

EverChanging Scenery

- An explore-and-store set, for children and the child in your mind



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Abstract

Nowadays, more children live in an urban environment, which provides less access to nature. Researches have proven that engaging with nature is an essential requirement for children's cognitive, emotional and physical development. Antoni Gaudí, who captured the purest and most pleasant images of nature, said: "Nothing is invented for it is written in nature first". The charm of nature is always worth spending time on.

The purpose of the project is to create one or a set of designed object for user's (children and adults) collections from the adventures in nature, bringing the natural experiences back to indoor environments, enhance the observing and exploring activities. With the deigned object, children could not only store and arrange their collections in an easy and interesting way, but also look deeper and creatively into them, creating plays and sceneries out of their treasures. The set can be used by a child and growing up with him/her throughout his/her lifetime.

Keywords

Aesthetics, Children, Exploration, Nature, Observation, Play, Storage

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Background

Children and their urban environment

Nowadays, more and more children live in an urban environment, which provides less access to nature, both direct and indirect access, and a lot of researches have proven that engaging with nature is an essential requirement for children's cognitive, emotional and physical development.

Child culture design

As a Child Culture Designer, I have my interest in the discourse of "Naturally Developing Child"(James, A., Jenks, C. and Prout, A., 1998) , which also supports my idea of highlighting the natural way of learning and the natural material and element in the objects for children's everyday life.

Human being and the daily objects

We as human beings are animals with various emotions, which make us different from other creatures on the earth. The relation between us and the objects we use every day has been added with emotions and memories; the same object could bring different feeling to a group of people or a single human being. I as a designer have a great interest in designing products, which could be an experience, an object or other kinds of media, to explore, enhance and promote the design with emotions.

Purpose and Goal

The purpose of this project is to bring and extend the natural experiences and feelings back to homes, through the domestic objects, which children can play and interact with or record, store and share their experiences and explorations from nature, with others, extending the feeling and experience of the contact with nature and also expanding the value of nature. By having an environment that provides more access to natural resources children are not only able to enjoys the natural play but also stimulated to develop their curiosity, perception, cognition and social skills.

Personal goal

I would like to learn more about how to research with children in a proper way, getting the right information and giving them the feedback of my ideas and result. Besides, I would like to keep developing my design languages and design philosophy with this project. I should be able to manage the whole design process, from the project planning, conducting and in the end the presentation and exhibition.

Research and conclusions

Questions:

- Why is natural access in the growing environment so important for children's learning and play?
- How children inspired by nature?
- After the experiences in nature, how they (adults and children) take care and extend the experiences indoors, at homes?

In this stage, I divided the research into research reading and observations with children; the following are the conclusions to these questions.

Children and their natural contacts

Childhood experience is an universal experience for every human being in the world, no matter what kind of experience you had, it became your own unique childhood, and that has a great impact on your personality, social skill, sense of value and so on, your childhood makes who you are as a grown up.

Childhood is known as an important experience in our lifetime, hence, as a grownup, it is our responsibility to pay more attention and efforts on children's environment, where they learn things and explore the world. In a nowadays society, families are mostly live in the city where provides more convenience of living and work, on the other hand, the urban environment provides less access for children to engage with nature, both direct and indirect ones.

Like Stephen R. Kellert said in his book *Building for Life - Designing and Understanding the Human-Nature Connection*,

"The enormous challenge facing us is how to minimize and mitigate the adverse environmental impacts of the modern built environment and how to provide more positive opportunities for contact with nature among children and adults as an integral part of everyday life." (Kellert, 1997, P.89)

Additionally, adding natural experience to our living environment is not only for children to touch, observe and feel with nature, but also teach us how to live along with other creatures in the world with a respectful heart. Other questions shown in the book *Children and their urban environment* ask:

If children themselves grow up disconnected from nature, how can they value it and act as good stewards for the environment? (Freeman, C., and Tranter, P., 2011, p161) The question shows that to live with natural access is not only important for the children's and the residents' sake, but also has impact on the whole living environment and other creatures on the world. Indeed, in the urban environment, there are different kinds of green area that provide different levels of the natural experiences, such as the side trees, parks, and botanic gardens, as the definition given in the book *Children and their urban environment*, there are three Identified forms of experiencing nature:

1. *Direct contact: play, mediated interactions - work, education, club/group outing*
2. *Indirect contact: media, Internet, books, stories...(from indirect experiences)*
3. *Observed without contact: from car, plane, train, (windows, outside the situation) (Freeman, C., and Tranter, P., 2011, p162)*

In this project, the end result is expected to encourage children engaging in the activity within the direct natural contact, providing new experiences of the observation and exploration in an indoors environment.

The knowledge will be transitory and superficial if children do not gain that from actively and directly exploring. This also explains why in this project the natural collection/resource is really important.

There are some other reasons why natural engagement is so important for children, in a health and medical perspective, like mentioned in the book *Children and their urban environment*:

"Two studies by a US research team who looked at a total 7800 children observed that living in areas with green space has a long-term positive effect on children's weight, and thus, health (Bell et al, 2008)." (Freeman, C., and Tranter, P., 2011)And,

"If access to nature can be medically proven to ease illness and promote good health (Kaplan and Kaplan, 1989), then the reverse is also likely: lack of access increases the prevalence of illness." (Freeman, C., and Tranter, P., 2011)

Being contact with nature or natural resources makes children gain knowledge in a playful and positive way, they learn to notice the changes in weather (air temperature, wind, precipitation), seasonal changes, change in

types of material (soft or hard ground, flexible or rigid plants, tough or fragile, long lasting or temporary), this kind of learning not only happens when children are out in nature, it could be extended back to indoor environments, with the help from other objects or designs, which create a suitable and appropriate context for natural collections/resources.

Research with children

To answer these questions, I also spent 2 days in Slottsskogen, a natural forest/ park/ area in Gothenburg, and 1 day with a class of preschool of "i Ur och Skur", the Swedish forest school, for observing how children play, interact and communicate with the natural environment, as well as how they regard and use the natural materials.

Observation diary and conclusion, Slottsskogen

Time: February, 25-26 2013

Location: Slottsskogen, Gothenburg

It was cold winter days, I decided to go to Slottsskogen to observe and also imagine myself as a child.

On the way there, I saw some children play with tree branches, and the father waited aside. They picked up the big branches just on the frozen ground, and create the play, before they went, one of the boy broke a small piece from the branch and brought it with him.



Figure 1 children play with branches in the urban environment

Even the weather is freezing, there were still some parents and kids in the place, more than I expect. I went around the park and saw younger children playing in the "Plikta", with the playground equipment, some of them fighting with the branches they gathered everywhere, playing with the sand and stones in the area.

I kept going along the path, stopped nearby a frozen lake, it looked totally different from what I remember in the summertime, felt like it became a different world, for me this is the first time seeing a frozen lake, just like children facing a new thing, I was excited.

The ice was so thick that people could walk on, but I was not so familiar with ice, I could not really tell is that safe or not. Then, I saw two girls (around 10 years old) running on it, they laughed, screamed and chased after each other with the branches holding in their hands. For a long time, they just ran around the small tree in the center of the lake and the big pile of branches around the lake side, sometimes they sat on the ice and looked down through it, pointing and observing.



Figure 2 Children chasing with each other on the frozen lake

Conclusion:

In the natural environment (planned by people) like this, children play freely in the area, they are curious about the fascinating details in nature, for example the frozen ice, picking up things nearby for different kinds of play. The natural resources (things that naturally exist in the environment)

trigger them using their imagination freely and broadly. Because there is no limitation and boundary in terms of the natural resources, children will have endless possibilities of play, learning, exploring and observing.

Observation diary and conclusion, the pre school of "I ur och skur"

Time: March, 5 2013

Location: "i ur och skur" pre-school, Gothenburg

It was also a cold winter day, but that did not stop the children and the teachers went out in nature. I arrived the pre-school at around 9:00 in the morning, right after I met the children and teachers we went to the "natural classroom", which located on a small hill, the place was full of different landscapes, plants and tiny frozen waterfalls, looked like a common natural area for me, but when the children rushed in the area, they played, explored and so on, it suddenly became a wonderland, a nature playground.



Figure 3 The natural environment for children in "I ur och skur" school

In the cold weather like this, children did not stop their play, compared to what I have seen the children's indoors play, in the nature, they were the same energetic and enjoyed but without so-called toys.

In the beginning, I only introduced my name and the teacher told the children why I were there and what will I do there, then I just climbed up and down on the hills and in the bushes with them. During the observation,

there were two girls holding one plastic bucket collecting “treasures” together, and sometimes, other children also picked something for them, it was a kind of communication, they shared their collections with each other, moreover, they came to me unexpectedly and instead of only showing me the “treasures”, they gave me one.



Figure 4 Children picked up some tree bark as their “treasures” and tried to explain what is it to me

Some children just went up and down on the small hills, in and out between bushes; they like to feel different tactility and scales and find small creatures, if there were something new to them, they just asked the adults around, they learned things through play.

In between the observation the teacher showed me something they used to teach the children, which is a plate with three different objects on it, a straw, a banana peel and a piece of paper. The plate was buried in the leaves (earth); every time when they go there the teacher will take it out and ask children to observe the changes among the objects, by this they learn that the plastic will stay the same in nature and banana peel, which is natural material, will degraded slowly be natural forces. This is the best and most natural way for children to learn things like this. (Figure 27 in attachments)

There was another interesting story during my visiting, I was talked to a boy's father about their experiences together in nature, the boy came in the middle of the conversation and asked his father to fish with him in the soft and fluffy bushes, they both hold a huge fishing pole made from the branches and imagined different kinds of fish there in the big blue sky.



Figure 5 Father and son fishing in the bushes

In the end of the visiting, it was also the time for children to go inside for lunch, most of the children were still want to stay and play in the area, some of them the seized the last minute with the "leaf shower".



Figure 6 The leaf shower

At the same time, I was talking to the father again, he told me that his child sometimes would like to bring something home, but most of the time he will say no to him due to the possible problem it might cause at home, which is the dirt and mess, and also, the natural thing changed into something useless and messy when the environment changed.

