Jonna

— a childrens bicycle

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Abstract

This project concerns children´s bicycles and gender. The market for children´s bicycles is currently very gender specific and tend to strengthen and uphold the traditional gender structures in society by consistently designing and marketing bicycles towards specific genders. The goal of the project has been to investigate and analyze gender issues and bicycles for children and trying to find a design solution that will be attractive to all individuals regardless of gender.

Detta projekt omfattar barncyklar och genus. Marknaden för barncyklar är för närvarande mycket könsspecifika och tenderar att stärka och upprätthålla den traditionella genusordningen i samhället genom konsekvent design och marknadsföring av cyklar mot specifika kön. Målet med projektet har varit att undersöka och analysera genusfrågor och cyklar för barn och försöka hitta en designlösning som kommer att vara attraktiva för alla indevider oavsett kön.

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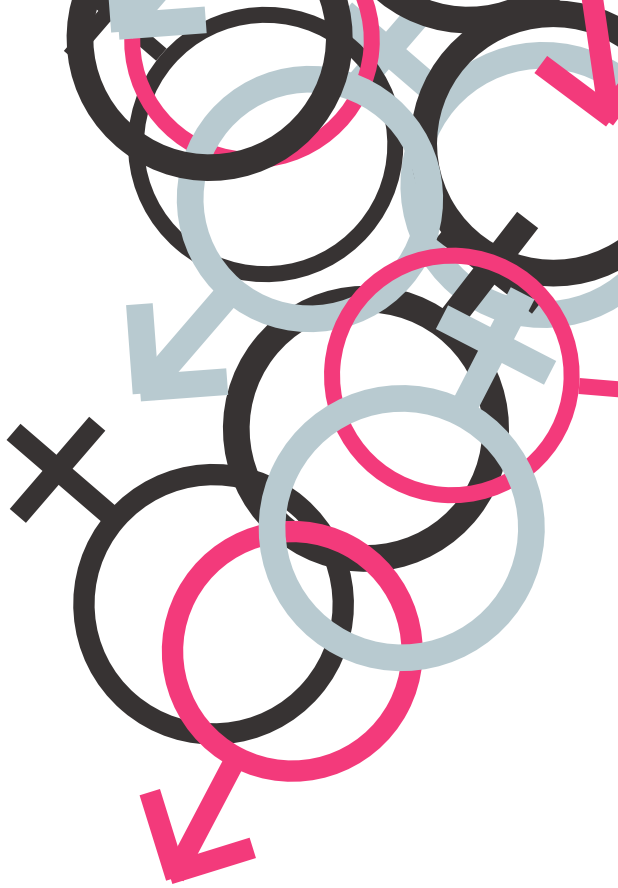


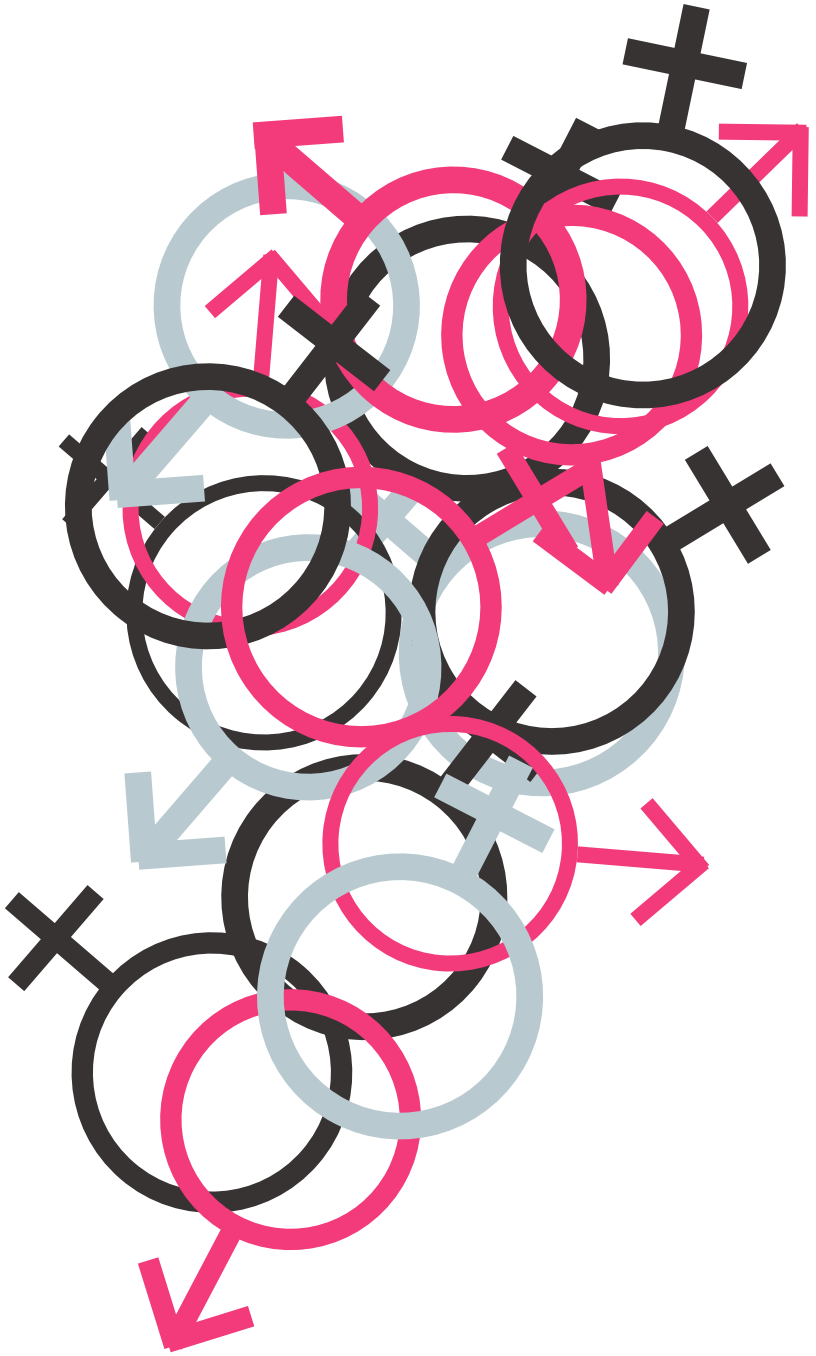
Introduction

This project is the culmination of master studies at the Child Culture Design program and has its foundation in an interest in product and industrial design focusing on children as target group and end users. This interest, combined with my own experience as a parent and consumer, has led me to make a project focusing on bicycle design and gender. Armed with curiosity and creativity, I threw myself into a new world, trying to solve a problem by designing a bicycle for children, not a gender.

Keywords: Children, bicycle, non gender specific, attractive, covet

1. Background

The project has it's origins in a personal experience. I was in the process of buying a new bicycle for my daughter who was nine years old at the time. I was surprised by the limited and extremely gender stereotypical products I encountered. The bikes were clearly divided between the genders both by color and design as well as labeling them "Girl´s bikes" or "Boy´s bikes". I felt that this did not reflect what I as a parent and customer wanted for my child and it did not reflect what my daughter wanted. I wondered why it looked like this and asked the store clerk. The answer I got was "it's what the customers want" . I asked my self, is it truly so. Am I the only one who think this is strange? Why does it look like this? With these questions in mind I start my thesis project.



1.1 Area of concern

1.1.2 Terminology

For further understanding of the work I here describe some of the terms that recur in the thesis.

Gender
Is a range of physical, mental and behavioral characteristics distinguishing between masculinity and femininity. In the humanities and social sciences gender is a concept that is used to understand and distinguish the beliefs, ideas and actions that combine to shape people's social gender.

Heteroaromativity
Is about sexuality as directly linked to sex. It's a heterosexual norm that controls the sex and gender that the person we love should have. According to it, a man should look and behave like a man and love a woman that looks and behaves like a woman and vice versa. It is the prevailing norm in society today.

Androgynous
Meaning in this case that something is neither male, female nor neutral but rather something that incorporates both male and female attributes.

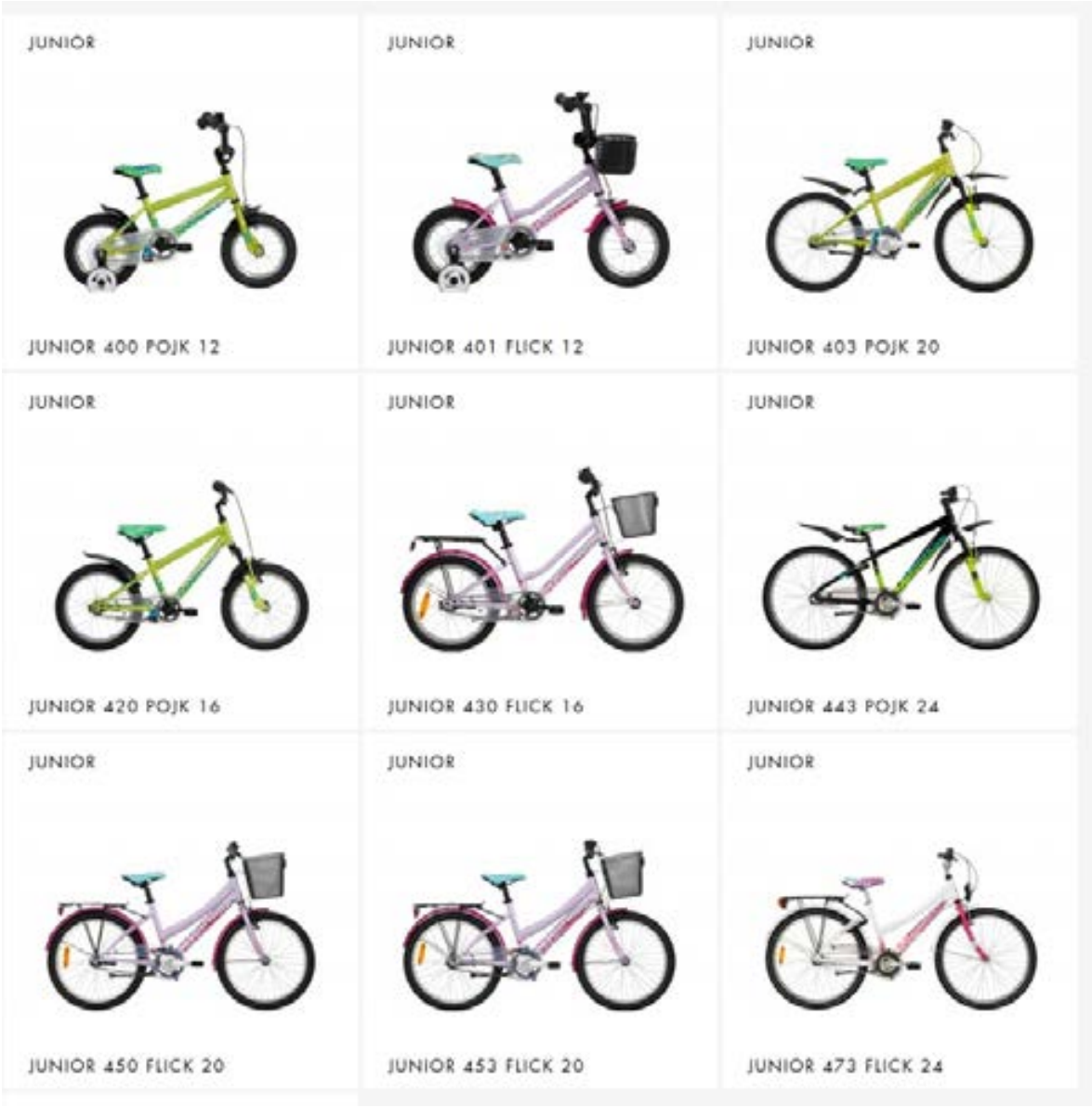
Child
The United Nations Convention on the Rights of the Child defines a child as "a human being below the age of 18 years unless under the law applicable to the child majority is attained earlier"
When it comes to children´s bicycles they span the ages from approximately three to 16 .

