BACHELOR FINAL interior architecture

Prosess- og project description:
TO INFINITY AND BEYOND
focusing on historical an future architecture

BOP3102
Bachelor Final in Interior Architecture at Kristiania University College

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Summary
This project will be focusing on the old Laboratory Building for Apothekernes Laboratorium, a central production company of pharmaceuticals from the 1920 to 2006. The building is found at Skøyen in Oslo. Through this project, there will be a focus towards how interior architecture can transform this building into new platforms of learning and social networking; creating an inspiring environment for learning natural science as well as unifying different generation in a social environment.

By gathering informality through interviews, sections and theory, this assignment has developed a proposal answering the thesis. The project holds a conceptual and functional focus, using creative inspiration combined with a solution for best use of space. Colours, materials, form and light is used to create a functional space with more than just sestet aspects. A combination of built in furniture and free standing objects are used in order to fill a larger open space.

The project will be focusing on the 1st. and 2nd. floor where a Café is represented on ground floor and a Newton room for science is created on the 2nd. floor. On behalf of two different themes, the project will also hold two different concepts that works together as a whole.

This project includes a project description, theory whom the project is developed upon, research and creative thinking for concept development as well as a justification of the final result.

Preface
In this assignment there will be focused on two important aspects in todays society. One being the lack of stimulating environment in order to gain interest for important subjects like science and the new generation of scientist for renewable energy sources. The second being a collaborative space for the neighborhood, a ground to find common interests and discover each others
knowledge. I have a motivation towards enhancing learning abilities through interior architecture, and as well as addressing this towards an important course path, it is also one of the toughest platforms for gaining knowledge. It is also important to me not to lose valuable knowledge from those who already got experience and time on their hand to help students and people with an interest.

Through my wide educational path, I have discovered different fields where the hardest and most theoretic subjects where in the natural science. This is a field that gains lots of undeservedly negative feedback, as the field can be one of the most creative and inspiring courses if the education holds the right focus. I remember long lectures about electrodes and the periodic table, when this would be much easier learned through practical education. As we move towards a more sustainable society, it is important to create future scientist who will be able to exploit energy on a whole different level. Sustainable development is a major responsibility for the society and it is important to focus on the future.

Last but not least, I would like to thank those who have helped me through research and all those supporting me with great understanding through this time. I would also like to thank my fellow student for new and hopefully long relations. I would like to thank Møller Eiendom and First Scandinavia for the collaboration. I would also like to give a major thank you to my supervisor Jeremy Williams for the guidance through the project, and my teachers for three inspiring years at Kristiania University College.
Attachment 1 - Review og inspiration, Harbitz Torg
Attachment 2 - Review of inspiration, Technical Museum, Oslo
Attachment 3 - Review of inspiration, Biblio Tøyen
Attachment 4 - Review of inspiration, Newtonroom Bodø
Attachment 5 - Review of inspiration, Black Panther, movie
Attachment 6 - Review of inspiration, Himkok bar
Attachment 7 - Interview with Linn-Kristin Bremnes
Attachment 8 - Interview with CEO First Scandinavia
Attachment 9 - Activity and Traffic
Attachment 10 - Furnishing Possibilities Mobile Seating Newton Lab
Attachment 11 - Mind Mapping
Attachment 12 - Building Analyses
1.0 Introduction
1.1 Motivation

The chosen area of study combining inspirational learning, sustainable design and focus towards reuse of buildings has been a motivation for studying interior architecture. How design makes an impact creating a better environment for others has been an important factor for this project, as it focuses on redesigning a factory building into a commercial space with a cafe and educational centre for science. As I grew up studying difficult subjects such as chemistry and Biology, I found it hard to focus while learning in a linear environment with less focus on practical methods. With this project, I would like to increase learning motivation as well as creating an environment for creative and less ordinary workplaces.

As part of the student body who chose an academic path, I have personal experience for those struggling with tons of theory without putting it into practical use. As being a little bit dyslectic, it is helpful to engage in practical an pictorial education in order to hang knowledge to rememberable hooks. It was frustrating to know that I had understood every single aspect of the lectures, but I was unable to bring them to use due to lack of practical education, making the course less interesting with less motivation.

The environmental issue the world is facing has been my underlying motivation before even beginning my studies at Kristiania University College. It was therefore natural to include this in my bachelor as I will be focusing on a science centre for learning about renewable energy sources, as well as using sustainable design through repurposing a building instead of demolishing it.

Addressing an important issue where good scientists are lost due to bad learning facilities, and those who struggles with a linear program filled with theoretical studying and less practical work. This leads to loss of good scientists and engineers who learns by doing and not by reading only.

This project was kindly introduced to me by Møller Eiendom who had contacted the school for inspiration to their new project Harbitz Torg. As part of this project, they wanted to save one of the buildings, built in 1920 who used to be a laboratory. They had already been in contact with Newton, a concept developed for educational centres within the science field. After reviewing Møller’s ideas for this project, I started a cooperation with Møller and First Scandinavia who owns the concept of Newton.
1.2 Area of problem and purpose of project

It is not an easy task being a science teacher or lecturer, as it is a demanding subject of study. However, by integrating inspiring elements combined with the right material, form and colour, it is likely that more students will find a motivation who will improve academic outcomes. Education is the leading aspect of importance in order to create a more sustainable world. Educational centres is also a place where bold interior and use of colours and form is highly acceptable and free, which will give a good start for a conceptual development. I chose this project of study due to my motivation for a sustainable future and the inspiring possibilities of extravagant interior in educational design. Where the result can stand for more than just an aesthetic interior, but a innovative solution to invest in young adults future educational path. Hopefully, this Newton room will create motivation for studying science when choosing field in high school.

The other aspect of this project concentrating on repurposing buildings from one purpose to another, is thought to be an important aspect for the neighbourhood. The building will be the last remains of a larger area of industry, where all the other buildings will be designed with modern contributions. In this matter, the building will stand out, bringing it’s soul to the neighbourhood. One of the major problems of todays materialistic world, is the use and toss psychology where it is more likely to tare an old building down and rebuild something new, rather than reusing the structure to create something new. In the matter of sustainable focus and saving the buildings soul, this project will take an old factory into becoming a contribution to the rest of the neighbourhood by creating a soulful environment based upon natural attributions.

1.3 Thesis and side thesis

Thesis:
How can interior architecture motivate for increased learning and create a secure community for technical- and natural science, using form, colour, light and material?

Side thesis:
In what matter can reuse of buildings and focus on sustainable design contribute to the society?
1.4 Target group

As the Norwegian school system is divided into Elementary School, Middle school, Junior High and High School, it was natural to choose one of the sections for the science room. Taking in consideration which one would be the most beneficial in order to motivate for future studies, the main focus would be 8th - 10th graders; At this point in life, young adults will try to detect their identity as a solid basis for their adult life. This identity will be a significant factor for choosing career path (Woolfolk, 2014). As well as a larger transition between 10th and 11th grade, where students must choose which area of focus they want to pursue at this point, it will be important to introduce science from a positive view. By introducing science in a more interesting way, more students might choose the path of natural science in high school, leading to opportunities at a higher education towards this field.

For the café, it was more natural to include the new project of Harbitz Torg into the target group. Their innovative hopes for the project, where retirement homes is integrated with the society on a higher level than average. Their concept of merging seniors with juniors in different living situations, has been a motivation for this project. In this regard, it felt natural to find a way to integrate the merge between generations in the concept for the cafe, where old meets young in a generation unity. Therefore, the main target group for this café will be 65 years plus and millennials between approximately 20-35 years old. Where retired elderly can be available for guidance and help. The idea grows from how a retired business man can give financial investment advice to a young entrepreneur.

1.5 Refinements

In order to solve the test within the given amount of time, it will not be necessary to conduct the entire building in detail. The project has therefore been reduced from four floors to two and a quarter floors. The two leftover elevations is also planned for a different focus group, and since this project already is carrying out two different aspects of use, it would be unnecessary to have one or two more.

In order to cover the needs for an understanding of this assignment, he project will focus on:

1st floor
- Main hall
- Kitchen
- Desk area
- Restrooms (in basement)

2nd floor
- Main hall
- Lab

Parts of U1 floor for restroom facilities linked to the café.

In order to execute the project in the given amount of time, there will be given some refinements in order to focus on the important aspects of my thesis.

