is wasted. Form could be smoothed by kanna, a Japanese plane, and finished with lacquer.

### **4.1 History**

Bunaco technique was developed in Aomori, Japan, 1956. Aomori is located in the northern part of Japan and has a great number of beech trees. It was originally developed as a base for the Tsugaru-nuri (lacquer ware) before a paint finish was applied. But it was so unique and beautiful itself that it started its own life as a bunaco technique. Nowadays bunaco products are highly regarded for its simple and unique design but also for its environmental aspect.

## 4.2 Process



*Figure 13 Step One*



*Figure 14 Step Two*



*Figure 15 Step Three*



*Figure 16 Step Four*



*Figure 17 Step Five*



*Figure 18 Step Six*

1. Beech wood is sliced into a thin veneer, usually about 1 mm in thickness.
2. The sliced beech veneer is cut into required width, usually about 10 mm.
3. After that the beech stripe is coiled around a core piece.
4. When you finished making the coils you will form desired product into final shape.
5. You can apply a coating onto surface to protect final product from water and for reinforcement.
6. The final product.



## 5 MARKET RESEARCH

### 5.1 Bunaco

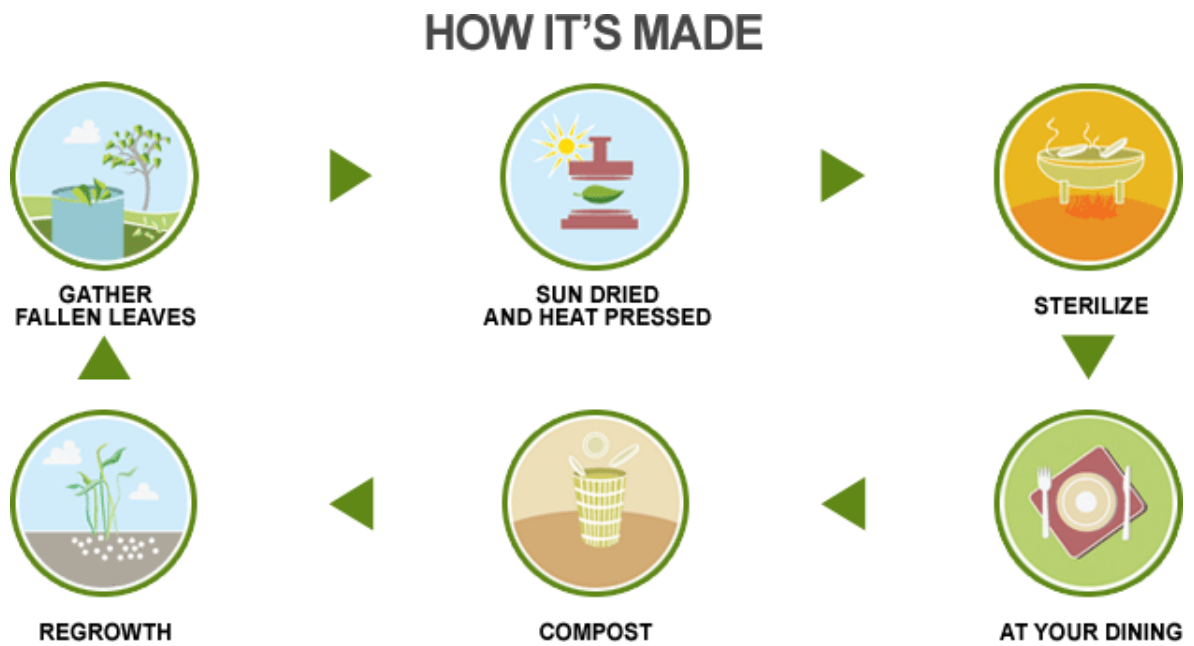
Bunaco Co. is an original company which developed this technique in Aomori, Japan, 1956. Its production consists of dishware, lamps, stools and other interior goods. Each product is handcrafted by skilful artisan in limited series.



