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Abstract
This project will be framed around three different topics: Autonomous vehicle design language, Scandinavian emotions, and Sports car practicality. A further exploration of those themes resulted into an interesting design challenge, imagine the future of sports cars when they start developing into autonomous vehicles. In addition, to a future leisure focused lifestyle that will put the family and personal development, as a main aspiration. All of these embodied into a commemoration product for one of the most significant Scandinavian brands: Volvo.

The outcome is a celebration vehicle for the first century of the car company, and also for the tenth year anniversary of their autonomous technology. A car that captures Volvo values of Innovation, safety, family focused design, and Scandinavian emotion in an unusual package.
Introduction

The attributes written here are a condensed list of what I believe are good qualities in a product. Moreover, those are the desired characteristics that this project should strive for. At the end, that list of words should correspond with the virtues that this design project will be proud of.

Many of this keywords were nurtured during my design education, which the last part took place in a peculiar region of the world, Scandinavia. There is no accident that I am studying in Sweden. Most of my ideals in design are in line with what Scandinavian Design preaches. My personal goal in this last project, is to reflect as much as possible this design qualities.

Throughout the last two and a half years I been living in Sweden, I have gained invaluable experience and knowledge of what is it Scandinavian. Being an external observer of this society, made me more conscious of the elements that makes Nordic society so peculiar and special.

Lagom; Allemansrätten; Jantelagen, are unwritten rules that shapes the core values of Scandinavian society. Although, those values are often confused as the reasons why Nordic society is cold and restrained compared to others. However, after some years living in Scandinavia, I could personally assure that emotions are present in everyday life as in any other society. The difference is in how they are manifested, reaching some level of subtlety as no other culture offers. I believe this is an interesting topic to explore in this project. Finding how this subtle emotion takes place, to then translate it into something physical, as in this case a vehicle. The other important side of this thesis project is the type of vehicle in which this emotions will be implemented. Autonomous vehicles are a technology that is being strongly developed by most of the OEM’s around the world. However the public is rather uninterested to own this kind of vehicles, and the cause of this could be design related. This project will be worked in collaboration with the unique Scandinavian car brand on the market, Volvo Cars, and the Gothenburg based design consultancy called “Berge Consulting.”
Emotional cars are not practical

Scandinavian passion essence

Lack of emotions of autonomous vehicles
First thoughts

Three different sources of inspiration are shaping this thesis:
- Autonomous vehicles development is going fast, but no manufacturer has come up with a solution to show them as an attractive vehicle to own. Many suggest that the lack of emotions is the main reason why autonomous cars are not attractive to the regular consumer. People see no difference between current public transportation and this kind of technologies.
- On the other hand, emotions is something that is often overlooked, but is truly present when it comes to Scandinavian design. Exploring the essence of this style will lead into recognize the emotional elements and how to translate them into a vehicle design.
- Sports cars are designed as the pure essence of emotional design but they lack of practicality. This seems an never fully solve issue of this type of cars that are unsuitable for family life.

"We’ve all heard of this happening. Guy has a baby and suddenly the sports car is up for sale and he’s rolling in a mini van. Nobody wants that". A car enthusiast complain at Oppositelock. jalopnik.com
Method

This project will go through five different steps. Understand and propose is the first step which consists of researching different topics that help to comprehend the whole scope of the project. The final brief of the project is a consequence of this exploration. The next step is to find inspiration that stimulates the creation of new solutions. Placing all the information from the research and combining them with the inspiration will be the third step, where sketching, and CAD modeling will be the medium chosen for this stage. The fourth step will consist in translating the chosen proposals from the previous stage into reality. Check and test the viability of some key elements of those proposals and build a scale model of the vehicle to present them as the final result of the thesis.
Understanding the essence of Scandinavian Emotion

Potential of autonomous driving

Future families. Size: S

Understanding the future of sports cars

Volvo design heritage

Autonomous mobility

Volvo new design strategy

Unwritten rules of Nordic countries

Emotionless vehicles

Volvo sports link

Benchmarks

The epitome of sports cars

Future family. Leisure focused
Research
To understand which elements describes emotions in Scandinavian design, first is necessary to comprehend what is called “Scandinavian design”.

The design movement was born in the 1930’s, heavily inspired by different manifestations of modernism through Europe. Scandinavian designers were influenced by everything going on around them, but they added their particular tradition of craftsmanship and efficient use of limited material resources. The ideas gradually evolved into design principles and philosophies that eventually had international effects.