The refinements will be:
- Larger part of basement and entire Loft (1st and 4th floor)
- Office Space (2nd floor)
- Storage Space (2nd floor)
- Emergency stairway
- Main Stairway
- Restrooms (2nd floor)

2.0 Theory
In order to create a good learning environment, it will be necessary to investigate what affects and stimulate humans beings in order to digest new information. A room will affect everyone who enters, and create an atmosphere in the way it is built and planned. The way rooms affect us is some what beyond our own recognition and a realisation of our habits. Without a specific interest in human behaviour, most people do not recognise a pattern in human behaviour and psychology towards architectural influence. However, this does not conclude into a lack of need to pursue this analysis before the project starts. It ultimately indicates that by studying human behaviour and what most people prefer, it will be possible to create a better environment for people to be in, as well as a more effective outcome of service. It is interesting to understand how interior architecture can be used in order to benefit its user when it comes to effective learning and concentration purposes.
Interior architecture is effective towards creating certain perceptions that is wanted to achieve in a room. Else Marie Halvorsen conclude philosopher Edmund Husserls Phenomenology with

> Our awareness is an awareness about something. Things do not exist in an empty space, they stand in relations to something or someone else with meaning, value and purpose. What we precept is fund in a intentional context. This means that an objects placed in a correlation is essential to what we call context, horizon and perspective. (2005)

Therefore, an interior will influence its precipitants in the way it is structured and designed. In this matter, it will be important to address the design suitable for its target group as well as its function. Knowing this, it will be important to understand the value of how a good learning and work environment is created as well as a place for enjoyment and relaxation.

Today's youth generation is growing up in a different school than those designing their future. Technology has evolved quickly as well as an increase in interactions of technology in learning situations. There are also new principles on active learning, much like the variety of work situations in today's office. Therefore, it will be important to understand the new and modern research on how today's children learn. Svensen wrote an article in Arkitektur N about the new and modern transformation of Tiller High School, using six learning principles (2017):

- Mountain top - One to many communication
- Campfire - Group interactions
- Movement - Active learning
- Hands on - physical testing
- Watering hole - Free Space for creative learning
- Cave - Concentration

Svenson indicates that these new principles is «A new way of learning, and being» (2017). Due to this project being a compressed school scenario, some of these principles will be worked on as flexible learning spaces. These principles will also be considered in the café design, as it was intentional to integrate elderly advisers.

It is valuable to evaluate these six principles as they greatly move towards the modern office workplace. Private offices often invest in interior architects when redesigning their space. This
group is often more interested in new research and modernised solutions. However, there is an increase in the value of interior architecture as a profession in public sector as well. When visiting Biblio Tøyen (Attachment 3), these factors was highly present as the room was sightly focussing on the youth age group. In fact, grown ups was not even allowed. This area of creative space was filled with different work scenarios altho bing a library. In order to keep human brain activity on level, it is important to give different work environments to differentiate. These factors will be important both when designing the Cafe as well as the Lab.

Colour earns a great tribute to one of the major senses, the sight. Colours can ease the eye and help motivate and concentrate for work with its high visual effect. In the Newton Lab, it has been important to find a pallet that will motivate for learning as well as create concentration and positive energy. The natural concept has been taken in consideration when choosing colours for this project. «As animals, humans are biologically adapted to engage in environments who is both rich in colours and shades. It is healthy for us and feels natural» (Thurmann-Moe, 2017). Thurmann-Moe describes in more depth why it is important to give an interior colour and shades, as pale colours and lack of structure is an natural indication on a more dangerous surrounding. Without contrast, the human eye struggles with no details to rest its eye on, making a stressful an tiering situation for the brain to work with. «in white rooms, the eye will receive too much light on the retina creating over stimuli. As a result, the body reacts by being alert». (Thurmann-Moe,2017) Over some period of time, white rooms becomes tiering and due to the increase in activity for the eye, creativity will decrease as well as concentration and motivation. In other words is structures, shade and use of colour an important aspect for increasing learning ability. This is also likely to create a larger chance for kids to find interest in the subject of education, as it is easier for them to focus despite being a difficult and high demanding class.

3.0 Methodes

3.1 Research

During the assignment, research has been done in order to collect information and inspiration aligned with the project. There has been used both qualitative and quantitative research methods in order to use personal experiences and thoughts combined with hard facts and statistics.
3.1.1 Review of inspiration

In order to gain inspiration and create innovating design, there has been done some research at different sites and spaces. These spaces was carefully picked out being somewhat relevant to the assignment and target group.

The first site review med out to the building of subject, at Harbitz Torg, Skøyen, Oslo. The site was undergoing heavy construction, only the LAB building was left standing. It was important to do a site review in order to get a feel to the proportions and area around. The first review was done without being able to look inside, as that required access. This was done by a later notice, and would also be where I discovered historical elements used in this project (attachment 1). An observation was necessary in order to understand the architectural attributes the building was carrying out, both from the outside and inside. It was therefore a privilege to have the chance to visit the site with Møller Eiendom and the entrepreneurs.

In order to find inspiration from places that could be similar to the Newton Lab, there were done visits to to different destinations, Oslo Technical Museum (Attachment 2) and Biblio Tøyen (Attachment 3). These two destinations both attract youths where one is an activity museum an the other a library only for teens. These two places holds different inspirations who became useful for this project. Oslo technical museum is an active centre where people are interacting with the installations. People of all age groups is found trying out all the different themes. The engagement in learning is active, as the kids and youth engage with an interest towards the subject. As well as being an inspiration for active learning, the space also gives an inspiration on how to design for active learning. The installations consists of everything from a walk-in hart, to a whisper catcher. The library in Tøyen holds a more quiet creative atmosphere. Altho the library not necessarily is a quiet space, the activities is more in harmony. Activity is also highly present here, with moving seating object in every direction. The librarian was above average interested in how interior affect on education, an supporter ideas toward a more active classroom, and use of flexible rooms. This library was also made completely out of renewable materials and had a strong idea toward creativity in the everyday life in order to be innovative and make it easier to find motivation.
In order to understand how a Newton room was working in the concept of today, a trip to one of the flagships in Bodø was done (Attachment 4). This review helped to understand what was needed in order to run an activity centre like this, as well as pros and cons about the room. Some changes was necessary, as the room used up a lot of space for chairs and tables, as well as lack of space for testing and some less functional tents as room dividers. This led to a quicker realisation on what could be worked on for improvements, and is a large contribution to the final design.

One of the most struggling parts of the assignment was to create a futuristic design without using synthetic materials and looks. What immediately comes to mind is shiny white surfaces with organic streamline forms and led light. This was something this project wanted to avoid due to the concept of bringing nature into the design. A sterile and synthetic environment is not thought to be the best inspirational environment for creativity, as the colours is stressful, the shiny surfaces is highly reflective and the light might be too much of a contrast. In order to find inspiration of a natural futuristic idea, a trip to the cinemas watching Black Panther was done (Attachment 5). This movie reflects on this very idea and started the process of creating the cork-wall as well a the mission room.

Another review of inspiration was done toward other serving venues with a strong conceptual idea reusing materials and industry. The trip was done to Himkok Bar who brewed it’s own spirits and serves their cocktails through tap-pipes (Attachment 6). This bar has been an inspiration towards the ideation of the kitchen area in the cafe as well as looking at different seating alternatives. This review worked as a discovery as the visit was an experience of a similar serving venue as in the project. The venue was chosen due to the pipe construction, an idea for this project found when looking through old pictures from time of production.

3.1.2 Interviews
In order to gain personal experience from both running and creating a Newton room, two different interview found place. One with a Newton Teacher and one with the concept developer, First Scandinavia. Both interviews was done informal, and more like a dialog.
3.1.3 History of building

This building was built as the new factory after world war one. The company, The Norwegian Pharmaceuticals Laboratory was founded in 1903 and was a transition from craftsmanship to industry. The company was inspired from German and American factories. During World War one, the factory served as a stock reserve for medicine. Due to import difficulties during the war, the factory started creating replacement compositions. The factory expanded and a new building was needed. This is the building of this assignment. Later on the factory would go through new innovative years, trying to survive through the competing mass productions world wide. Their most significant production was penicillin and food antibiotics (Andersen, 2012). The architect of this building was Einar Smith, who created more historicism buildings in his last years as an architect. He as well was inspired by the German architecture.