Conclusion:

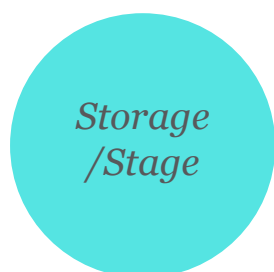
Most of the children enjoy their time in nature, they collect, learn, play and observe, some of them want to bring the "treasures" home, but usually they being told "NO" from their parents, because of the mess and dirt they might bring home. Although parents know that the natural collections are good for their children's various development, the problems it might bring stopping them allowing their children bringing things home.

To summarize all the conclusions I got in the research and observations, there is an urgent need of store and a place for displaying the natural collections. And also, all these conclusions make me think the triggers of exploration and the tools for observation are worth developing and visualizing.

Design definition

An object for children's collections from adventures in nature, bringing the natural experiences back home. With the set, children could not only store their collections, but also look deeper and creatively into different things and sceneries, creating plays and new sceneries whenever they feel like to update.

Main focuses:



Concept development

Classification of the resources

Flat pieces, e.g. Leaves, petals, natural fabrics, seeds

Long pieces, e.g. sticks, flowers and plants

Round pieces, e.g. stones, pinecones and seashells



Figure 7 The natural collections of mine

Effect decisions and test

While children playing and exploring in nature, they use all kinds of senses broadly for learning from nature and exploring in it.

In the various senses, sight is a dominant and direct sense that we as human being use a lot in our everyday life. When it comes to children's exploring and observing behaviors, we adults sometimes provide them different tools to enhance their experience and also making it more interesting.

Therefore I searched for the optical effects that create "scale-changing", "duplication" and "illusion" as my inspirations.

Test of different effects:



Figure 8 The mirror effect that create endless possibilities



Figure 9 The views in the frame changed quickly while the viewer moving in the room, the detail-highlighting function with magnifying lens

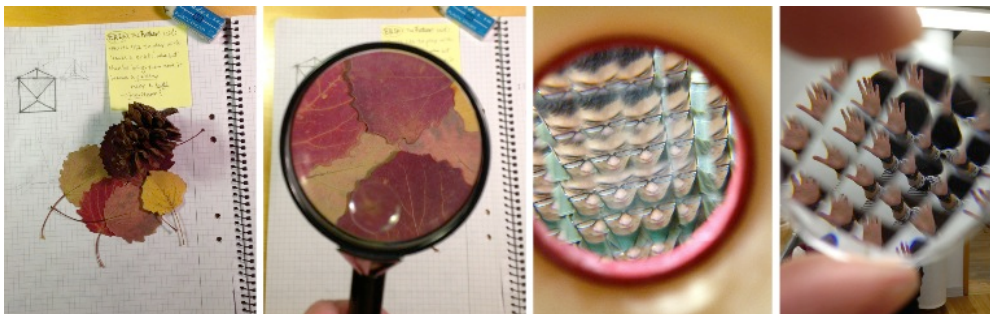


Figure 10 The effect before and after using the magnifying lens (left two) and the effects from a kaleidoscope lens (right two)

Sketches

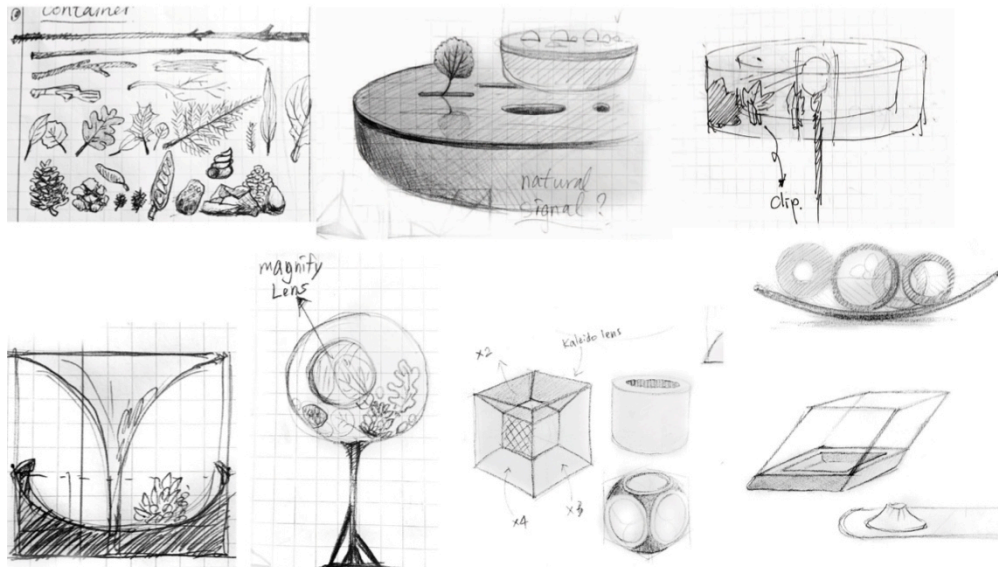


Figure 11 Different possibilities from the selecting effects

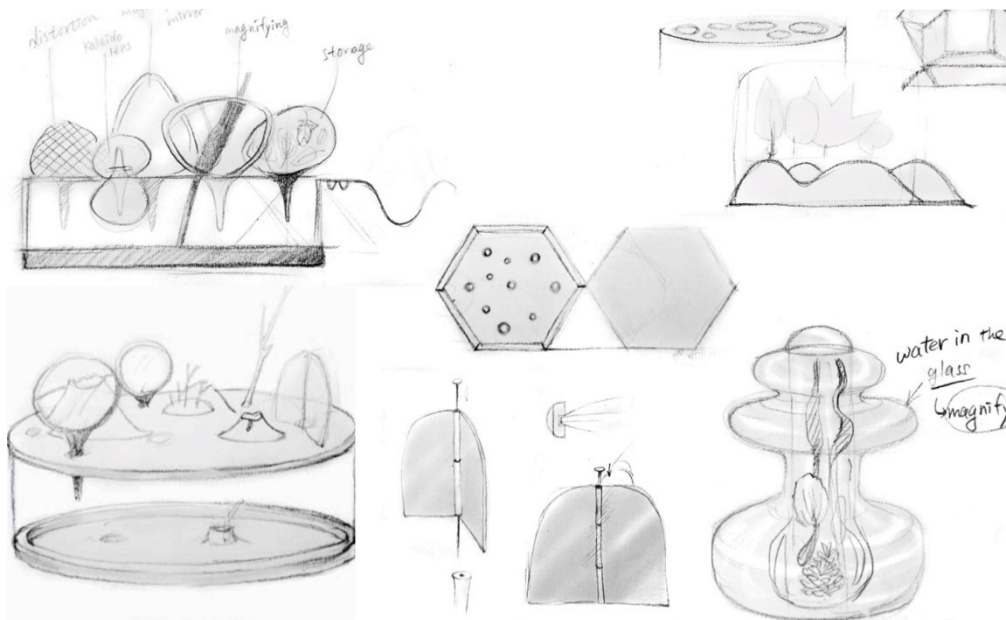


Figure 12 Concept sketches, focusing on creating the stage for children's play and combining different effects together

Final concept and results

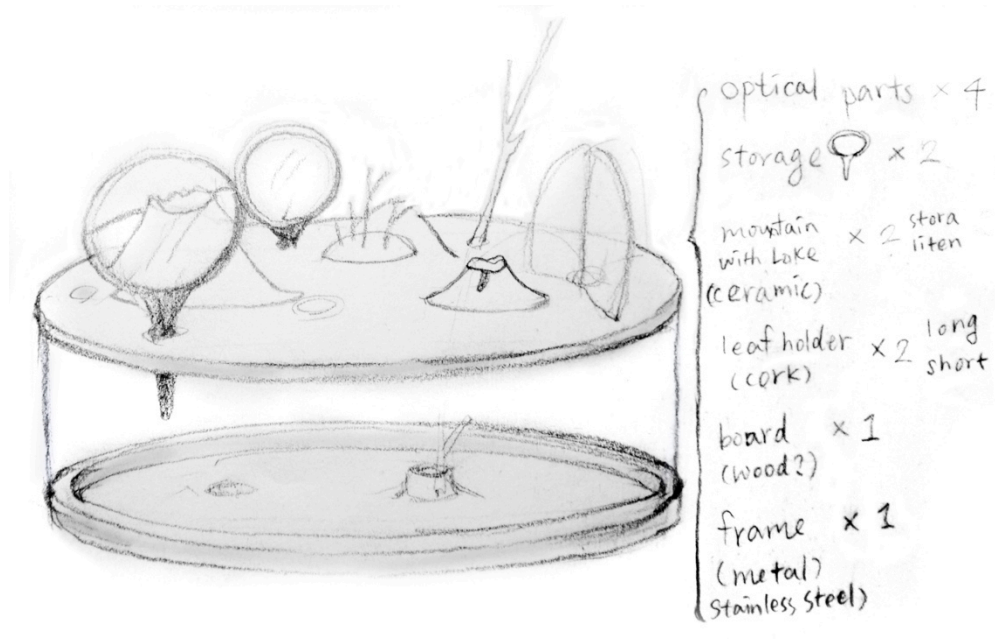


Figure 13 the final concept sketch

Introduction

The main body:

The main body contains the stage for the displaying and storing the collections and the holder (metal frame) for the detachable pieces. It consisted of an upper plate and the lower one, the lower one is a solid plate made of birch wood; the other is hollowed by holes in different sizes and composed of a birch veneer on the top and a metal sheet under it. These two plates are connected by the three-legged metal frame, which is colored in white.

Detachable pieces:

- Flat container: to contain the flat and fragile pieces.
- Small hills: to contain round pieces and water for the live collections, there are three different sizes of the small hills.
- Optical tools: different combinations of mirrors, color filters and optical lenses (magnifying and kaleidoscope lenses), for making optical effects.