Tween
A person who is between nine and twelve years old. Tween refers to being in-between child and teen.

1.1.3 Children´s bicycles

After analyzing the market for bicycles for children in Sweden it is clear that there is a lack of gender neutral or androgynous products. The market is very conservative and is following the gender stereotyped traditions of most products for children. This might be because they are stuck in old tracks and ways that are hard to break or just a fear of launching products that do not clearly show the consumer what it is; why take a chance on something new and untried when the old works? Or maybe it is a combination of them both. One can argue that there are culturally entrenched heteronormatic ideals that form the basis for the kind of design that characterizes the market.

The boys bikes were sporty and had traditional straight diamond frames as well as traditional colors such as blue, green and black with decorations signaling speed, strength and aggression while the bikes for girls had soft shapes and traditional open frames and had a focus on practical and relaxed use, with colors such as pink, purple and white with a decor of flowers or organic shapes signaling cute, slow and practical. These characteristics or gender markers can also be seen in the names of the products. Boy´s bicycles have names like: Torn, Thunder, Voltage and Gang. Girl´s bikes have names as: Saga, Horse, Cutie, Tiara, Superstar and Belle. These names reflect gender structure and the way girls and boys are seen, boys are to be tough, strong and aggressive while girls are supposed to be cute, beautiful and calm. Below is a list of some of the gender markers from these products.



Screenshot from Monarks website (20-3-2013)

Female

- Open frame
- Soft shapes
- Wide and soft seats
- Light colors
- Functional
- Slow
- Upright handlebars (for upright riding posture)
- Single speed(one gear) or three gears
- Basket
- Luggage carrier
- Fenders
- Coaster brake (foot brake)
- On-road tires (small tread)

Male

- Diamond frame
- Angular shapes
- Thin hard seats
- Dark colors
- Sporty
- Speed
- Strength
- Aggression
- Flat handlebars
- Gears, 7-21
- No fender some times small back mudguard
- Rim Brake/disc brakes (Hand brakes)
- Off road tires (knobby tread)

Screenshot from Crescents website (20-3-2013)

1.2 Scope of the problem area

The work has been limited to designing the bicycle and seat for children aged seven to ten years old. I have chosen not to seek cooperation with an external partner in this project because I do not want to be tied to corporate identities and guidelines. A functioning prototype is the goal of the project. Some components have been chosen and ordered from suppliers such as: handlebar, grips, rims, tires, fork, lights and fenders. The frame and seat will be made from my design in the school workshops.

1.3 Issues

Can one by mixing gender markers create a bicycle design for children that is desired by both boys and girls and by so doing create a androgynous bicycle that will contribute to change the structure and perception of a gender among the target group?

1.4 Goals and objectives

The goal is to create an artifact that meets the group's needs of a good and flexible children´s bicycle and give the artifact a clear design language which clearly shows that this is not a boys or girls bike but a bicycle for children.

I want to challenge the gender stereotype world of bicycles for children by creating an artifact that does not fall into these patterns by mixing form elements that are seen as female and male and by so doing creating an androgynous bike that appeals to both sexes without repeating earlier examples of unisex models; to make the move from gender bike to a child's bike.

2. Theory and Method

2.1 Practical feasibility study

The pilot study took the form of visits to the bike retailers, reading, information searching on the Internet, interviews and meetings with the target group, meetings, e-mail contacts and telephone conversations with users, experts and supervisors. Guidance and support from tutors have been taking place on a regular basis throughout the whole project. Before the project, I read some literature as inspiration like *The art of innovation: lessons in creativity from IDEO, America's leading design firm,* (Kelley, 2001) *The language of things* (Sudjic, 2008) *Objects of desire: design and society since 1750* (Forty, 2005) *As long as it's pink : the sexual politics of taste*, (Sparke, 1995)

Sketching has been done mostly on paper and on the computer, but also three-dimensionally in the form of paper and cardboard, where shape and volumes were investigated. A situation analysis was written. After wards two workshops were held with children from the intended target group of seven to ten years old from two schools in the inner city of Gothenburg: Oskar-Fredrikskolan and Hagaskolan. After these meetings a target group analysis was established. In addition, a function analysis was made in order to get a good understanding of how the product was to be designed by analyzing bicycles for children and adults and looking at ergonomics for children. In the process I've read a lot of research, articles and books from various fields and tried to absorb as much as possible from these texts, although many belong to scientific areas that are not my own. It has increased my understanding of different subjects that have been of interest in the course of the project concerning such subjects as gender; design and sustainability; bicycles, consumption, cultural studies and research with children. Books that have been of help in understanding gender issues and in supporting my project are Raewyn Connell´s *Om Genus* (2003); Fanny Ambjörnsson´s *Rosa: den farliga färgen* (2011); Magdalena Petersson McIntyre´s *Bara den inte blir rosa: genus, design och konsumtion I ett svenskt idustriproject* (2010); Valerie Walkerdine ´s *Daddy's girl: young girls and popular culture* (1997); Linda Fagerström´s *Kön, genus och design: om en designerroll i förändring* (2010); Fanny Ambjörnsson´s *Den rosa overallen: om genusfostran, modeller av jämställdhet och identitetspolitiska markörer* (2005) Other literature has been important in the work of the project is Chris Rojek´s *Cultural studies* (2006); Jonas Stier´s *Identitet: människans gåtfulla porträtt* (2003); Pia Christensen and Allison James´s (red.) *Research with children: perspectives and practices* (2008); Ann Thorpe´s(red.) *The designer's atlas of sustainability* (2007); Michael Embacher´s *Cyclepedia: a tour of iconic bicycle designs*(2011).

I have also attended an inspiring lecture on Children, Gender and design given by Marcus Jahnke (HDK, School of Design and Crafts - University of Gothenburg 13 March 2013), where he talked about projects he had made as well as on the subject and interesting works by others. One project that Marcus Jahnke presented was "Trots" were he mixed typically "feminine" attributes with typically "masculine" to create a collection of non gender stereotypical clothes. This project was an inspiration in my own work.

2.1.2 The need for non gender stereotyped bicycles for children

After analyzing the market of bicycles for children it became clear that there is a lack of gender neutral or androgynous products. The market is very conservative and is following the gender stereotyped traditions of most products for children. This might be because they are stuck in old tracks and ways that are hard to break or just a fear of launching products that do not clearly show the consumer what it is; why take a chance on something new and untried when the old works. It is culturally entrenched heteronormative ideals that form the basis for the kind of design that characterizes the market. In today's society where gender issues and equality is something that society is struggling to change, it is important to create alternatives to the established and normative range of products for children. There is need of a change in how children´s products are designed and marketed. In order to give children an alternative to the established hetronormatic gender structures. It is within this gap this project will be situated.

There are plenty of gender markers if you analyze bicycles for children, I have compiled some of these and used them as a cornerstone in my design work and tried to mix them and through that create an artifact that carries a mix of gender markers and by so doing make the bike androgynous.

2.1.3 Bicycles, gender and design

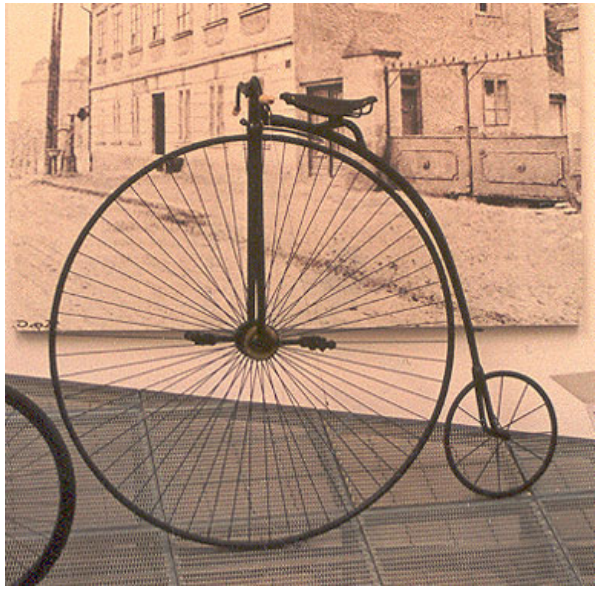
To better understand why bicycles look the way they do and where some of the most common features that divide the market in to male and female products, one needs to look at the history and the cultural contexts that these machines carry with them.

The history of the bicycle starts in Germany 1817 when Baron von Drais invented his walking or running machine that would help him get around faster: two same-sized wheels that were aligned, mounted in a wooden frame with a steerable front wheel. It became known as the Draisienne, it had a short lived popularity among the wealthy. In England a man named Denis Johnson took out a patent for the machine in Drais name in 1818 and began production and in 1819 he developed a version for women which did not do well.

In 1865 the next two wheeled riding machine makes its appearance and this time it has pedals on the front wheel. The machine was called velocipede, but became commonly called the bone shaker due to the uncomfortable riding experience.

In 1870 the first all metal bikes were made but the pedals were still attached to the front wheel. Solid rubber tires were introduced, yielding a smoother ride. The manufacturers realized that the bike could run faster if the wheels were larger, this resulted in the front wheels becoming larger and the High-Wheeler was born. It is also at this time the term bicycle is first introduced. These bicycles were primarily popular among wealthy young men. One reason for this might have been that you needed to be quite athletic to be able to ride it. However, they were relatively hazardous because the driver sat very high above the center of gravity and with the big front wheel it easily got a forward rotation if the bike stopped suddenly, resulting in a crash. These attributes meant that these bikes where often

A Draisienne built with cherry tree wood and softwood. It is displayed at the Kurpfälzisches Museum in Heidelberg, Germany. *Photo: Gun Powder Ma 2008.*



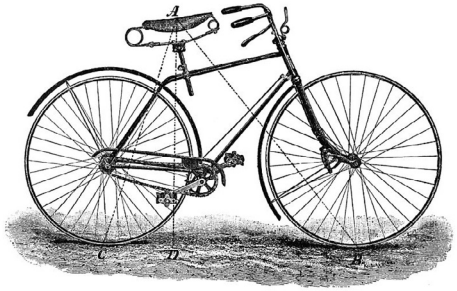
A High-Wheeler. *Photo: Agnieszka Kwiecien 2003*

used by young men to show of. Female cyclists were not a common sight during this period, one reason for this may be that society was very moralistic and it was not considered appropriate. This did not mean that attempts to develop bikes for women that resolved what they called the “skirt problem” at the time not were made. One example is the side saddle. But this was not a success since it was very difficult and complicated to use. Another way for women to ride a bike was to use tricycles which were introduced in the mid to late 1870s. The tricycle was a technical reaction on the safety problem of the High-Wheeler but was initially not very popular.“Tricycles were advertised as being adapted to the requirements of women and elderly men” (Bijker, 1995, p 57). However, the Queen of England gave the tricycle her blessing and the bike became fashionable among the elite all around the world. The tricycle made it possible for young women of the upper class to get out of there homes. The tricycle was not used for transportation, but rather as a way to get away. In this way, it helped to change some customs. “ tricycling engaged women in cycling and thus paved the way for women´s participation in bicycling” (Bijker, 1995, p 59)

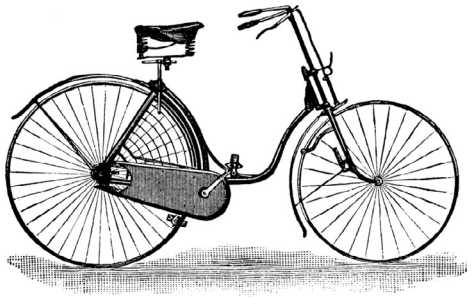
The development of the bikes continued and many solutions to the problem of the large front wheel was made. Towards the end of the 1880s bikes with rear-wheel drive and propulsion chain appear on the market as well as the first diamond frames and two same-sized wheels that were aligned. These bicycles were called The safety bicycle or low-wheeled safety. They paved the way for women´s bicycling because the main problems for women and the high-Wheeler had been safety and how to stay “decent” these issues were no longer a problem.

