Thank you…

Edouard and Erik for all your support!

Björn Gross for your contribution of excellent concept skills. Lena Hopsch for your help with abstract writing. Marie Strid for the consultation of text content. Jonas Lundberg for your professional advice in presenting our project. Professor Sten Gromark because you believed in us. Peter Lindblom and Tabita Nilsson for letting us spread out our models in the carpentry.

And at last, thank you, member of the Master’s Thesis group. Ola, Arvid, Therese, Therese, Elina, Marcus, Yu and Emelie for letting us use your names in our storytelling.
The aim in this Master’s Thesis is to propose a kindergarten designed to allow children to explore the possibility to play by investigate architecture qualities both in a vertical and horizontal direction.

The building is situated in Hestra, Borås. It is a forest site under development as an area for a kindergarten. With trees embracing the site there is a great potential to preserve untouched nature for children’s everyday life.

With the method to work in all scales, from the site into the interior, we explore architecture for children with help of models and sketches. The project starts with references, interviews, model workshops and interdisciplinary literature.

Our proposal is a kindergarten with an abstract interior that challenges children’s creative play. It has an interior flexible for future pedagogies and interpretations. It is a kindergarten with three common squares for vertical communications, five home bases for flexible use a and a greenhouse for bringing in the nature.

We believe that as a child you learn by playing. As a child you invent new games and movements. And you are your bodily movements. We therefore think it’s important not to make any boundaries how to play or how to move. With open rooms both in vertical and horizontal directions we believe that future pedagogies can have a never ending inspiration of games. The children can move spontaneously without having the feeling to be locked in - feeling free as a bird.

Abstract
A kindergarten in all spatial directions
How would life be as a free bird in the forest? As children, driven by our curiosity there was a desire to look out, hide in, be on the top of, finding out what there is more to see, pretending to fly with jumps and climbing. In the forest you could hide behind the stones, build your own house with branches, make games under the trees. The play was in all spatial directions.

/Anna and Saga
The trends of Swedish kindergartens

During the last years there has been a lack of kindergartens in Sweden. One way of solving this problem has been for the municipalities to find solutions which often becomes environments that from the beginning were not designed for children or the pedagogies. We ask ourselves if these solutions may affect the children in bodily movements and in their play.

Building a kindergarten requires strict regulations concerning security. Designing a kindergarten that consider the rules of security and accessibility for everyone and at the same time allows the architecture to respond to the needs of a child and its development is the big issue.

If I was a bird...

As a contrast to today’s kindergarten environments, our aim is to design an exploratory kindergarten, when it comes to bodily movements in all spatial directions. A building that should enhance the development of a child, but also a building that could be an inspiration for future developers of kindergartens.
Hestra, north west of Borås

3.4 km from Central station in Borås City center.
46 minutes by walk and 6 minutes by car.
A part of the city, but still in a hilly forest.
Borås municipality’s intention of Hestra Parkstad was to create good architecture that could adapt to the area’s topography. Architects from the Nordic countries were invited. Vandkusten from Denmark, Niels Torp from Norway, Helin and Siitonen from Finland and FFNS from Sweden. The area Hestra Parkstad was fully initiated 1994. The Danish proposal by Vandkusten has been awarded with some prestige prizes, for example the Swedish Kaspar Salin prize.
Detail plan P 1143

The detail plan P1143 is a part of the development in the neighborhood Hestra 7, the northwest part of Borås. It suggests a new local road for a preschool and 9 small villas. The detail plan advocates for supporting the existing nature and its topography.

The proposal of the municipality

The municipality is planning for a preeschool in souterrain. The volume is spread out over the plot and every department has its own entrance which demands a lot of arrangements of the ground. The parkinglot is placed on the hill.
If I was a bird...
A kindergarten proposal

The proposal If I was a bird..., 1255 square meters, has 5 departments, which totally include 100 children and 15 pedagogues. 270 square meters of the ground floor are touching the ground, the rest of the building is standing on pillars.

Relation to the site

The site is very hilly and surrounded with pinetrees. The proposal If I was a bird... is relating to the site by doing a small footprint and letting the pinetree forest be a part of the building. A path, called Genvägen, for pedestrians and bicycles is crossing the site in direction south to north. The car parking for the kindergarten is placed on the local street. The demand from the municipality of Borås was not to bring the car traffic in the villa neighbourhood in the north.
Investigating architecture

Trying to understand the subject we have looked into interdisciplinary literature as studies of architecture, child psychology, philosophy and different pedagogies. We have also got a lot of inspiration from existing architecture projects, study visits and an interview.