Dimension and proportion

Suggestions for the usage of different sizes:

- Smaller stage: for single collector, a smaller space, e.g. home
- Bigger stage: for single or more collectors using together, e.g. classes, libraries

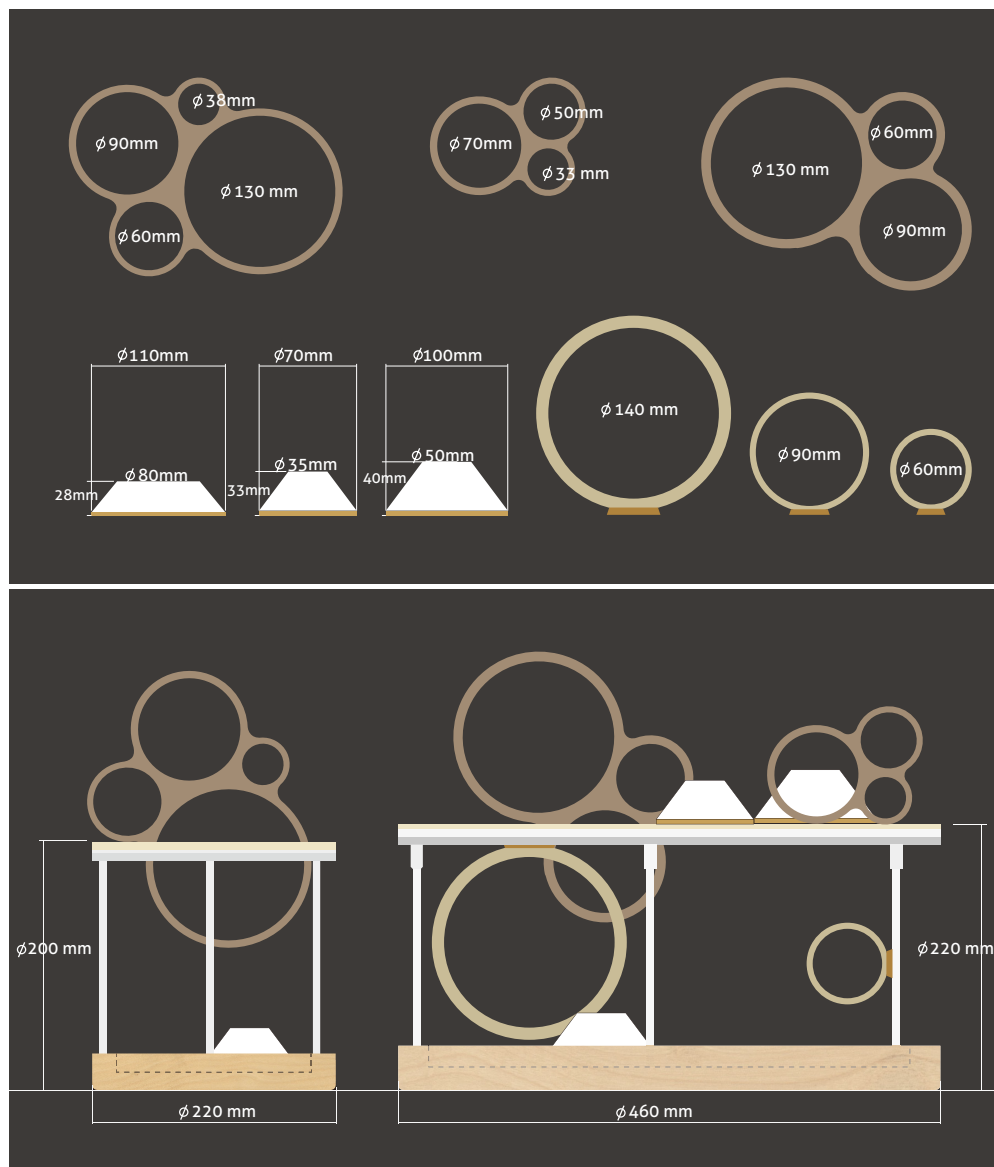


Figure 14 Dimension and proportion

Material and form

- Material: oak (the frame of the lenses), birch (the two plates), steel (the metal frame and the upper plate), ceramic and cork (the small hills).
- Shape/ form: round and smooth curve.
- Color: white and light colors from the natural materials.



Figure 15 The detachable pieces and the stage are designed in the same language in terms of form, shape and color, The design language here makes the object produce less interference on the user's collections, at the same time, it still has its own strong design expression

Product features



Figure 16 The set brings new sceneries to you every moment, no matter the small collections or the view outside, it transfers the view into brand new sceneries

The frames

The wooden frames are embedded with magnets, which forces the frames stick together. The flat pieces could be closed and stored tightly in the frames. The cork stand underneath also installed with magnets in order to connect the frames to the upper plate.

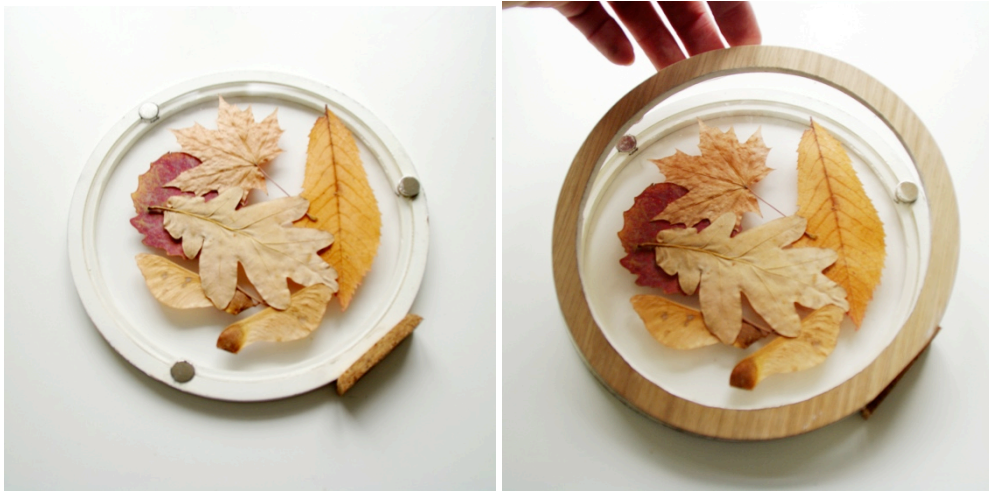


Figure 17 The easy-conduct function of storing the flat pieces in the frame

The compact package

The set could be easily detached into several parts and be packed into a compact package.



Figure 18 The compact package

Tryout with children

After finishing the prototype, I brought it to try out with children. (Age: 10 years old, Number: 9 students)

The tryout is separated into two parts, "adventure in nature" and "Indoors play".

Adventure in nature

In the beginning I asked them to share about their natural experiences, then I asked them to lead me to the natural environment they used to play with. I tried to stay in a distance from them and sometimes talk them about the environment and the names of the flowers, making them feel comfortable in the environment and in their mind; therefore they could play freely without adult's supervision. After about forty minutes we went back to the classroom with their treasures in hand.



Figure 19 Had an adventure in nature and then brought the treasures back

Indoors play



Figure 20 Children was focusing on the set, playing and arranging the scenery with the things they collected from nature



Figure 21 The finished look of the "EverChanging Scenery" by a group of nine 10-year-old children

Reflections

Reflection: Design issues

- How could I as a designer convey the message of this project clearly and strongly? Without interfering the importance of the natural material, which is also the main character of the project.

As the project result showed previously, one of the main focuses of the project is the natural material (collection), which has different and unexpected forms and colors. What I want to achieve is to display the collections better with my design, the design itself should be unique and special in a proper way that would not overwhelm the collections. Therefore, I put more focus on creating a perfect balance between the designed object and the possible collections, by focusing on the form, color and material of the product, which give more direct and dominant impression and feeling for the users.

Form:

To find the balance, I have to do the research of the existing and possible collections first, as shown in the natural resources (collections), it is obvious that the possible collections are mostly very organic and freely in terms of form, therefore, I tended to use more simple geometrical shapes, which will be blended better into the organic collections or bring less interferences. In the geometrical shapes I chose round, which is more suitable because it has no sharp corners or different angles, it is pure and simple.

I also minimize the straight lines in the product; the only three visible straight lines exist between two round surfaces, as the supporting stick.

Material:

Materials of a product convey not only the look and the tactility, but also creating the hint and instruction for the certain scenario and usage. In order to make the balance and give hints for users to store natural collections with my product, I choose the natural materials, which have the appearance and tactility that felt closer to the natural collections, providing the connections of natural things.

Color:

Color plays a dominant role when people see the object at the first sight; it generates an atmosphere around the product and gives it characters and emotions. For less interference, I choose light colors; I sprayed white on the metal frames, chose light-colored wood and sprayed the frames of the lenses white. Light colors not only provide clean and less interference but also generate calm and soft feelings as well as emotions, which is helpful for reducing the disturbance from the design. On the other hand, these light, soft and warm colors create the harmony among different parts in the design, gathering the parts together.

After all, these three aspects based on the same starting point merge into each other and support each other, making the design language clean and minimalistic, meanwhile achieving the goal that I set in the beginning.

- **The design philosophy: Co-create (or to be finished by the users)**

Looking back to my study and work years in design field, I as a designer have gradually developed some language and philosophy, which includes the languages of form, proportion and material and the approaches of how to convey the message to the user and so on.

In my design languages and philosophies, I especially interested in the user's participation/ co-creating; I like to invited the users to take part in my design, usually as letting them finish a part of design. This does not mean that the user is the designer, what I want to achieve is to make the product to be customized by the users themselves to some extent. The reason for this is that I want the product to be changeable to some degree, giving the users the chance to think, to apply their own character and emotions into the product, therefore, the product will be more connected to the users in a deep-going and emotional way, and then they might use it for a longer period because of the renewable and changeable function and also cherish it more.

The important and difficult part to achieve the goal is that the designer must find the balance between two things while developing the concept; one is to possess enough design value (designer's decision), if the

designer make the product too open-ended for the users to design, re-create or change, the product will be substitute by others easily, and then there will be no need of design; the other thing is that the design should be open enough in terms of being finished or co-created by the users, and the co-creating part should make sense, so that this kind of design could provide more possibilities and attractions to the users.

In this project, I keep the detachable parts, which includes the optical lenses and the small hills moveable and detachable, and there are some holes on the plate, which is the hint for where to put the detachable units and the collections, meanwhile, I use the magnet to connect the single magnifying devices to the plate, making them removable, all these features help users renew the look of the product once in a while with their new collections.

- **The design philosophy: Physical interaction, effect, configuration**

In this and other previous projects, I am really interested in searching for the interesting physical interactions, which is simple, easy to conduct and close to people.

When the technology is applied to a product design, as a designer we should be careful of which kind of interaction we used to have will be replaced, and thinking about the importance in the relations between the physical interaction and the users.