*Figure 19 Bunaco*

### 5.2 Leafware

Leafware is a company which searches for ancient solutions for modern world focused on sustainable and ecological products. They are inspired by ancient communities from Asia which have been using leaves for specific tools for centuries. This use of leaves inspired Leafware to produce disposable and environmental-friendly tableware and accessories.



*Figure 20 Leafware*

### 5.3 Wasara

Wasara produce paper tableware for occasions when friends and families gather for formal or home parties. Wasara follows Japanese tradition of aesthetics and values. It is for one-time use only, but it is made from reed, bamboo, and sugarcane waste pulp, so they are made from material which is often discarded. It represents a spirit of living in harmony with nature.



*Figure 21 Wasara Cup*



*Figure 22 Wasara Plate*

## 5.4 Autarky

Autarky is a collection of “baked” goods by studio Formafantasma. It is inspired by the folk event of the “cene di San Giuseppe” in Sicily. Products in Autarky collection are made from 70% flour, 20% agricultural waste, and 10% natural limestone. Colour has been obtained through natural means of vegetables, spices and roots.



*Figure 23 Autarky*



*Figure 24 Autarky Bowl*

## 6 BUNAWARE

### 6.1 First Ideas

My goal was to design sustainable and eco-friendly tableware. This idea and need came from my studies in Denmark and Finland where I realized responsibility towards our civilization and planet. I was a part of Urushi Workshop where I learned bunaco technique from students and their professors from Musashino University and Yamaguchi Pref. University. Thanks to this technique I was able to fulfil my goal.