Modern movements at the beginning of the twentieth century were known by being rational and functional. What Scandinavian designers did, was to “humanize” the movement by employing natural materials such as wood, wool, leather, hemp, among others. The term “Scandinavian Design” was conceived since the 1950’s, when several design exhibitions under that name were held around the world. Products from Sweden, Finland, Denmark, Norway and Iceland were presented to the world with the objective to promote the “Scandinavian way of living,”.理解斯堪的纳维亚情绪的本质

Understanding the essence of Scandinavian Emotion
Those shows exhibited several products made by Nordic designers and established the meaning of the term that continues to today: beautiful, simple, clean designs, inspired by nature and the northern climate, accessible and available to all, with an emphasis on enjoying the domestic environment.

Another remarkable feature was that they democratize the access to design, by using new manufacturing techniques to build their products at reasonable prices. This was mainly because of the social policies in the mentioned region, were a big influence in how this design movement evolved. Most of the Nordic countries adopted social left-wing politics in the 60s and 70s. This lead to political models that assured a high social welfare for all their inhabitants. This was naturally reflected on their design, and the products had to fulfill the needs that this types of policies required.

The golden age of Scandinavian Design extends from the 1930’s to the 1970’s. Featuring designers such as: Alvar Aalto, Arne Jacobsen, Borge Mogensen, Hans J. Wegner, Verner Panton, Poul Henningsen, Maija Isola, and many more. This precursors have set the values which still inspires

the modern Scandinavian design movement. Scandinavian design is often referred to as democratic design, because of its aim to appeal to the masses through products that are accessible and affordable. Nowadays, design from this region is described by many as being fairly minimalist, with clean simple lines. Highly functional, the style is effective without needing heavy elements; only what is needed is used. The concept of “beautiful things that make your life better” was, and still is, highly regarded too.

[1] Their search for “ideal forms” has led them to find inspiration not only from cultural sources nurtured over many generations, but also from the wonderful variety of shapes found in the natural world – for example, the patterns of frozen ice, the curving shores of a lake, the texture of tree bark.

Scandinavian designers today maintain the belief that for a product to be successful it must harmonize poetry and practicality so as to satisfy both the heart and the head.[2]
“Ideas are the key — intellectual, emotional, human. Simple ideas, literally or metaphorically hidden behind semi-transparent veils, and therefore not immediately apparent. A play with inherent semiotics, unexpected materials or symbols from a disparate area. But not too obvious — rather for each and every one to discover. Realized ideas instead of revealed principles of construction. Swedish or not — this is the future of design. I call it emotional functionalism.” [3]

Mårten Claesson about the future of Swedish design

The future of Scandinavian Design is aimed to override the desire for a simplified expression, by rethinking modernism, through the use of new technologies, and by also dealing with the new ecological concerns. The objective is to create a design style that is based on experiences and sensibility. The new Scandinavian aesthetic of industrial design that is accessible and available to all, will have a touch of grace, that reminds the user that the product’s creator is human. This is exactly where the emotional side of the future of this design movement is.

This personal touch is subtlety presented as contrasting textures and material, change of colors (mostly contrast between warm and cold), soft surface details, thoughtful ergonomic solutions, and by being inspired by nature. Those are the special details that connects the user into a more personal relationship with Scandinavian products.

The goal is to make experiences that result in a pleasant adventure with the product, where the user is bound to interact, and discover at the same time the design intentions of its creator. This generates a deep emotional connection between the user and the product; between the designer and the user; between the user and the brand.
Scandinavian Emotion

Features & Materials

Human-centered
Designer touch - warm feeling

Subtlety
Discovery through interaction
Strong contrasts (Colors & Shapes)
Nature inspired

Nature Inspired
Connection with the environment
Lagom is a Swedish word with on translation in English, with means “just the right amount”. According to Wikipedia, the origin of the term is an archaic dative plural form of lag (“law”), in this case referring not necessarily to judicial law but common sense law. A translation of this could be “according to common sense”. A popular folk etymology claims that it is a contraction of “laget om” (“around the team”), a phrase used in Viking times to specify how much mead one should drink from the horn as it was passed around in order for everyone to receive a fair share.

