

Ullevål Sykehus  
-  
Left, but not forgotten

Diploma program 2019

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In my diploma I will look into the future Ullevål Hospital, once it ceases to be a hospital. In 2030 the hospital will be relocated to Gaustad. What happens then?

I want bring attention to an acute problem in Oslo; the lack of strategy regarding historical buildings and neighbourhoods we leave behind or demolish. I will take the whole hospital area into consideration, and work toward a cohesive strategy for the buildings and grounds.

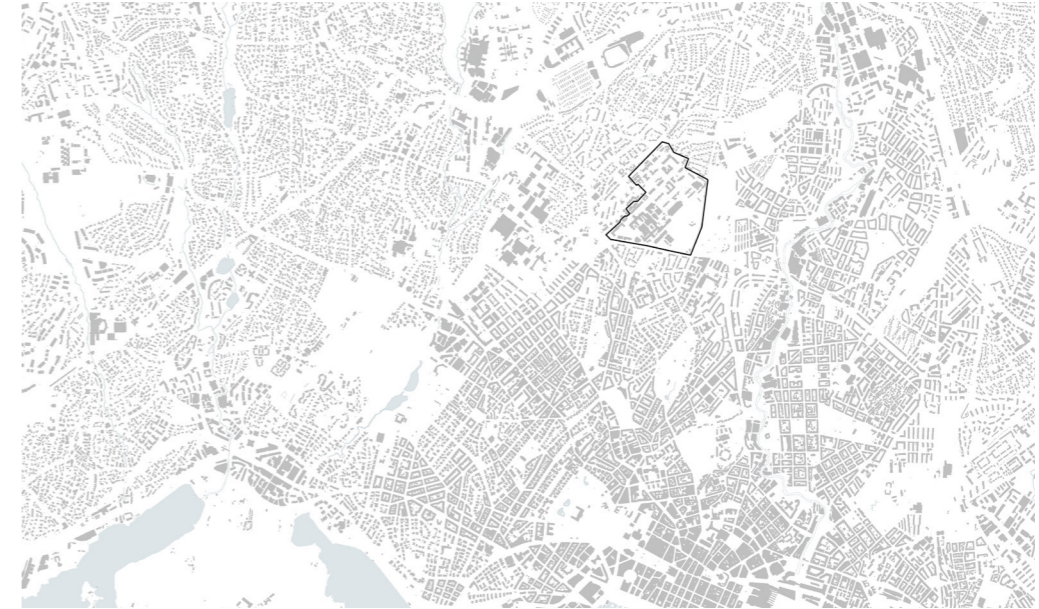


1 | Rune Aakvik  
Ullevål Sykehus, one of its oldest buildings and lab building.  
Oslo, 1993

Ullevål Sykehus is part of the district of St. Hanshaugen, with 38 109 residents (2018). The district has the largest number of jobs, influenced by the many public institutions. The Government Headquarters, Oslo Tinghus and The Supreme Court. In addition, the district has many educational institutions, such as Oslo Met, The Norwegian Veterinary School, The Faculty of Dentistry. <sup>1</sup>

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<sup>1</sup> Thorsnæs, Geir & Tvedt, Knut Are. (2019, 20. november). St. Hanshaugen.



2 | Plan of Oslo showing the entire area of Ullevål Sykehus today.



3 | Aerial photo of Oslo showing the entire area of Ullevål Sykehus today.



Ullevål Sykehus is the largest hospital in Norway. It covers an area of 300 000 m<sup>2</sup>. North of the hospital lies Ullevål hageby, a garden city village built between 1915-22. The main entrance is from Kirkeveien in the south, separating Ullevål sykehus from Lindern and Adamstuen. Nordre Gravlund and Geitmyra allotment garden connects to Ullevål Sykehus in the east, creating a continuous park area.



4 | Map outlining area of Ullevål sykehus



5 | Terje Forseth  
Houses in Ullevål Hageby  
Oslo, 1983



6 | Unknown photographer  
Geitmyra School garden  
Oslo, 1950



7 | Atelier Rude  
Nordre Gravlund and Ullevål Sykehus  
Oslo, 1983



### Relocating

In the summer of 2020, the board in Helse Sør-Øst announced their decision to close the hospital and move to Aker and Gaustad in 2030, with an expected cost of 32,6 billion kroner. In order to raise funds, the plot at Ullevål will be sold to housing developers.<sup>1</sup> Currently, seven buildings at Ullevål Sykehus are protected according to kulturminneloven, The Cultural Heritage Act. Furthermore, some interior and green areas are protected. In march, the director for cultural heritage, Hanna Geiran, stated that she would consider increasing the number of protected buildings if the plot was to be sold. Originally, she wanted a larger number of the buildings protected, but revised the decision both in 2009 and 2011 in case of expansion at Ullevål, and its important function for the citizens of Oslo.<sup>2</sup> However, now that the situation has changed dramatically, she could insist on further protection, either through The Planning and Building act, or The Cultural Heritage Act:

...if the areas at Ullevål are given a new use, we would insist that the benefits of reuse and transformation should be thoroughly investigated. There are considerable climate benefits to be gained from keeping existing buildings.

