A BATHING HOUSE TRANSFORMATION OF LANGELINIESKURET A recreational community based on the meeting between body, water, light and space

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"Communal bathing is a near-universal trait among our species and has a meaning that extends far beyond personal hygiene. (...) such spaces have in bringing together people who might otherwise remain separate, and placing them in a situation of direct physical contact."

Mackay, 2016

INTRODUCTION

This thesis will deal with the interior transformation of the building, Langelinieskuret, situated at the Langelinie quay, a popular promenade. Using the existing structure to operate as a gathering place and emphasize its recreational use closely linked to the shoreline, the thesis proposes that the building should accomodate a bathing house. The wish is to create awareness around water as a valuable and limited resource by fascilitating it as a healing element of body and mind.

Several bathing fascilities were placed along the coast before the establishment of the Freeport. The thesis intends to reestablish the bathing fascilities on the inside of Langelinieskuret. During restoration in the 1990's the ground level of Langelinieskuret was dividied into smaller units for commercial use. A big part of Langelinieskuret is today left empty. The real estate company, Karbergshus, owns Langelinieskuret and is currently restorating the exterior and plans on renting out the empty units for different shops and cafés.¹ The aim is to change the interior function of the building into a bathhouse as an alternative proposal for the current plans.

Historically, bathing has been a social activity bringing people together. The meeting between body and water is a sensoral experience with a positive impact on health and wellbeing.² The space should invite its patrons to cultivate better, healthier relationships with their bodies and themselves. Considering the bathing house as a social institution and a place improving health and wellness, a part of the project will adress making the space accessible and inclusive.

This project intends on designing an interior that approaches the interplay between light, water and space. We often describe light with a vocabulary analogous to one you would use to describe the behavour of water. The relationship of light imitating the movement of water is intended to implement in the design of the interior in order to create an immersive sensory experience.

¹Karbergshus (n.d.) ²Henriksen (2023)



Bathing facilities pictured along the coast before the establishment of the Freeport. Døvehistorisk Tidsskrift (2002)

THESIS STATEMENT

Through the development of a bathing house in the existing building, Langelinieskuret, this thesis will explore the interplay between water, light and space in order to create an immersive sensory experience as well as how to form an inclusive space for every "body"

TOPIC

This thesis aims to change the function of Langelinieskuret. Using the existing structure to operate as a gathering place and emphasize its recreational use closely linked to the shoreline, the thesis proposes that the building should accomodate a bathing house.

To accentuate the idea of the bath house as a community relating to corporality and boldily health it should be designed for every 'body'. A place that embraces diversity, body positivity and inclusivity. The project intends to question and reevaluate the typical bathing house in order to create a social and inclusive space. Hence the project questions:

How to provide inclusive bathing facilities which support and encourage the participation of disabled people?

And how can spatial organization contribute to different gradients of privacy in order to avoid feeling exposed?

Additionally the project aims to explore how spatial interventions affects the interplay between water and light raising the question:

How can space and material practice affect the interplay between water and light in order to create an immersive sensory experience?



The meeting between water and the skin. Linda Joy Young bathes in a sink, Pasadena. *Ed Clark (1951)*

CONTEXT THE COPENHAGEN FREEPORT

The harbor of Copenhagen has undergone a process of transforming from an industrial port and a traffic junction to a bustling, recreational city area. With a total quayage length of around 38 kilometers, 12 kilometers stretches from Kalvebod in the South to Svanemøllebugten in the North.³ The Freeport of Copenhagen which was established in 1894 is located in the northern part of the harbor just north of the star shaped fortress, The Citadel.

Langelinie is a part of the Freeport that also comprises America Quay, India Quay and Marble Pier, whichs together bounds the harbor and the pier, Midtermolen. The Freeport divides into four bassins; North-, Middle-, Eastand West Bassin. The port has been expanded further northwards several times and today the Freeport is a part of Nordhavnen, which has been under development since the 1990's⁴

³By og Havn (n.d.) ⁴Kend København (n.d.)