In a single word, lagom is said to describe the basis of the Swedish national psyche, one of consensus and equality. It is still widely considered ideal to be modest and avoid extremes.[4]

Lagom is also translated into how Scandinavian Design is expressed. There are no excessive elements, nothing is too modest or too extravagant. Every element is in the right amount. And finding right balance is one of the most difficult (and probably more desirable) feature to archive to any designer in the world.
There are three rules that forge the social “backbone” of nordic cultures. “Lagom”, “Jantelagen” and “Allemansrätten” are presented as unique elements of Scandinavian mentality and in fact, they are reflected in any expression generated from this part of the world.

The Jante Law is the idea that there is a pattern of group behavior towards individuals within Scandinavian communities that negatively portrays and criticizes individual success and achievement as unworthy and inappropriate. The Jante Law as a concept was created by the Dano-Norwegian author Aksel Sandemose in his novel “A fugitive crosses his tracks”. Generally used colloquially as a sociological term to negatively describe an attitude towards individuality and success common in Sweden and the rest of the Nordic countries, the term refers to a mentality that de-emphasizes individual effort and places all emphasis on the collective, while discouraging those who stand out as achievers. [...] Usually referred to as a homogeneous unit: You are not to think you’re anyone special or that you’re better than us. [5]

Collective thinking is also part of the design expression in Nordic countries. Jantelagen based products could be the reason why Scandinavian product does not stand out on a first glance at the showrooms. Nevertheless, social law “force” designers to be subtle, which in the end provokes a deeper and more intimate connection between the product and the user.

Allemansrätten is the general public’s right to access certain public or privately owned land for recreation and exercise. Today these rights underpin opportunities for outdoor recreation in several of the Nordic countries, providing the opportunity to hike across or camp on another’s land (e.g. in Sweden for one or two nights), boating on someone else’s waters, and picking wildflowers, mushrooms and berries. However, with these rights come responsibilities; that is, an obligation neither to harm, disturb, litter, nor to damage wildlife or crops. [6]

The connection with an outdoor lifestyle has been also reflected in the design language of the region. Nature is one of the most important inspiration sources, and the task to protect it is also part of the Scandinavian Design mentality. The use of environmentally friendly materials, and recycled products are a requirement from the market and also from the consumers.

In addition, Nordic people enjoys to be exposed to the elements. It not a coincidence that many of the outdoor best brands are from this region: Fjallraven, Helly Hansen, Haglöfs, Hestra, Lundhags, POC, among others.
The brand was founded by entrepreneurs Assar Gabrielsson and Gustav Larson in 1927 with the vision of create an original Swedish car that could withstand the rigors of Sweden’s rough roads and cold temperatures. Since the foundation, Volvo developed quickly, and by 1944 the first world market hit came with the PV444. The vehicle was a great success especially for the attractive sleek design, high quality construction and safety features. The next decade welcomed probably the most important figure related with the design of the brand. Jan Wilsgaard started his designer career in 1950. He was personally involved in the conception of almost all the vehicles developed by Volvo from 1950 to 1990 when he retired. Wilsgaard and his team developed most of the design trademarks of the brand. The P121, better known as “Amazon”, was the first car fully designed by him. The Amazon featured a distinct line from the front to rear of the car and pronounced “shoulders” which helped to accentuated the safety figure of the company. The next car, the 144 came with one of the most recognizable silhouettes in car design. The boxy shape of the 144 and the estate version of it, are one of the most design important icons of Volvo. Wilsgaard was also instrumental in the development of the “estate” body type. The P1800 ES was another of his creations which featured a fully glass rear hatch in a 2 door Estate vehicle (called Shooting Break).

All those vehicles shaped most of the Volvo design features over the decades. Today, is easily to identify a Volvo by the Arc line from the front to the rear of the car; the strong shoulders, the simple (rather boxy) silhouette, especially on the estate models; and the unique glass hatch.

The future models will be conceived to take advantage of all this particular design characteristics.

“Follow the laws of nature and don’t complicate matters! Functional and sensible designs are often the best looking.”

Jan Wilsgaard, Volvo Chief designer from 1950 to 1990
The ambition is to take the brand into a new directions, and position Volvo as a distinctive premium brand. Being the only brand that offers an authentic Scandinavian Design interpretation to the automotive market, the company plans to establish itself in a competitive market dominated by the German brands.