I like the conveniences and sometimes the time-saving function that new technologies bring to our life, however, if the design make the user over-rely on the technologies for everything we used to do physically, then the users might miss the various important experiences, some of which has been proven as essential experiences for children's emotional, cognitive and physical developing.

Therefore, I keep my mind open to the new technologies that could benefit to the design issues, at the same time promoting the physical interactions that is interesting or worthy of being experienced more.

Reflection: Relevance

- **How could my design be interested/meaningful for others? What are the design strengths it has?**

Human being is an emotional animal; the relationship between the object and us is different from other creatures in the world, we load diverse emotions to the objects that we possess, and the emotions and feelings differ from personal experiences and the contexts at the moment, these emotions and feelings help us build up various dependence toward our own objects, and furthermore strengthen the connection between us and the objects.

Picking up and collecting things is a common behavior for people in every age group, we do this for many reasons, for example, picking up leaves in the forest because of the beautiful color, collecting stones along the lake side for the unique shape, and picking up pinecones out of curiosity, nevertheless, when you look back to the things you collected, usually not only the reason why you collect it shows up, but also the related memories and emotions will appear. For instance, you would think of picking up the leaves and stones for memorizing the place you are visiting, and also you might memorize who was there with you and your conversations at that moment and so on.

Indeed, all these small pieces we collect build up our life, no matter which cultural background you have, it is the same, just like the non-text version diary of ours, when you look back upon the "diary", it helps you have conversation with yourself and know yourself better.

In this project, I try to highlight the importance of these small things, convey this concept with my product. My product provides the thoughtful storage functions for different kind of collections and a stage for displaying and playing with the collections, all these features enhance the experience of collecting things, and also enlarge the emotional connections between the users and their objects, furthermore encouraging the users to collect more and learn to know themselves better.

Exploring and observing are two of the best ways for learning, we explore and observe things naturally, and both abilities are derived from our own, you do not have to learn how to start you use it just instinctively. Nevertheless, you might need external helps to improve and upgrade your exploration and observation. The helps could be any

format, for a child, it could be the learning from parents, teachers and also his/her friends, or the practicing from the experiences of his/ her own, and also, it could be from the assistance of some objects/devices, such as magnifying lens, microscope and telescope.

In the project process, I worked hard on finding and combining these helps together into my concept, as a result, in my product, which is a set of optical lenses, mirrors and colored filter lenses, children can learn to use these tools looking deeper into details of things and exploring the possibilities among the tools, and so do adults.

As I have explained in the pervious reflection (Reflection: design issues), the concept of my product is based on promoting the physical interaction within the objects and encouraging the communication between people.

Why is this important and relevant to our society, our world? Nowadays on the Internet and other media, we can find easily lots of discussions that talking about new technologies bringing both good and bad impacts on our life, some provide conveniences and benefits for us, making our life easier and faster, some reduce the physical interactions, movements and communications.

From what I have seen, in today's society we pay a lot attention focusing on new technologies and sometimes forgetting to look deeper into what we already have. Some of the basic physical interactions have slowly decreased in our daily life, for children, who are new to this world, they did not participate the of the process of the technology development, but they are forced to be exposed in a fast-changing world, which is in the process of achieving the balance between nature and human technology. As Donald Norman said in the preface of *The Design of Everyday Things*: Human biology and psychology do not change much with time: society and culture change very slowly. (Norman, D., 2002, p. xiv), I firmly believe that it is children's important right to slow down and exploring and interacting with things both in new technology way and naturally way, by this I mean the physical interactions and natural experiences.

- **What does my product provide in different aspects?**

In addition to the strength of my product that I have mentioned previously, there are some important relevance toward various aspects, I will describe this in the following:

Aesthetical

To develop the aesthetic sense in children, I decided to design creative activities, adding more flexibility in terms of arranging and changing the units within my design, and also I provided a stage in which children have a exclusive space for arranging and displaying in a 3 dimensional way. Aesthetic activity happens in every age group, and it reflects your sense of value and philosophy toward life. It could be a language for you to communicate with others in the world.

Pedagogical

Engaging with nature is essential requirement for children's cognitive, emotional and physical development. With my product, children can use the devices I provide to observe the things they picked up easily and creatively, at homes and schools, teachers and parents could teach them the knowledge about the collections and the effects of lens and mirror, on the other hand, children can always surprise adults with their free imagination, this is also a kind of education for adults.

Social communication

When users sharing their own collections with my product, the communication happens. Because there is no difference within age groups when it comes to your personal expression (the collections), the product helps people in different ages communicate with the others, society and the world.

- **What kind of target group in the society would need and interested in my product? (users, buyers)**

In terms of target users, In the beginning I got inspired by the research within child culture, I would like to cater their need in this selected topic, however I found during the process that I should not set limitation to this, as I explained in the previous paragraph, people from all age group could be the possible target users.

About the target buyer, it is usually connected to adults, regardless of the situation that adult buyers buy for themselves or other adults, adults' consumption for children is the main issue in my product. To this issue, I

have two contributions; one is the design language, which supports the product speaking to both adults and children respectively by its form and the interesting optical effects.

- **Relevance to myself**

During the project process, I could not help looking back to my own experience of playing in nature and collecting things, I talked to my parents, who are both art teachers, for experiences and knowledge of children-nature relation, by looking through the drawings and creations. Meanwhile, they told me something that they remembered better than I did, which is that I was always interested in not only collecting things but also ordered them in the container or made them into art works, they still keep some works of my childhood at home.

Even when I am a grown up now, I still like to grab something from my travelling to memorize the feeling by small details, this is a poetic way of how I keeping my journey log.

Reflection: Sustainability aspects

- **Social sustainability**

Language, gesture and facial expression are the most efficient and common ways to communication among children as well as adults, after learning how to write, text is also a strong tool to communicate.

However, children already possess various different ways to exchange messages and sharing the ideas before going to school, for instance the drawings and body language, in this project, my product gives children a kind of base to create with, they will have their own expression and message in the product, then use the finished product to share their expressions with other.

Because of the changeable and co-creating function, it could be used over and over again, loaded with various experiences; it could be the sharing about the seasons changing of one place to another between friends, the diary of one picnic day with families, the memory of a special day with someone you love. Other people can tell the personalities, preferences and even some life experiences of the collector by looking at their collections, sometimes others might have questions to ask or related experiences to share, thus, the conversation extends and continues as the collector changes the collections. Eventually it becomes a sustainable activity.

Time sustainable:

In the beginning of the project I mentioned in the design synopsis that I would like to make the product enduring and sustainable, by this I mean not only that the product will last longer due to the enduring materials it has, but also, because of the changeable and the co-creating function, the product will be used repeatedly. Moreover, the activity of collecting things is the same as keeping a diary and writing a personal reflection, it is from everyone's own point of view, it should not be judged and assessed, that is to say, the product can be used by different age groups, showing different reflection from different period of the user's lifetime without any difficulty.

The product is designed to be used by the user from younger to older ages, as the user growing up the product gives the same function for him/her; it is a product that includes all age groups, which make the

sustainability not merely base on a longer product lifetime, but also the on the availability to more age groups.

- **Ecological and economic sustainability**

In the context of environmental sustainability of product design, material choosing is one of the huge issue, in this project I chose birch as the material for the lower plate and oak for the frame of the lenses, the natural wooden materials are more friendly in terms of the producing and decomposing process, additionally, oak's higher density, hardness and weight make the frame stronger in order to protect the lenses and mirrors, which need more protection due to the plastic material they were made of.

In the bottom of the small hills (ceramic), I use the cork, which is light, and environmental friendly, to avoid the upper plate (birch wood) being scratched by the ceramic. Besides, the metal frame is plugged in the lower wooden plate, which is likely to be worn out easily after using over and over again, therefore the designed detail for this is needed, I put a metal holder in the wooden between the metal legs and wooden material, the holders not only have the protective function but also interpreted as a round-shaped detail in my design language.

On the other hand, I also considered the package design for the selling and the transportation part for the future development, I made the set (product) detachable, so it can be taken down and packed into a minimum size around only one forth from the set-up size, this will immensely reduce the cost and pollution from the transportation, as well as making the consumer willing to buy it and carried it easier with a smaller package.

To sum up, all these design decisions I mentioned above make the product ecological-friendly; what is more, to the economic sustainability context, these decisions also give the product higher qualities, making the product lifecycle longer. Consumers will more likely to choose a product with finer quality and an affordable price than something cheap but they probably have to replace it with a new one frequently, this kind of consumption behavior helps the economy system growing into a healthy module.

Reflection: Methods, Process and learning results

- **Design Method**

Most of the time in my design process of the project, I make a decision of what kind of the end result might be before the advanced concept development, it could be something in the already existing product category, for example: a furniture like a table, chair or a toy or tableware, depends on the context and the research I have done in the beginning stages.

In this project, instead of defining the end result within the existing category during the concept developing stage, I focused more on the problems I want to solve and the experience I would like to improve without put any other constraints to myself. In this project, it refers to the behavior of the collecting things and the problems toward storing them after bringing them home. This helps me keep the function simple and focus more on the project issue.

Even if my product could not be precisely classified into the existing product category or recognized immediately by the first sight, but when the user start trying to understand and use it, the featured functions and the usage will talk to them directly and clearly, reminding them of some products they used to use in their daily life, such as the magnifying lens, mirror, vase and the painting frame in this project.

- **Schedule planning and controlling– important points**

To start this project, I made a preliminary time plan with some important headlines (milestones), I decided to have a certain time on the researching stage, I set a plan (see attachment) for my research, it includes the background reading, research reading, observations with children and the analysis of the children paintings and so on. Sometimes when I read research the material from various fields, e.g., sociology, psychology and scientific field, I will keep digging deeper even if the content has been too far away from the core question, the research plan gives me a boundary to stop and a certain point to summarize the information.

I gave myself more weeks on the prototyping stage, because there is usually more unexpected things happening, for example the magnifying lenses I booked from the factory were not made in plastic as they said on the website, and the CNC machine at school were broken. But in the end, thanks to the technician's teaching and my previous experiences with different craft skills and knowledge with other machines, I made some compromises and more efforts to finished the prototype in time. During the making process, have learned to use different machines and skills, such as tig welding, and metal lathing, which will be useful and beneficial to my future projects.