The most important part of our process is the explorative way to investigate architecture and space with physical models in a Research by Design mode. At an early stage we made physical site models in scale 1:200 and 1:500 to understand and “feel” the site and its surroundings.

We started our process by investigating the site, the programme and the possible shape of our building with the help of several simple physical study models. The models have been important tools for developing the concept of the final proposal. They have been of great use for understanding the scale, the possibility for movements, the programme and the choice of materials. With the requirements for the site, from the municipality of Borås, we interpreted the programme and combined it with our thoughts, the studies of literature, interviews and references.
Workshop program

Physical site model in 1:200 to understand the size, organization and how to place the programme.
Alice in wonderland

A strict, hard and enclosed outside with a soft, vivid and transparent inside. The children are protected from the outside stress, playing and enjoying the fantasy world.

Workshop: a first sketch
Walking away or lay down

No boxes, trees on its walk into the forest, playing under or over, swing in one of the stocks.
Jenka

Modules built up embracing a vertical communication. Climbing, resting, looking up and looking down.

Workshop a first sketch
Moduls on slabs

Moduls in different levels, interspersed greenery.
The footbridge

Islands of different characters connected with a footbridge. Walking around among the trees, touching the crowns of the treetops. Running around. Playing in a central park.

Workshop a first sketch
Soft levels

Indoor softness, falling without hurting. Artificial landscape to run, roll and jump on.

Workshop a first sketch
The greenhouse

A safe place. Running around. Inside and outside without any threshold in an artificial world.

Workshop indoor / outdoor
Small houses on different levels

Small houses leaving the ground untouched, just with pillars. One level up, an outdoor terrace, outdoor and indoor connected without dirt. On the ground children are playing under supervision, on terrace alone.
Controlled freedom

Children are running around, crossing the garden. No thresholds between inside and outside. Feeling independent.
The child’s perception of space

According to Juhani Pallasmaa’s book, *The Eyes of the Skin*, humans perceive space by their intellectual abilities as well as the senses (vision, hearing, smelling and sensory motor abilities). To understand space you have to analyse it by memories and then reanalyse it together with new perceptions. Mark Dudek continues in his book *Children’s Spaces*, that a child perceive space as adults - though there is a lack of spatial experience, comparing with grown-ups. The child is trying to understand space by its own body and kinaesthetic awareness, not just its senses. To find out the basic spatial complexity of a room the child seeks all possibilities with his or her own movements. Without asking questions, the child is trying to respond to them by body action. Can I fit in between? What happens if I hide thereunder? Can I as a shorter person be on top of you even if you are taller?

The physical motor development of a child

When children first enter the world of a kindergarten most of them are about one year of age. Due to H. Bee & D. Boyd’s child psychology book *The Developing Child*, small children goes from laying down, to sit, crawl and to be more precise in their movements. According to H. Bee & D. Boyd "the active" period starts first at the age of four. It’s a period that reflects children’s ability to move controlled. It’s a period during kindergarten when it’s very important not to reduce their motor development. The children’s needs to climb, try their balance, jump and run about to learn how to handle their own bodies. Hilding Sjödén writes in his book about children psychology *Somliga är små...* for the children that not have the opportunity for unlimited movement it has been shown that the child often becomes clumsy, fumbling and can’t stay still when it gets older. Jan White continues in his book *Playing and Learning Outdoors*, with an even stronger argument of the importance of movement:

Inefficient movement is harder to rectify later than other kinds of learning delays and movement itself affects so much else about children’s development, not least their self-image and feelings of self-worth.
Workshop
experience / movements

Play in a bookshelf.

Flying balloons with a temporary exhibition.

Experience of different room heights.

A playground protected from the weather.

Look out.

Jump on soft materials.

Balance on the stocks.

Endless variation of rooms.

A bookshelf of play, knowledge and creativity.

Play in a labyrinth of boxes.

Hang in a liane.

The nature as a part of the architecture.

A building mirroring the play of children.

Play in a net.

Independent play controlled by the teacher.
Borås municipality’s wishes of size according to the program of five home bases.

Three level kindergartens keep more of the surrounding nature untouched. There is also a possibility to work with rooms in vertical directions.

A hole for a tree in the middle lets the light in and brings in the nature.

Carving out the volume on the first floor creates an outdoor area with a protected roof.

Concept of the shape of the building
A transparent first floor opens up and welcomes the visitors.