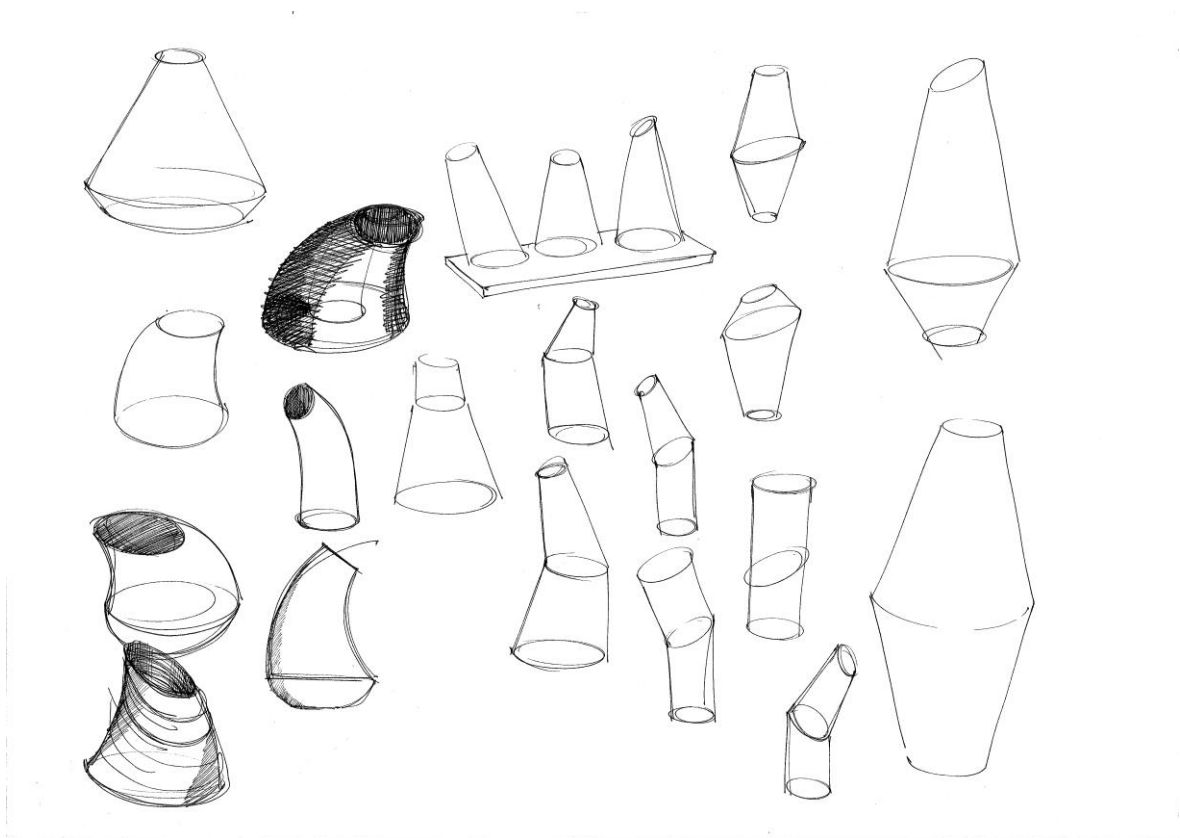
*Figure 25 Urushi Participants*

### 6.2 Inspiration

I was always interested in Japanese culture and recently I have established personal and professional connections with Japanese. This experience just intensifies my interest in this culture. However, I found my main inspiration in Japanese cuisine. It is the most tasteful and the most beautiful food I have ever tasted.

### 6.3 First Concepts

Because my concept was clear from the beginning I had only a few problems before I started sketching. I had to decide what items will make my set and if it will be for a particular dish. I decided to have a set of tableware for particular dishes, a set of bowls for miso soup, rice and vegetable and plates for sushi and soya sauce. Basic set contains four pieces of tableware which could be varied and combined.



*Figure 26 First Concepts*

## 6.4 First Sketches

In my first drawings I was looking for the right shape which would be interesting for contemporary design, but also aesthetic and functional. I draw without limits so many shapes could not be used as a bowl or a plate, but I did not want to have too many restrictions in the first phase. Most of the drafts have irregular shapes with a contrast line in each object.