1879, Before the establishment of the Freeport of CPI-



1931. Showing the different piers of the Freeport



establishment of Nordhavn

Source: Kortviseren.dk

CONTEXT HISTORY

Until 1848 the port route located on the waterfront of the current Freeport was a part of the military fortification of Copenhagen, closed for the public. The coastal beach were used for the soldiers to bath while the commandant had better conditions as he had his own private dock and corresponding bathing house. When the area opened for the public it became a popular boardwalk as it was an idyllic pathway around Kastellet and along the shoreline of Oresund. Additionally, gender seperated public baths were built along the coast.⁵

In the middle of the 19th century, the harbor of Copenhagen was becoming too small to acommodate the increasing industrialization and international maritime transport. In 1962 plans of expanding the portside were presented; By digging out the area it would allow access for the largest ocean-going vessels and the materials removed could be used for land fills along the coast. However, not much happened until plans for the Kiel Canal in Germany were presented in 1885, which allowed shipping to move between the Baltic and the North Sea avoiding Copenhagen and its port. In order to consolidate Copenhagen's position as an important maritime hub in Northern Europe, the Freeport was a direct response to counter the Kiel Canal.⁶

In 1888 a public sketch competition for the establihment of a free port in Copenhagen was issued. Three years later the construction of the Freeport began with managing director, H. C. V. Møller and architect, Vilhelm Dahlerup behind the execution. The Freeport opened its wharves and docks in 1894 driven by the privately owned Københavns Frihavns-Aktieselskab. The port was expanded further upnorth in the beginning of the 20th century with the establishment of Kronløbs bassin and Orient quay.

The Freeport closed down in 1985 as the incorporation to the European Union with emerging favorable trade agreements made the free port redundant. Today the Freeport is part of Nordhavn and is driven by the port authority for the Port of Copenhagen, Copenhagen Malmö Port (CMP).⁷

⁵Larsen (2009) ⁶Lauring (2006) ⁷Henriksen (2023)

CONTEXT HISTORICAL TIMELINE

1800th c.	Military use, bathing fascilities along the coast for the military
1848	Puclic acces: Popular promanade, bath houses are built
1885	Plan for Kiel Canal presented in Germany
1887-95	Kiel Canal in Germany is constructed
1888	Competition for establishment of Copenhagen Freeport
1891-94	The Freeport of Copenhagen is constructed. Langelinieskuret built
1915-21	The Freeport is expanded with Kronløbsbassinet and Orient Bassin
1922	Cruise ships comes to Langelinie
1985	The Freeport is gradually closed and becomes a public area
1993	Langelinieskuret becomes a listed building
1990's	Langelinieskuret is used as a commercial building
2021	Langelinieskuret was sold to Karbergshus



Elevation drawing of Langelinie skuret. Original presentation material

THE BUILDING LANGELINISKURET

Langelinieskuret, designed by architect, Vilhelm Dahlerup, was erected in 1891-1894 in relation to the establishment of the Freeport. It is situated at the Langelinie quay between tourist attractions including the Citadel and The Little Mermaid. At the Langelinie quay the many cruise ship docks. On the northern tip of Langelinie there is an ice cream stand and the original lighthouse from 1893.⁸

Langelinieskuret functions on multiple levels; The basement, ground floor and roof. Traditionally if functioned as a customhouse on the inside for goods from the cargo ships docking at the pier.

Before the establishment of the Freeport the coastal area was already an attractive area to promenade among the population and in order to persist this function a boulevard-like promenade was constructed to operate on the roof of the building.⁹

To this day, the promenade is still a popular destination to go for a stroll and enjoy the city scape. However, the the cargo ships at the pier has been substituted with cruise ships and the interior function of Langelinieskuret has changed. In 1993 the exterior of the building was listed.¹⁰ In the 1990's the Freeport gradually closed and the building went through a renovation; inside it was divided into smaller clustered units for commercial use.¹¹ Today a lot of the architectural details are covered in offer signs and furnished with interior boutique designs with the aim to attract visitors as well as residents in search of great deals. These effects do not really do the building justice.

⁸Miljøredegørelse for Marmormolen og spidsen af Langelinie ⁹DAC (n.d.) ¹⁰Slots- og Kulturstyrelsen (1997) ¹¹Lauring (2006)



The arched frames and the clerestory windows in the basement



An empty area on the groundfloor with split into smaller tenancies by flexible walls



Another empty unit on the groundfloor



The architectural details defining the building drowns in offer signs. Shelves covering the windows and blocking out the natural light. Artificial lighting covering the beautifully arched ceiling.

THE BUILDING FUNCTION

PAST

Originally the process of clearing goods through customs took place inside the building. The cargo ships would dock alongside the eastern pier of the building and unload the goods. After registration the goods would be transported by the railway running next to the western side of the building to local warehouses and factories or through the underground tranport tunnels connecting the basement with the neighbouring stock building, Pakhus 1.

