

# REVITALIZING NYGÅRD FACTORY

*A makerspace in Oslo*

Abstract

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## THESIS

My thesis is to transform an old industry building into a space for our current production habits. The transformation will follow the building's premises.

## BACKGROUND

Oslo, capital of Norway, has gradually expanded along its rivers and valleys since its foundation in 1048. When industry was introduced, the population growth exploded due to the need for labor. Most factories were placed along rivers for power utilization, and later along railways for accessibility. This was the best option until electricity was introduced.

Throughout the last century, factories started to disappear from the city. This has a two-sided explanation. First, large scale industry was outsourced to low-cost economies. This is a result of expensive labor in Norway, and cheap material cost and shipping. Second, smaller manufacturing jobs moved to the periphery. This was due to easier mobility (railways, highways) and lower rent.

Today, Oslo city is largely a big housing estate, scattered with cafés and culture institutions. The producing city has become the recreational city. I would like to reintroduce production into the city.

## SITE AND STRUCTURE

During my pre-diploma I mapped the city development from industrialization and until today. I searched for an interesting site and structure, one that does not reach its full potential today. I wanted to work with transformation, but I did not know at which site or to which program.

The chosen site is in Gamle Oslo, constrained between Alna river and the railway. Alna river offers an attractive hiking trail and Oslo's only remaining primeval forest. The frequency of the passing trains makes the site exposed to noise pollution. The site is surrounded by housing estates, both single family houses and urban lamellas. The area lacks social arenas, common functions, and indoor meeting places.

Occupying the site is an old paint factory from the late 1940s. It is carried by a column and beam system in concrete, closed with brick and windows for the façade. All functions and circulation are placed in one corner to enable as much space as possible to the production. The structural logic offers large open spaces and uninterrupted window bands along the façade. The building has a functionalist expression, and its beauty lies in the simplicity.

During its lifetime, the factory has housed different occupants: Nordiske Destillasjonsverker; book printing; tin shop; car painting; storage space and offices. Since the 1990s the factory has been rented out to Bandidos MC and experienced poor maintenance.

## PROGRAM

First, the intention has been transformation, as too many buildings are demolished despite their potential. This is a consequence of expensive labor and cheap material cost. It is not sustainable, neither in terms of materials, architectural value, or ecology. The building industry is responsible for 40% of global carbon emissions. More of already existing structures needs to be reused, and I think the best way to ensure their survival is to transform them according to present needs.

Working with transformation is different than building something from scratch. The concept must be the structure itself, its odd details, organizational logic, and existing qualities. These can be exaggerated or hidden, but they are there, waiting to be addressed. This is, in my opinion, what makes transformation interesting.

Second, the program and what the building should facilitate for. Since summer 2020, the site and the building has been rented out to Kroloftet. Kroloftet is a non-profit creative work community, offering its members workspace and workshop equipment. When I started my diploma, Kroloftet had just moved in and started the rehabilitation of both buildings on the site (the paint factory and an old gunpowder factory).

After analyzing the site and the structure more closely I concluded that the planned program was suitable and decided to concentrate on turning the building into a makerspace. The building will continue to be a production building. It will consist of workshops over three stories, co-working spaces, and food production on the roof.

In addition to physical production, more and more are produced through a computer. These products reach the world through the Internet and are never intended a physical format. To facilitate for this kind of production there is a need for office space.

## PROJECT

The site and the building have some obvious shortcomings, both in terms of infrastructure, universal design, and comfort. Emphasizing the existing architectural qualities has however been the most present challenge. These are: flexibility, generous ceiling height, continuous window bands, efficient organization, robust materials, site.

One important task during the project has been to make the site more accessible for wheelchair users, baby strollers, bikers, and others dependent on ramps. By transforming an old water canal into a bridge, the site can be accessed from Svartdalsparken. A terrace is established as an external continuation of the lowest floor. This floor contains a metal workshop and a metal bar, open to the public.

Daylight has been an important force for decision-making. The two subterranean floors and the loft lacks sufficient daylight. This is solved by cutting holes in the slab where the effect is the greatest. Reflective materials as glass, mirrors and water are added to guide daylight deeper. The fire balcony is removed as a new escape route is established.

The loft is dark because it has smaller and lower windows. By cutting holes in the ceiling the space receives skylight. The thin slab carrying the roof is changed out with

CTL to enable soil needed to grow vegetables. The roof facilitates for both indoor and outdoor cultivation of food.

Throughout the building, the windowsill is 1,5 meters tall, making the façade look more like barriers than openings. This is common in old industry buildings as machinery and storage along the façade should not be at the expense of daylight. The floors along the perimeter are raised 0,7 meters to better the connection between inside and outside. The space underneath these raised floors are used for technical infrastructure and storage of materials.

Through small but important interventions I hope to revitalize Nygård factory, making it a functional workspace more adapted to our current production habits. I wish to intervene in a gentle way, as to not ruin the possibilities to further transform this beautiful functionalist structure in the future.

## ABOUT

This diploma contains the following documents

**Abstract** – a summary of the project

**Analysis** – the site and the structure

**Program** – pre-diploma providing background for the project

**Posters** – digital posters, including illustrations and model photos

**Sketch book** – chronological documentation of the process throughout the semester

**Technical solutions** – principles and detailing

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