The 1890s saw the arrival of the pneumatic tire which increased the popularity of the bicycle. This resulted in the development of the ladies bicycle frame which was a regular diamond frame but with the top bar missing. This led to a lot of different designs to solve the problem of

Tricycle
Illustration of tandem tricycle, ca. 1886. Unknown author



A Safety bicycle.
The image is from Popular Science Monthly Volume 38 1890-1891



early ladies safety bicycle
The image is from a advertising in a beauty book from 1889

stiffening the frame. Different kinds of bicycling clothing for women were designed so as to keep women “proper” and “decent”. These garments did not go unnoticed, but was a topic of debate in newspapers and society. In England the most widely used garment was the “rational dress”. It consisted of knickerbockers (knee long breeches), long leggings and coat which was deemed to be long enough as to still be feminine, this did not keep it away from controversy as it was brought to court, Wiebe E. Bijker writes in *Of Bicycles, Bakelites, and Bulbs: Toward a Theory of Sociotechnical Change*

“In 1898 Lady Harberton, founder and president of the Rational Dress Society, was refused service in a coffee room. The proprietor showed her into a dirty public bar where men usually drank alone. Harberton claimed her legal right to be served and took the proprietor to court. The defense argued that there had been no discrimination on the grounds of Lady Harberton´s being improperly dressed. The judge upheld the defense, but nevertheless the case played a symbolic role in the fight for women´s independence and emancipation.”(Bijker, 1995, p 95)

By the end of the nineteenth century, women cyclists and their rational dresses would be widely seen both in England and on the continent.

By the first world war bicycles were in common use and at the end of the war the kid´s bike enters the scene and starts to be manufactured mainly in the United States as smaller versions of male and female bicycles. From the 1930s bicycles are inspired by motorcycles and cars and have a lot of form elements from them in their design. These became known as cruiser bicycles or beach cruisers, this was to appeal to kids. Over time these bikes became quite ostentatious and heavy and culminated in the late 1950s. It’s during this period the banana seat starts to appear. The banana seat was originally constructed as a saddle for bicycle polo and had a long thin design and was supported in the back by a tube hoop.

During the 1960s the first mini bicycles were introduced to the market with the Moulton bicycle, one could argue that this was the first unisex bicycle

Woman dressed in a “rational dress”
1897 advertisement in "The Graphic" for Elliman's Universal Embrocation.

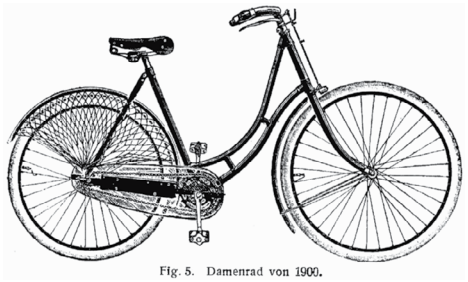


Fig. 5. Damenrad von 1900.

A ladyies bicycle from 1900
The image is from the Lexikon der gesamten Technik (dictionary of technology) from 1904 by Otto Lueger

Schwinn AeroCycle from 1935
photo: turboja

Schwimin StingRay Orange Krate 5-speed from 1968.
Photo: Nels P Olsen 2007.

Crescent advertising from the 1970s

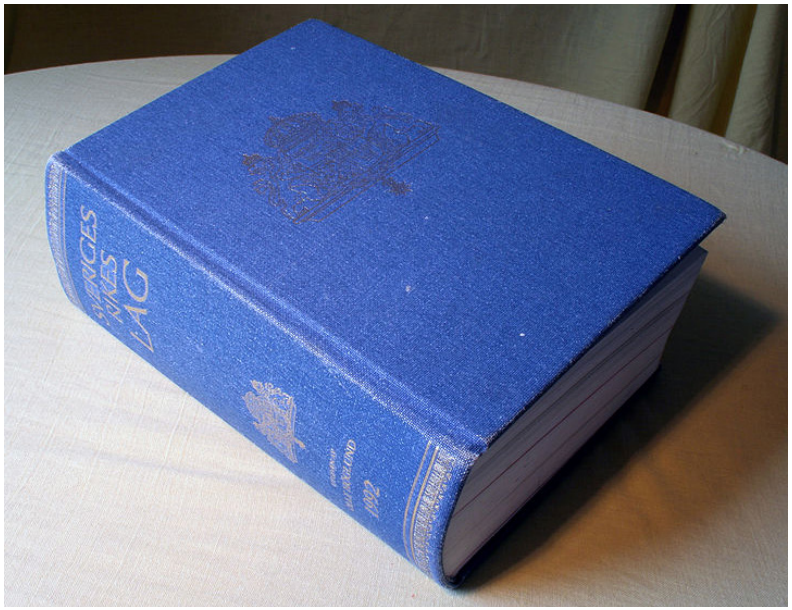
BMX bike

or non gender specific bike, focusing on the urban bicyclist. Around this time bicycles for children start to get slimmer and lighter again and the American company Schwinn started mass production of bicycles with banana seats with a sissy bar and ape hanger handlebars which were trendsetting, these had been inspired by customized bicycles built by kids in California inspired by chopper motorcycles. The chopper bicycle or wheelie bike were popular until the late 1970s when the BMX bicycle started taking larger market shares. The BMX also originated in California from bikes that were custom built, but this time to race on dirt tracks. (Crown, Judith & Coleman, Glenn, 1996) However bikes with banana seats stayed around until the mid 1980s when they disappeared from the market because of the waning demand and the BMX bike took its place as the No.1 bike for kids.

From the 1990s until present the mountain bike has been the trendsetter for both adults and children. The mountain bike has its origins in California from the late 1970s and early 1980s and these bikes were rebuilt cruisers used for driving off-road and downhill. The last few years has seen a retro trend emerge whit an increased popularity of cruiser bikes with 1950-1960s aesthetics. There are also bicycles with fixed gear so called “fixies” these bikes one could argue are the 2000s answer to the High-Wheeler of the 1870-1880s, a somewhat dangerous bike for young men to show of with. These bikes are often customized by the owner e.g. with colored tires and chain. But the dominant style of bicycles is still the mountain bike and different variations of it.

2.1.4 Ergonomics and bicycle riding

When you look at bicycles for children and ergonomics there are a few things to think about. For most it's important that the bicycle is not too big for the child, a child should be able to have both feet on the ground wile seated on the bike. While riding the bike it is positive if the bicycle has a handlebar that gives an upright seating position, this is good for your back it is also beneficial as children do not have their peripheral vision fully developed yet. Furthermore the leg should not be fully extended when the pedal is at the bottom of it's rotation. The saddle should not be to hard this can lead to impaired blood flow in the crotch area, which can lead to pain and in the worst case medical complications. Moreover It is highly recommended that children should have a foot brake because handbrakes can be difficult to use due to the strength and size of the child's hand. (Lueder et al., 2008)



2.1.5 laws and regulations

Swedish law requires that a bicycle always has: a bell, brake and if its dark the bike should have front lights or a lantern showing solid white or yellow light with such brightness that you can ride a bike in the dark in a satisfactory manner, or clearly seen at an distance of 300 meters and tail light showing red light that is clearly visible at a distance of 300 meters. Rear lights may emit a flashing light if the blink rate is 200 flashes per minute. The bike should have accepted reflexes. Some manufacturers put white reflexes in the headlight that can replace the separate white reflex in the front. The back reflex should be red and side reflectors should be amber or white.

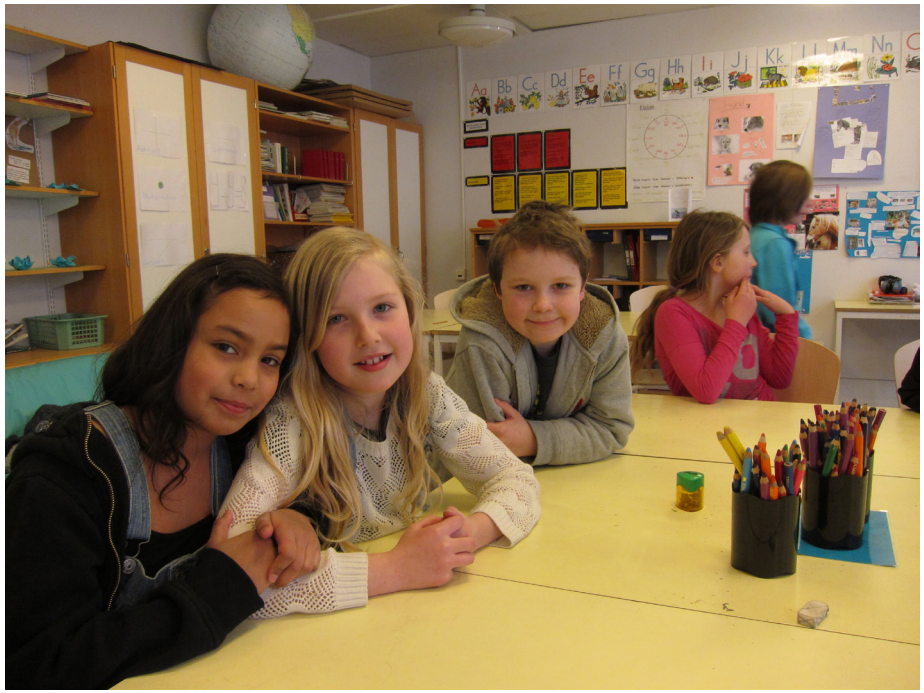
All children and young people under 15 are required to wear a helmet when cycling or are driven by bike. This is regulated by a law that took effect January 1st 2005.

The EU Product Safety Directive 2001/95/EC. Applies to all bicycles sold within the EU.(Transportstyrelsen., 2010)...

2.1.6 Workshop and Target group analysis

By research conducted through workshops in two different schools in the inner city of Gothenburg, Oskar-Fredriksskolan with children six to eight years old(Oskar-Fredriksskolan, 25-3-2013) and Hagaskolan, children aged eight to ten years old(Hagaskolan, 21-3-2013), both groups consisted of equal proportions of boys and girls, five in each group, a total of 20 children. I sought to understand the target group and what they liked, disliked and what their views were on gender, color and bicycles. I met each group on one occasion and made a one-hour workshop with discussion, interview and practical work. I have also observed my daughter and discussed these questions with her throughout the project.

The workshop was started by asking if there were any colors that were girly or boyish. The children in both groups were in agreement that there were no boy or girl colors, one answer was “there are no boy or girl colors, only colors”. (girl eight years old Haga skolan) Another was “there are no set colors that way, only colors that you like more or less. As pink for example maybe there are more girls who like it and more guys who like blue.” (boy seven years old Oskar-Fredriks skolan). The answers were similar regarding boy´s and girl´s bicycles. This appeared to be the natural way for them to respond in a school setting. The responses felt like a repeat of something they learned in class while talking about gender issues, they gave the answers they knew to be the right one. To see if this conclusion was correct both groups were shown a slide show with different bikes, I asked them to tell me who the owner of the bike was. The result was that almost all the bikes that were pink, purple, red or light colored and/or had soft shapes and ornamentation were seen as feminine. While as black, blue or dark colored ones with angular shapes and decorations were seen

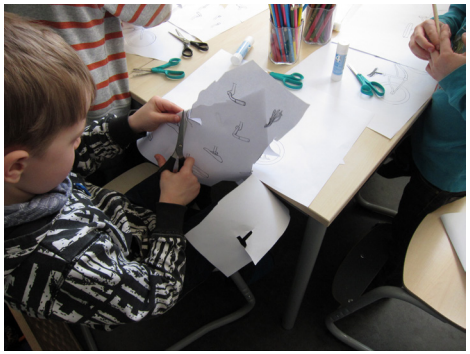


Workshop material

as male. There were some exceptions, one that had traditional angular men´s frame and was pink which was seen as feminine. Another was a cruiser bike with a banana seat which was perceived as being feminine. This was probably because they have never seen one before and therefore had no preconceived idea about it, another aspect is that the masculine markers often are hard, angular and straight while the saddle was perceived as soft and curvy and therefore was connoted femininity. One can clearly see that pink works as a predominant gender marker for the feminine here as well as other attributes usually ascribed to femininity. The same applies to what is seen as masculine. The children decode objects by identifying gender markers and by doing so placing them into either a female or male compartment. Asked why they thought a girl/woman or boy/man owned the bikes a boy said “Guys like sporty things more, they are more sporty”. (boy nine years old Hagaskolan) I asked the girls how they viewed the comment and they did not agree fully with the image as one of the girls put it “No, girls are just as sporty as boys and we like sporty stuff too but maybe not all the time you know. And they look more boyish as well. I mean like the bikes” (girl ten years old Hagaskolan). The next step was to show the bikes with their owners and of course the owners were not as gender stereotyped, this as to give them some perspective and something to think about before the next part of the workshop.