3.2 Creative methods and concept development

3.2.1 Brainstorming

In order to identify a concept as well as developing a target group. After a meeting with Møller Eiendom, a conclusion towards focusing of two of the four stories was made. I had already chosen to work on this project due to the Newton Lab, but designing a Cafe in the first floor was a wish from Møller Eiendom. As the Brainstorming begun, it became clear that a time travel from the past to the future would be an interesting turn on connecting the two floors despite two different target groups. As the main focus of this assignment is creating a inspiring learning environment for youths, mind mapping was used in order to start the creative process. The mind map focused a lot on getting to know the user through the issues found in that age group, and how this could affect future choices. Some research was merged with the mind map, looking at Karim Rashid's work, as he is famous for his futuristic designs. Look attachment 11 for mind maps.

3.2.2 Inspiration from pictures

In order to start the creative process of finalising a strong concept as well as gaining ideas for the design, a picture research was done. The research was done in Google, Pinterest as well as other archivect and interior architect offices and their previous projects. Schools and reuse of materials and buildings was the most used search, as this is the main focus of this project.
3.2.3 Sketching

The design process is primarily based upon sketching for building analyses as well as development of constructions. The first step in this process is mapping, where the building is analysed. Light plays an important part, and is marked with yellow pen in 12 attachment. The main analyses is based upon how the traffic development changes and how it reacts toward elements and room dividing. This method helped divide the different floors in order to distribute activity in the area. It became clear to invest the counter in the Cafe in the entrant area, despite this being the best section for seating. However, due to the immerses floor, placing the counter desk in the upper section felt struggled due to universal design as well as activity of traffic. This also helped with understanding the structure of activities and how they needed to be assorted in the Newton Lab. In order to gain enough space for a test track, as well as giving the Lab room it’s own part, it felt natural to bring the entrance section merging with the activity section.

4.0 Final concepts

In this project, there will be two different concepts, as the floors will be uses for two different purposes.

4.1 Café

After a couple of site visits and research done on the building, a concept for the Cafe was developed. The main concept of the Cafe is a Back to The Future based interior, from the idea of creating something new with the past. Old buildings are being turned down all over the world, making the building industry a bad example for an already materialistic society. Taking this in consideration as well as the building being listed yellow, it felt natural to bring this into the development of at least one floor of the building. Th concept will be brought out through the trends from it’s decade of construction, as well as through colour and materials. Another contribution will be found to the long history of being a laboratory for apothecary purposes, where pipes and tanks has been highly present in many shapes and sizes. These pipes has been part of the interiors construction. A final attrition to being an old factory, is use of plants as if the place was over grown and abandoned. The plants has been tamed but are growing upwards and around the interior as if it was a part of it.
4.2 Newton Lab

The Newton lab is a learning and activity centre for youths experimenting in a range within the field of science. As the idea of using Newton in the project came up, it became clear that the focus should be towards renewable energy sources, as a contribution to the sustainable design element of the degree. This was the first step of discovering the turn toward nature itself. Through brainstorming and research through pictures for inspiration, an idea towards designing from nature itself was founded. As the centre is suppose to create future scientists of renewable energy sources, it made the concept a hybrid between futurism and nature where the idea is to create something looking futuristic, but without the standard synthetic white with blue LED light. The name of this concept is *The Future is Now*, introducing the urge to create and inspire young adults to declare their degree to science for cleaner energy.

5.0 Statement of aesthetic means

5.1 Form

This project works with form in two different ways, one for each floor. The two floors different concepts gives a different development of form. The first floor and Cafe uses forms inspired from between 1920-1930 in norther Europe. Simple forms and the raise of functionalism is present, as well as timeless design. No extreme shapes or colours are used in order to keep the design neutral. The kitchen has a simple boxing structure, framed in by a light construction of pipes in a geometric form. Squares are used in frames and dividers, as well as straight lines for walking passages. Furnitures holds a combination between soft and masculine forms in order of the furnitures purpose. Light chairs are rounded with more organic shapes in order to allow movement and flexibility. Masculine lounge chairs is meant as angers and not to be moved as much.

The Newton room’s concept being natural futurism finds it forms from natural organic shapes. The mission room is inspired from a cell construction in plants. This form has a lot of depth as it stands out in the room inviting people to touch it’s surface. The leading line is a modified track field, rounded and reshaped in order to function as guide lines and test track. The ceiling has organic shaped light instalment creating an active surface. In order to work with the room as a whole, some geometric shapes of contrast has been used; Such as the circular dividers in a square room in the entrance hall.
5.2 Colour

Colour earns a great tribute to one of the major senses, the sight. Colours can ease the eye and help motivate and concentrate for work with its high visual effect. In the Newton Lab, it has been important to find a pallet that will motivate for learning as well as create concentration and positive energy. The natural concept has been taken in consideration when choosing colours for this project. In order to create motivation for children to engage in learning, a green colour is chosen. Green is a colour highly represented in natural habitats, and it is easy to rest eyes on. «Green: We enjoy this colour, relax and become more social» (Thurmann-Moe, 2017). In order to find concentration, a combination between blue and green is found to be a good pair. This works well due to blue being a more calming colour. The blue-green merge is found in the lab where high concentration is needed in order to work with chemicals. Orange is often used as a happy colour filled with positive energy. However, it must be used with caution, as it becomes stressful in larger doses (Thurmann-Moe, 2017). That is why orange has been used as a colour for details, on door frames and on the floor map in the mission room.

As for the café, it is not necessarily good to give it too much energy, as it works for relaxation as well as work. Green is used on the majority of surfaces in two different shades. Blue is found as an effect wall in the inner room with flower-handprinted flowers on. According to a guide at Kjerringoy Handelssted, it was normal to hand paint decorations on walls in the early 1920’s, due to large expanses for wallpaper. Further on, by using a green-blue combination for concentration and motivation, it will be suitable to add some natural based colours such as brown as well. «Brown makes an environment calm and cozy. We eat more in brown environments. Wood has proven itself to lower pulse and blood-pressure (Thurmann-More, 2017). As well as being a sympathies material which does not steal heat when touched, like stone or metal. This is an observation done by Steen Eiler Rassmussen, who describes in his book *Om at Opleve Arkitektur* the important of using materials which does not steal heat when touched (1957).

Brown being a earth colour, creates a natural feeling to the space. It is likely that by using colours who gives a natural feel, is affecting human minds in a positive way, as the eye is suppose to differentiate between such colours by instincts. Thurmann-Moe also claims that an interior should be given seven different colours, due to the large variety of colours in nature (2017). By adding the
different colours from the other materials, the interior in the Café and Lab, holds seven different colours. It is therefore likely to believe that a combination between around seven different- as well as using natural based colours, will be able to create an environment where concentration and stimuli can be equally present as well as emphasised.

5.3 Materials

As the Cafe is designed as a historical tribute into modern days, while the Lab is a futuristic centre based on natural inspirations. The concepts has been taken in consideration when choosing materials for each floor.

The Cafe holds a more industrial look, being an old factory. Some elements and materials from the buildings origin has ben used in order to recreate the history and soul of the architecture. The materials saved is the concrete flooring, giving the building a rough surface in the entrance. Another is the white 300x300mm wall and floor tiles from the old production times. Looking at pictures from the old factory, it is likely to believe that these tiles were used where floors and walls need easy cleaning. From the last site inspection, some tiles where still intact in the same place where tiles has been chosen for this project. Pipes was also highly present in the old building, naturally for being an old factory. Pipes has therefore become a solid design element in the final project, where pipe constructions has been modified in order to create space within space. Due to tall ceiling height, it was highly necessary to create barriers in order to create a good atmosphere.

As well as being a sympathies material which does not steal heat when touched, like stone or metal. This is an observation done by Steen Eiler Rasmussen, who describes in his book *Om at Opleve Arkitektur* the important of using materials which does not steal heat when touched (1957). This is why wood has been used for constructions as well as flooring in the upper part of the floor. Wool textile is used on seatings in order to create a warm and inviting atmosphere. The baseline has been to use as much renewable or existing materials as possible.

The Lab room have materials based on natural inspirations as well as environmentally friendly materials. The mission room is PLA material made from plants. The wall are mostly painted, expect one made out of cork and aluminium, natural and renewable. As for the floors, a Forbo linoleum is used for the guidelines, and Bolon carpet is used on the sides. The world map is carved out play
wood intergraded in the floor, painted. Play wood is also used on shelves, cabinets and mobile seating modeles. Some glass and Formica metal covers are found in the lab, creating a more masculine material feeling to the room. Metal is also easily cleaned and durable for the rough use in a lab.