In the south direction there is an outdoor terrace to make it possible for the children to breathe fresh air without supervision.

To break down the scale pitched roofs are added. A small city for small children is created.

On the outdoor terrace there is a construction of steel, designed as the pitched roofs, for swings and other equipment for outdoor plays.

The middle part of the south side of the building is glazed as a greenhouse for bringing in the nature.
To be a bird, the importance of bodily movements in our project

With the understanding of the children’s investigating movement (perception) in space and the importance of movements according to their development, we believe to investigate kindergarten architecture as something that can enhance and create the bodily movement of children.

To design a kindergarten has for us been to figure out how children can find a curiosity of bodily movements and spatial sequences. How we, as architects can design for playing and making an vertically oriented architecture with connections between levels and in all spatial directions.

To make this curiosity into reality we wanted to find a dreamlike concept which could intensify the design wishes of a child. We started with our own dream.

When we were small children we
often dreamt how birds moved
spontaneously through the air. By
mimic children with birds we could
map some rules for our kindergarten,
how birds hide, how birds looked down
on the world, how birds communicate,
how wise the owl is.

To be clear, the idea was never to make children to become birds, as Thomas Nagels philosophical report How to Be a Bat ⁴, says. You can just perceive someone else by your own mindfulness and therefore never be that creature himself. To understand how it is to be a bat you have to be a bat, otherwise you are just a human trying to pretend to be a bat. So the children as “birds” in our project is just a metaphor. The same goes for our intention of designing the kindergarten as children. We will always be humans in an adults body who pretend to be children dreaming about birds.
Indoor socks zone.

Entrance / wet shoe zone.

Wet / Dry zones

Each department (20 children and 3 pedagogues / room) includes a big room with flexible boxes, a toilet and a kitchenette.

Five departments, the Owl homes

An outdoor terrace in south / west, taking a breath of fresh air and stay on the level of the tree crowns.

A greenhouse in south where the children can grow herbs and vegetables for the kitchen.

A tree in the center of the building in the light shaft.

Bring in the nature in the building

Communication

Horizontal communication, the bird way, a round abouts to run or have competitions on.

The view, a big stair to play in.

The elevator

The slide, a fast way for those who can not walk in the stair and as a funny vertical communication.

The entrance stair

To promote vertical play and bodily movements there are three rooms: The fly fly room, The twitter room and The view.

A kitchen close to the greenhouse where the children can grow their own plants and herbs.

A staff room close to the vertical communication and the rest of the building.

A direct access for staff and food delivery through the elevator.

Room and communication
To hide behind a stone,
we are upside down, digging a hole
balance on a stock.
We breathe something pure, something green.
See nature live among the trees.
Birds, butterflies and small squirrels.
A kindergarten close to nature. Pure nature.
We breathe.
Orkestervägen  Local street  Main entrance  Weather protected playground  The forest accessible for the children  Existing villa neighborhood

Long section east  1:500
- Mr Sten, where are you? I need help with my shoes. I want to play with the other kids.
If I could keep my treasures in my own box...
Rutschbanan
The slide
A quick and fun way to move out and play in the forest.

Tallskogen
The pine tree forest
Entrance situation with bird twitter. Surrounded by an artificial forest. Everyone has their own bird box to hide their treasures in.

Fågelbadet
The birdbath
To take a foot bath, splatter in water but most important clean your dirty outdoor clothes.

Main Entrance
Ankan under plankan
The hiding duck
A weather protected playground. Hide the rainy days. Take a rest from the sun a summer day. Play in the sand box, running around on a flat ground.

Sma bodar
Small cottages
Small houses in different scales. Bigger ones for storing the strollers; smaller for play.

Fri som en fågel
Free as a bird
The untouched nature, tall pinetrees, wildlife in the forest. A protected outdoor area where the child feels free as a bird.

Fri som en fågel
Free as a bird
The untouched nature, tall pinetrees, wildlife in the forest. A protected outdoor area where the child feels free as a bird.

Fri som en fågel
Free as a bird
The untouched nature, tall pinetrees, wildlife in the forest. A protected outdoor area where the child feels free as a bird.

Plan 0 1:200
Common kids! Let us go out for a picnic.

- Ollukl!

Mr Björn, I can’t find my jacket.
Excluding behaviour and how good architecture can help

Fredrik Gieth, lecturer at Borås Högskola, says in an interview that play can be excluding in three different ways, spatial, didactic or social. He states that if a room is just used in one way the child will connect that room with the specific use. It means that if a child doesn’t like for example to paint, he or she will never use the paint room. It will be a spatial excluding for that child, a room where he or she does not belong in the kindergarten. A didactic excluding could be how pedagogues give children different accessibility to different rooms for example depending on age. A child who is two years old has not the same access to the workshop as a six year old child.