The next part began with another presentation of pictures which consisted of a mix of bicycles, such as hairy bikes, funny bikes, colorful bikes, low rider bikes, cruiser bikes etc. This to get them inspired to create their own dream bicycles. During this presentation, it was a bike that everyone in both groups thought was great and liked, it was a matte black bike with pink rims. I asked them, “but it’s pink, is not this bike girly then?”. The answer was a resounding no, this was for both

Pictures of both workshop sessions



boys and girls one of the girls said " It like has just enough pink and the black like that, makes it look cool ". (girl ten years old Hagaskolan) That statement summarizes well what the children expressed. My conclusion is that pink per se is seen as feminine. But in some contexts it is not, depending on factors that surround it.

The dream bike workshop material I provided consisted of five different bicycle frames with wheels, seven different seats and six different handlebars.(see appendix). During the making of their bicycles I asked them to write down or paint their favorite colors on the paper as well. One thing that became clear when I looked at the pictures that the children had made were that such things as glitter, silver, gold and bright colors were very popular, many had colored tires preferably with glitter on. The choice of frame and saddle were varied but soft shapes dominated among both boys and girls and the standard male diamond frame was the least popular.

The target group is children in the age of seven to ten years living in urban areas. The group was chosen because they represent a growing group in society where more and more children grow up in urban areas. The particular age range was chosen because they are in a transitional period. The youngest just starting school and the older are in their tweens. It is in this age group most have learned to ride a bike and start moving more on their own. The school also means new hierarchies in which to adapt. These power structures that come together and share the same environment e.g. teacher-student, older-younger, boys-girls etc. combine to create a platform where children explore and try to understand gender. R.W Connell wrights on the subject in *Gender:*

"They are not passively socialized into a gender role. Of course they pick up knowledge from the adult world around them, knowledge of the identities that are available, knowledge of how to behave and - unfortunately-knowledge of what to hate. But this they make actively and on their own terms. They move into and out of gender-based groupings. Sometimes they play with or violate the gender dichotomy. Gender is important in their world, but it is an important issue that they are dealing with, not a rigid frame which reduces them to puppets." (Connell, 2003, p 27.)

If I look at my own daughter, there was a definite change in her way of behaving and expressing herself, she became more aware of her gender affiliation and suddenly it became important if something was a "girl" or "guy" thing. This of course stems from a variety of factors such as peer pressure, group membership and the underlying gender system. She wanted to fit in and find her place in a group and be accepted. It is a search to find your place and who you are and how you see your self. A lot happens in this period that is why I chose this as my target group for my project.

These children are living in urban areas and mostly come from middle-class homes. They are trendy and very aware of what is cool and not. They distinguish between male and female expressions in both products and clothing this is particularly evident in the older children. They have a clear idea of what they like and do not like. Peer influence is evident in the creation of group identity shown by what they say they like. It is clearly important to fit in but there is still some room to be a little different. The results from the workshop show that they prefer soft and flowing shapes. Strong colors are popular as well as black,sliver, gold and glitter often combined with colors.

Some of the bikes that the kids did

2.1.7 The future

In recent years, the debate on gender stereotyped products for children and how they are marketed has increased. This has begun to bear fruit. Toys'R'us, a major toy retailer, tried to make their Christmas catalog gender neutral and plans to follow up the approach in its stores in Sweden.

Recently one of Sweden's biggest supermarkets, Ica Maxi, chose to remove gender-specific signs on kids bikes because of pressure from customers and the media.(Alsnäs,2013)The problem of gender stereotyped products for children are not only for retailers but also among producers. One can hope that this event can be pioneering and can tip the scales and provide a change in how products for children are marketed. If customers are not satisfied dealers will not be satisfied and, in turn, push producers for a change.

Some of the children's favorite colors

3. Results

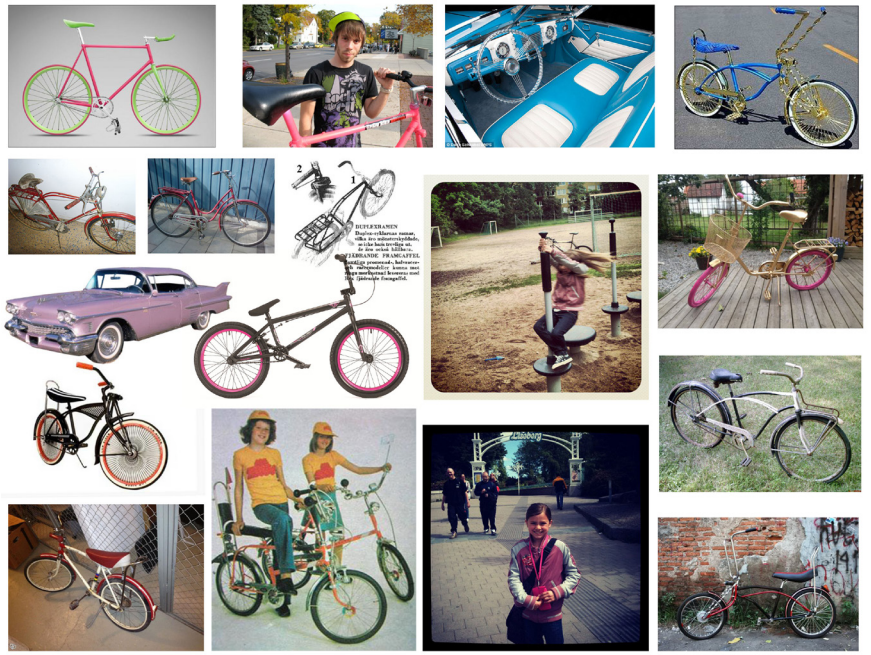
3.1 Arguments for design solution

With this project I did not want just to design a new alternative bicycle, but also examine what happens to the bicycle if you change its expression and mixes attributes traditionally ascribed to masculinity or femininity. This to give the bike an expression that is different from what is on the market but still carries some elements that other bicycles for children have – a kind of androgynous bike that hopefully will appeal to both girls and boys in my target group. Every detail on the bike has been carefully designed or chosen to fit my concept. Some elements in the design are inspired from the results I received from the workshops I conducted with the children. One thing I found out was that the children felt that the banana seat was predominantly feminine, which I had not anticipated. Furthermore the bicycle with matte black frame and pink rims, that they all liked, as well as their bicycle designs from the workshop was a source of inspiration in the choice of color palette. Inspiration has also come from cruiser bicycles, wheelie bicycles and from early BMX bikes.

3.2 Sketch and design process

3.2.1 Sketch phase 1

Here I began to explore different shapes and looked at existing products in the market. I examined the bike frame and various bicycle saddles in a free sketch phase, focusing on getting the feel for the area and the design language I wanted .

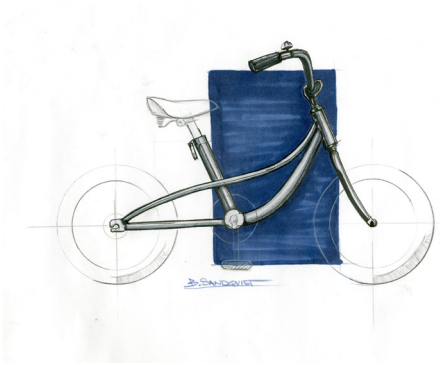


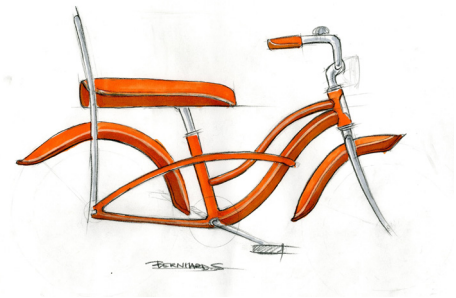
Inspiration Board

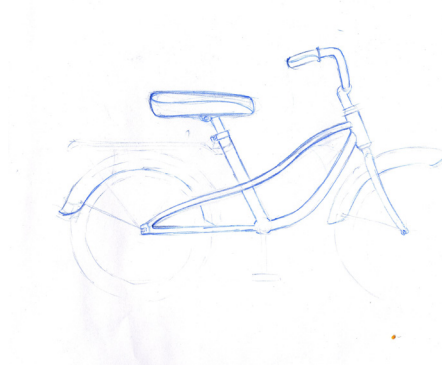
Early sketches

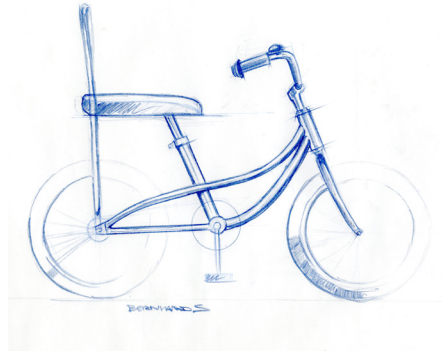
3.2.2 Sketch phase 2

Here was a further development in various forms of frames and seats which I found interesting. Information and pictures that I received from the workshops with groups of children were used as inspiration. It was in this part of the process that the final shape and the visual expression began to emerge.