The idea of the former popular Langelinie Promenade were included in the new plans and substituted by the 350 meters long path on top of the roof of Langelinieskuret. The promenade was enclosed by a fence to prevent public acces to the actual Freeport. Here residents would stroll elevated above all the ships and sheds to enjoy the views of the port.¹²

¹²Voss (1999) ¹³Visit Copenhagen (n.d. ¹⁴Karbergshus (n.d)

THE BUILDING FUNCTION

NOW

Today, the deep basin next to Langelinieskuret functions as a cruise ship pier and on average a new cruise ship arrives every other day.¹³ Langelinie is still a popular place for the residents of Copenhagen to enjoy their Sunday walk as well as visitors going sightseeing as it is surrounded by tourist attractions such as Kastellet and The Little Mermaid.

During restoration of Langelinjeskuret in the 1990's the groundfloor was divided into smaller units for commersial use while stockroom and public restrooms were installed in the cellar. A big part of Langelinieskuret is today left empty besides it housing a couple of big otlet stores, a segway rental and a waterpipe café on the ground floor. The real estate company, Karbergshus, owns Langelinieskuret and is currently restorating the exterior.

THE FUTURE

The plan is to rent out the empty units on the groundfloor for commercial use. The plan for the basement is more open and should change during the year with second hand markets and other cutural events. Besides the current stands on the ground floor, a ceramics shop, a wine bar and a restaurant is already planned to open. Further, Karbergshus is searching for a bakery, kayak rental, galleries, cafés, restaurants and other shops to rent the empty spaces. They aim to make Langelinieskuret an attractive place to hang out which both attracts the tourists from the cruise ships and the residents of Copenhagen.¹⁴ The basement floor has to be excavated in order to meet building requirements with ceiling height.



The Langelinie Promenade facing north 15/2-1895



Langelinieskuret seen from the western side showing the railway, fenced promenade on the roof and the masts from ships docking in the background. 14/9-1894. *kbhbilleder.dk*



The Langelinie Promenade facing north in present time



Langelinieskuret in present time with outlet signs and bus stops

THE BUILDING MATERIALITY & CONSTRUCTION

EXTERIOR

The facade of Langelinieskuret is in chalk stones from the Swedish Oland decorated with a cornice in granite. The roof is asphalted in order to serve as pavement for the promenade enclosed by the wrought iron fence. Originally the gates to the building were designed in corrugated sheet metal but with the refurbishment in the late 1990's large it was substituted with large glass windows with a smaller doorframe.

INTERIOR

Inside the building the arched ceilings are noteworthy. In 1867 the French gardener, Monier, introduced the reinforced concrete in order to construct arches also known as the Monier arches. The arches became a significant element in many of the buildings design by Vilhelm Dahlerup including Langelinieskuret. The arched ceiling in the cellar is supported by centrally placed columns in cast iron as well as transverse monier arches. On the groundfloor the arched ceiling is constructed with monier arches alternating between a lenght of 1,5 and 4,5 meters. The ceiling height is 2.5 meter in the cellar and 3.75 meter on the ground floor.¹⁵

¹⁵Henriksen (2023)





Drawings of facade and section of Langelinieskuret showing the basement and ground floor. Orig. presentation material



An empty part of the basement showing the centrally placed columns as a bearing element of the arched ceiling.



The facade is covered by roughly cut Oland limestones.

Dahlerup was fascinated by the raw nature stones and in the 1980's he went to Oland with H.C.V. Møller to study the qualities of the stone at the quarries and how it was utilized as a building material. The stone posses unique characteristics in regards of structure, size, color, giving the facade an uneven surface.

THE BUILDING LISTING OF LANGELINIEPROMENADEN, 1993

ADDRESS Langelinie Allé 4-58 and Langeliniekaj 5-7

LISTING INCLUDES The fenced promenade Trees Holger Hammerich monument The building, Langelinieskuret

REASONING FOR LISTING

The Langelinie promenade has a high symbolic value when entering the port of Copenhagen by sea transport. The construction indicates both architecturally and culturally the development of the harbor. The promenade on top of Langelinieskuret compensated for the dissappearence of recreational area caused by the establishment of the Copenhagen Freeport. The building is a great example of an evolution in building technique where new materials and construction forms are used.¹⁶

GUIDELINES

It is important to preserve original building components and materials when restoring the building. New establishments shold be constructed with respect and consideration for the building As far as possible technical facilities should be placed inside the building and should not be visible from the outside.¹⁷

EXAMPLES OF BUILDING PERMITMENTS

SUSHI RESTAURANT (2006) Establishment of kitchen, restrooms, extraction through window. BAR (2008) Demolition of partitioning walls.¹⁸

¹⁶Slots- og kulturstyrelsen (1997)

¹⁷Københavns Kommune (n.d.)