Future development must also consider its cultural history and architectural characteristics. Ullevål is an incredibly important and interesting cultural heritage, not only from the perspective of health, but also for the city of Oslo.<sup>3</sup>

2 Juven, Mordt og Jonassen, "Ullevål fikk nådestøtet".

3 Fladberg, "Kan utvide vernekravet på Ullevål".

4 (My translation) "Dersom Ullevålområdet skal få ny bruk, vil vi insistere på at klimaeffektene ved gjenbruk og transformasjon av bygninger blir grundig utredet. Det er betydelige klimagevinster å hente i gjenbruk av eksisterende bebyggelse. Utvikling av området må også inkludere kulturhistorie og arkitekturtradisjoner... Ullevål er et utrolig viktig og interessant kulturminne i tillegg til å være sentral norsk helsehistorie og byhistorie. Fladberg, "Kan utvide vernekravet på Ullevål".

In a follow-up article on Geirans comments, Dagsavisen spoke to Finn Bragnes from the real estate firm Semb & Johnsen. He regarded the plot at Ullevål to be one of the most valuable in Oslo, alongside Filipstad and NRKs soon vacated plot at Marienlyst. In 2017 Commercial Real Estate Norway AS (CRE Norway) valued the plot on behalf of Oslo Universitetssykehus. They estimated the value to in the region between 8,4 and 8,7 billion kroner. The numbers are modest according to Bragnes and based on a "moderate and sympathetic land utilization in regard to protected buildings. The area would remain open, with nice green spaces for both residents and visitors".<sup>1</sup> The valuation was based on an average built height of six floors, and estimated up to 4400 new apartments on the plot.

After hearing these estimations I began to linger over a few questions.

1. What is a modest land utilization at the plot?
2. Does the city of Oslo really need 4400 new apartments in this precarious and historical area?
3. How can the existing buildings and green spaces at Ullevål Sykehus be utilized ?

5. ( My translation) "Dette er nøkterne tall basert på moderat og sympatisk utnyttelse av tomten vurdert opp mot fredet areal. Dette vil fremstå som luftig med gode uteområder for dem som bor der, og de som ferdes i området ". Fladberg, "Unik boligperle".



8 | Fjellanger-Widerøe  
Ullevål Sykehus with surroundings seen from above  
Oslo, 1958



9 | Unknown photographer  
Ullevål Sykehus 100 år.  
Oslo, 1987



### Part of a pattern

The decision to relocate the hospital, leaves a lot of questions regarding the future of the soon empty buildings and grounds unanswered. At present time there are no plans regarding the future use of the buildings, protected or not. Sadly, the case with Ullevål Sykehus is not an anomaly in Oslo. Earlier this year, writer Knut Olav Åmas expressed his concern regarding an alarming phenomenon: We abandon historical, monumental and significant buildings either to demolish them, or to empty them with little plan for their future use. The list is long. In the coming years the following buildings will be either emptied, demolished or sold: The National Gallery, The Munch Museum, Museum of Contemporary Art, Deichman Library, Oslo Prison (Botsen), Oslo Veterinary School, The Veterinary Institute, The Train Hall in Middelalderparken, The Art Academy, NRK at Marienlyst, the Y-Block in the Government Headquarters, Ministry of Foreign Affairs, R5 and R6 and the old Military Academy in Kvadraturen all share similar fates. Åmas writes:

...empty and escape has become the new norm and template, even where renovation and planning for continued use is possible. History, continuity and identity are lost forever - even human relation to the architecture of the city and its spaces...In other European cities they rehabilitates historical public buildings with success. In Oslo we prefer to build from scratch.<sup>1</sup>