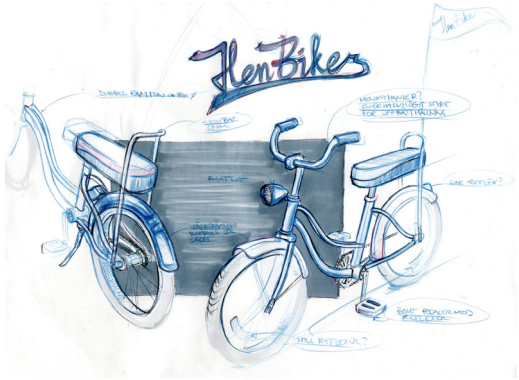


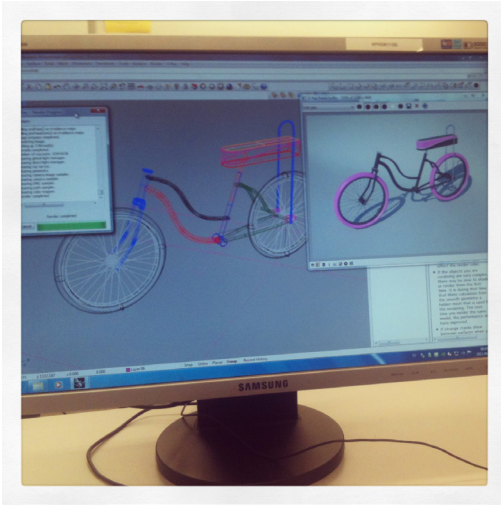


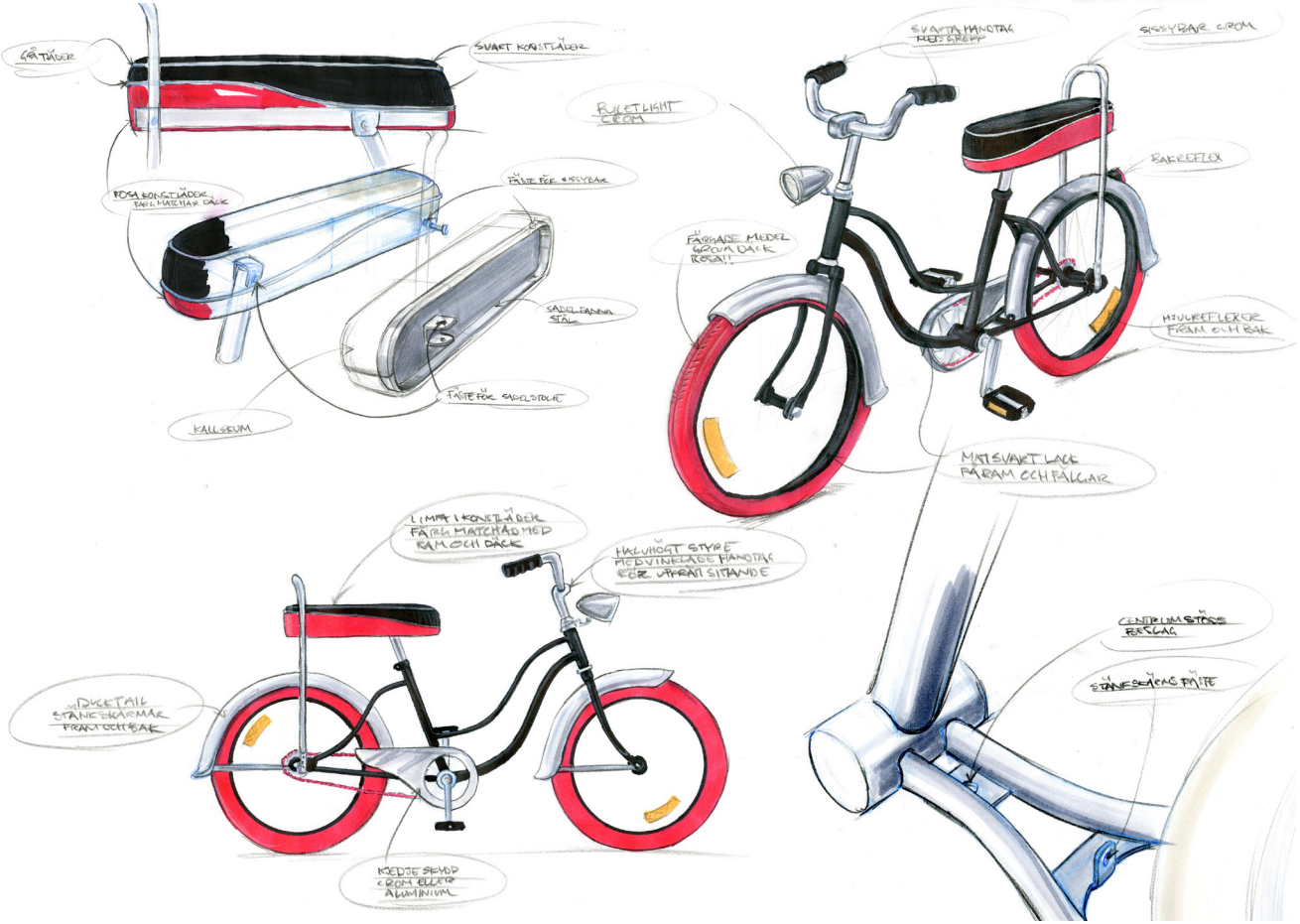
Some sketches from the second sketch phase

3.2.3 Sketch phase 3

In this stage, work begins on 3D modeling in computer parallel with continued sketching by hand as I now have an idea of what the bicycle frame should look like. I try different volumes and shapes to find the right dimensions of the seat and bicycle frame. The final concept is sketched. The final sketch is used to make a 3D model, it is used to create the production drawing.







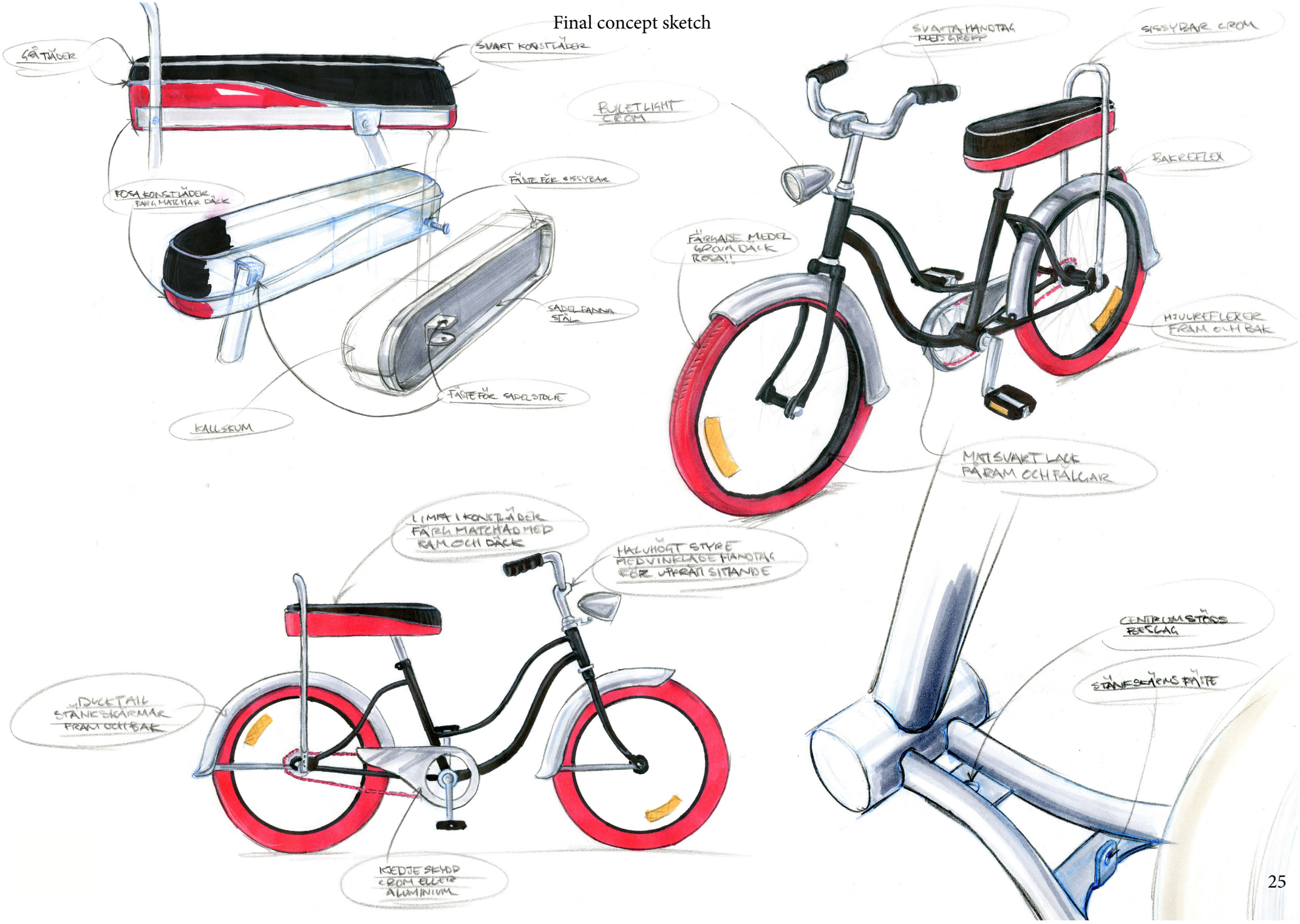
3D modeling, renderings and final sketch concept

3.2.4 Final Result concept

The bicycle and its seat were inspired by form elements from the 1950s, 60s and 70s bicycles as well as from fixed gear bicycles of today. The choice to embrace a retro aesthetic was partly to address a design language and details that children did not have an obvious relation to such as the Banana seat. Another aspect was to arouse a positive feeling of childhood with parents. Another important source of inspiration has been the material from the workshops I did with children such as colored tiers. I have tried to incorporate both male and female gender markers that I identified wile analyzing children´s bicycles. The bicycle has a curved open frame, this is easy to get on and off and if you slide of the saddle you will not land on the top tube as on a diamond frame. The top tub is made of two thin curved pipes to give the frame a sleeker expression. The curve in the top tubes recur in the thicker down tube and in the rear fork seat stay. The frame will be painted matte black. The handlebar is a upright one for a good riding posture with a chrome finish and grips of black plastic. The grips have finger dividers and slits in the back for better grip. The bike has a soft banana seat with a chrome sissy bar in the back. It has an upholstery in vinyl which pick up the curves from the frame. It is matte black and cherry pink with light gray trimming. The rims of the bike are aluminum with a matte black finish. The tires are pink BMX tiers with a knobby tread. The chain is also pink to follow in the color scheme. The fenders are of a classic duck tail model with a chrome finish. The seat post, cranks, sprockets, brackets, nuts and bolts have a chrome or galvanized finish.

Final concept rendering

Final concept sketch



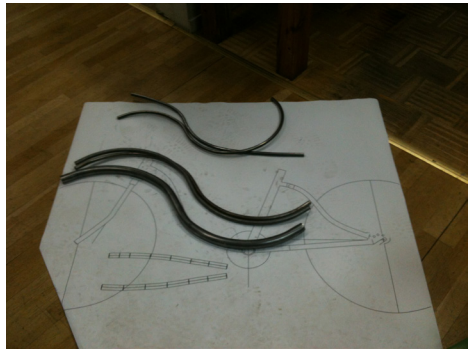
3.2.5 Model/Prototype

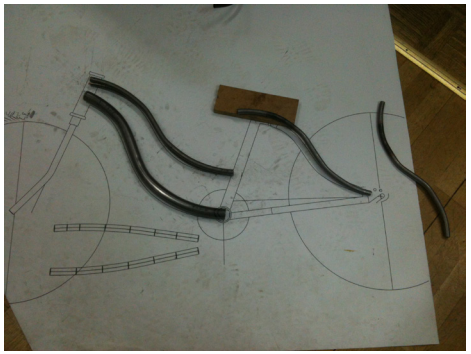
The prototype build was made in the school's metal workshop where I made the parts for the frame and seat pan other parts such as front fork, handlebars, grips, lights, fenders, cranks, hubs and pedals were selected and ordered from suppliers or bought in second-hand shops. The frame's steel tubes were bent in the a hydraulic bending machine and then cut to the right length. Then I did all the fittings and brackets for the frame. These parts were then spot welded together. In the next step, I got professional help to TIG weld the frame. The frame was then sandblasted, primed and then painted.

The seat pan was made from 1,5 mm sheet steel the shape was cut first, and then the edges were folded down in a Pullmax machine to strengthen the plate while creating an edge to fold the cover around. The next step was to create the mount for the seat post and weld it in to place. The seat pan was then sandblasted, primed and then painted matte black. The padding and the upholstery was done by the company Gallant plast according to my design and specifications.

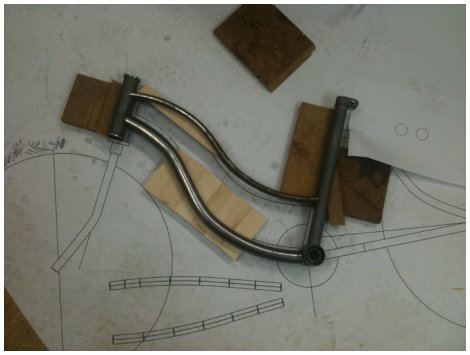
3.3 Conclusion

The project has resulted in a bicycle for children between seven and ten years old. The bike carries a mixture of different gender markers that together form a whole. The goal was to contribute to the gender discourse and offer an alternative to what already exists: a bike that would be desirable for both girls and boys a androgynous bicycle.





prototype construction












prototype construction


P
10 min


70%


70%

4. Discussion

4.1 Design issues & Process

At the beginning of this project I had a clear idea of what issues I wanted to address. I was amazed by the gender stereotyped world I met when I were to buy a bicycle for my nine year old daughter. It was surprising to me how the market looked and how the products were marketed as “boy´s” and “girl´s” bikes. Even with out the signs one could easily see who the intended target group was. Pink and cute for girls and black and sporty for boys. But how was I to change this by design?