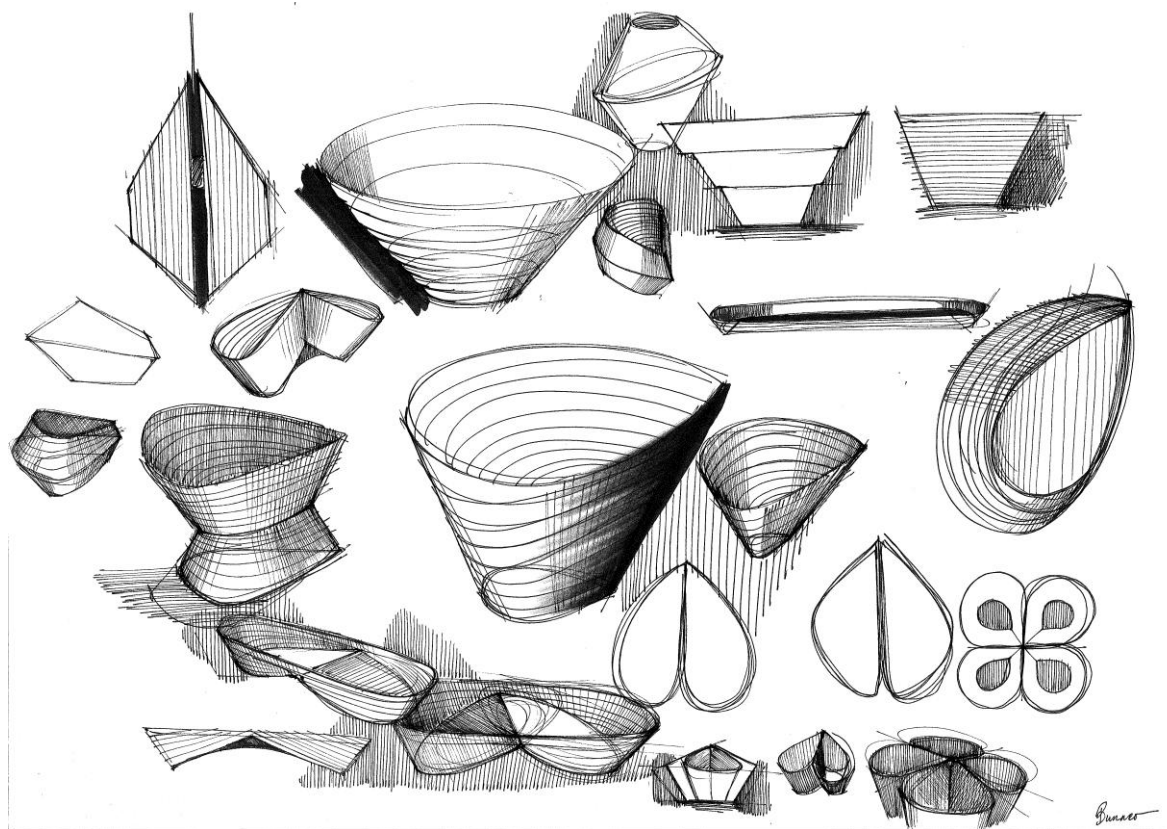


Figure 27 First Sketches

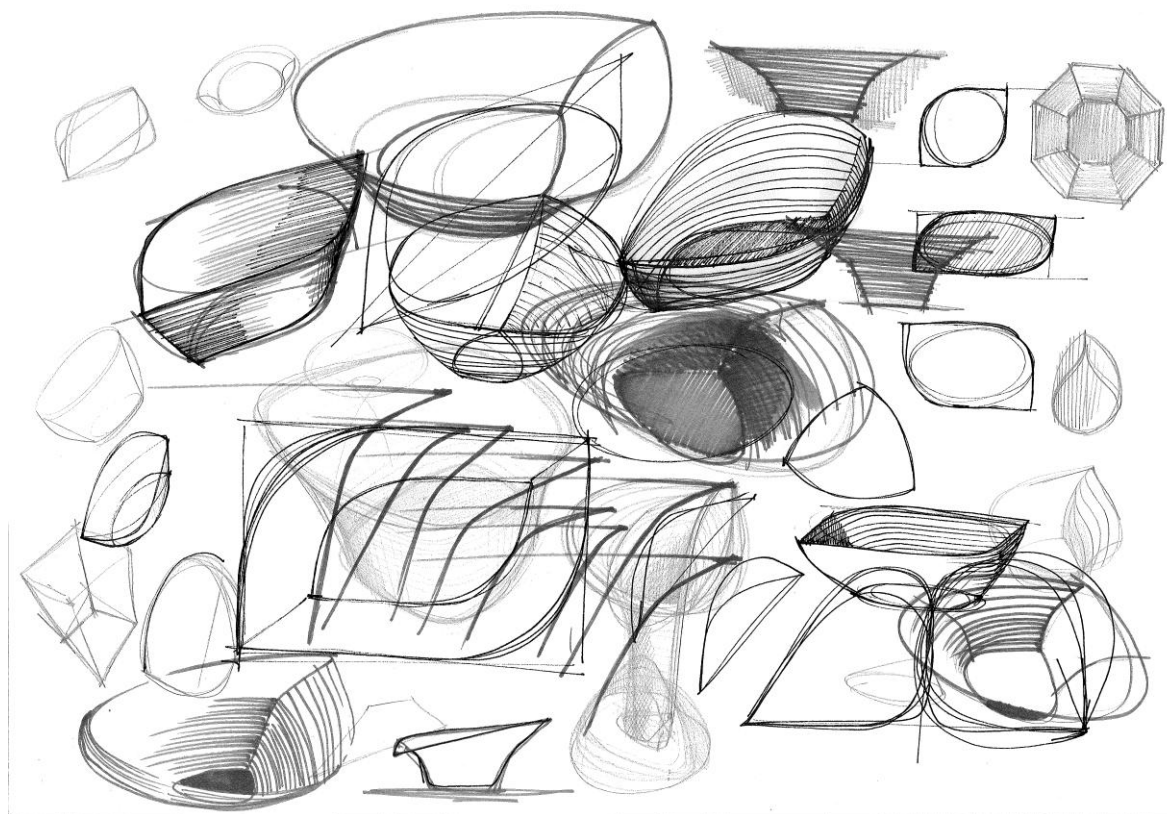
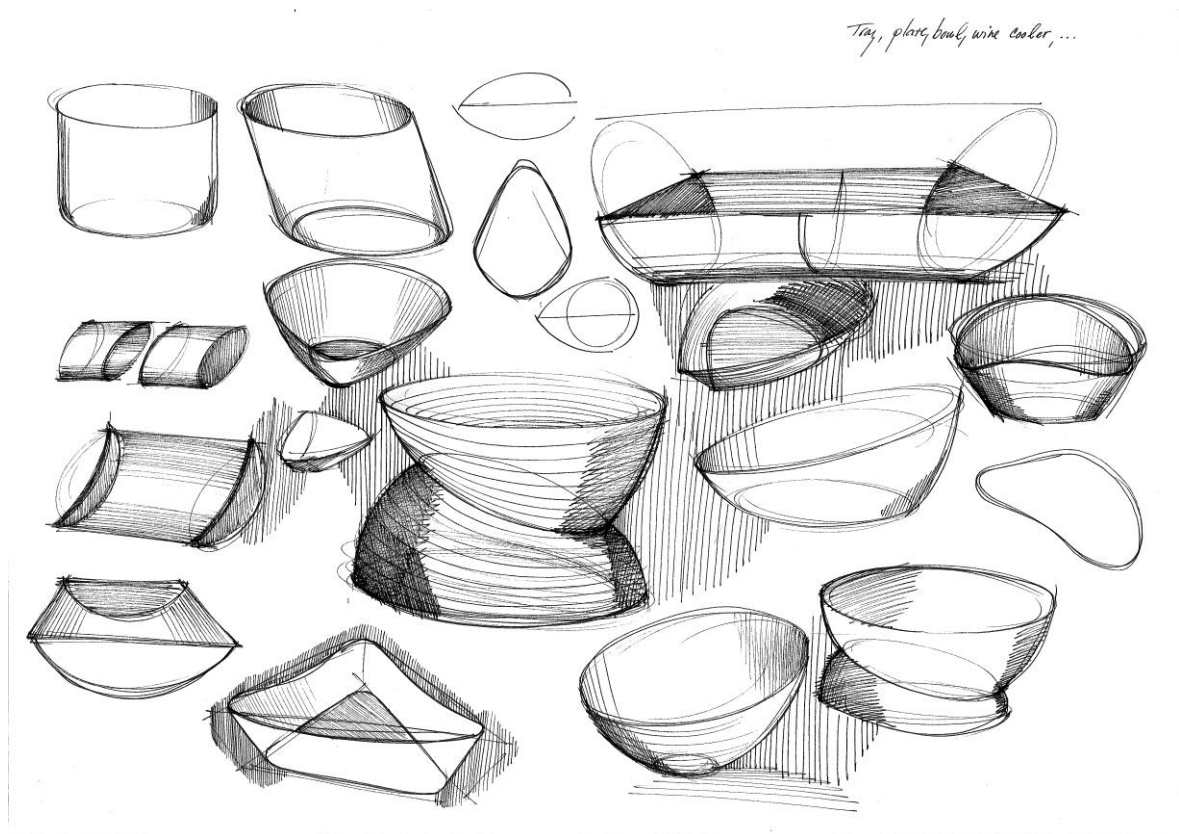


Figure 28 First Sketches Edges

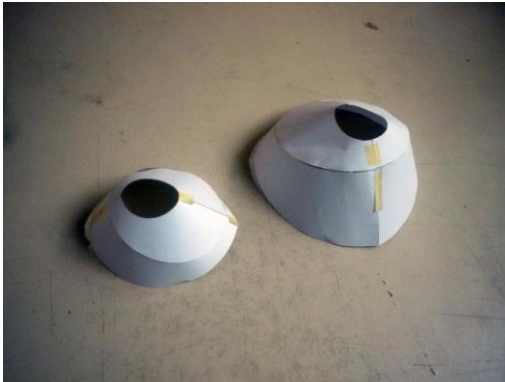


*Figure 29 First Sketches Bowls*

## 6.5 Prototypes

I also made paper models and prototypes from beech stripes. Drawings could be misleading sometimes, but in a model you always see real measurements and scale. Paper models were good to quickly model the shape and size. I made models from sheets of paper, but also from paper stripes which simulated actual bunaco technique; instead of beech stripes I used paper ones.