In our design one of our ambitions has been to welcome everyone anywhere in the building. We have discussed how good architecture can help children to not feel excluded. Small adjustments in the project have, from our point of view, become more accessible for every child to not be excluded. An example is the more versatile room as The fly fly room, a room about climbing, moving, jumping and swinging. For those who don’t like physical movements, we added the secret spot inside the tree, a place to hide, to relax to find peace or to just watch the others. Another of those adjustments from regular kindergarten thinking, have been The owl homes. Instead of one studio, one workshop, one doll room etc. we have in our project just one room for all these activities. We wanted to create a room that could welcome everyone, inspiring to creativity for each unique child.
If I was down here I would twitter with you up there ...
- Look up here Therese! Here is the blanket, can you please bring it to Arvid? - He is in the cottage.

- Haha, yes Ola, I hear you. You look so small down there. Come up here, me and Saga will play in a labyrinth we made by our own.

- Elina, do you hear me?

- Ok Markus! Can you put it a bit closer?
**Hemma hos ugglan**
The owl home

Home areas for smaller groups. Be wise as an owl, the shelf gives you everything you need, games, books and toys. Without furniture the room sequence is made by wooden boxes 60x60 cm or 30x30 cm. Flexible boxes that create the room you need.

**Flyg flyg**
The fly fly room

Room of physical movements. A floor in flux. To jump high, swing in the tree or climb towards the roof. A big tree to hide in, in chaos a moment of stillness.

**Kvitterrummet**
The twitter room

Bird boxes like in a forest, views out in the room. Vertical communication with can telephones and letter lines between home areas.

**Fågelvägen**
The bird way

A communication where the children are running around, having competitions and moving around a central tree.

**Utsikten**
The view

A big stair connecting the floors. A stair to play in. Gathering all the children together for common events.

**Vilrummet**
The relaxing room

A room where the children can take a nap, listen to a story and just having a nice time among pillows and bean bags.

**Personal Staff**
A place for meeting and resting. Close to the entrance and close to activity.

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**Plan 1 1:200**

- **Kvitterrummet**
  - The twitter room
- **Utsikten**
  - The view
- **Vilrummet**
  - The relaxing room
- **Fågelvägen**
  - The bird way
- **Hemma hos ugglan**
  - The owl home
- **Flyg flyg**
  - The fly fly room
- **Personal Staff**
  - A place for meeting and resting. Close to the entrance and close to activity.
The importance of flexible pedagogies and abstract interior in our project

In our kindergarten project there are (imaginary) 100 children and 15 pedagogues, each one with different desires and needs.

As architects it was important for us that our architecture was not affecting negatively on the choice of each unique child’s play. The creativity and playfulness should not be limited by interior. We focused on guidelines and movement schemes, trying to be very flexible or very versatile.

We believe that a flexible room as *The owl home* with 30x30 cm and 60x60 cm cubes (both in soft materials, transparent and wood) could create everything from dinner tables, studio furniture, room dividers, scenes, labyrinths, sofas etc. While more specific rooms as *The fly fly room*, *The twitter room*, *The view* (the stair), *The relaxing room* and *The bird way* can create versatile of different space. Though each of these rooms are very specific we still believe that the children experience them to be abstract. *The twitter room* could be a city were children play to buy grocery, or it can be the communication room were children keep in contact with can-telephones. It can be a kingdom for a princess or a boat for a captain. The unique room is in its abstract thinking unique for each child and pedagogies. The idea is an architecture where no furniture makes the rules of the game, an architecture that just limit the play by each persons imagination.
If I was a owl I would be wise...
Hemma hos ugglan
The owl home

Home areas for smaller groups. Be wise as an owl, the shelf gives you everything you need, games, books and toys. Without furniture the room sequence is made by wooden boxes 60x60 cm or 30x30 cm. Flexible boxes that create the room you need.

Flyg flyg
The fly fly room

Room of physical movements. A floor in flux. To jump high, swing in the tree or climb towards the roof. A big tree to hide in, in chaos a moment of stillness.

Kvitterrummet
The twitter room

Bird boxes like in a forest, views out in the room. Vertical communication with can telephones and letter lines between home areas.

Terrass
The terrace

Playing, resting among the treetops. Putting the small children for a nap out in the fresh air.