With the release of the Volvo Concept Coupe in Frankfurt 2013, the new design language started to take shape. In the concept, the new key design features are shown to the public for the first time. Up front, T-shaped running lights bracket what the brand calls a “floating grille” with a “distinctive iron mark.” The side profile is dominated by a distinct bow that can be seen, in a slightly more mellow form, on current Volvo vehicles, and the broad-shouldered rear end is bracketed by slender C-shaped taillight clusters. All these elements are planned to be shared by the whole future car lineup, as unique brand design.
features. However, those characteristics are projected to be presented in three original “flavors” depending on the type of vehicle.

The brand divided the design strategy into 3 different interpretations of what Scandinavian lifestyle is:

**Scandinavian Authority**

**Scandinavian Activity**

**Scandinavian Creative**

Thomas Ingenlath described in this way the new design directions.

“In my opinion, Volvo design has always had a certain authority. We aim to extend this calm, intelligent and strong side of our brand with a greater potency, modernity and expressiveness. Concept Coupé clearly expresses this direction.”

“Outdoor activities are an important part of the Swedish lifestyle. We will continue to refine Volvo’s strong connection to these activities with more emphasis on modernity. It’s about making functionality an emotional experience. Just like an exclusive goose down jacket, our cars will have a true feeling of sophistication with an underlying strength and capability.”

“Creativity is thriving in the Swedish society. This includes design and technology as well as the fashion, music and art scene. We use this as an inspiration for creating a new kind of attainable luxury. Our future cars will show that there are new, exciting ways to express the soul of Sweden.” [9]

This new design strategy has been highly appreciated by experts and enthusiast, and with this reinvention Volvo is regaining attention from customers and media.
Volvo
new design features

Bullet nose & Floating grille
Confident-look front

T-shaped
Running lights bracket
Flowing/controlled
Scandinavian feeling

Broad-shoulder
Brand heritage
Volvo
new design features

Big glass surface
Brand heritage

Machined-down
Robust surfacing
Rear mask surface
Brand heritage

C-shaped
Rear lamps cluster
Another important area that the brand is researching is Autonomous Vehicles. Volvo states that self-driving vehicles are crucial to fulfill their safety vision that the company marked as a future objective back in 2007. “No one should be killed or seriously injured in a new Volvo car by 2020” is the main aspiration for the coming safety features of the brand. The company products are worldwide known as the safest cars on the market. This one the core value of Volvo since the foundation of the brand in 1927. “Cars are driven by people. The guiding principle behind everything we make at Volvo, therefore, is and must remain, linked around safety. For that reason, Volvo believes that pioneering technologies involving extensive use of driverless mobility is crucial to invests on the developing of autonomous technology. As Håkan Samuelsson, President and CEO of Volvo Car Group stated: “As in the past, the future of the brand will be strongly linked to safety.” Assar Gabrielsson and Gustav Larson (1927).
Volvo believes in the development of autonomous driving as a necessity for the evolution of the brand in the future. Not just only to achieve the company “safety vision”, but also as a unique selling point to offer to the future market.

support systems will not only help us realize our safety vision but also bring strong societal and consumer benefits,” […]

“Volvo Cars’ long-standing human-centric approach and commitment to safety gives us a different starting point from other car manufacturers when we address the field of autonomous driving,”

Several real-world experiments have been planned to take place in the near future, one of them is called “Drive me”. In 2017 Volvo Cars, in collaboration with the city of Gothenburg in Sweden, will test a sophisticated self-driving technology. 100 autonomous cars will be driven on public roads through the city. This will be one of the first real experiences with self-driving vehicles in the world and a strong statement for the brand.

Safety is not the only benefit from this new technology. Fuel consumption will be reduced in some cases up to 50% depending on the situations. In addition, the consumers will be awarded with several benefits as this article states:

**Strong consumer benefits**

Autonomous driving will carry significant consumer benefits. It will fundamentally change the way we look at driving cars. As a driver in the future, you will be able to plan your drive with a mix of autonomous and active driving, allowing for efficient use of your daily journey. You could safely interact via phone or tablets or simply relax. Autonomous driving safely thereby paves the way for more efficient time-management behind the wheel.

Autonomous driving – with steering, acceleration and braking automatically controlled by a vehicle that requires very little human interaction – is already present in the modern transport society.