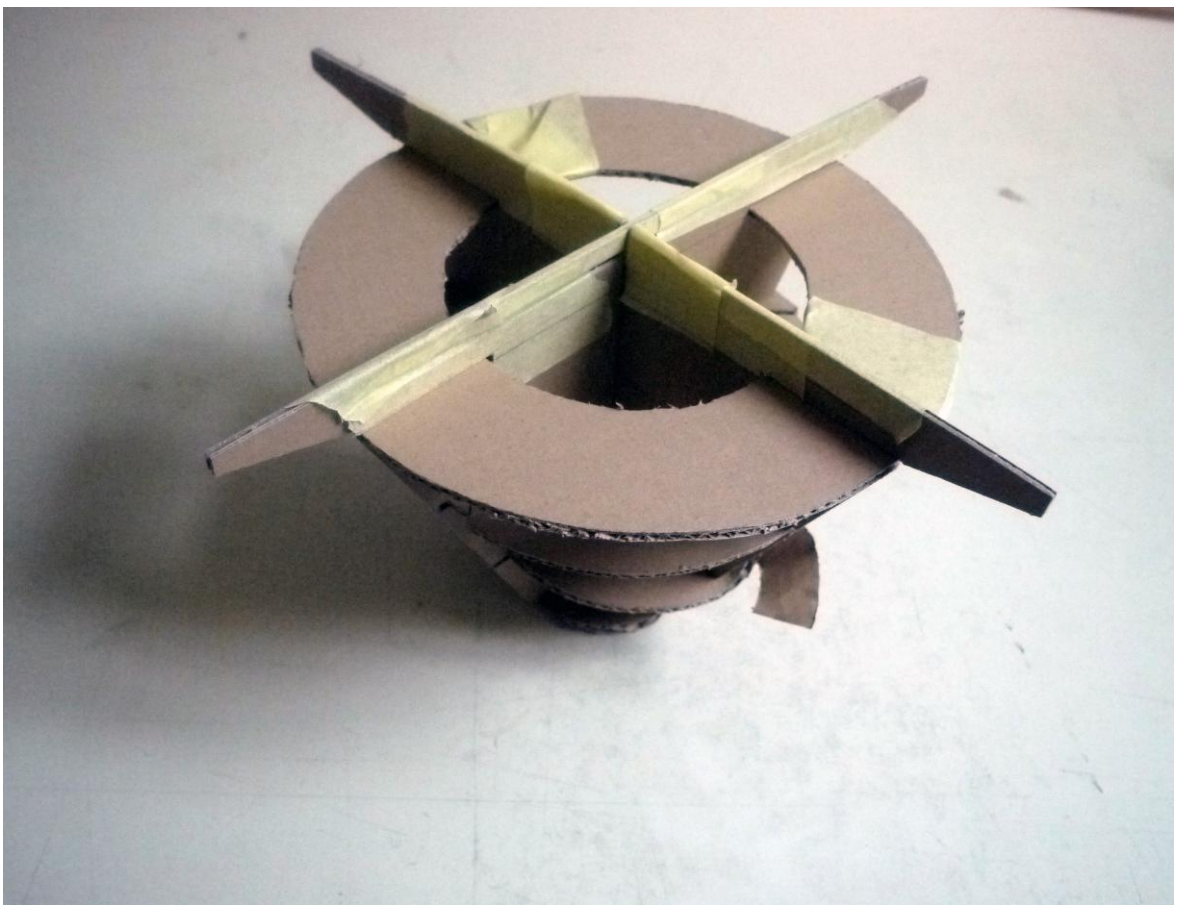




*Figure 30 Paper Model*



*Figure 31 Paper Model Detail*



*Figure 32 Final Paper Model*

After that I started working on real prototypes. I found what was possible to do with the material and what was not. During this process I also improved my artisan skills, and I could see a progress from the first model to the final products.