- How can I as a designer contribute to change the gender stereotyped range of bicycles for children ?

I started out with an idea of designing a bicycle for children. I immediately started to sketch on bikes based on my earlier experiences. I thought I had a good grasp on things but to be able to change something or contribute to change one must first understand what the problem is an why it exists. After some tutoring and mid seminar I realized that I had to start researching gender issues, bicycle history, the market of children´s bicycles and my target group to find a solution to my questions. After reading research on gender issues I got a understanding for the mechanisms behind gender structures and gender polarization an how it works and affect society. Armed with this knowledge I investigated my target group by workshops. I needed to know what they liked and disliked as well as how they decoded gender markers in objects. With the information gathered I found another question.

- Is it possible to create an androgynous bicycle by mixing gender markers, and in that way make a desirable design for both boys and girls ?

This new question and the old one was the base for my continued work. I had identified gender markers in bicycles and used them in my design work. I think the design proses progressed well from this point in the project with good input from my tutor when needed. I was able to have quite a straight line of work and was able to start working on my prototype with just enough time to be almost finished with the prototype in time for the examination. In hind sight I think the work was somewhat forced in order to get everything finished in time for the deadline.

4.2 Relevance to stakeholders

The Market

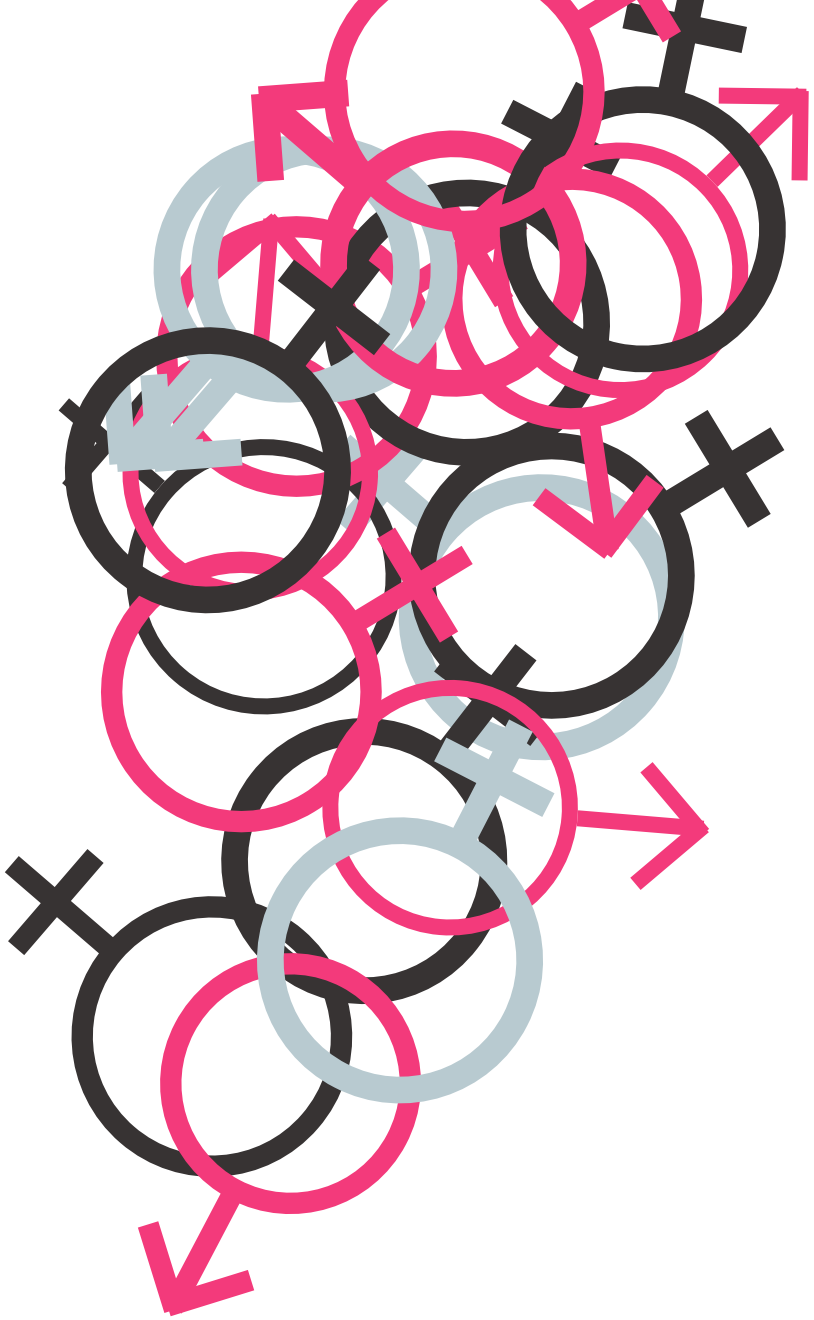
This is a conservative market where gender stereotyped design and marketing is predominant. The reason I did this project to begin with was because I did not feel that there were any products which I wanted to buy for my child. Since the market looks the way it does, there is clearly a place for products that move away from the prevailing gender stereotypes. My hope is that my product can show that it is possible to make a bike that is attractive for both boys and girls without relying on traditional gender stereotypes. The world is not black and white, it's full of colors so why limit choices when there is a whole spectrum to choose from?

Children

I have not had time to show the finished bicycle for my target group yet simply because it has not been finished. However I have shown my sketches and renderings, the feedback has been positive but I will not know how it is received until I can see there reactions. My hope is that it will be something that they will find desirable and intriguing.

Parents

One of my mainstays in the project was the idea that I could not possibly be the only one who had experienced the market as gender stereotyped, parents who like me want something more for their child to choose from. My hope is that this bike can provide just that.



4.3 Sustainability

Social sustainability

The issue of gender equality is something that is constantly up to date in society, to break down the gender structures and standards to strive for a more equal society in which hetronormativity is not predominate is something to strive for in as sustainable society. My hope with the project is that it will help with or at least be some kind of tool in the process of changing the way products for children are designed and marketed. My wish is to provide something different and challenge the norm by creating an androgynous bicycle for children so as to provide an alternative to the existing products. And in the bigger scope be a part of future social change by changing the way things are designed.

Material

The bicycle frame is mad from steel and most other parts are to. The rims are med from aluminum. The padding in the seat is made from recycled foam. The bicycles life span is difficult to determine but if its handled with somewhat care it should last a lifetime. When its life is over, the bike can be disassembled into its component parts and recycled.

Economical

It is hard to know the economical impact. In any event, it would not be a cheap bike, but would probably end up in a middle or top segment of children´s bicycles. There is arguably an opening for bicycles which are gender neutral or androgynous. The question is if the producers are willing to take a chance and exploit this opening and reach that consumer group.

5. Acknowledgments

I would like to thank some people for their help, support and frankly just for being.

Amira my dear, brave, talented, amazing and in all ways wonderful daughter. You are my inspiration. without you, this project had not happened. A huge thank you for putting up with your dad being away so much. You are the best!
Mom & Dad for all the support and help
Sten Lindgren for being an awesome welder
Kalle Klockars for superb tutoring and support
Joachim Harrysson for workshop tutoring and help with production
Cykel kungen
Johnny Friberg
Peppe
Ida
Niklas
And last but not least all my wonderful friends

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7. Picture Index

All images are created and owned by the author unless otherwise stated.

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8.1 Appendix

Project description, p. 36-37

8.2 Appendix

Final presentation, P. 38-67

Bernhard Sandqvist 801224-0118
University of Gothenburg,
School of Design and Crafts (HDK)
MA Program in Design, CCD, 120 HP
Course: DEMCD4, Preparation Degree Project 4HP
Examiner: Henning Eklund
Tutors: Henning Eklund, Katja Avenstam

2013-01-25

Exam project: Toy vehicles and gender

Background:

I have a background as an industrial designer and have chosen to specialized in child culture design for my masters studies. I have worked with a lot of different types of artifacts during this period but there is one area I have not had time to investigate yet, toy vehicles for children such as bikes, scooters and other kinds of ride along toys. These are products that I have wanted to work with ever since I bout my daughter her first bike. I found it to be quite gender divided and stereotyped product range.
I wondered why and asked the store clerk, the answer I got was “it's what the customers want” I asked my self, is it truly so? Am I the only one who think this is strange? Why does it look like this? With these questions in mind I start my thesis.

Aim and purpose:

I want to explore this subject in this thesis project, by analyzing the market and locking at it from a gender perspective and the interesting duality in how the market works with products for children. On the one hand you have the child as a target group and the intended end user but on the other hand you also have the buyers, parent or other adults as a target group. How does this affect the product and the design in a gender aspect? Through studying the issue of gender and products for children and analyzing this market and its products I hope to get a better understanding for how the market works around these issues and products. Why does the market look the way it does? Who is working with this? Are my preconceptions right?

It is also of utmost importance not forget the end user an what there needs and wishes are, in the end its a toy which it is supposed to be fun and intriguing. Toy vehicles are meant to be a fun way to get around and practice and develop motor skills and sense of balance.

Bernhard Sandqvist 801224-0118
University of Gothenburg,
School of Design and Crafts (HDK)
MA Program in Design, CCD, 120 HP
2013-01-25
Course: DEMCD4, Preparation Degree Project 4HP
Examiner: Henning Eklund
Tutors: Henning Eklund, Katja Avenstam

Issues:

- How does it work with children and parents as target groups?
- Consumption, gender, parents and children, how does it work?
- Gender and toy vehicles, what does the market look like?
- The toy vehicle, historically and at the present?

Target Group:

Children and adults. The child as user and the parent as buyer.

The industry and design world. As producers

Expected results:

Its hard to determine what the outcome will be at this stage but probably some kind of artifact or artifacts with there base in the research mad during this period what this might be is to early to say.