“Hardly anyone thinks twice about being in an airplane that flies on autopilot, but being in a car that drives by itself while the driver reads a book is still quite a revolutionary thought for many people,” says Håkan Samuelsson. [10]
Emotionless vehicles

This issue is associated with the incapacity of the public to being able to identify with them. One of the causes is related with the absence of an adequate design language for this kind of vehicles. Most of the autonomous machines that are on the news right now (Ex: UAVs) are designed without any recognizable “human” feature. This lack of “human” characteristics makes them hard to be understood for most of the people. The general public perceive their object on the same way that they recognize humans. Therefore, design elements like eyes, nose, and mouth are vital for any sort of product to be understood by the consumers.

According to Wikipedia, Face perception refers to an individual’s understanding and interpretation of the face, particularly the human face, especially in relation to the associated information processing in the brain. The proportions and expressions of the human face are important to identify origin, emotional tendencies, health qualities, and some social information. Humans interpret cars the same way as they do with faces [11]

In the new study published by Vanderbilt University

Researchers report that they have recorded the activity in the FFAs (part of the brain believed to be in charge of facial recognition) of a group of automobile aficionados at extremely high resolution using one the most powerful MRI scanners available for human use and found no evidence that there is a special area devoted exclusively to facial recognition. Instead, they found that the FFA of the auto experts was filled with small, interspersed patches that respond strongly to photos of faces and autos both.[12]

Another study probes that people empathize when objects have this familiar characteristics. […] When participants viewed non-face objects (the activity in the FFAs) was not as strong as when participants were viewing faces, however this could be because we have much more expertise for faces than for most other objects. [11]

According to these studies, it seems that is easier to relate and recognize a vehicle when it has “human-like” features. However, it is also true that is vital for the evolution of autonomous technology to develop a suitable design language that takes advantages of all the unique qualities that this new vehicles will have.
Nowadays self-driving technology, such as Volvo’s City Safety system, which automatically brakes before a collision, is getting more and more common on the streets. Yet while these systems can take control from the driver, experts think that fully autonomous cars would not take the fun out of driving. If anything, the systems will mitigate the parts that aren’t so fun. [14]

However, could be possible that autonomous vehicles deliver experiences that are only exclusive to professional drivers? Researchers at Stanford University in California, believe so and they are moving faster with a self-driving racing car, capable of take the car to the limits.

Engineers at the university have developed an autonomous vehicle which can drive at the limits of vehicle performance. The car recently powered around the Thunderhill Raceway in California, clocking a time only a few seconds slower than a human. [...] The researchers want to learn from professional drivers to make future cars, autonomous or not, more capable and ultimately safer.

This kind of investigations could also mean that autonomous vehicles have the potential to democratize high performance driving, and making it accessible for everyone. Current high performance vehicles are available to everyone, but the kind of experiences that this vehicles could deliver are only reserved to few. Professional drivers expend thousands of hours risking their lives to gain the knowledge on how to drive a car to the limits. Arguably, driving a vehicle using all the capabilities that the car could deliver, is the most engaging experience that a user can have with their vehicle. Nevertheless, not everyone have the time, or the resources to reach this level of expertise. And it also demands to be in perfect physical conditions, which excludes many people with disabilities.

Not many realize the fact that offering exclusive experiences to everyone, is one of the greatest potentials of autonomous technologies have.

"I realized that the technology was driving better than I was, which was embarrassing, but also made me proud at the same time.”
—Anthony Levandowski, Google [13]
Volvo has a strong link when it comes to sports and emotions without forgetting the brand values. Practicality, thinking outside the box and connection with the nature are some of the principles that the company showcase of when it comes to sports.

Examples can be seen from production cars like the P1800 ES, the 1994 BTCC 850R estate, or the Volvo Ocean race, its always a singular approach that characterize the brand sporty efforts.

The Volvo P1800ES is a reinterpretation of a sports coupe, which the main goal was to increase practicability by mixing a coupe with a station wagon. Shooting Brake is the name of this unique layout which was conceived “to take gentlemen on the hunt with their firearms and dogs.” [15]. This kind of architecture was strongly related with the brand since then.

The Volvo 850 Estate Super Touring Car, was built in 1994 with the objective to compete in the British Touring Car Championship. The decision of the car was rather unusual, as Tom Walkinshaw, the owner of the team in charge of Volvo racing efforts, decided to go for the Estate model. The result was a success based on advantages on the aerodynamics over the saloon model, and the car performed well during the 1994 championship.