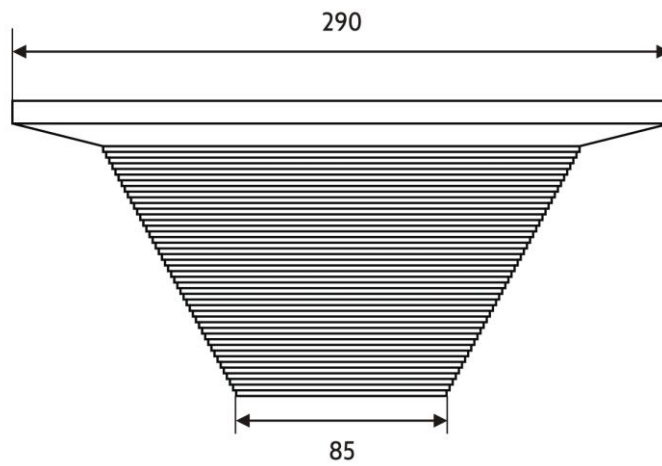
*Figure 33 Prototypes*

## **6.6 Final Concept**

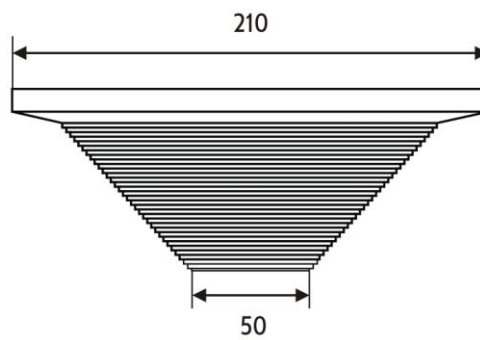
In my final concept I left irregular shapes behind, but I kept a contrast between two parts of each bowl and plate. Each element fits to each other so you can easily hide smaller ones into bigger ones and in the end, you have just one bowl with rest of the set inside. Products are finished with linseed oil. It is a natural lacquer which highlights graining of the wood. It protects against moisture and dirt. Thanks to this protection this tableware could last for decades and after its use it could be reused or recycled.

## 6.7 Measurements

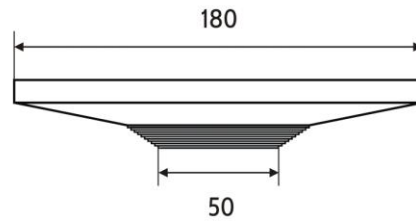
Images show final measurements of each product.



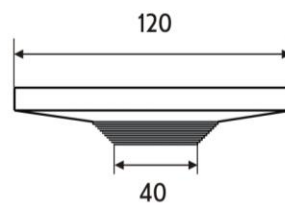
*Figure 34 Measurements1*



*Figure 35 Measurements2*



*Figure 36 Measurements3*



*Figure 37 Measurements4*

## 6.8 Pictures



*Figure 38*



*Figure 39*



*Figure 40*



*Figure 41*





*Figure 42*



*Figure 43*

## CONCLUSION

Purpose of this bachelor's work was to create sustainable and environmental-friendly tableware.

Theoretical part is concerned with development of tableware through the history of Europe and Asia. I gave a brief description of a history of dining manners in Europe and Asia, especially in Japan. I also described Japanese cuisine and its development through the history.

Practical part started with market research. You can find examples of companies which make environmental-friendly tableware and its products. In this part I talk about technology itself, its benefits and weaknesses. Conclusion of this chapter is a description of my concept and introduction of the final solution.

Thanks to this project I got deeper knowledge of Japanese culture and improved my artisan skills. I worked on this project with conscience and without regrets that I would be working on a product which will end as a waste.

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## LIST OF ABBREVIATIONS

- etc. et cetera, and so on
- pp. past participle
- adj. adjective
- pref. prefectural, prefecture (noun)

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