- **Unexpected points from the meeting with children**

In the end of the project, I brought my finished prototype to try out with children; I was surprised with the reaction and the result, the first thing that triggered my interest is the questions they had while they exploring in the forest; they were naturally attracted by the natural things, but they also picked up artificial thing in the forest, it might be a trash or something that someone left there, but for them, it is also a treasure and something interesting. They asked me what it is and could they bring it back, in my opinion, this is the communication and negotiation between children and adults, we adults teach them what is it and tell them if it is dangerous, poisonous or not. I as a child culture designer am really fascinated by this kind of interaction the activity brings and the communications and negotiations are what I want to promote.

The other thing that surprised me is the way they use the lenses. As I thought originally in my design proposal, they can use the optical lenses on the stage, changing the formation and distance among each devices, but during the tryout, they use the lenses freely as a hand tool to explore others' findings, they share their own reflections with each other, the activity had been broaden from the stage to other area in the room, but eventually, they went back to the stage I provide, which has more possibilities to play with, that means they subconsciously think the detachable pieces could be on the stage and the main body, that is to say, the design possesses enough play signals and hints in terms of how to use.

References

Bee, H., Boyd, D. (2012). *The developing child*. London : Pearson

Freeman, C., and Tranter, P. (2011). *Children and their urban environment : changing worlds*. London : Earthscan

Fukasawa, N., and Morrison, J. (2007). *Super Normal*. Lars Muller Publishers

James, A., Jenks, C. and Prout, A. (1998). *Theorizing Childhood*. New York : Polity Press : Teachers College Press

Kellert, S. (1997) *Building for life: Designing and Understanding the Human-Nature connection*, Washington DC : Island press

Norman, D. (2002). *The Design of Everyday Things*. New York : Doubleday

Norman, D. (2004). *Emotional design : why we love (or hate) everyday things*. New York : Basic Books

Websites:

Lougheed, T. (2008.10). Wild Child: Guiding the Young Back to Nature. *The National Center for Biotechnology Information*. Received 03.02.2013 from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2569123/#!po=5.55556>

Thornton, L. and Brunton, P. (2010 Jun 21). Using natural materials to enhance children's learning. *Optimus Education*. Received 02.03.2013 from <http://www.optimus-education.com/using-natural-materials-enhance-children%E2%80%99s-learning>

Attachments

EXPERIENCING NATURE

-Through designed product, for children-

Project Synopsis

University of Gothenburg,
HDK-School of Design and Crafts
CCD Lin Yu-Nung

Backgrounds:

Nowadays, more and more children live in an urban environment, which provides less access to nature, both direct and indirect access, and a lot of researches have proven that engaging with nature is an essential requirement for children's cognitive, emotional and physical development. As a Child Culture Designer, I have my interest in the discourse of “ Naturally Developing Child”(James, Allison/ Jenks, Chris/ Prout, Alan 1998) , which also supports my idea of highlighting the natural way of learning and the natural material and element in the objects for children’s everyday life.

I have learned and trained as a craft designer, in my previous experiences, I used a wide range of materials for my work, especially the natural materials, such as wood, bamboo, ceramic, leather, cork and even the raw as stone and twig. I like that people can feel the spirits and details of the craftsmanship by using, touching even looking at the artifact. The combination among different materials also interested me a lot. All of these gathered to be my strength and this is also what I want to continue with.

James, Allison/ Jenks, Chris/ Prout, Alan (eds)(1998): “The Presociological Child” In: Theorizing Childhood, chapter 1, pp 3-21

Questions and domains:

- * Why is natural access in the growing environment so important for children learning and play?

Here I refer the natural access to the general realm of various wildlife, geology and the phenomenon among them.

- * How could I as a designer enrich and extend the natural experience and feeling through indoor objects, for children?

Child Culture Design

Time Sustainable design

I would like the end result to be used or experienced not as a child (during childhood), but could be also as an adult.

Research Plan:

In this project, I am going to find out how important nature* is in both outdoor and indoor environment for children's development (childhood), and how could I as a designer enrich their experience of learning and playing with nature.

*Here I refer nature natural resources to the general realm of various wildlife, geology and the phenomenon among them.

1. Read children's development theories in general (might include articles about "children development and technology")
2. Read more articles related to the notion of "Naturally Developing Child"
3. Research with children about how they play both in nature and indoor with nature (designed activities and meetings)
4. Conclusion_ Importance of nature for children's development, Relevance to design field, Relevance to society, How children play with and learn form nature
5. Research about the subject-related products for children

Reading list- Children development and Nature:

- *Theorizing Childhood / Allison James, Chris Jenks, Alan Prout/ Teachers College Press, 1998*
- *The developing child/ Denise Boyd, Helen Bee / PEARSON, 2012 (13th edition)*
- *Children and their Urban Environment/ Claire Freeman & Paul Tranter/ Ear Thscan, 2011*
- *Chawla, Louise: Childhood experiences associated with care for the natural world: A theoretical framework for empirical results. Children, Youth and Environments 17(4), 2007, pp 144-170*
- *Limb: Growing up in the countryside: children and the rural idyll, Journal of Rural Studies, 16/00 vol 16, 2000,pp 141-153*
- *Sebba, Rachel: The landscapes of childhood. The reflection of childhood's environment in adult memories and children's attitudes. Environment and Behavior 4/91, vol 23, 1991, pp 395-422.*

Reading list- Product Design and Design for Children:

- *Design Revolution, 100 products that empower people/Diana Murphy/ Metropolis book*
- *Product design in the sustainable era/ Dalcacio Reis, Ed. Julius Wiedemann /TASCHEN*
- *Design for Kids/ Phyllis Richardson/ Thames & Hudson*

- *Super Normal/ Naoto Fukasawa, Jasper Morrison/ Lars Muller Publishers*
- *The Psychology of Everyday Things/ Donald Norman/ BasicBooks*

Personal Expectation:

I want to learn more about how research with children in a proper way, getting the right information and giving them the feedback of my ideas and result. During the process, I should be able to manage the whole design project, from project planning, research to presentation.

Purpose and Goal:

The purpose of this project is to bring and extend the natural experiences and feelings in homes, through the domestic objects, which children can play and interact with or record, store and share their experiences and explorations from nature, with others, extending the feeling and experience of the contact with nature and also expanding the value of nature. By having an environment that provides more access to natural resources children are not only able to enjoys the natural play but also stimulated to develop their curiosity, perception, cognition and social skills.

Master Degree Project, spring 2013
Time Plan, Lin Yu-Nung

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Additional images



Figure 22 Sunlight is also a kind of collection that could be put on the set



Figure 23 Natural light effects



Figure 24 The stage provide space for imaginary play



Figure 25 Scenery from indoors, the set change the way you see things



Figure 26 Prototype making



Figure 27 The trash observation plate

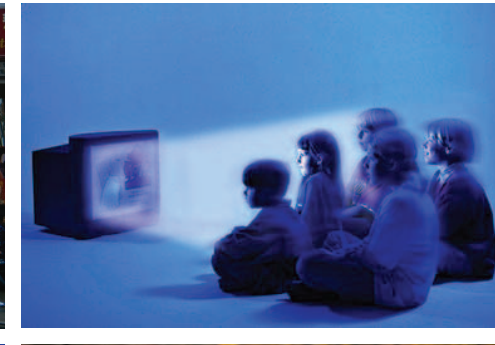
A photograph of a window with a view of a brick building. The window is divided into several panes. In the foreground, on the windowsill, there is a decorative object consisting of a wooden stand with circular cutouts, a small colorful object, and a branch. The text "EverChanging Scenery" is overlaid on the right side of the image.

EverChanging Scenery

Lin Yu-Nung

Backgrounds

Nowadays, more and more children live in an urban environment, which provides less access to nature, both direct and indirect access, and a lot of researches have proven that engaging with nature is an essential requirement for children's cognitive, emotional and physical development.



Purpose and Goal

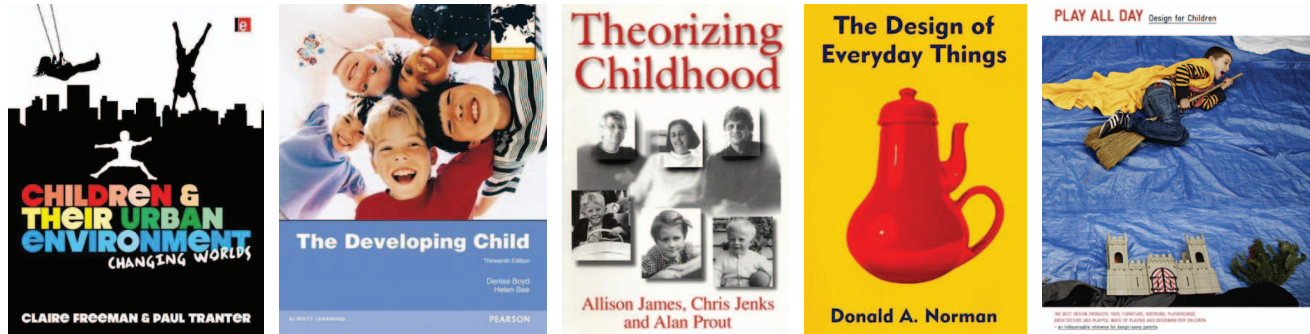
To bring and extend natural experiences and feelings indoors, also encourage children observing and exploring things differently and creatively, through a playful way.

Research

Reading
Observation
experience

Research

Why is natural access in the growing environment so important for children's learning and play?



If children grow up disconnected from nature, how can they value it? (and act as good stewards for the environment)

P.61, Children and their urban environment

"Technology Changes Rapidly; People Change Slowly"

Donald Norman

Research

Why is natural access in the growing environment so important for children's learning and play?