Keywords:

Toy vehicles, gender, consumption, market, fun

Time Plan:

Week: Goals:

50-3 Project description (Preparation Course)
4-5 Research, Inspiration, Brainstorming
6-7 Research, Study visit, Inspiration, Sketching (Writing report)
8-10 Research, Inspiration, Sketching, Models (Writing report)
11 Mid presentation (Writing report)
12-13 Sketching, Development (Writing report)
14-15 Development, Working on Model (Writing report)
16 Finishing work, details! Poster, presentation, finishing the model (Writing report)
17 Final presentation (Writing report)
18-21 Writing report
22 Hand in report/portfolio
23 Present at the Exhibition

Hen Bike

— En Barncykel

Examensarbete CCD Master 2013

Av: Bernhard Sandqvist

Agenda

- Bakgrund
- Marknad
- Målgrupp
- Ergonomi
- Lag & säkerhet
- Inspiration
- Inledande skissfas & brainstorming
- Workshops med barn
- 2:a skissfas
- 3:e Skissfas/koncept
- Slutgiltigt koncept
- Modell/Prototyp arbete
- Nästa steg
- Frågor

Bakgrund

- Egen upplevelse
- Varför genus

Marknaden

Marknaden

Marknaden

JUNIOR

JUNIOR 400 POJK 12

JUNIOR

JUNIOR 401 FLICK 12

JUNIOR

JUNIOR 403 POJK 20

JUNIOR

JUNIOR 420 POJK 16

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JUNIOR 430 FLICK 16

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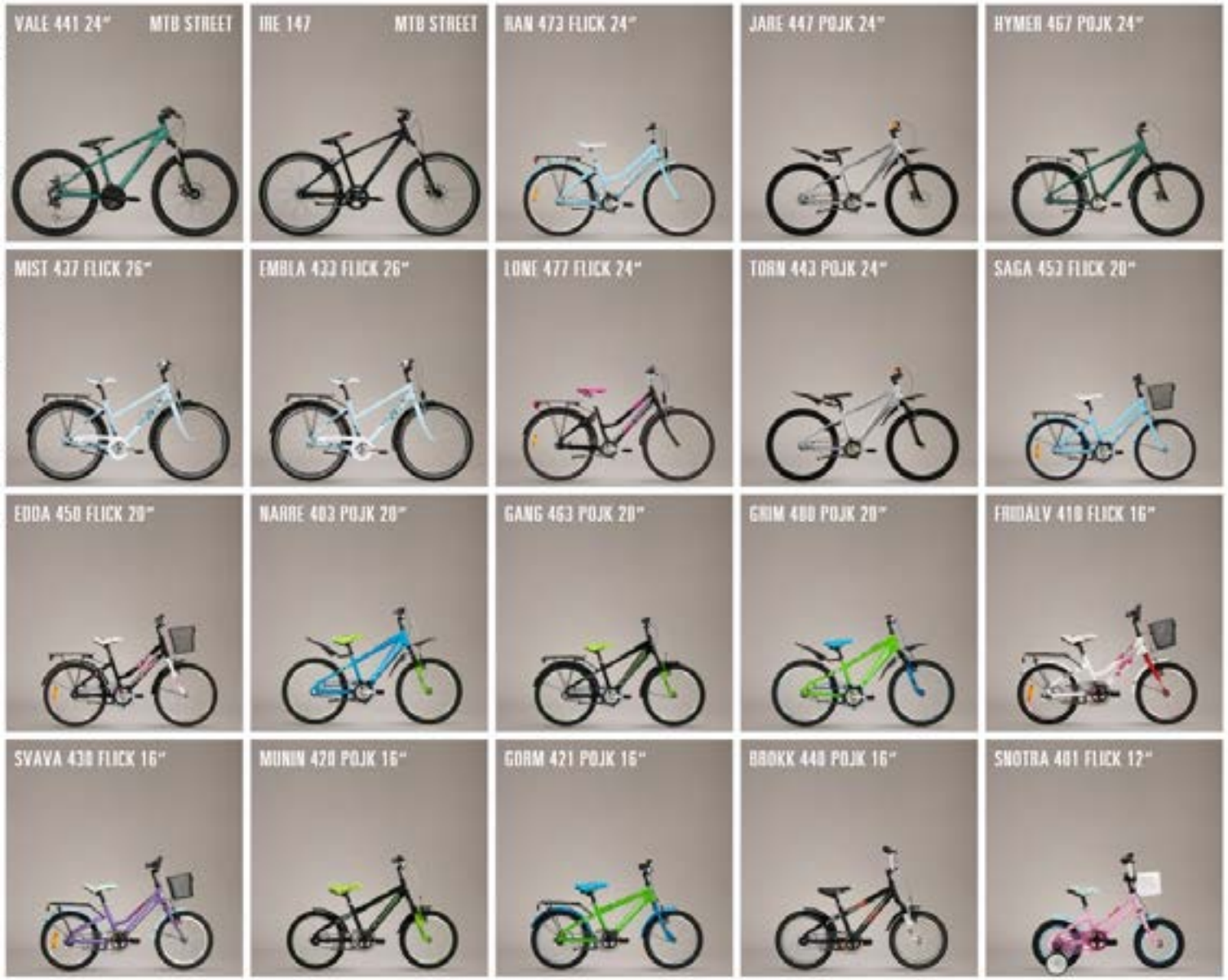
Marknaden


VALE 441 24" MTB STREET
IRE 147 MTB STREET
RAN 473 FLICK 24"
JARE 447 POJK 24"
HYMER 467 POJK 24"
MIST 437 FLICK 26"
EMBLA 433 FLICK 26"
LONE 477 FLICK 24"
TORN 443 POJK 24"
SAGA 453 FLICK 20"
EDDA 450 FLICK 20"
NARRE 403 POJK 20"
GANG 463 POJK 20"
GRIM 480 POJK 20"
FRIDALV 410 FLICK 16"
SVAVA 430 FLICK 16"
MUNIN 420 POJK 16"
GORM 421 POJK 16"
BROKK 440 POJK 16"
SNOTRA 401 FLICK 12"

Marknaden

Marknaden
Slutsatser

- Påtagligt genusuppdelad
- Sporigt och tuft till pojkar
- Gulligt och funktionellt till flickor
- Tydlig uppdelning i färg val enligt genus normen
- Det finns några, men få undantag

Målgrupp

- Barn ålder 7-10(12)
- Medelklass
- Innerstad/Tätort
- Medvetna barn och föräldrar
- trendkänsliga

Ergonomi

- Det är viktigt att cykeln inte är förstor
- Benet bör inte vara helt sträckt när pedalen är längst ner i sin rotation.
- Barn bör ha fot broms då hand broms kan vara svåra att använda då handstyrkan inte är tillräklig.
- Det är lämpligt att sadeln inte är högre än att barnet når marken med bägge fötterna sittandes.
- I regel är en 20 tums cykel lagom för barn mellan 6-9 år eller är mellan 115-140 cm lång.
- Ett styre som ger en upprätt sitt position är även bra då barn inte utveklat periferiseendet fult ut än.

Källa:Ergonomics for children : designing products and places for toddlers to teens / Rani Lueder, Valerie J. Berg Rice [editors]. - 2008. - ISBN: 978-0-415-30474-0 (hbk)

Lag & säkerhet

Enligt lag måste en cykel alltid ha

- ringklocka
- broms

I mörker måste cykeln också ha

- strålkastare fram som visar fast vitt eller gult ljus med sådan ljusstyrka att du kan cykla i mörkret på betryggande sätt, eller en lykta fram som visar fast vitt eller gult ljus som tydligt kan ses på ett avstånd av 300 meter.
- baklykta som visar rött ljus som tydligt kan ses på ett avstånd av 300 meter. Baklyktan får avge blinkande ljus om blinkfrekvensen är minst 200 blinkningar i minuten.
- godkända reflexer. Vissa tillverkare sätter vit reflex i strålkastaren eller lyktan fram. Det kan ersätta den separata vita reflexen fram. Reflexen bak ska vara röd och sidoreflexerna ska vara orangegula eller vita.

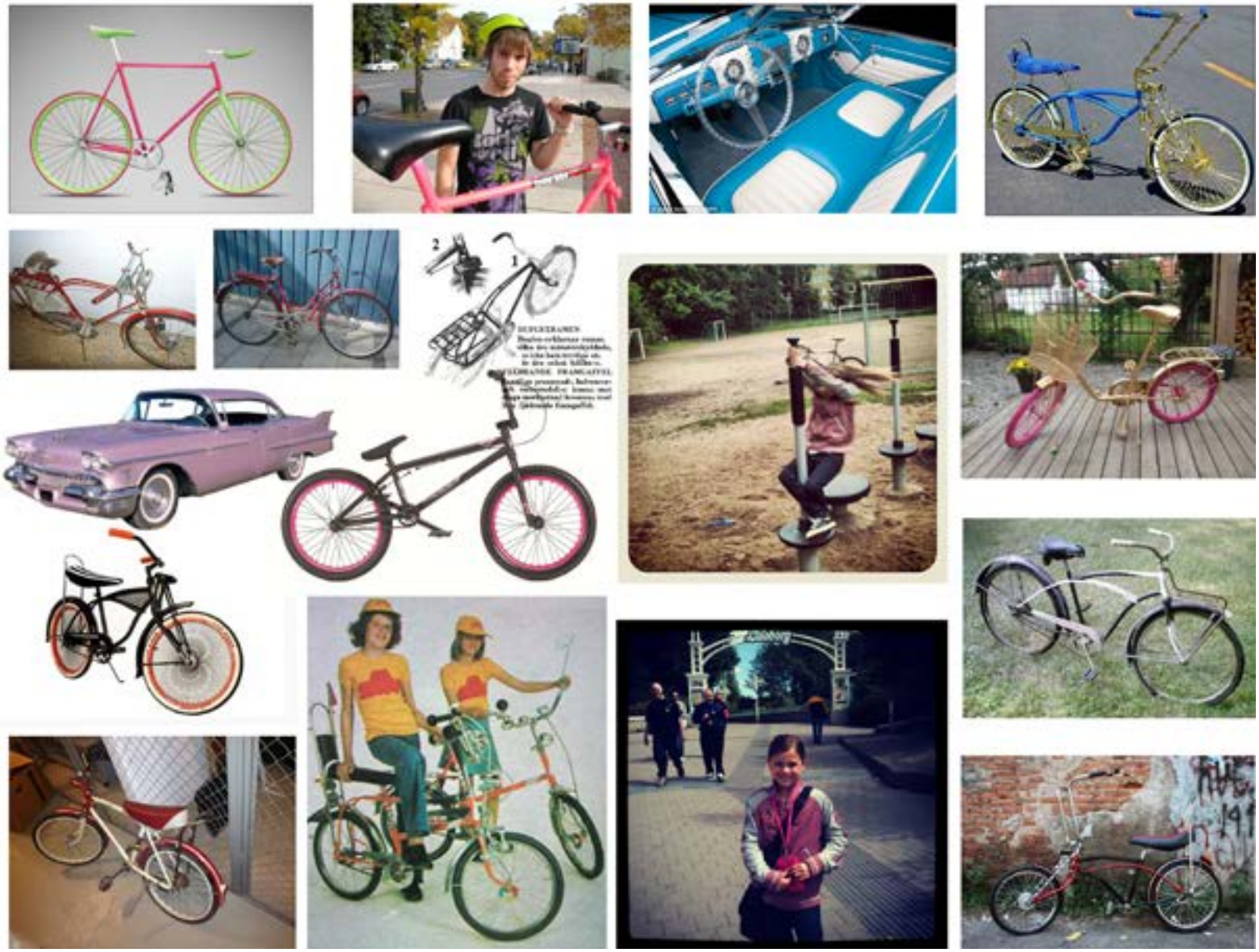
- Alla barn och ungdomar under 15 år ska använda hjälm när de cyklar eller blir skjutsade på cykel. Så säger lagen som trädde i kraft den 1 januari 2005.

Produkten bör även följa:

lagen (1992:1327) om leksakers säkerhet
EU:s produktsäkerhetsdirektiv 2001/95/EG.