5.4 Light

As what goes for light in the cafe, there is a combination between downlight, spots, table lamp and pendulums. The most conceptual lighting is the pendulums creating a «star sky» over the inner lounge area on both sides as well as the community table. These star skies are used to create a space under the light, where the room is struggling with tall ceilings or lack of zone boundaries. Another conceptual light source is the pipe constructed LED light source above the kitchen counter. Downlights are used in order to brink light to corridors as well as the picture wall. Spotlights are used to create dimensions in the moss-wall. Light crossing each other in order to create a three dimensional effect. This room is suppose to create an atmosphere, and the thought has therefore been to use 3500K as general lighting with dim, with a combination of work lights, around 3000K for those who will be needing more light.

The Lab has specially constructed light shaped in an organic form, this works as the general lighting. This is a contribution to the concept and done in order to create a living ceiling for inspiration. Light is also found in cabinets for display of lab accessories such as microscopes and such. A shelf is also given a light strip. Guidelines dividing the test track is LED strips under plexiglass. This creates a clear division between the lanes. This room will have a colour at 3000K with dim possibilities in order to adjust the light easily.

If this had been a real project, lux and lumen would have been consulted with a light designer for correct amounts of light.

6.0 Statement of architectural means

6.1 Proportion and scale

Earlier, the height of the room has been mentioned as one of the tasks addressed in this project. In order to create spaces that makes customers feel safe and comfortable. In this matter, «Proportion refers to the relationship of one part to another or to the whole, or between one object and another. This relationship may be one of magnitude, quantity, or degree» (Ching, Binggeli, 2012). The
room itself is a large scale, as the immersed floor created a ceiling height over 5000mm. A room only filled with standard scaled furniture, would create a feeling of smallness. This effect is often used in religious buildings, specially from the gothic period, in order to create a feeling of godliness and something greater than yourself. In a cafe, people want to find seating that gives the right amount of shelter in order to feel comfortable. This assignment has focussed on creating spaces within spaces without blocking sight view in order to create a sheltered environment but still maintain an area overview. The result is found in the pipe constructions and lighting where new rooms are created without closing up and still be generous with the architecture. This is also done in order to create a boundary for the open kitchen and counter solution.

The Lab floor’s mission room holds a great proportion in relation to the rest of the space. The construction has allot of angels as well as using almost the entire height of the room. This is done in order to create a statement piece in the room, a space that stands out in relation to the rest.

6.2 Rhythm

As the building is built on the design of historicism, structural rhythm is a major represented architectural mean in the exterior. It was therefore natural to bring this element in the interior as well. Rhythm is found mostly in the first floor and within different individual zones as well as for the general interior. Lighting is the largest representative within rhythm, as all different types has it’s own rhythm. The table lamps is placed out in between each chair in the same amount of space between. The bulbs is hanging in the same intervals creating a ceiling of light. The wall lamps is placed in a rhythm between windows, creating an effect light. Rhythm is also found in the ceiling cassettes. Furnitures also holds a rhythm in the interior of the Cafe. chairs and tables are placed outs in order to read easily. This rhythm is found by the bench area by the entrance, as well as the community table, study bar and tables around the pipe construction of the inner section.

In the Lab, rhythm is found in colour use, as there is a red line from locker doors to seating, stools and mobile modular seating. This colour rhythm is strategically used in order to create groups as well as be easily recognisable. This element also brings a lively atmosphere to the room and gives energy for learning.
6.3 Unity and Variety

The cafe mostly has unity and variety in different shapes, as easy geometry is used in constructions and furniture. This is used as a tribute to the time og concept, where some furnitures are squared while others have softer circular shapes. This brings out a certain harmony as well, where soft edges is used on items that should be easily moved, while strong shapes are used on more heavy items such as the lounge chair or study-bar.

The lab is rich in variety, as this floor holds a stronger concept towards a playful interior. All kinds of geometric shapes has been used, merged and put together in order to create separations and divisions within the room. Columns has been reshaped into wormhole inspired shapes, and circles has been modified and cut in order to create a room within an open area to suppurate the larger group when entering. In the Lab room, the isles are merged with different geometric forms, and the mission room itself is right on creating a large variety of depth. The cork wall is divided into sections by metal, and is in harmony as well as using a variety of shapes.

7.0 Final plan

7.1 First flood - Cafe

The first floor is designed for a cafe and has been focusing on creating space for enjoyment as well as a place for an alternative office of study hall. The proposal has been including these three factors when designing a space where people can find new use from an old building. The result has taken the concept in consideration, as well as creating good spaces for the idea of use. Good spaces means creating spaces with the right atmosphere, without closing the spacious architecture. Another important aspect in this floor, was to create a large variety of different seating areas, in order for people to have a range of possibilities to choose from.

The ground floor was originally 1455mm above ground. In order to gain better communication from the street, half of the floor was immersed giving a connected entrance from outside. This also allows anyone to enter the building from the same door, with or without any handicaps. The building har 4 main entrances, two on each side of the lower section. This ensures a good flow through this part, as well as being able to open up the space even more during summer. The counter is placed directly by the entrance in order to map out the service point early, to avoid the customer to be in need to look for it. Measuring two heights, 750 and 900, the counter is universal designed. One main issue was addressed towards creating seats without too much space between and still be
able to create personal space. The wooden bench construction dividing the counter and pipe construction by the entrance, is a tribute to this. The hardest part was to place seatings so close to the busy counter space and still make a personal space. The solution was to create a barrier of a raised pottery with plants as room dividers. The seats are narrow, only fitting one person on each side. The cafe also holds different types of seating, such as a wall-bench are behind the first pipe construction, a community table area by the ramp, a stand with pillows, study-bar for single work and lounge areas in the upper section. It has also been important to create clean walk lines which is easy to read creating straight lines. Referring to attachment 9, the structure of the first floor is executed with straight lines, creating easy map structure of the area.

7.2 2nd Floor - Lab

The idea of how the students will enter the second floor, is through the cafe. There is an entrance outside leading directly to the stair case, however, this distract users who will be needing help by elevators. Therefore, by taking the students through the cafe, all must use the same entrance. Another aspect of this is also the idea of bringing the student from the past concept into the future. While entering the lab, students are arriving in an open area with smaller sections in order to ease up the mass. A Pepper robot is welcoming the students when entering. The robot has face recognition and talks to you. This is suppose to work as an inspiring attribution. A bench area by the wall is available for seating and unpacking accessories. Lockers are located to the left, one for each student to put their belongings during the day. The room is clean with all furniture retracted, creating an open space. The first activity will be a welcome ceremony in the mission room. The idea is to pick up a carry-on stool into the mission room if needed. The day begins with getting a mission which will be carried out through the day. The mission room was found in the original Newton rooms, but as an atrium in a closed room. In order to safe the rooms spaciousness, the room was not closed, but with big enough barriers to create a room within the room. TVs are installed, several screens piled up creating a wall.

After the mission is given, the groups will be working out in the main room. Mobile seating modules can be pulled out and put together. Each model fits two people, and up to 3 modules can be put together and still be gaining enough light. Attachment 10 shows an example of structure, both retracted and extracted. The long wall is designed with cork in order for the students to be able to put things up on the wall. This might give a clear view of the assignment. The room also have a tase
track installed in the guide lines on the floor. As one of the discoveries in the site view of Bodø Newton Room was the lack of space for testing, this has been developed into a fun and useful track. The lab itself is carefully hidden in order to create an excitement toward the end of the day, where students are allowed in for lab works. The lab holds a classroom structure with 3 isles each holding a group of 6. The isle close to the door is only 750mm high, making it accessible for everyone.

8.0 Universal design

Peoples perception of the world is personal due to an evaluation of impressions through pre knowledge and experiences. As Philosopher Heidegger states, humans are a subjective with a awareness that construe towards the phenomenon of it’s surroundings. He indicates that objects gets its meaning through humans, as people decide what the objects is upon their first interaction. (Halvorsen, 2005). It is therefore important to accept humans as individuals and not only in a general matter in order to design universal. Ellen S. Klingenberg Discuss this important theme as she explains her vision for establishing a design that is good for everyone and the word «universal design» will fade out not being a stigma toward handicapped but becoming the norm as each individual is unique. (2015) An issue that could be addressed is the idea of not accepting a design before it is accessible for everyone, as well as being 100% degradable.

This project has focused on creating universal design that uses Byggforsk TEK10’s knowledge in order to create space for everyone. The main idea has been to design visual good design as well as universal. In this matter, standard universal accessories har tried to be avoided, as they often stands out from the interior in a non flattering way.