¹⁸Københavns kommune byggesagsarkiv (2006 and 2008)



Original drawings of plan, section and elevation by V. Dahlerup

THE BUILDING THE ARCHITECT

The architect behind Langelinieskuret is Jens Vilhelm Dahlerup (1836.1907). He was one of the most respected and recognised at his time but has later been critizised for his historicistic architecture with use of various kinds historical styles and motifs.¹⁹

He is the architect behind several buildings in the Freeport; Skur I, Varmecentralen, Pakhuset, Silopakhuset and Langelinieskuret. Other buildings worth mentioning include: Glyptoteket, Søpavillionen, Hotel d'Angleterre, Elefanttårnet, Glyptoteket, SMK, Dronning Louises Bro, Det Kongelige Teater, Jesus Kirken.

Worth noting, he has designed the bathing house, Silkeborg Vandkuranstalt.

¹⁹Voss (1999)



The Freeport in 1928 showing buildings designed by Dahlerup: Varmecentralen (1), Silopakhuset (2), Skur 1 (3), Pakhuset (4) and Langelinieskuret (5). Silopakhuset burned down in 1968 and Skur 1 was demolished in 1993.

PRELIMINARY PROGRAMME A BATHING HOUSE

As previosly mentioned the thesis aims to mirror the recreational use on top of the roof to the interior of the building by creating a bathing house. Thus, the function of the building is changed. The intervention will focus on creating an inclusive environment and work with building elements that affect the interaction between light, water and space as a means to create a sensory and tactile experince.

BRIEF OVERVIEW OF EXPECTED FACILITIES

Reception Communal changing room Shower Pool Hot pool Cold pool Sauna Rest rooms A small bar area Treatment room Staff room Cleaning depot Storage room

Specifics are indicate and might change



Silkeborg Vandkuranstalt designed by Vilhelm Dahlerup, 1883

BATHING CULTURE A SOCIAL ACT

In the classical period "(...) baths embodied the ideal of civic life".²⁰ It functioned as a public and social activity in which the health of the body and the pleasure of the senses were united in an experience that was seen as both a necessity and a luxury. Opposite of the contemporary understanding of a bath where communal bathing is rare, historically it has been a social activity.

In the beginning of the 20th century public baths including Sofiebadet and Sjællandsgade Bad were built in Copenhagen to consolidate the many residents who did not have a bathroom in their domestic home. Since then the sanitation of Copenhagen took place in the 1940's and the majority of people today has a private bathroom. However, the public baths still operates and in 2022 Sjællandsgade Bad had more than 23.500 visitors.²¹

²⁰Twigg (2001) ²¹Baggrunds redaktion (2019)



Bathing as a social activity, Washington D.C. Frances Benjamin Johnston, 1920-30s.

BODY AND WATER EMBRACING DIVERSITY

Water is a natural resource for living. The meeting between body and water is a sensoral experience. There is something truly meditating about water from the feeling of letting water run through one's fingers to more active endeavours such as swimming. The space should invite its patrons to cultivate better, healthier relationships with their bodies and themselves. The practice of communal bathing might help renormalise a basic sense of diversity in a world where we often meet distorted and photoshopped photographs of the body in the media.²²

Typically bathing houses and spa environments are gender seperated in the floor plans of changing rooms and restrooms. In order to be more inclusive these facilities should be communal while still providing the right amount of privacy and intimacy to avoid the individual feeling vulnerable and exposed.

The bathing facilities should allow users to fully participate. Therefore the design should support and encourage the participation of mobility and sensory impaired people.