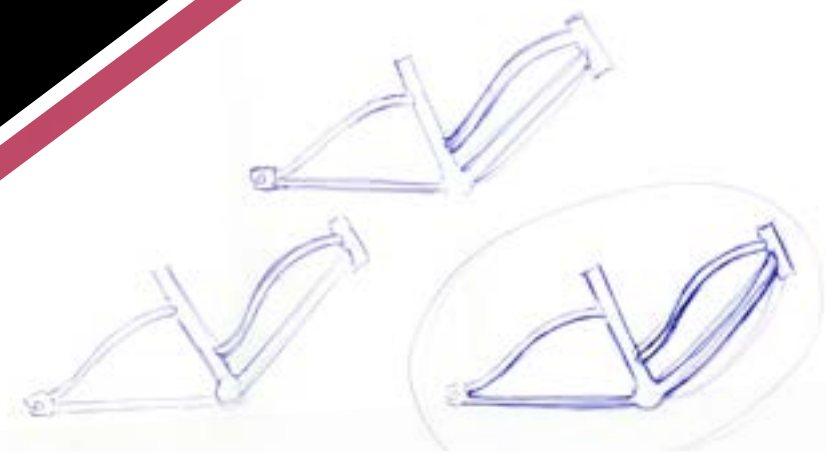
Källa: Transportstyrelsen http://www.transportstyrelsen.se/Vag/Fordon/fordonsregler/Cykel/

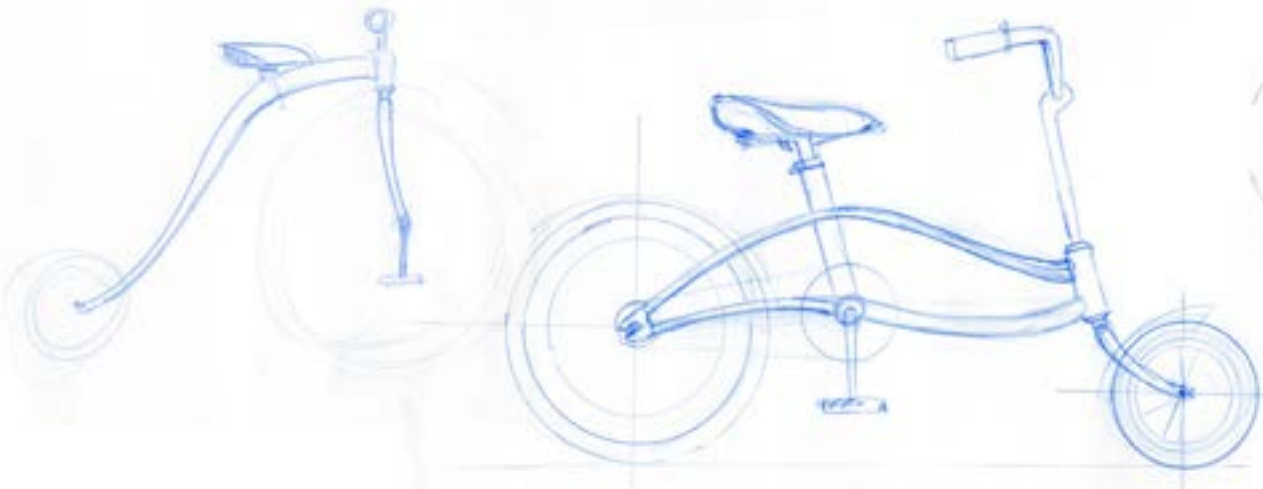
Inspiration



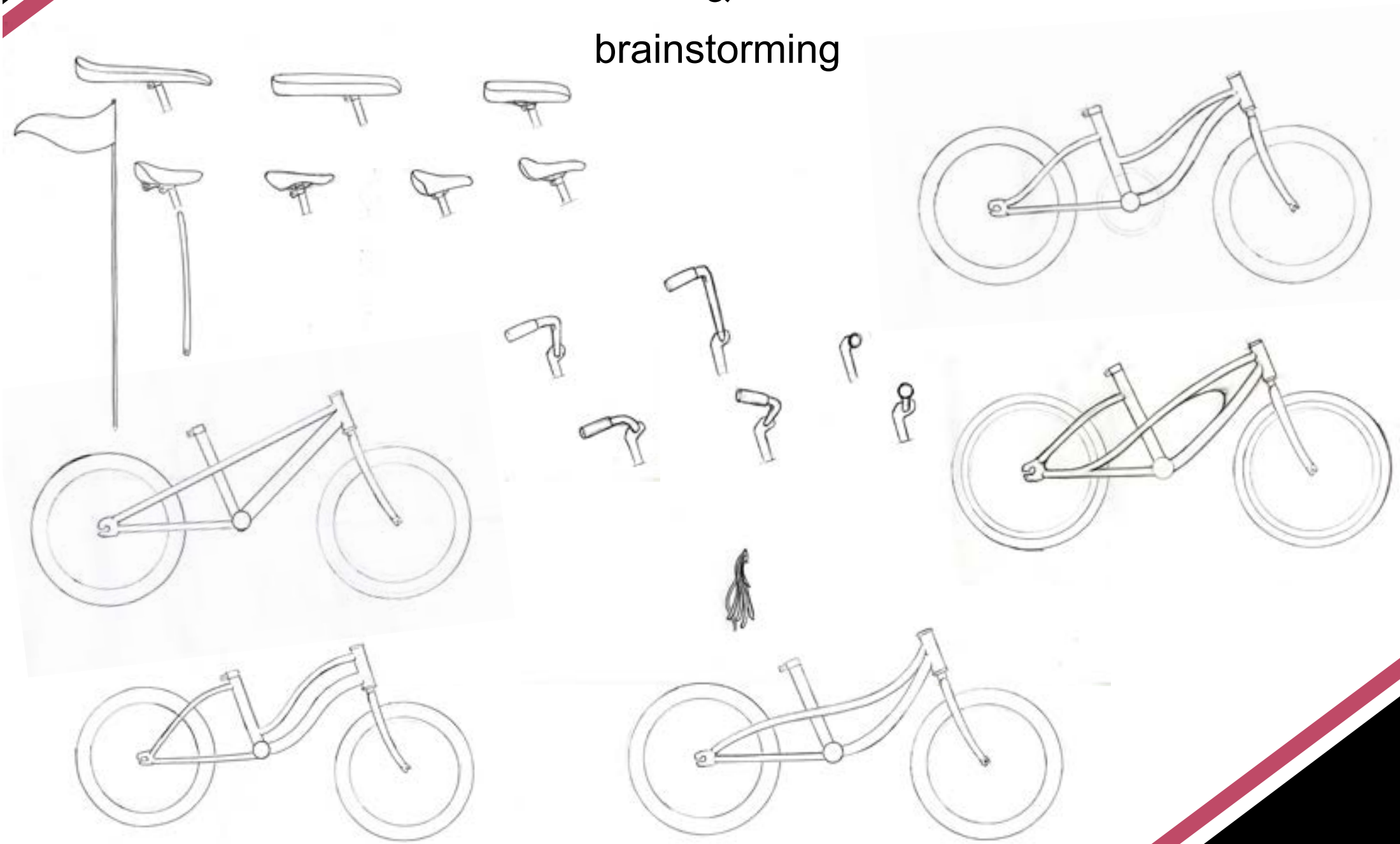
Inledande skissfas
&
brainstorming

Inledande skissfas
&
brainstorming





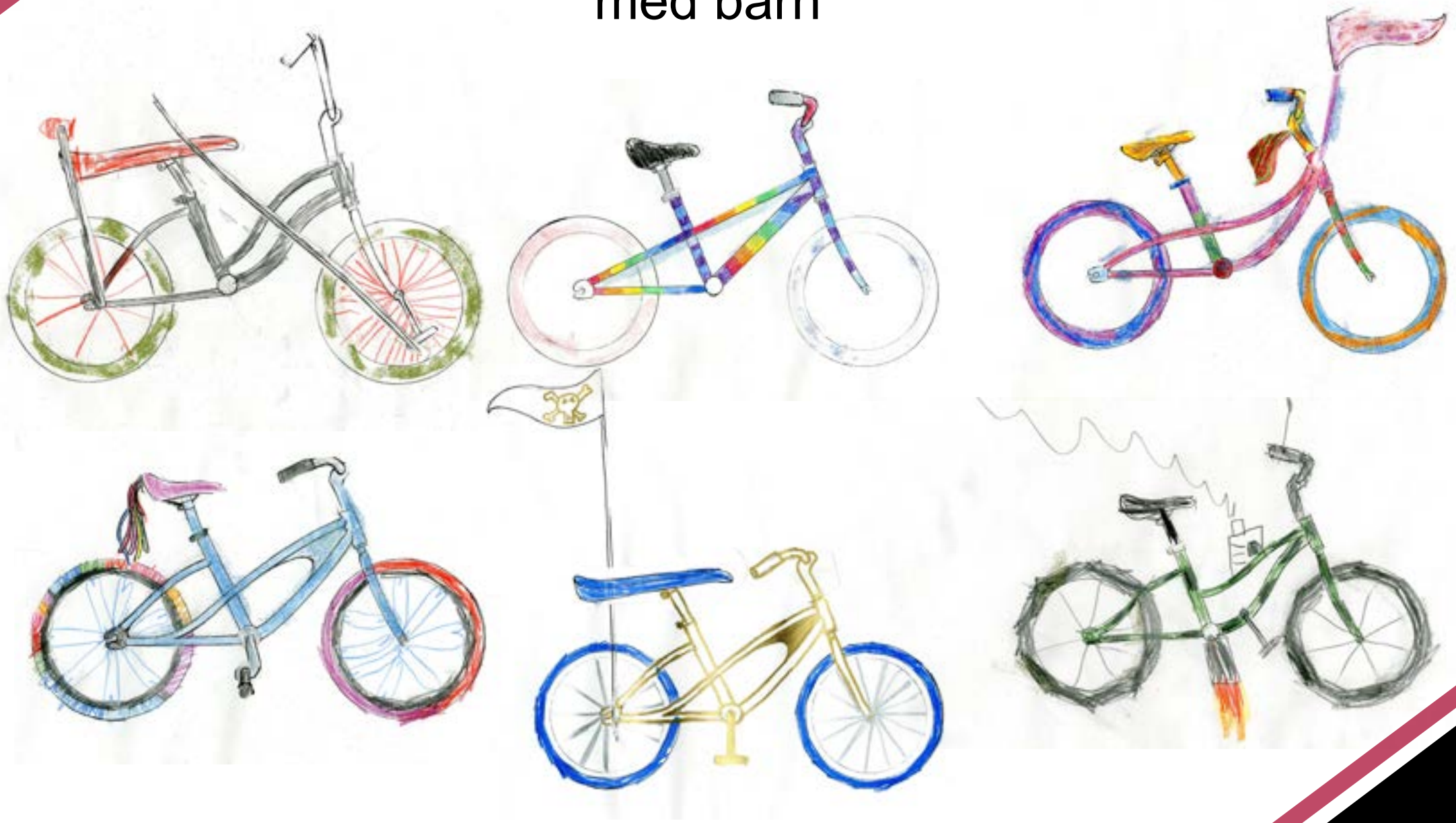
Inledande skissfas
&
brainstorming



Workshops
med barn

Workshops
med barn

Workshops med barn



Workshops med barn

Workshops med barn slutsatser

- Väl verserade i genus frågor
- Trend känsliga i viss mån
- Det finns inga flick/Pojk färger
- Det finns pojk/flickcyklar
- Saknar rellation till lipsadel
- Limpsadel är mer flicka än pojke
- Låg ram är bättre för att det är lättare
- Glitter, silver och guld är fint
- Mjuka former föredras

2:a skissfas

2:a skissfas

3:e Skissfas/koncept

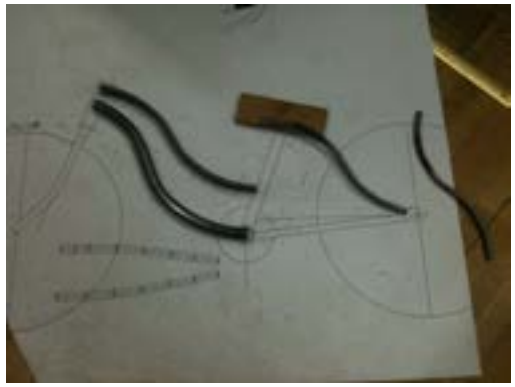
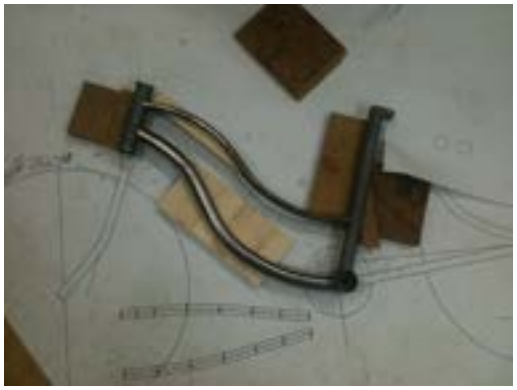
3:e Skissfas/koncept

3:e Skissfas/koncept

Slutgiltigt koncept

Modell/Prototyp arbete








Nästa steg

- Lackering
- Färdigställande av sadelpanna
- Tapetsering av sadel
- Utvekling av tillägg
- Återkoppla med fokusgrupper
- Se hur målgruppen motar konceptet
- Se över produktions vänlighet

Nu till frågorna!