On ground floor, the entrance has been constructed so that all entrances is available from street level. The counter desk is levelled in two different heights, fitting any lengths. This also makes it possible for everyone to work at the cafe as well as visit. The floor level difference was a situation at first, however, after some sketching a ramp became part of the structure. The ramp is constructed on behalf of the demands from TEK10, with a hight difference of 1455mm, the ramp holds a length of almost 22000mm with two repos and a maximum section length of 9000mm. Repost are a minimum of 15000x15000mm, and the ramps other measurements are 1500mm in with. All stairs and ramps have markings on the floor before start and endings, as well as being double handled with an hight of 900mm and 700mm. All areas should have at least a 1000mm clearance in order for
wheelchairs to pass. The Cafe is also spacious enough for wheelchairs to find space for parking.

Straight traffic lines also makes the floor easy to read.

In order to enter the Lab, everyone must enter through the cafe. This helps toward not excluding those in need for an elevator. The Newton lab have a flat floor without any level differences. The floor also have guidelines in the test track. The lab room also have an isle lowered for those who will need a height of 750mm.

The basement have developed restrooms for the cafe, with all accessible handicap restroom with changing table and space for helpers. Elevators is also accessible from all levels and gives an extra help for those who do not want to or cannot use the ramp.

9.0 Statement of sustainable actions

This project has been focusing on sustainable design through repurposing a building as well as choosing materials made out of renewable sources, ability to reuse or is degradable.

The first floor has many tributes to reuse of existing objects, such as the pipe constructions, tiles, bricks and concrete floor. These materials has been a great tribute to the concept as well as being sustainable. Other materials used on this floor is such as wood, metal, wool and recycled textiles. Another important factor for choosing materials has been durability. That is why textiles holds a minimum of 100,000 martindale. The materials has been picked out by consultancy by the suppliers.

The second floor also uses sustainable materials. The Forbo floor is made of 94-98% natural products and on 100% renewable energy. Forbo is Svanemerket and Eco labeled. Bolon carpets produce their products in Sweden, which makes the carpet short traveled. They also use renewable energy and no pollution chemicals. The cork wall is an all natural product, and the aluminium is recyclable with 98%. The PLA material for the mission room is made out of plants, making it biodegradable. Place built furniture is made out of solid wood and play wood, which both are degradable.

10.0 Process Evaluation

Looking back at the process from beginning to end, it has been a long learning process with many long hours. The process started before Christmas with choosing a building and subject and choice of
focus. The second process sketch was done while finishing up another subject, a course which unfortunately was a reason of delay on the process. After the last exam the focus was turned completely toward the bachelor dissertation. Due to an internship last semester, it had been some months since last school project. However, being an intern had its positive sides, being able to produce more strategic. It was a pleasure to be able to be creative on a free, creative and innovative way.

It is hard to be able to finalise a project of this size, as it becomes a part of the daily life with constant improvements. However, in the end, the project must be finished. Reviewing the project could go on forever, but at a certain point, it is necessary to finish up and start the production. Finishing a project with this size, gives many experiences for further use in the future, both for education and professional practising. The greatest lesson learned has been how well inspirational reviews of other projects has been in the research process. After a while, inspiration was found everywhere in small details that could lead to another discovery.

In the end, this project has been a fun experience, with a greater understanding of finalising larger projects. Looking back at the process, there are obviously part that would have been done differently. Especially in a ugly documentation of the process. However, it is fair to say that this project has been worked on regularly with good research and structure. Time usually is an issue in the end, but the finalisation is done with extreme cautions.

11.0 Conclusion

The final product is based upon the research and ideation found in this test, and has been carefully developed in order to answer the thesis in the greatest possible way. As described in this text, interior architecture plays an important part in order to increase learning capacity, as well as creating an inspirational space for those interested in knowing more about nature science. The issue is also addressed in the cafe where the space is created in order to gain inspiration and creativity for the generation ahead. The actions used is creating flexible work spaces with different designs, as well as creating a space filled with colour and textures that helps concentrate and motivate. The project has also been developed in the spirit of creating a new space for the community around where people get a meeting space as well as an activity centre for youths. One of the major concepts toward this side thesis lies in the reuse of building structure which gives the neighbourhood a soul and anger i between all the modern houses. This building with what it will have to offer will be a
great contribution to the community through innovative learning centres as well as gathering people for social meetings and having a good environment for development and work. This assignment is based generally on solving the problem by using colour, material, form and light in order to affect it’s users in a more positive way, and create spaces that is innovative and gives the space a better purpose than being torn down.


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Byggforskserien:

220.335 Dimensjoner for rullestol
379.201 Toaletter for ansatte og publikum.
320.100 Menneskers Rækkevidde og Plassbehov
342.205 Grunnskolebygg. Funksjoner og Arealer.
342.207 Grunnskolebygg. Eksempler
371.801 Serveringssteder
March 20th 2018 - Visiting Construction Site From the Outside

Objective Analyses

Arriving Skøyen by tram, getting off at the stop Skøyen as the site lays there. It is reviled that the building lays one stop further, ten minute walk from Skøyen train and tram station. On site, the area is undergoing construction and fundamental works. The only building left from the old factory is the LAB building, the one chosen for this assignment.

Directly accessed from the tram station Hoff, the building lies 100 meters from a crossing road, and will be given an open landscape when construction is done. Some stores are located around, such as Flise Kompaniet, a tiles shop. Harbitz Torg lays in Harbitz Allé, a side street to Hoff'sveien. At this day, the building is undergoing rehabilitation both on exterior and interior construction. However, it is still possible to recouping its architectural details as well as creating an image for further drawings.

The building is mainly a bricks building, painter in a grey scaled white. It looks like the walls used to be covered in concrete, as there is still some remaining areas on the exterior walls. The roof is red and inspired by Japanese architecture. The windows will be changed throughout the entire building, where the front windows will be replaced with doors as the floor will be low-end in order to invite people in from the street (Mette, 2018). In the middle of the building on both sides, a tower raises from the first till top floor, creating an entrance.

Subjective Analyses

Arriving at Skøyen, made it somehow confusing as it was though to lay right next to this tram station. However, as arriving to the site, the area made sense as this tram stop was only 200 meters apart. The building pops out from the rest of the construction area, and is perfectly positioned in front of Harbitz Allé, as well as being close to the main road. The area around is mostly stores and not developed grounds and houses.

The building holds a historic atmosphere as the constructions year is placed on it’s facade as well as being built in a historicism style with inspiration from the renaissance. However, the building
clearly states being made for production with no further expanses on the exterior. This gives the building a modest charm and more realistic to its inspirational decade. This modest industrial look, also gives an advantage for reports of the building, as the interior easily can state its own character without interfering with the fasade.
April 16th 2018 - Visiting Construction Site Interior and Surroundings

On April the 16th, an inspection was arranged for the interior of the building. Due to the area being a construction site, a tour had to be arranged from the entrepreneur and contractor. The meeting found place on April 16th between myself, Mustad Eiendom with three representatives and the entrepreneur. Being a construction site required safety shoes, helmets and vest in order to enter. The building is under total reconstruction. There were no stairs inside, so a scaffolding was used upon entering the floors. The entry was at this point at the up coming stair room.

First floor will was not completely empty as the support was still needed for the building. Therefore, some walls was still present who will be torn down at a later notice. Some level differences was present as the rooms most likely has been used for production of pharmaceuticals, where different machines might need different floors. Painting was flattening of the walls and some of the brick walls was being upgraded. The ceilings had beams and the hight was around 3500mm. Some old white tiles 150x150 was still showing on the walls, who most likely is original tiles from the factory.

The second floor was more open as the larger room was completely open, with a view on how the glass facade will look like. Painting was flattering off the wall here as well. Two room in the west wing was still in shape and most likely used as office space at they were painted in bright colours in contrast to the rest of the building. Beams are also shown in the ceilings and the hight is approximately the same as first floor.

While being at the site, we were also guided through the entire area who is under construction. This opened up for viewing the building from different angels from the outside, with a full view of the glass facade. This also allowed an understanding on the other buildings arriving around the LAB building.
OBJECTIVE - In order to create a science centre for learning, a visit to the technical museum of Oslo was done to review a similar attraction. Although this centre is focusing towards a museum, it still has active engagement in their installations.

Upon entering, the service desk is to the left, a self check in in front and café to the right. Wardrobes are in the back right behind the cafeteria. Tickets are scanned in a check point station, opening wings to enter the installations. You enter on first floor, with installations on U1, 1st, 2nd and 3rd. This review starts on first floor in order to work systematically through the museum. This is the energy installation, starting with the history of electricity in Norway. The installation shows how electricity is the main reason for innovative gadgets through time. Specially in Norwegian homes illustrating the development of a Norwegian kitchen and home from early 1900 till today.