Volvo Ocean Race dubbed the “Everest of Sailing,” the race covers 72,000-kilometers in an epic nine-month journey across the globe which is held every three years. Sailing around the world is one of the most grueling challenges on the planet, with muscle-bound skippers steering 20-meter yachts through everything from tropical cyclones to Antarctic storms. Probably is one of the competitions where the contestants are in a close relationship with nature and they are forced to endure the most brutal conditions on the globe.
The stance is wonderful: wheels are pushed to the limits of the car’s width and fill the arches satisfyingly. There’s a rule-of-thumb designers have about the correct ratio between wheel height and total height. These cars have that spot-on. There is absolutely no slack, no suggestion of sagging automobile flesh, just sensuous skin-tone, delicate muscle and salacious orifices [16]
The Ferrari 330 P3/4 was one of the legendary contenders in the ferocious battle between Ford and Ferrari in the mid to late 1960’s. Its little brother, the Alfa Romeo Tipo 33 model was built by Alfa Romeo between 1967 and 1969, and this chassis is the most significant of its type. These cars achieved class wins at Le Mans, Targa Florio, Nurburgring, Daytona and Imola.

This two prototypes are considered by many as the most beautiful mid-engined racing cars in history. These are often cited as one of the most beautiful cars ever made. Even though we have in consideration all the attributes a car might have, the Ferrari and the Alfa are not the most practical all-round machines. They have the ergonomics of The Iron Maiden of Nuremberg and the ecological attributes of a Victorian blast-furnace. What then makes it beautiful? [16] The 1967 models have some of the best curves ever. They were not the work of a computer busy digitizing hyperbolic paraboloids, but of Pierre Drogo (Ferrari) and Franco Scaglione (Alfa-Romeo), one of the greatest outsiders in the history of Italian car design.
Sports cars have been present since the beginning of the automobile industry. Briggs Cunningham, the storied American sports-car builder of the 1950s, once declared that “in the beginning every car was a sports car, because they weren’t practical or particularly useful on a day-to-day basis.” [17]

This kind of cars are defined as a small vehicle, usually featuring only with 2 seats, promoting the latest technologies, designed for performance and handling. For that reason, drive-train and engine layout are crucial in the design of a sports car. Powerful engines were one of the main elements to make this vehicles fast. As a result, sports cars had a bad reputation as most unfriendly cars to the environment.

This has been due to change in the past few years. Eco Friendly technologies, like hybrid power-trains and sustainable materials, had helped current sports cars to make a leap in their evolution. This new stage in sports car history, recently called “Hyper-Hybrids” [18], had made them a technological statement of high performance mixed with environmental consciousness. The new breed of sports car began in 2013 when at the Geneva Motor Show, Ferrari and McLaren presented their take on “green” super cars. Later on, Porsche also presented its own interpretation of the Hybrid sports car. The La Ferrari, the P1, and the 918, have set the first iteration on the current sports car generation, where hybrid technologies are having a dominant role. Interestingly, electric/combustion engines were resisted by the consumers 10 years ago when the Toyota Prius was introduced to the market.

Self-driving technologies are going through the same kind of reputation that hybrid technologies had 10 years ago. However, more and more driving aids are being employed on cars in the present, mostly on super cars. The reason for implementing this kind of technologies is that the capabilities of current sports cars are far over the driving skills of the common person. It seems again, that sports cars are set to help with the evolution and acceptance of a technology opposed by the general public.
Once a car enthusiast has a family the first sacrifice is the sports car. So far, no car company has develop a vehicle to fulfill that niche on the market.

The main issue could possibly be that sports cars, in most of the cases, are a by-product of racing cars with one or two occupants at most. So this means that the package of the car is not thought for more occupants (an average family has 3 to 4 members)

However the typical families appears to be shrinking in number for the last 30 years. Many research agree that, in the future an average couple will have only one child.