Children's play become more and more supervised- if not controlled- by adult.
By contrast, *in natural environments, the child experiences:*

- *changes in weather(air temperature, wind, precipitation);*
- *changes relating to the presence and absence of water (the presence of water bodies and the different vegetation types associated with high and low rainfall climate);*
- *seasonal changes*
- *structural changes (height, gradient, depth)*
- *change in types of material (soft or hard ground, flexible or rigid plants, tough or fragile, long lasting or temporary);*
- *changes in distribution and layout*

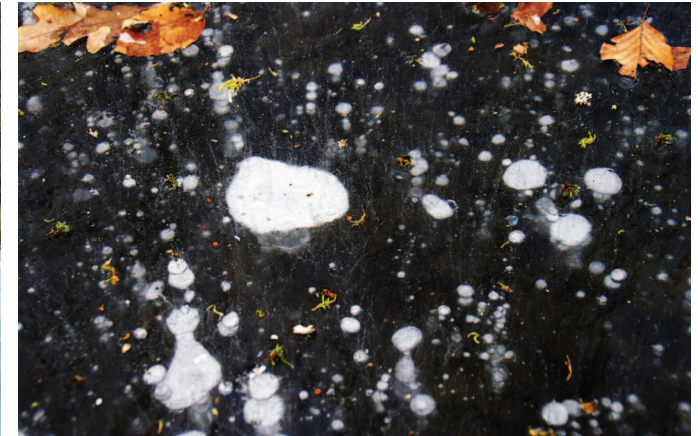
P163, Children and their urban environment

Conclusion:

According to the researches and articles, natural environment and resources provide crucial experiences to children for their cognitive, emotional and physical development, they learn these by exploring observing.

Research

How children inspire by nature?
Observation results from "i Ur och Skur" and Slöttsskogen



playing, exploring, collecting, observing and learning

Research

How children inspired by nature?

Observation results from "i Ur och Skur" and Slöttsskogen



Conclusion:

Most of the children enjoy their time in the nature, they collect, learn, play and observe, in the end of the day, some of them want to bring the "toys" home, but usually the being told "NO" from their parents, because of the mess and dirt they might bring home.

Research

After the experiences in nature, How they(adults and children)take care and extend the experiences indoors, at homes?



spirit of exploring / collections(leaf, stone, stick...) / photos...
in the book/ prue decoration / craft material / Messy!?

Conclusion:

The natural collections will never feel the same without its own environment, if people who want to bring something home from the nature didn't think about this, the collection might be messy and garbage like.

Therefore....

Design Definition

An object for children's collections from adventures in nature, bringing the natural experiences back homes. With the set, children could not only store their collections, but also look deeper and creatively into them, creating plays and sceneries out of their treasures.

Main focuses:



*Storage
/Stage*



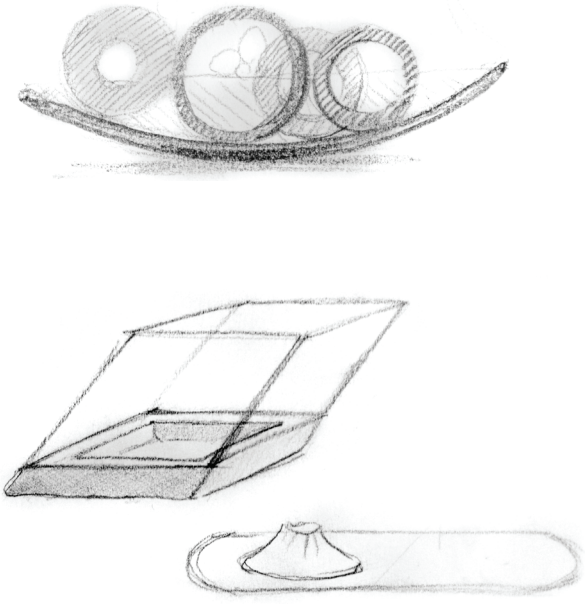
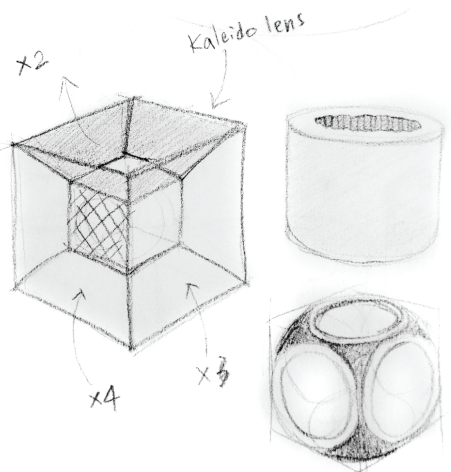
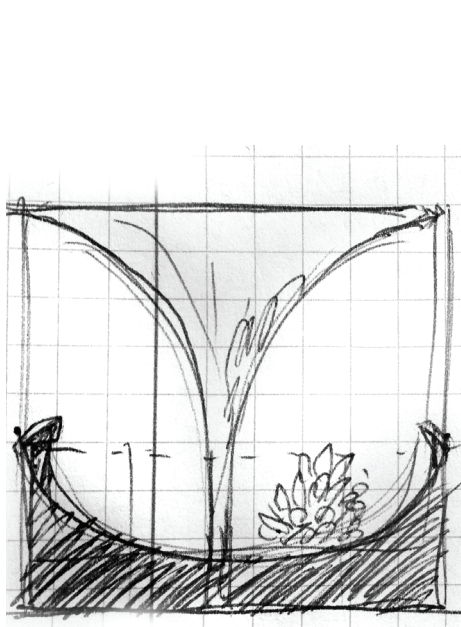
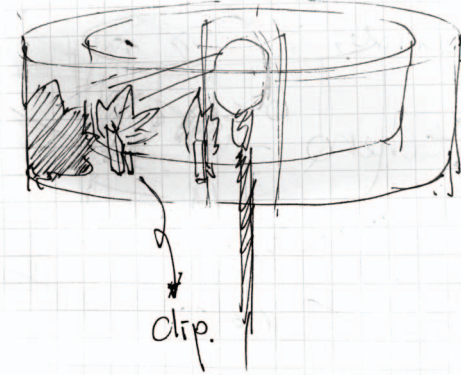
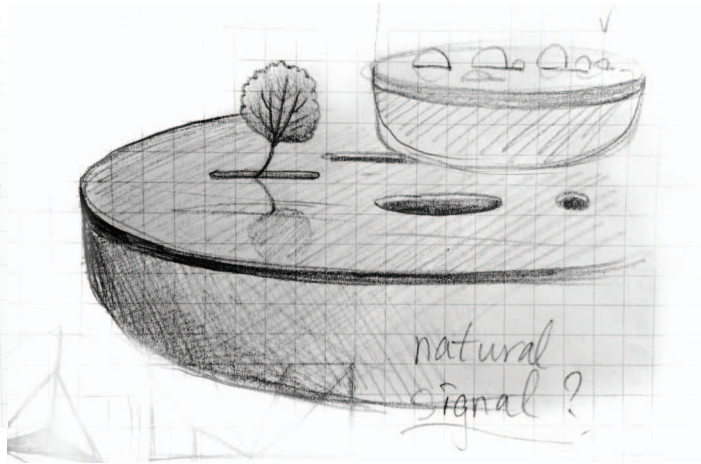
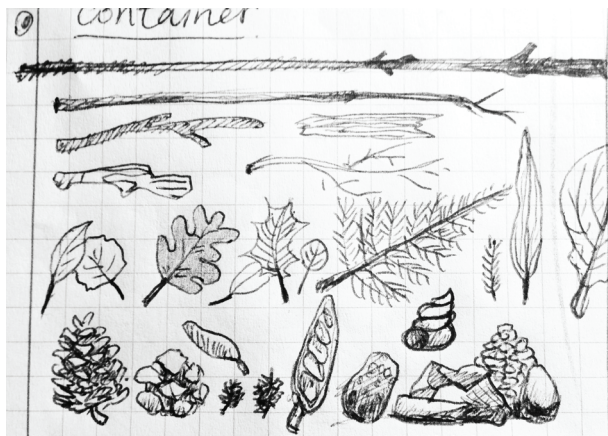
Play