6. (My translation) "Tøm og røm har blitt malen og normalen, selv der renovering og utvikling for fortsatt bruk til det opphavlige formålet er fullt mulig. Det som går tapt for alltid er historie, kontinuitet og identitet - ja, mennesker forhold til byens arkitektur, rom og plasser...I andre europeiske hovedsteder rehabiliterer de med strålende resultater gamle, offentlige praktbygninger. I Oslo bygger stat og kommune heller nytt. Åmas. "Byen som ikke vet sitt eget beste"

It seems that the newest, shiniest and glamorous buildings have a greater appeal to decision makers, compared to the historical buildings of the past. Undoubtedly some have proved successful, like the Opera in Bjørvika. Nevertheless, it is unsustainable and futile to replace every museum, gallery or hospital with a new "state of the art" version. However, this does not happen without protest. Many citizens and activists have protested, most notably against the demolition of the Y-Block and the relocation of the hospital at Ullevål. A week before the final decision regarding the future of Ullevål Sykehus, thousands of people met up at the hospital in the hope of changing the likely outcome.<sup>6</sup> The buildings at Ullevål Sykehus should not be deemed irrelevant once they are emptied. In a chronicle in Arkitektnytt, architect Erik Collett touches upon many of the same things as Åmas. He argues that architects should engage more in the existing, not only what can be built in the future:

Should not the architect be engaged responsible for "our built surroundings"...Those who work within protection and education, are naturally engaged in our existing buildings. However, that is more rare among practicing architects, unless it results in paid assignments.

One example is the abandoned culture institutions. This is happening all over the country, but in Oslo especially. The last decade has shown a lack of commitment regarding the protection of historical buildings, compared to new buildings.<sup>7</sup>

7. Husøy and Waale."Slo ring om Ullevål Sykehus".

8. (My translation) "Men burde det ikke være slik at arkitekten har et engasjement og et ansvar for alt som kan kalles "våre bygde omgivelser"...For de arkitektene som er engasjert i for eksempel verne saker og undervisning, faller eksisterende bygningsmasse naturlig inn som et engasjement, men mer sjeldent blant praktiserende arkitekter, med mindre det resulterer i oppdrag. Et eksempel er de såkalte forlatte kulturbyggene. Disse finnes over alt i landet vårt, men særlig Oslo har de siste årene føle mangelen av forståelse for å bevare våre kulturbygg på bekostning av nybygg.



10 | Ørnelund, Leif.  
Deichmanske Bibliotek  
Oslo, 1973.



11 | Ørnelund, Leif.  
Kringkastingshuset  
Oslo, 1976.

Deichmanske Library and Kringkastingshuset at Marienlyst are some of the buildings that will be emptied in the coming years.



### To the waterfront

The emigration from important cultural and historical buildings has coincided with the recent obsession of clustering together public buildings in Oslo's fjord city. The Opera and Astrup Fearnley Museum have been there for a decade, and the new Deichman Library and National Museum will soon open to the public, as well as the much discussed new Munch Museum. In all probability, they will be successful in terms of engaging the public, and few can argue against the attraction value of new buildings. Nevertheless, we are abandoning historical buildings at such speed, that we in turn degrade the overall attractiveness and dynamic of our institutional buildings.

Earlier this year there was much debate regarding the proposal of building a new Photography Museum at Sukkerbiten, an artificial island by Sørenga. In this greatly densified area, the island had the potential to become a welcomed contrast, and many proposed a park.<sup>1</sup> More than anything, the real issue is the outright neglect of the dozen of empty buildings that has the potential to house functions such as a new Photo Museum. The same issue applies to Ullevål Sykehus. Even before a decision was made concerning the future of the hospital, some gorged in the potential of tearing down existing buildings and replace them with new ones. That before considering how the old buildings could house new functions, and be given a new purpose.