A transcript from the last OECD research about future families exposed the reasons of this phenomenon:

Most countries have seen a decline in the fertility rate over the past three decades. Today almost no OECD country has a total fertility rate above the population replacement rate of two children per women [...] Increasingly, both men and women want to first establish themselves in the labour market before founding a family. Hence, the age of mothers at first childbirth has risen and with it the probability of having fewer children than previous generations [19]

This social tendency could make the idea of a sports car for the family more viable. In 1992 McLaren introduced to the market the F1, a sports car regarded as many as the best in history. This car had a particular layout, the driver was sitting in the middle (and forward) and the two occupants on the sides. The implementation of this solution was to deal with ergonomic problems common in sports car of that era. Surprisingly, this 1+2 package was ideal for small families, as it was an extra seat for the missing passenger. The solution was a success, however, the car was too expensive and exclusive (only 106 were produced) and the 3 seater sports car vanish with the end of the production in 1998.
Future family
Leisure focused

-The so-called Generation Y have watched with horror as their parents worked punishing hours in their scramble for money and status. Now, as this group go in search of jobs, they have different priorities. They care less about salaries, and more about flexible working, and a better work-life balance. [20]

Another important demographic trend is the understanding that people will focus their lives more and more into a leisure driven lifestyle, rather than a work driven lifestyle. A change of behavior is happening right now, with the arrival of the generation commonly called “Y”, to the labor market is shifting old priorities.

Generation Y is guided by emotions unlike previous generations. The search for happiness especially, is very important in their lives. Leisure activities such as entertainment, food and drink, and travel must have a strong emotional part so that they can escape the daily reality and relax. The tendency to ‘gamification’, fits perfectly in their lives. Brands need to challenge their young audiences and present their products as performances or a moment of luxury to escape reality after a hard day’s work. [21].

In this future reality is easy to predict that most of the focus of this generation will be spending as much time with their family as possible. They prefer working from their homes and taking a day or two off to spend with their family when the weather is fine. A study has found out Generation Y wants to spend 30% to 70% of their time at home.[36]

Future vehicles have to strongly focus on leisure, family, travel and personal development, to be attractive and fitting to this coming generation.
Benchmarks

McLaren F1 (1992) Three seater family sports car. Seating position was adopted to solve bad ergonomics inherent to sports cars of that era. “The F1 was born with three goals,” Murray explains. “One was to solve the problems inherent in most super cars: bad seating position, lack of visibility, terrible pedal offsets, no space to carry stuff in the cabin, poor luggage space, no decent sound system or air conditioning.” [22]

Re-evolution (2013) - Modern Interpretation of the original Sports Car Values

Nicolas Dengel
The aim of this thesis was the development of a small sports car, which is defined not by the addition of a powerful, large-capacity engine, but rather by the reduction to the very essence. In this approach, the basic idea of a re-evolution is in the sense of a great-Porsches, at the modern technology and design in an extremely purist vehicle find their realization. As the future zeitgeist does not allow sports cars in the modern sense, was the motto, to create an experience vehicle without a bad conscience: A vehicle that rebels through the effective use of a gasoline engine against the emotionless future of electric mobility and thus the “Little Bastard” character of the James Dean Porsche picking these up. [23]
Volvo Air-motion (2010)
Dean Bakker
Part of the 2010 LA Design Challenge, the VCC design team presented their take on the lightweight car of the future. The clamshell-inspired Volvo Air Motion Concept. The aim was to reduce the total number of components. The chassis, interior and suspension design have also been simplified to further keep the vehicle light. Also a distinctive power-train had been selected for the project. The concept is powered by compressed air and recharged at “Air Replenishment Sites”. These are floating air turbines that would be used to turn wind power into electricity to provide the air compression, that later will power the car.

Opel Icona (2010) Family vehicle with a recreative aim
Juan Pablo Bernal
Perceiving the need for family vehicles of the future to provide not just transport but also opportunities for “an element of entertainment, sharing, and bonding”, Bernal devised a two-seat amphibious vehicle for the Opel brand that would foster family relationships. Completed while on internship in Russelsheim, the Icona has a sail incorporated into the rear deck and articulated rear wheels that retract into the body when at sea.[24]
The focus of this project will be to apply the elements found to express emotion in a Scandinavian way. Searching for different approaches to translate Scandinavian design into something more visceral and emotional. Tvv
THE BASIC IDEA
BEHIND THE
VOLVO TUNE
"What if enthusiasts would not have to give away their sporty car when the family starts to grow?"
100 År

1927
Volvo 100 years
10 years of autonomous
The user needs
Concept to work
No correlation with the brief!
After few weeks into the ideation phase of the project, the first scheduled reviews outside school were about to take place. The collaborative partner of this project Volvo, had set an appointment at design studio in Gothenburg. That presentation turned out to be crucial in the development of this project, as it was easy to see that the ideation phase had taken a totally wrong direction. The design proposals presented that day were not following the guidelines that the whole research process had set as goals. That was a hard experience to take in, but also an invaluable event as it helped to realize that errors and mistakes are big part of the development of this project too. From now on, the project set into a new design theme, more related to the original research.
SAM IS STILL WORKING MOUTH TO MOUTH

When you drink from an Orrefors glass, you meet Sam Lilja. Sam is the man on the left, in case you were wondering. He’s worked for us for 36 years. He’s probably blowing glass in Orrefors as you read this. He and his colleagues make over 1,200 glasses a day of beloved series such as Intermezzo, Divine and Difference. That might be good for you to know, if you want to enjoy a good wine in the best way.