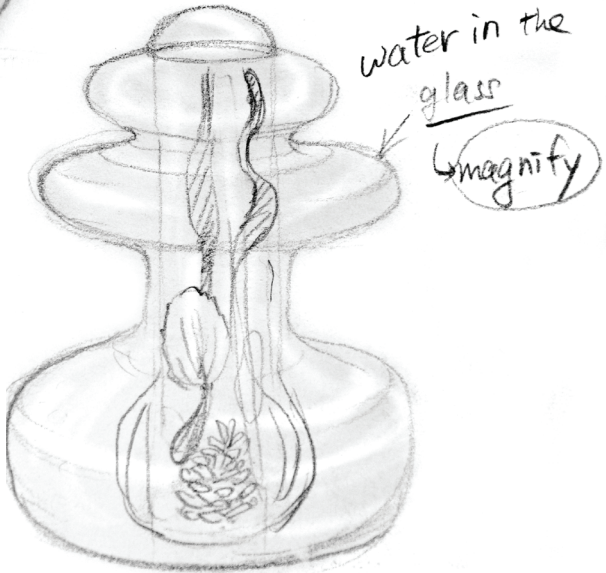
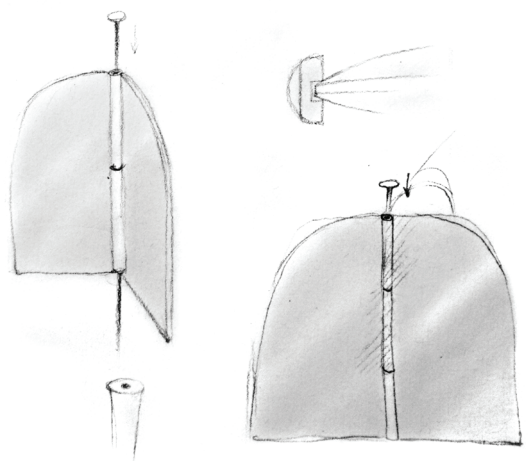
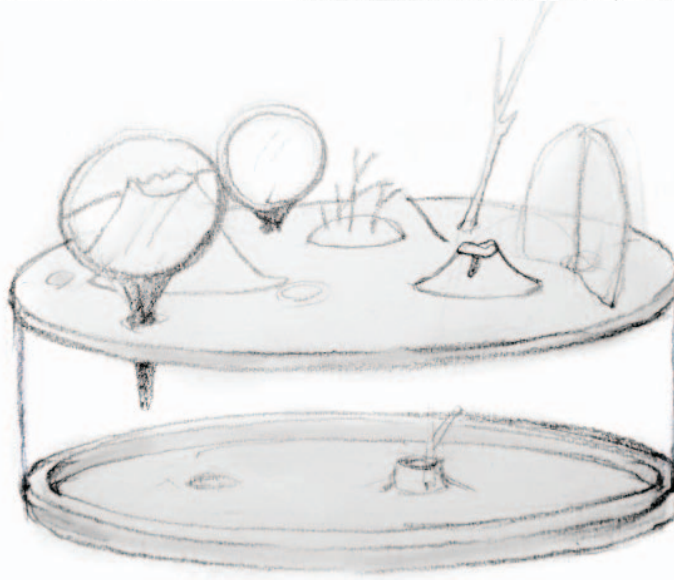
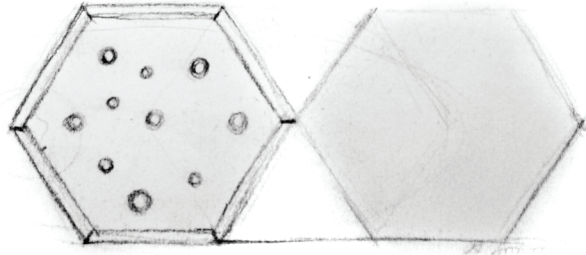
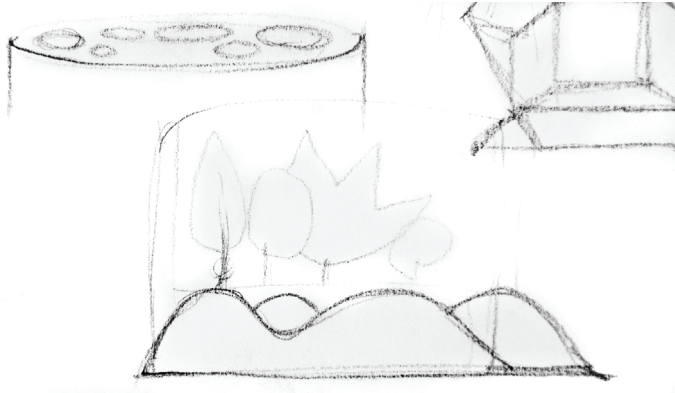
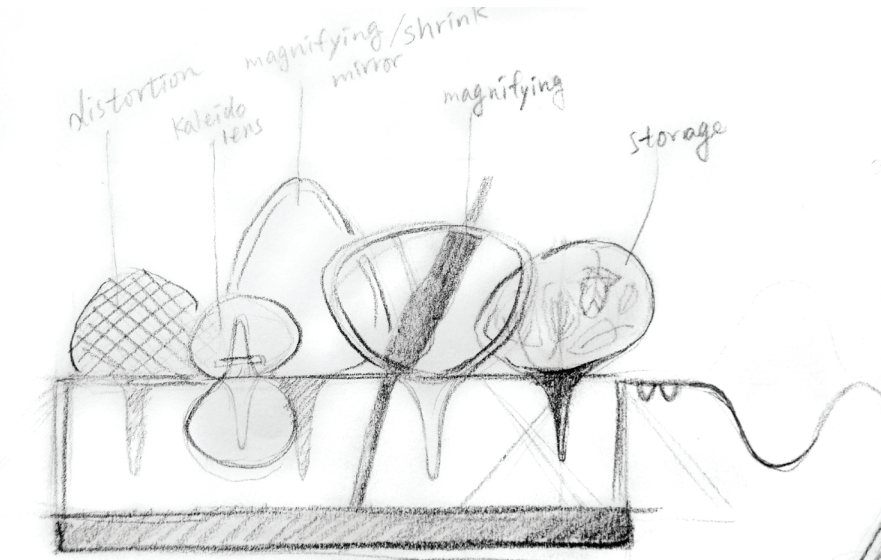
*Observation
/Exploring*

Concept Development

Concept Development Sketches

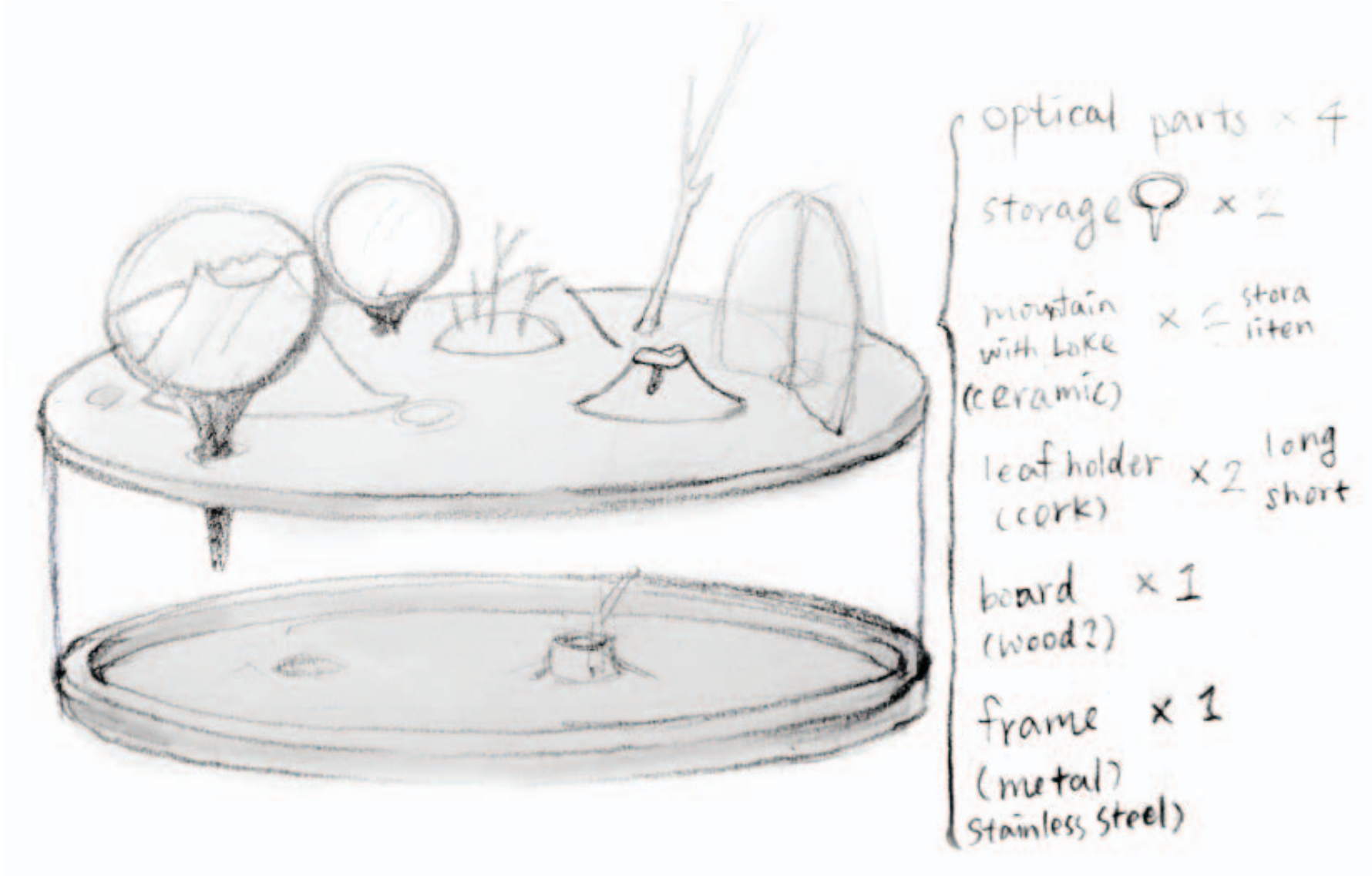


Concept Development Sketches



Concept Development

Final concept

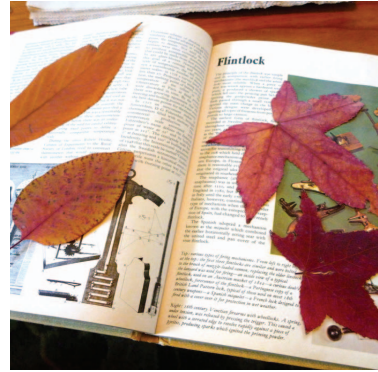


Design Decisions

function: Storage



Flat pieces(leaves)



Long pieces(sticks)



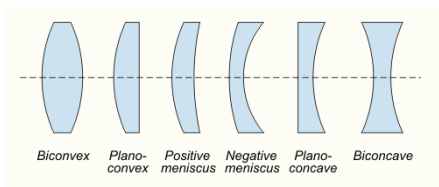
Round pieces(stones, pinecones)



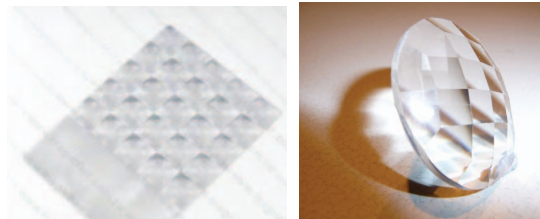
Linving plants

Design Decisions

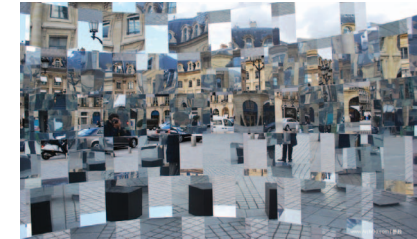
function: Optical Effect



Scale changing

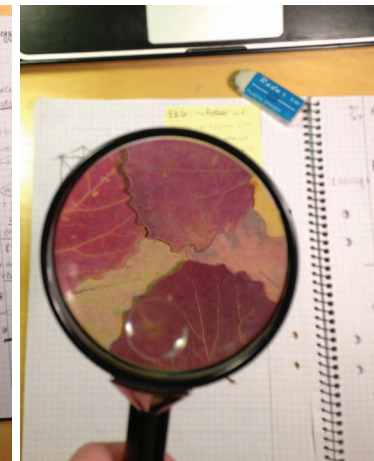
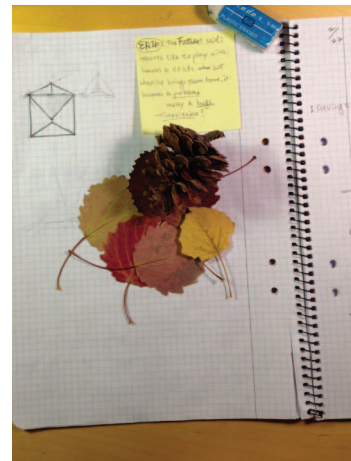