Different installations are found around the museum, most with an attribute in order to have people engage and learn through practical learning. This might be the electricity tivoli where a bicycle can produce enough power to light up bulbs. Or how sound can be caught through the whisper installation. The museum also have different rooms for experiencing colour, smell and a large scaled hart you can walk through. U1 is clearly a floor for interactive learning due to the type of installations, however, it also have some historical and informative aspects. For instance in the oil section, it shows different ways of using oil, such as plastic and fuel. There is also a workshop for education, consisting of work benches, chalkboards and free space for testing. Chalkboard are movable with storage behind.

The other levels consist of more inactive installations, showing the history of medicine in Norway, industrialisation, aeroplane transformation, the history of communication through telephone one and computers and the blood road with prisoners in Norway during world war 2. A variety in display is used by having standard board with text and illustrations, to movies and objects. In the health department, script and picture from Apothekernes Laboratorium was displayed explaining the production and development of penicillin in Norway, curing tuberculosis.
SUBJECTIVE - Entering the museum, the grand hall is somewhat different to read, as the entry and ticket sale is a different direction than the wardrobes. The wardrobes are difficult to find because it’s view is covered by other objects such as the self check in ticket sales. It feels natural to proceed to the sales counter with the check points to the left, while the wardrobe is at the right. The wardrobe is well planned with colour combined lockers to ease finding it after ending the visit. There are benches to sit on, toilets near by, as well as trolley parking for rentals.

While entering the check points, the museum lacks some information map showing the different installations in each level, and where to start in order to walk through the prepared installation. Feeling a little confused about where to begin, a brief check downstairs indicated energy, which is more relevant for the assignment. However, it was difficult to find the beginning which led to a wrong start. Some installations was damaged or not complete, which was a disappointment. During the visit, a craftsman was building some new installations, which led to loud sounds clinging though all the museum floors. The floors was divided into smaller sections framing different aspects of energy production and use. The floor for science and energy had many active installations where people was engaging in learning through practice. Some required more than one person, and some a whole group of people.

Walking through the other floors, information was gained through text, movies and objects. Some of the installations was a little hard to understand and might not have been working correctly. Like the Aurora Borealis room, who was almost completely dark, with a large alien object hanging from the ceiling. The room gave an unwelcoming feeling, which led to a quick turn to the exit. The museum as a whole was somewhat difficult to read, as the floors would start and end in different places with stairs at several points. This led to an uncertainty towards knowing whether or not the entire exhibit was covered or not.
Elektrisiteten blev brukt til bebygging. Amerikanske Thomas Alva Edison og engelske Joseph Wilson, noen av de mest innsatte grunnleggerne av elektrisitetsindustrien, vil ikke hunne å mangle til deg moderne bebyggende teknologi. I Norge ble elektrisiteten allerede i 1880-tallet brukt til bebyggende verdier. Elektrisiteten var en revolusjon i hjemmet og bilde miljøet.

Kjøkkenet var huserens viktigste plads. Elektrisiteten gjorde arbeidet lettere, og det førte til at huseren avslappet seg. Dette kunner lett forestilles når man ser bilde av kjøkkenet der elektrisk kokebredd og elektrisk ovn

**Forord til Elektrisiteten**

Istedenfor at elektrisiteten er en del av våre daglige rutiner, er det viktig å huske at det er flere generasjoner som har opplevd elektrisiteten som en revolusjon i hjemmet. Elektrisiteten har også hatt en stor innflytelse på verden i generell, og det er viktig å se på hvordan elektrisiteten har bidratt til å forandre vår hverdag. Elektrisiteten har også en stor innsats for miljømessige grunnleggerne, og det er viktig å ta hensyn til den tiltakene som er nødvendige for å sikre at elektrisiteten fortsetter å fungere i fremtiden.
Første penicillin i Norge

Skolejaver i Norge har
Teknisk museum klinke
i forbindelse med disse
De er lagt ned i ten développe

Kapselen skal spises

ATTACHMENT 3 biblio tøyen
research
review of inspiration

Right next to Tøyen underground station, you will find a library designed specially for kids in age
group between 10 and 15. Grown ups are not allowed, marked with a line by the entrance. This
library is meant to be a safe and inspiring space for kids in junior hight. Holding a collection of over
3000 books in different genres, specially picked out for the age group. The area is one open room
decided into smaller sections as rooms inside of the room.
As you enter the space, a receptionist will welcome you with his colleges. The entrance containing
of different shelves for storing shoes, as the library being a shoe-free zone; moose on wheels with a
shelf body, and a hanging cylinder made of rebars and concrete. Different coat racks are also
positioned next to the entrance.
The ceiling is filled with different rails for all the hanging bookshelves as well as other object such
as cable way huts and cylinder sofas. This creates a flexible position for the interior as it can be
moved around creating new spaces. The rest of the ceiling is raw showing ventilation and light rail
system.
Further in, a stage opens up in the back-left. Created out of an old gym floor with stripes colliding
who probably used to line up as its original purpose. A screen is hidden behind a double truck door
with an artwork inspired by Wergeland’s texts. A black curtain is used both before curtain call and
as a room divider; creating a whole new space separate from the rest. Passing the cable way huts
you will find an old truck with a new purpose. The engine is removed where a new sofa group is
designed. Back of the truck, the plan is converted into a kitchen where the staff makes food with the
kids. Two bar tables are connected to the truck, one on each side creating a food truck inspired
setting for serving.
The library is filled with different seating areas creating a variety of combinations between reading
caves, cylinder booths and dentist chairs. The setting reads a material repurpose which again strives
after identity and soul. The different seating areas holds a special task, some for reading, games and
creative work, others for chess and LEGO creations. Biblio Tøyen also offers tutoring and the staff
stands strong believing in interiors importance in pedagogy in education.
As you walk in to the library, who you’ve hers so much about, you clearly have many expectations to what you will experience. It hits you when opening the door; an immediate feeling of an exploited book containing a dreamworld with all thinkable combinations of hiding places and explorations. It is har to get a overview of the place, and it is believable when the staff clarifies kids usually just discover their first time there.

The room is filled with different combinations of smaller spaces all through, and non that is used as their original purpose. As a person far older than the age audience, I still crave to explore all the retreats and hideaways. Finding my way further inn, passing a LEGO wall and the food truck in literal means.

Altho this is mainly a library, it is clearly the idea is to create a space for humans and not necessary books. This is a place for young adults to escape from their everyday life and be creative without the boundaries from their school og home. This is a platform for them to create and think in a innovating future.
Three miles outside of Bodø lies Hundstad Junior High, where Bodø Newton room is located. A Newton room is an activity centre for natural science where the local schools are invited to join for a more inspiring education. The room works as a supply to the local schools within the region where science is illustrated in a more inspiring environment. A Newton room can hold different activates focusing on different subjects such as energy, oceanography, robots and mechanics, and more. A session lasts for one whole school day, with one more day at their own school with supplementary work. The Newton room in Bodø works as a Energy, mechanical and oceanography lab where young adults and kids come up til three days a week.

Entering Hunstad Junior High, there is a sign spotted on the left wall with the Newton Logo inviting to proceed further in the corridor. Up one stair and through a door lies the entrance to the Newton room. The Newton teacher greets in the door welcoming to the centre. The hall outside has lockers for students to put their belongings aside before entering. Behind the first door, leads directly to the amfi. The amfi is built as a stair with large steps where people can sit down and pay attention in a chosen direction, forward. The room is squared and the seatings are parallel. It is covered with a red felt, without any bolstering. In the front of a room, a teachers desk is located with a projection screen in the back. The amfi works as a welcome stage where the Newton teacher greets the students and this is also the space where they are assigned their mission. This being an Engia room focusing on energy production, the kids are invited into a mission pretending to be on a secret island. The centres concept is built around this island theme.

The centre is divided into smaller sections for different type of work such as a lab and group work stations. There is also a track for techno LEGO, as they hold the annual LEGO League competition for new inspiring young engineers. The lab equipment is stored in displays as an attribute to decorations as well as function. Colours used are mainly strong primary between blue and red. Indirect lighting is found in shelves and displays. The centre shows an ongoing theme of originally being a classroom.

Crossing the corridor from the amfi, there is a lab room for work in need of water and good working space. The room has one workstation with three isle pointing out from its centre. Each isle has its own sing with water connections. Electricity is easily accessed as well as good lighting. Cabinets
cover three walls, and the last one towards the group working stations are made of see-through glass.