The deal with making the swimming zones more accesible and inclusive arise questions about the water depth and the way to enter the water bassinets. The traditional pool is usually entered by stairs or using a ladder to descend the body into a deep pool which does not really acommodate the needs of a person with physical disabilities. This calls for shallow pool and a rethinking of how to access the water by lifts, ramps or platforms with falling terrain sharing traits with the the way you enter the water on the beach. Ramps, and other special features allow less mobile visitors full access.²³

²² Mackey (2016) ²³Macabante (2022)



Water touching undressed skin. How do we prevent feeling exposed? *Dianora Niccolini, 1982*

THE BATH A RITUAL ACT & A SYMBOL OF TRANSITION

Through time water has been used to mark transitions and rituals. For example the Romans used the public bath to mark out the transition between work and leisure and in a religious context we have the christian baptism as well as washing the hands before praying practiced in hindu and islam. In the same way the bath resembles the beginning of the day for many people or in the means of a spa it is associated with relaxation and a self soothing activity.²⁴

The act of bathing is seperated into different steps and connected with rituals and transistions. It is intended to explore this different steps and take them into consideratio in regards of designing the spatial organization. Conceptually the spatial organization should centre around the sequence of rituals embedded in the bathing experience. Prioritizing the relationship between body and physical space, using design to guide users through the order to which the experience of the bathhouse unfolds.

²⁴Twigg (2001)



The transistion of the body dechending into water. Kathy Flicker dives at Princeton University's Dillon Gym pool. *George Silk (1962)*

SPACE - WATER - LIGHT AN INTERPLAY

In the meeting between water and the built environment, architecture and nature merges. Water posses several qualities in regards of visual effects and optical properties as it has the ability to create optical illusions. As water is transparant it reflects and refracts light. When light beams travels through air and hit water, some of the light is reflected off the water while the rest of the light refracts creating a visual distortion as it enters the water.²²

Water comes in three different states; gas, liquid and solid. These different states also affect the vision of the surroundings. In a gaseos form it can be steam, mist and fog blurring out the surroundings. As a liquid, a calm water surface can function as a mirror reflecting the environment whilst flowing water in movement can create patterns of wavy reflections across the water and onto a ceiling or wall. It also posses the reflective and refractive behaviour in solid form.

It is said that for LeCorbusier, 'light and water are simply different states of the same material'.²³ Water and light share many attributes; the fluidity, movement in waves and their transitory substance. The relationship between the two is higlighted in the way we often describe light with a vocabulary analogous to one you would use to describe the behavour of water. For instance one could say that light *pours* from the sky, *bathes* objects, and *floods* into spaces.²⁴

Building elements can be conceived as containers, designed to collect, channel, hold, and release light. This thesis intends to investigate how space and material practice affects the interplay between water and light in order to create an immersive sensory experience.

²⁵Schielke (2016) ²⁶Torres (2005) ²⁷Theodorson (2016)



Taxonomy showing how a vocabulary usually used to describe water is adapted in the language to describe light. *Theodorson (2016)*



Refraction, Swimmer Kathy Flicker spits water in a swimming pool. George Silk (1962)



Reflection. Unknown source

METHOD

REGISTRATING EXISTING CONDITIONS ON SITE

My project will originate from mapping in 1:500 and gathering of data and material of my site in order to understand the complexities and existing conditions of the building. I will contact the owners of the building and try to arrange a tour in the building. To support my understading of the interiors of Langelinieskuret I will build a sketch model in assumably scale 1:50. The model will be used in order to create the intervention.

A CASE STUDY OF BATHING HOUSES

I will visit different bathing houses to gain knowledge about rituals, transistions and the spatial sequence of such. The spaces will be analyzed in regards of privacy, intimacy and how to enter the water in order to adress the matters of wellbeing and inclusivity. Additionally, the gathered information will be assembled in diagrammatic drawing and utilized to form a drawing for my proposal.

WATER - LIGHT - SPACE

The meeting between water, light and space plays an important role for the proposal which intends to utilize building elements and material practice to affect the interplay between water and light in order to create an immersive sensory experience. By using the scientific paper, " Architectural Vocabularies: exploring the analogous relationship between light and water" the relation between space, water and light will be explored and documented by picturing natural light imitating the behaviour of water with the use of abstract architectural elements and models.

UN SUSTAINABILITY GOALS

The ambition of this thesis project is to encompass around the following UN sustainability goals:

3. GOOD HEALTH AND WELL-BEING

A communal space that aims to promote health and wellbeing for its patrons.

5. GENDER EQUALITY

Accomodating transgender and creating a safe and secure gender neutral space

6. CLEAN WATER AND SANITATION

The wish is to create awareness around water as a valuable and limited resource by fascilitating it as a healing element of body and mind.

11. SUSTAINABLE CITIES AND COMMUNITIES

The goal will be addressed by proposing a public space which is inclusive and accessible, in particular for persons with disabilities.



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