Växthus
The greenhouse

A way of learning taking responsibility and caring. Growing and following the life of your own plant. Flowers, herbs and berries.

Utsikten
The view

A big stair connecting the floors. A stair to play in. Gathering all the children together for common events.
- Ohiii, come and dance with me Yu! I am a bird and you are a butterfly!

- I also want to stay on the stage. I am the king.
- Miss Catarina, look at me. I am taller than you!

-Emelie, I see you. But be careful...

-I also want to sit up there.
Boxes of different sizes and materials
Sizes 30*30cm and 60*60cm

For different usage. As a table, as a chair... one that is empty... one of wood... one transparent... and one that is made of soft material.

Flexibility in use of a box
“If I was a bird, I would fly high over the world...”

Karin Dreijer, The Knife
First up to the ceiling wins!

Aouch!!

Hahahahah

The fly fly room
- Look at my sunflowers!
- But I prefer my strawberries, I eat them.
- Come out here! Let's try the new swing!
- Hi Ola! Can’t we play grocery store?
- No I sell bicycles.
- Yes! I want to buy a bicycle!
- Look up! I can see you! If in the sky!
Hey guys! Let’s play the Olympic games. I am Usain Bolt.

Hahaha! Catch me if you can!
Mr. Jonas, can you please read a book for us?

Hey kids! Be careful in the stairs! Can everyone sit down please?
We will practice our songs for Lucia.

Brrumph brum ...
If I was up there I would look out over the world...
Windows

That are made referring to the size of a child.

To bring in a lot of natural light and the forest.

As a nook for resting and storytelling.

Principles window settings
The owl home

- Wow! There is a squirrel!
Shhhh, be quiet Arvid. The teacher will tell us a story before we are taking a nap.

Ohohoho, I am the big bad troll from the pine tree forest!
Social sustainability

With sources such as videogames and a more wide range of TV-shows for children, a current problem of today are the more sedentary activities. Trends show that more children suffering from obesity also have a lack of ability to focus. This proposal deals with highlighting the fun and importance of movements and encouraging the children to climb, to jump, to swing and to run. To design a kindergarten has for us been to figure out how children can become curious of movements, connections and creative thinking.

In our design, we have created a place where the nature has a big impact in the whole building with help of elements such as a greenhouse, a big outdoor terrace and in the playground under the building. It has been of great importance for us to keep a close connection and ability to take part of the surrounding untouched nature. As Anna Westerlund point out in her book Ur och Skur Metodbok för skola och fritidshem ², a new world is opened up for the children when they are given the possibility to get out in the nature. She continues, the school has a big responsibility when working for a sustainable development, finding paths for the children’s health, learning about the consciousness of the environment, in the close nature and also globally.

Regarding to the pedagogy, the proposal does not follow any in particular, even though it is inspired of the Reggio Emilia method with certain rooms such as the home base and the common squares. We believe to investigate a kindergarten designed to inspire every unique child’s and teacher’s creativity and interpretations. Our proposal is a kindergarten with an abstract interior that challenges children’s creative play. It has an interior flexible for future pedagogies.
Facade south  1:200
Constructive sustainability

Building elements such as walls, slabs and roofs are all following the Swedish standard c/c 60 to minimize waste of materials. The timber for the façade is locally produced. To put as small footprints as possible a big part of the building is standing on pillars and the surrounding nature is kept untouched.
Physical model 1:500 and physical model 1:200
Section in perspective, physical model 1:50
Reflections

For us this project has been to investigate how architecture can enhance the development of a child and its games. We think it’s important not to make any boundaries how to play or how to move.

It would be interesting to see how an architecture as in this proposal, *If I was a bird…*, actually could contribute to develop a pedagogic with more bodily movements and vertical play. Can *If I was a bird…* be a project which contributes to a more healthy lifestyle for the children?

Our vision is to inspire architects who are working and developing future kindergartens. With our proposal we believe that future pedagogics can have a never ending inspiration on games and care taking of the children’s wellbeing and health.
End notes


7. Fredrik Gieth, See appendix

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Philosophical literature


"Man brukar tala om rummen för alla sinnen. Det är material som är utformade på ett sätt som stimulerar barns sinnen."


"Det skulle ju vara ett underbart scenario om man hade en miljö där barnen kände, nu vill jag gå ut. Och då går det ut i hallen och klar på sig själv och sen går ut, leker en stand och sen kommer in när de själva känner för det. Det är ju en underbar förskola som skulle erbjuda det."

Appendix