The group working stations holds the largest room in the Newton centre. Each side is divided into three group stations holding 4-6 people each. The division is made out of tents, illustrating a science base during field work. Each tent holds an nationality with flag and informations about its country. The station holds one table with six stools. The room is also designed as a test loop for another Newton module for mechanical power. In the back of the room, an office and storage is located.
As part of my research I watched Marvel’s Black Panther at the movie theatre. Due to lack of natural science-fiction illustrating futuristic design, this movie would give another less synthetic view of the future interior. The movie is based upon an African myth where the black panther gives his strength to its king by uranium metal. This uranium metal is a source hidden by Wakanda, the nation of the Black Panther. Uranium is used as an around resource for energy as well as healing and innovative technology not granted to other nations. The rest of the world is ignorant of the hidden wealth and knowledge of Wakanda, believing them to be a poor farmer nation. As the storyline evolves, it leads toward a world sharing it’s knowledge and resources, a role model for other greedy nations withholding knowledge.

The movie include bounds to African art, traditions and culture, which is highly represented in the visual design. Wakanda looks like a poor farmers country for outsiders, however, behind closed curtains a rich nation is hidden. Tall buildings and flying hovercrafts is represented with advanced technology and futuristic buildings. However, this design distance itself form cliché architectural futurism, and brings a symbolise between nature and organic forms. The interior is built upon cellulose- and tree-alike inspiration. The floor and walls holds organic lines alike veins spreading out. The interior looks as if was alive and made by organic materials, despite being infiltrated with high technology and metals.

The movie holds an interesting view of a new inspiring and more realistic future. Using this organic futuristic design creates a more lively design with realistic points towards a sympathised interior. Infiltrating the bachelors thesis adapting sustainable design into its interior as well as holding a concept towards futuristic design, this movie gives a new way of designing where these two concepts are put together in a more inviting way than the past known interiors inspired by a synthetic future.
Himkok Bar is located near Brugata in Oslo at Storgaten 27. The entrance is discrete without any signs or use of commercial goods to lure in guests. The only recognition of the bar is a tile with the logo and it’s opening hour in font size 16. At first, an entry hall welcomes the guests. A room with cabinets filled with pickled vegetables. There is also a table for the butler. To the right an entry to the first bar is found between two curtains. This is the main bar for cocktails and home brewed spirits. Tanks and pipes are shown through a glass wall as well as a glass floor giving a glimpse of the spirit storage in the basement. Cubicles are located non one the left side and the bar on the right. Four glass jars are filled with each spirit with piping systems for tapping. The bartender is dressed in a lab coat while mixing drinks with laboratory flasks. Dark wood with dark brown leather is the leading material in the room. Lamps are round and in a metallic grid system. On second floor, you’ll find their second bar serving «Taptales». Also here, pipe systems are used to operate the servings. Taptales is premixed cocktails from a tap. The tapping system is located as the main attraction of the bar, entered behind the bench. The rest of the room holds different seating elements; some sofas, some bar tables and built in window sofas are found. In the west end, a barber shop will be at your service if need for a trim. Also here darker colour is used, but also contrasts from lighter colours on the large surfaces such as the wall. Besides for these main bars, the place also holds it’s own cider bar in the back yard. This outdoor room works on two floors with the bar on first. This is a green environment with untreated wood and plants. The bar holds an interesting vibe, as it is only meant for special guests who know of the place. This is not the type of bar you’ll attract to due to flashy signs etc. Pairing it up with it’s website, it remains secretive and mystic. This makes the bar interesting and popular. At 5PM the bar was already full, with led to us being lucky to even find a table. Ordering drinks was a show of it’s own as the map was as mystic as the bar itself. Ordering half blind, it was exciting to get served a fresh and home brewed drink with a little to much generous amount of cognac in it. The atmosphere ere was good, without to much noice or clingly music to interferer a conversation. One bartender showed off in his lab coat, who clearly loved his work uniform. There other waitresses kindly helped frustrated rockies who obviously didn’t meet up here every Friday for «after-works». Even the cup made me feel like someone whiteout any cultural capital in the matter. The cubicles was welcoming and cosy. As the snoopy people we are, every corner of the bar was being reviewed. Walking upstairs, in a stair who have not been redecorated since the beginning of time, or at least from when the building was built. Graphic signs led us up in the direction of the next bar, where the Taptailes found place. As judging the tap tails on forehand, the taste was a good surprise. The tap towers was a fun and industrialised way of serving drinks, and it must lower the demands of being hired as a bartender on this post. The only seating left, was the tiny window sofas made for children, ironically. Despite being somewhat petite, it was hard to find a place for the behind to fit properly. A mandatory visit to the highly expensive photo boot was made, trying to fit two behinds on an even smaller stool than the window sofa.
At the end, a quick visit to the ladies room found place, much at interest than a need. The toilets had concrete sinks with vintage faucets. The mirrors was made of tiles combined as they were before it was possible to make it in one larger piece. The only thing ruining the experience of this restroom, was the white plastic «Katrine» soap dispensers hanging on the mirror. In the end, an urge to try the hanging swing chair came upon us with some upcoming photo sessions.
During observations at the Newton centre in Bodø, an interview with the teacher found place. An interview was chosen in order to gain in-depth information and experiences around engaging in youth activities towards science.

While entering the centre, a welcoming woman greets in the door. Her name is Linn-Kristin Bremnes and is head of Bodø Newton Centre. She gives a tour through the different rooms as she explains how the space is used as well as what she would improve. She also work as a teacher at Hunstad Junior High, but focuses her time towards the Newton Concept. Being in the same city as the founding cooperation, First Scandinavia, she also helps develop and engage in new projects. Her overall mission with the knowledge thought at this facility, is the realisation towards the difficulties changing the bad habits of energy use today. As well as the importance to create more researchers and scientist in order to create innovative solutions that can substitute the sources used today. She states clearly the issue around global warming being connected with being human made, but she is concerned how it will be evolve if innovations are left out.

The Centre’s space used for teaching, has both good and bad prospects for being a good learning facility. Linns’ over all thoughts towards important aspects involving using this kind of space was, flexible interior, space for testings and good work stations. She also emphasised storage as part of the flexible solution, where modules not in use can be put aside. Linn also commented some missing objects, such as a ventilator in the lab, causing a limited use of illustrations. She worshiped the idea towards the tents, due to the flexible sides who could be folded up giving a spacious room, or hanging down for divided work spaces.
As part of my project, a connection to First Scandinavia was made. First Scandinavia has developed a concept called Newton where students are invited to an extern classroom for inspirational education in science. As this meeting found place, an agreement was made for a presentation of the project when completed.

The company was built by graphic designers and scientists, who creates all the interior solutions themselves. One of the leaders, Rigmor, introduces the companies work methods and precious Newton rooms. A brief history of the company storyline, as well as the development of the Newton module, gave a picture of the company’s vision for the concept. By using simplified programs such as Sketch-up, they are able to show their clients rooms in 3D as well. The solutions are somewhat simple but contains the functions needed.

The latest room in Namsos was more technical and futuristic, using smart boards and robots. This room was more futuristically inspired with indirect lighting and graphics with shiny surfaces. A design like this gives a conceptional look, however, it strikes as somewhat synthetic and less lively. Comparing this project with the bachelor project, it will be more likely to focus more towards a natural aspect of futurism. A lively design feels more in depth as the room is thought to be focusing on renewable energy and sustainable solutions.

First Scandinavia also collaborate with Boeing when creating Newton Flight Academy in Bodø. A new building located outside Bodø Flight Museum for educating pilots giving them flight hours, or welcoming schools for education in aviation. There is a strong concept in this room with an airport and aviation installation with navigation posts and flight simulators.

Due to lack of expertise from interior architects, First Scandinavia feels an excitement toward the result of this project. As goes for function and design as well as the inspirational influence the interior might hold towards science education.
Attachment 9 traffic lines
process
review of area use
Attachment 10 Furnish plan 2nd floor
process
review of area use
Brainstorming

**Behov netoprom**

- Plasser 30 stk. möte / oppsummering
- Kan brukes som spisested / bibel?

**Gruppestasjoner**
- 4 pers pr. "booth"
- Mulighet til skjerm?
- Skriveavle?
- Fleksibil?
- Oe stasjoner

**Velkomst**
- Skap for røygsekkar
- Oppberøring av klær / sko (?)

**Annet**
- Kontor
- Lagring
  - Rekvisita
  - Instrumenter
  - Større objekter
Behov Netonrom

- plasser: 30 stk
- møst / oppsummering
- om bord brukes som spisested / bibel?