.createFromSwedenWithLove
Design theme

Scandinavian Emotion
Human protection

- Human-centered
- Love
- Adventure
- Gestures
- Soft
- Protection
- Shelter
- Cocoon
- Welcoming
- Comfortable

Discover

Family

Hug
Human protection

Cocoon
Hug
Shelter
Soft
Comfortable
Welcoming
Human protection

Gesture
Will Pyatt
Object of Desire
2012
Human protection

Gesture
Ideation
Access focused on the passenger side. Taking advantages of the asymmetric layout, the “family” side is more important and special than the driver side. Eye on access to the center child seat is a must.
Key Sketch
Package

- 2020 mm
- 1180 mm
- 2830 mm
- 4800 mm

Volvo V60
Volvo 100 vc
Communication layout diagrams. Understand the best layouts for interaction between occupants
User tests

1:1 projections to test the package.

To work on: - Blind spot
- Accessibility with the baby
Interior layout.
Based on the “hugging” gesture, the interior is develop to support the development of a family on the first 10 years.

Front child seat
From 0 to 3, the child stays close to the parents

Argumented reality IP
Using the blind spot as a functional feature
Child accessories
A space for the kid to have toys or personalize his space

Rear child seat
From 3 up to 10 y/o the child has a dedicated seat
Final result
Interior layout centered on the family. Baby seat in the middle, the safest place and where both parent can take care of the child. On the rear a child seat (3 to 10 y/o) and a dedicated space for the baby stroller.
The initial hugging gesture.
The concept was based in the feeling of being protected by a hug. The design goal was to translate that gesture into a line that wraps the whole vehicle.
The result: The family Sports car.
A sports car that is proud to support the family lifestyle.
Exposing this to the exterior, in a way to change old egocentric values of old generations of this kind of cars
Diagonal Volvo line
The asymmetric design gives a new opportunity to reinterpret the how the front of a Volvo could look in the future. Giving a bold and striking look, using only the diagonal bar as a recognizable element. Leaving away the obvious grille (unnecessary with electric vehicles) with the logo in it.
Proud position of the Volvo logo.
After experiencing the design of the car when it goes through, the only place where the company logo is placed is in the rear shield.
The softer “human” side
The occupants side is the one that is showing to
the exterior the human values of the concept. From
the open view of the interior to the more softer and
sculptural design language
The edgier driver side
As a contrast to the other side of the car. This one promote a suitable design language that states that it is a semi-autonomous concept.
Conclusion
Probably the most significant project that I have ever made.

On a personal level, made me realize how to exploit my talents and more importantly, to detect and overcome many weaknesses. Teamwork was, without a doubt, the key element of the whole process and what I found to be one of my biggest skills. Involving people to collaborate with this project; from Chief Designers, to Therapists, everybody produced a big impact on the final result. Time management and flexibility of proposed schedules, was another aptitude that helped me to steer the whole project into something feasible. On the other hand, patience, and how to manage stress were the main challenges to overcome over the last 6 months. Working on those aptitudes, allowed me to develop my designer skills further as it was the principal goal of this degree project.

The result of this project was a car that give a small personal reflection on what I feel the industry should be offering in the near future to move forward into the next stage. Specifically, I think that new ideas, and concepts that engage the users in a different way, are need it more than before to shake up a slow-progressive industry. Break preconceptions, take some risks and offer new perspectives are the key to attract new users. That will be my next step in the development of my career as a transportation designer. Challenging the industry to move forward into a new stage, will be my next assignment.
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Schedule
Degree work 2014

- Week: 50 51 52 1 2 3 4 5 6
- Research
- Inspiration + Moodboard
- Ideation Phase
- Final Brief
- Christmas
- New Years Eve
- Official Kick off Research Review
- "Theme week"

In Gothenburg
25/2 - 2/3
24/3 - 10/4