1. Slettholm. "Fotografihuset på sukkerbiten er siste symptom. Nybyggesyke i Oslo må kureres".

### The third market

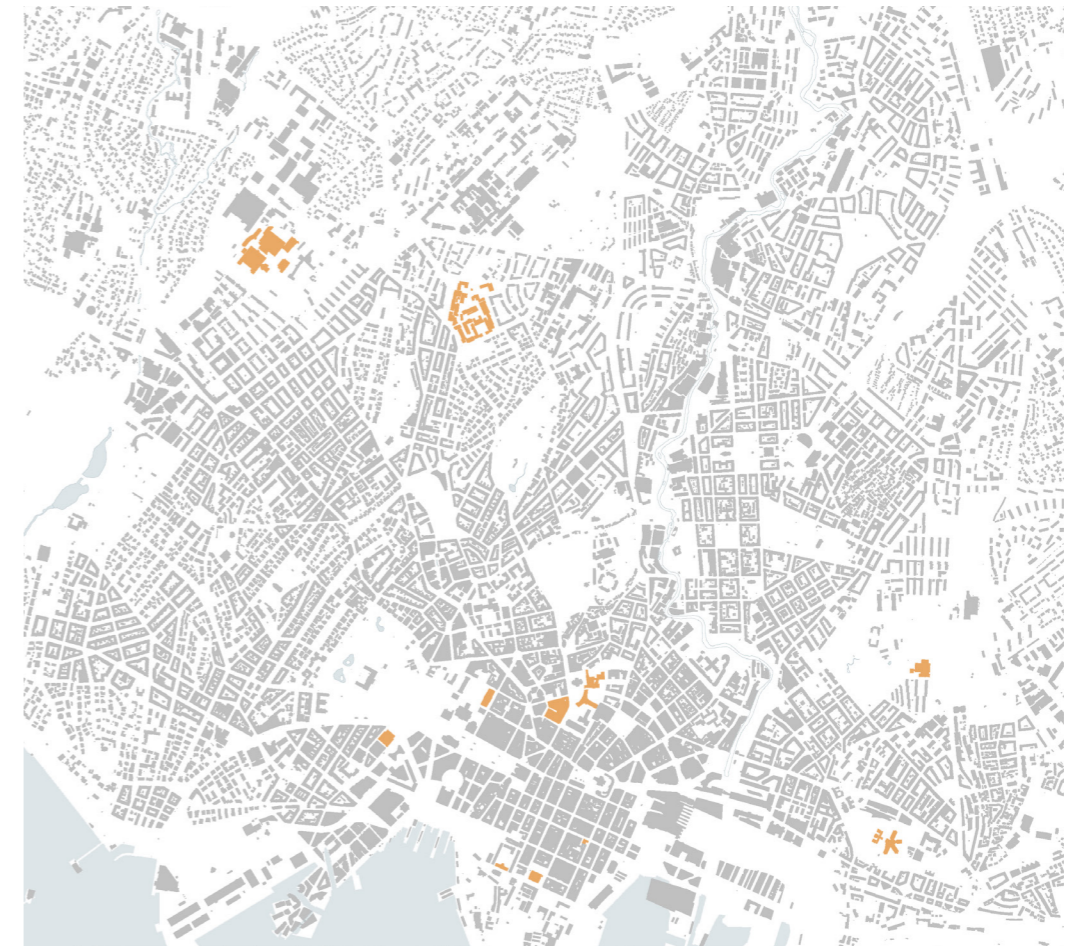
In recent years many politicians have argued for increasing housing in Oslo. A month ago the city council declared that they will try to build or facilitate 1000 new residential units. They plan to buy small or medium sized blocks, cooperate with private and non-commercial partners, as well as building new apartments in the "third housing market".<sup>1</sup> The strategy relies on Oslo municipality taking an active role in buying buildings, in order to offer cheaper alternatives to what the commercial market offers. The city council presented three alternatives:

1. Efforts for renting - Proposes a lower cost of rent. In turn the tenant must repay with maintenance duties.
2. Establishing home - The municipality builds and sells apartments, while keeping a percentage of the ownership. The share might be 20 %, the rest owned by the buyer. The purchase price will in effect be 80% of that on the commercial market.
3. Rent to ownership - Means that a person can start with renting, with the rent being the payment. In the end, the tenant eventually owns the apartment.

The city council plans to start with five pilot projects, with an ambition of gradually increasing the scale of the project. Furthermore, the long term goal is that 20 % of all new buildings will offer apartments for the third housing market.<sup>2</sup>

1 NTB. "Oslo kommune vil bygge flere boliger."

2 Røed-Joahansen and Stolt-Nielsen. "Slik vil byrådet gjøre veien inn på boligmarkedet enklere".



12 | Historical buildings that have or will be abandoned in Oslo

Nurses and teachers

The reasons for why the city council initiates this housing policy are many. Even though the prices have increased moderately the last couple of years, buying an apartment in Oslo is very expensive, even for people in fulltime jobs. The average m<sup>2</sup> prize was 72. 201 kroner in november, 2019.<sup>1</sup> As a consequence, people in essential professions, like nurses or primary school teachers, are finding it extremely difficult buy apartments in the city they work. As of 2018, a teacher, nurse or policeman earning approximately 450 000 kroner would only be able to buy 0.3 % of the sold apartments that year.<sup>2</sup> In an article, NRK spoke to Lotte, a nurse working fulltime in Oslo. The closest she could get to buying her own home in Oslo with her savings was Nannestad in Akerhus, or Tomter in Østfold. In turn, that would make the commuting time an hour. Some in her situation could get financial help from parents, but she, like many others do not have that opportunity. Furthermore, that inequality increases by the fact that downpaying mortgage when owning essentially is an investment, while paying rent is not.<sup>3</sup>