Budde kan skrive

Gruppestasjoner
- 4 pers. pr. "booth"
- mulighet til skjerm?
- skrive tavle?
- fleksibl?
- 6 stasjoner

Arbeidsstasjoner
- vog til vann
- avl

Other
- bønner (6 stk)
- omrader for bygging av

Annet
- kontor
- lagning
  - rekvisita
  - instrumenter
  - større objekter
KONSEPTUTvikling
LAB - BYGGET
- ideutvikling

- opprinnelig laboratoriebygning for apoteker
- Bygningen inneholder enorme rør-annlegg og store tanker rundt om til ulike stoffer
- opprinnelse: 1920
- 4 etasjer
- Skøyen plads
- Japansk tekarkitektur
- steinbygning

- Hensikt å kunne gi barn og unge mestreingsopplevelse innen natur- og realfag
- lanning gjennom praktiske aktiviteter - "Forskermiljø"
- praktisk
- Spennende interiør
- Teknologisk vellutstyrt
- unike eksisterende løsninger
- etablert rundt om i landet

- Newton og
- First Scandinaviac
- Møller eiendom

- Hva bruker i en lab laboratory
- Vask for vann og røve
- Ventilator for gass og røve
- Møller, opplysende
- kompleks, del av skolen
- sko
- sko
- sko
- sko
- skylling

- Frackler/briller/hansker
- Steilt miljø, kan til tider virke upersonlig

- Kontakt/samarbeid
- Møller eiendom

- Mulig Sponsor: Hafslund Møller mobility
- Energirom - elektrisitet
- fornybar
- Elbil
- ønsker 2 klasser inne pr dag
- Mulig litt problematisk?
- Er det marked for dette?
- Vanlig med 30 stk
Sciencefiction & NY-futurisme

- Hvor tyde? Har nyrenen gått?
- Skal de gi hvit med til gul?
- Belysning i kulter?
- "Skulle overflaten" - Glatt/rent
- "Runde kanter"
- Knurte
- Varseltape på gulv
- Karim Rashid
- Frittstående objekter/rom
- Arbeidsområdene for lagene?
- "Oppdragsrom" Atium
- Fleksibil? Seles i to?

(Science) Fiction
- Hvorfor?
- Skal skape fremtidens
- Nett og ikke tilgjengelig
- Forskningsområdet/trendy
- Bildet på "forsker"
MORGENDAGENS HELTER
GJENNOM REALFAG

Veg: Torv Grav

Rengjør rom
- opprettning
- oppdrag
- oppdragelse

Renselighet - vaak - antakk - oppbevaring - bøker

Design som gir følelse av "ny stue". Rent/akensut
uten å bli upersonlig.

- henge hovedkap på venstre
- sør

Vitenskap minst 50.000

- fremskrenkning
- å forsikk/nysvilk.

- bli en helt!

inndeling i mindre rom/grupperom
for samarbeid/laugarbeid

mulighet for utprosning
av modeller som rekker mer piano-bass

husakvald, utseende oppdrag og inn i regnskap

Hovedrom: 
- Dører?
- Hengers
  - oppdragere
  - spisemanger
  - en del av oppbevaringen

Bruke alle flater

Bearbeidde alle flater for seg

"TEMA - ROM"

Rom som tar for seg kjente
klimaellerter.

Rom som tar for seg ulike
- nord/syd
- Ørken
- regnskog
- fjell

Lysende elementer

indirekte belystning

Lyseller eller ledestier i
forrige lys.

Bruke lys aktivt for å endre
rommet til ulike deler av
historien.

Rundt?

Viser "oppdrag" fra
skjerm fra "strategibord."

Viser fra gulv

Skjermer i sirkel hengende
fra tag. Som basket-arena.

Hologram i fremtiden?

Må romme ca 300 stk.
L Trenger det flere skjermes? Hype laoret?
L Må det være krediter?
MORGENDAGENES HELTER
GJENNOM REALFAG

Hovedrom
- Dører?
  - Hengsler
  - Oppsauget
  - En del av opprelsnes

LAB-rom
- Renlig bok
- Moget

Design som gir følelse av "ny start".

Brute lys
- Beviste
- Forografer

Learning by doing
- Smarte hoder x
- Smarte hender
- Brute dyrket
- Gi det fullt
- Finne frem nysgerrigheten i det å forske/nynu-vide.

Lys scenear
- Vore lyser akk
- Framgje akk
- Vare
- "Faret" fra lag

Rundt?
- Vise "og
- Skjermer fra
- Vibe fra
- Skjermer fra
- Tag
- Holograur

- Trenger min 90 m²
- Delto inn i mindre
- Zoner

Mottakseandel
- Fra pakke
- oppseving
- "Til inn i reelen"

Innbeding
indenrome rom/grupperom
for samarbeid, sparring/teater

Hullighet for utprring
av modeller som krever
mer plast og tekst

Veg, tax
- interiøret skal være mer en brev vegger
- og gul hv. En sannbilde av old flakter
- Hve arbeide alle flakter for veg

Rom som tar for veg
- klima-leder

Rom som tar for veg
- deler av jordkasen

Lyset elementer
- indirekte belyst
- Ledelinjer eller
- forgre lys
- Bruke lys akti
- rommet til u
- historien

"TEMP-ROM"

Bli en helt!
Ungdom 12-16
"Ungdomsskolen"

Steadker i livet

Forbrokeelse til fremtiden
Mange usikker
Hvordan skal man velge på videregående
Kjærnlighet

identitet

Venner
Egen refleksjon
Karakterer

Vinne

Mange mange opp og meldere

Hente inn interesse for videregående

Innsatt

Unnstilling

Venner

Mange

Karakter

Vôle

Lokal/forsommer

Vise seg frem

Vise nye ting gir nye «briller»

Howdron holde/få oppmerksomhet

Sciencefiction

Trender

Vise noe helt nytt! Noe fremtidsrettet

Fysistisk

«Ny-fysisme»
Hå fange interesse
for fordelingen på VGS

VGS realiteten er klar.
fordelingen av bårmmennet
er startet.

- yrkestar
- studiespes
- "HighSchool Drop outs"
- Kvalitet / Kvantitativ

Ungdomsskolen starter
realiteten i skiltet.

- karakterer
- lærervisning blir mer synlig
- press for å komme inn på VGS.
- Mer testet
- Finne identitet.

Barneskolen var stor
lagel mellom elever.

- ingen karakterer
- Mindre dynamiske
- Mindre press

VGSسا

Studier i

Foreberedelse
til fremtiden.

- Mange usikre
- Hvordan skal man legge på videregående

Kjærlighet

Venner

Vise seg frem

Eigen refleksjon

Beginner å lære

Størst skal være mellom
eneste og venner

Sanses gjenfør, store grupper

Den valgte kjønnene gjenfør

Karr

Utflukter

Gir muligheter
fra en annen

Gjøre nye ting g

Trender

Tusker ut.
Attachment 12 Scetching process

Area analyses
+ Kommer inn / ankommer sør lå av bygning, sørter øst- til vesten.
+ Ankommer i en "hordelpuls - året".

- Kommer med trapper for å komme inn, noe som avlukkes av rullebeker i.Blindene.
- Kommer rett inn i trappen / trakten.
- Ankomst på midten kan gi åpning av oversikt over ledige plasser og faste / tilvirkende bærbar.

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+ Logisk plassering i formid.
+ På sokkelplan som inkluderer plassering for alle.
+ Kan lete strategisk etter sitt plasser.

- Trakten strammer dreyr langs ut.
- Hå på igjen mot alle lokale.
- Løser gjennom alle de beste arealene.
- Dørligg oversikt av lokale.
Hallingen

+ på bakkeplan som inkluderer lik inngang til alle
+ god sikt i store deler av lokalet
+ vlogisk plassering i forhold til kollektiv ankomst.
+ Trafikk åtres ut
+ Må gå igjennom hele lokalet
+ hengre gangbrot i beste delen av lokalet.

Тrækk / tog / bus

Målgrupper:
- studenter
- borger
- eldre

Can holdt mellom sittgrupper?

Community halde
- community halde
- plassert på 2. etasje
- med enkelthet i design og utforming
- med enkelthet i design
- med enkelthet i design
- med enkelthet i design

+ Betalk av 1. til sittgrupper
+ Velkomst i at hele
- muligheter

Studeplasser

 attend sittgruppe? Borde det lokalt bokstiller?

Tillending

Tillending

Hylle

Røker?

sok langs veg