Repeat and Duplicate



Illusion

Effect tesing



Design Decisions

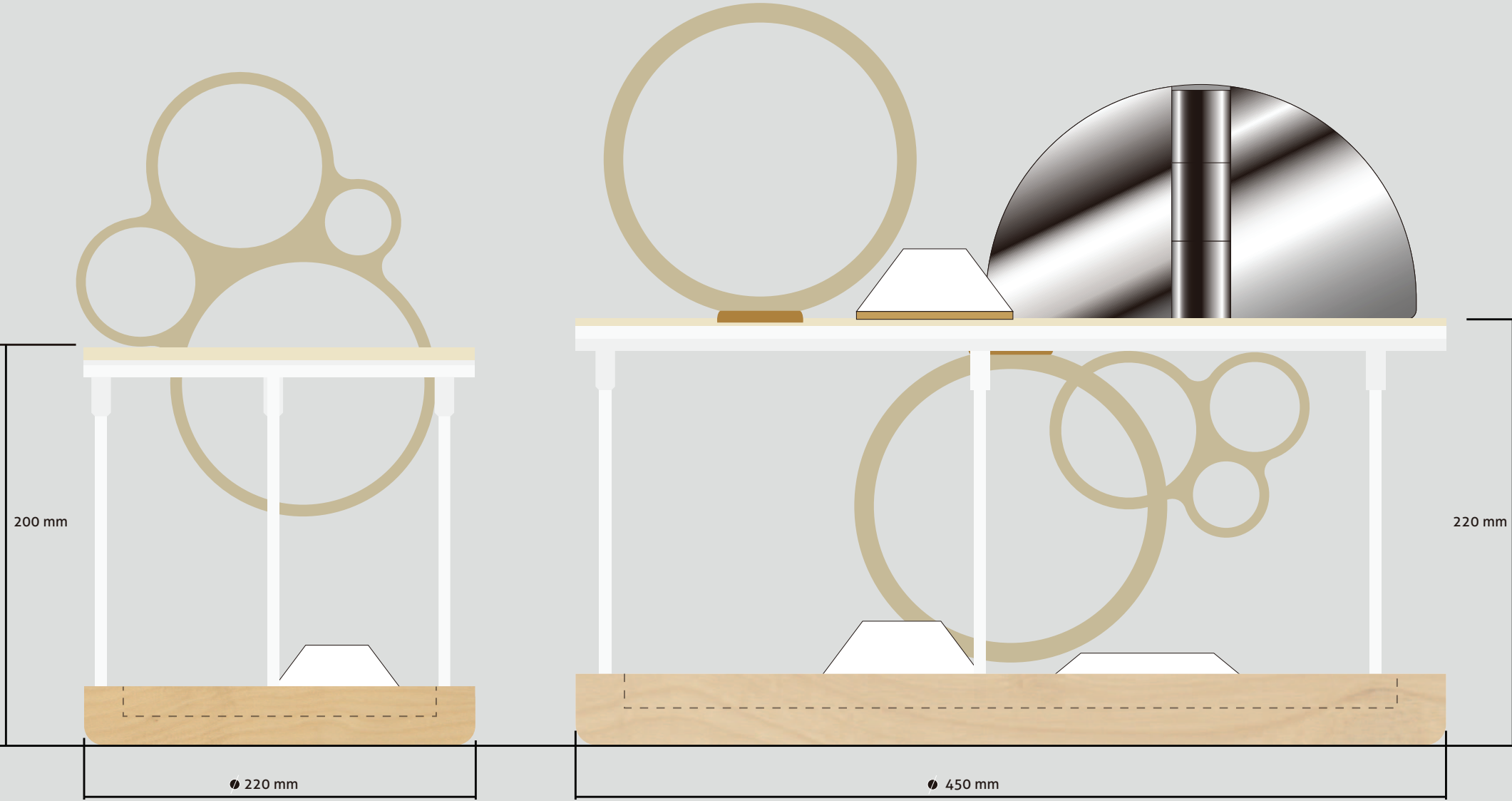
design language

Simple shape
Natural materials
Basic colors



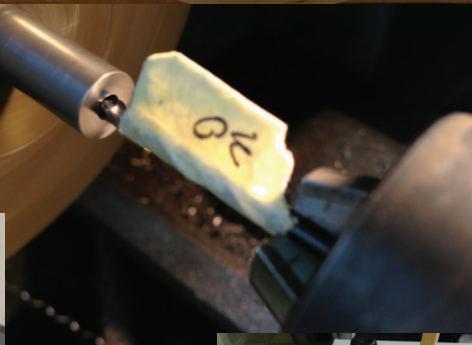
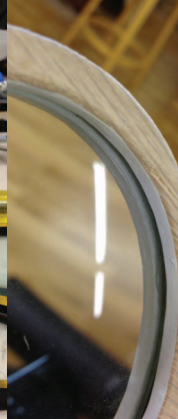
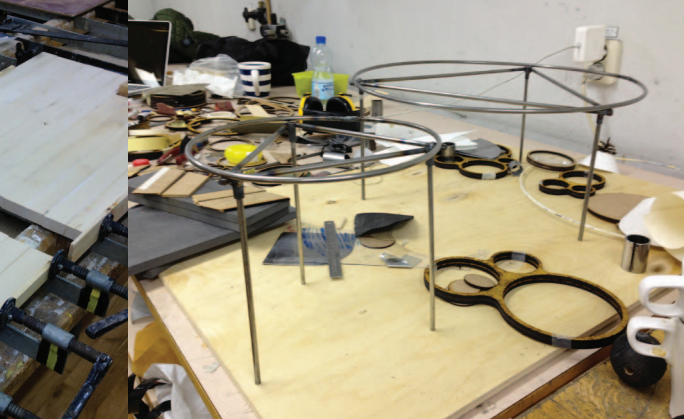
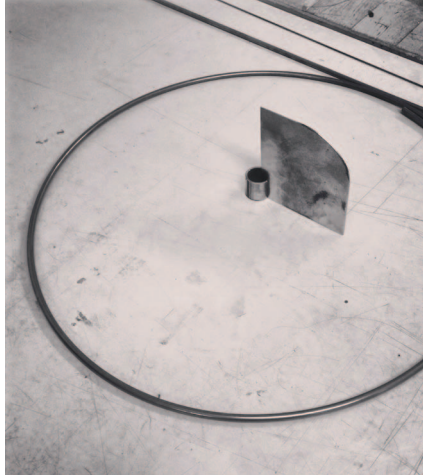
Design Decisions

dimensions and proportion



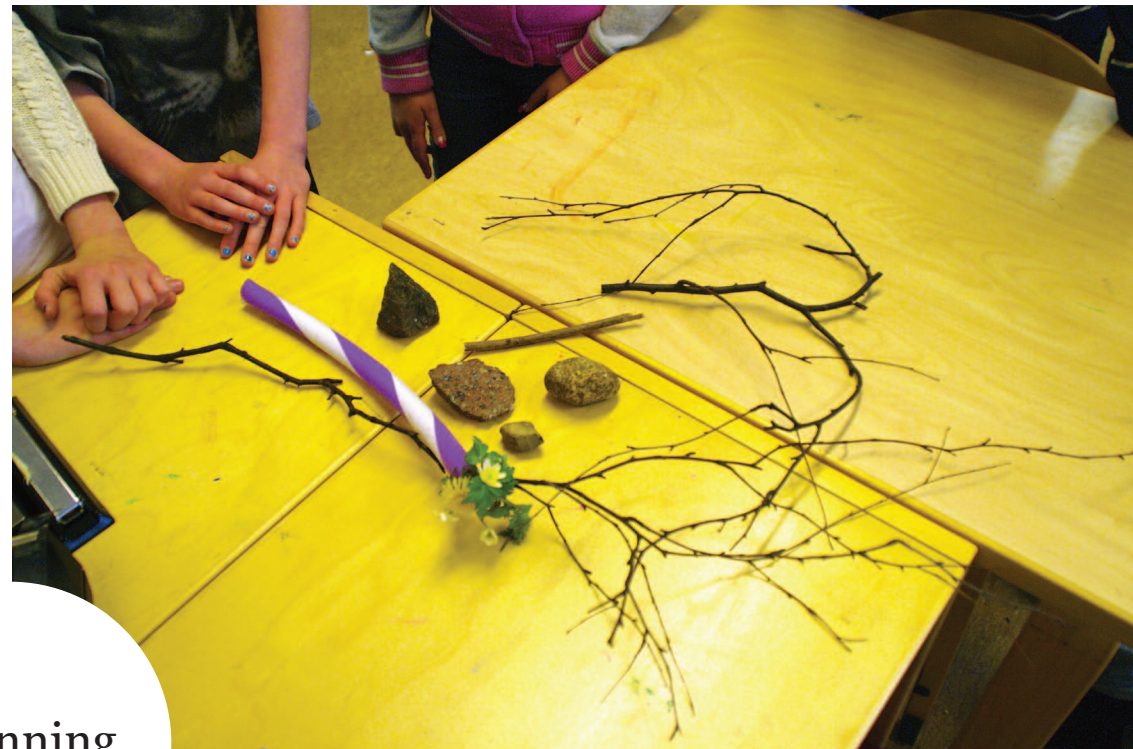
Prototype Making

The important stages



Tryout with Children

Nine 10-year-old students



beginning





Focusing






Finishing



EverChanging Scenery

The features



A collection of natural and man-made objects is arranged on a white background. On the left, there is a large, light-colored wooden lid with several circular holes. In the center and right, there are various natural elements: a pinecone, a sprig of small white flowers, and several thin, dark brown twigs. In the foreground, there are several colorful wooden frames or cutouts in various shapes, including circles and irregular forms, some with bright colors like yellow, red, and blue. The overall composition is clean and minimalist, emphasizing natural textures and colors.

“With the flowerpots, surrounded by vineyards and olive groves, cheered by the clucking of hens, the song of the birds and the buzzing of the insects, and with the mountains of Prades in the distance, I captured the purest and most pleasant images of nature that is ever our Mistress”

Antoni Gaudí



Compact packaging



