Secondary homes is another growing aspect of the housing market in Oslo. This is basically an apartment the owners do not live in themselves. Many of them are put out for rent, while others are used as a temporary residence for commuters or used by the owner`s child. Secondary homes have become valuable objects of investment, for those who can afford it.<sup>4</sup> If commercial building entrepreneurs invests heavily at Ullevål Sykehus in the future, it seems unlikely they would offer any affordable solutions to nurses or primary school teachers. Would 4400 new apartments at Ullevål change the current narrative in the housing policy?

1 Marschhäuser. "Ferske boligpriser: Nedgang i november"

2 Eriksen and Krekling. "Sykepleier hadde ikke råd til en eneste leilighet".

3 -.

4 Sørgerd. "En av seks boliger i Oslo er en sekundærbolig. Byrådet vil skattlegge dem hardere, men regjeringen sier nei".

Questionable growth

One could argue that the dominant premise for an expansive housing policy and building thousands of new apartments in Oslo, is an explosive growth in population. However, the growth is presently slowing down. 2018 had the lowest growth in population since 2003.<sup>1</sup> In a 2017 Karl Otto Ellefsen wrote a piece in the Magazine, Kote, pointing out the nuanced dynamics in the housing market:

In Oslo there is a rooted perception that the growth will continue at the same speed as in the two previous decades. That the need for building is insatiable, the prices will continue to grow, the rent continue to be low and that all housing investments will be profitable in the foreseeable future. This view has been shared by politicians, building entrepreneurs and professionals.<sup>2</sup>

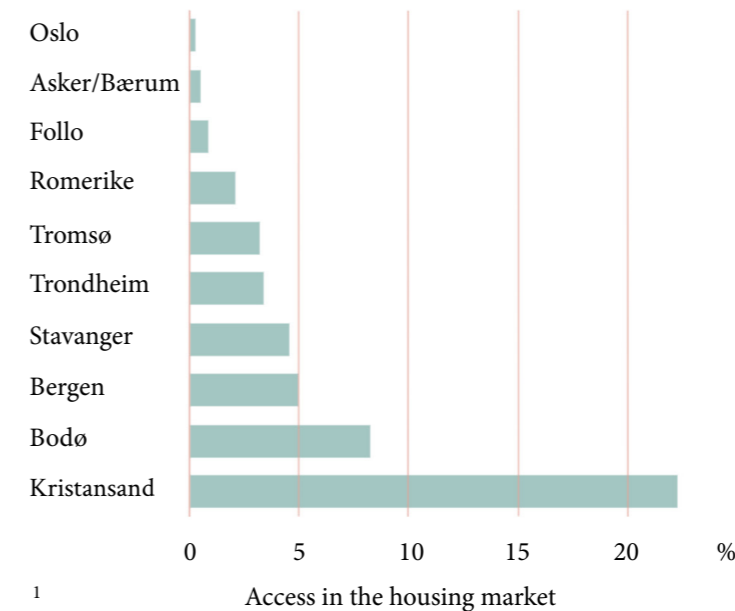
If there is a strong perception of growth, the natural instinct is to build more, in order to curb the growing prices. In addition, investments in housing are, as already mentioned, very profitable. Consequently, a driving force in the expansive building market is the continued need for this lucrative investment. This growth has seen dense urban areas expand beyond their traditional boundaries. Ellefsen mentions that the Ring 2 road (Ullevål Sykehus is just north of Ring 2) as been historical divider between the dense and open city. Now large green areas with smaller housing units are to a certain extent threatened by high utilization on individual plots near commuting hotspots. There is an understandable logic behind these measures, but with a slowing population growth, it might be worth thinking twice before we put traditionally open and green areas into play.<sup>3</sup>

1 Holøien. "befolkningsveksten i Oslo har ikke vært lavere på 15 år.

2 (Min oversettelse) I Oslo har det festet seg en oppfatning om at byveksten kommer til å fortsette i samme tempo som i de to siste årene, boligbehovet derfor er umettelig, at prisene vil stige, renten være lav og at all investering i bolig i hovedstadsområdet i all overskuelig fremtid. Denne oppfatningen synes å ha vært delt blant politikere, eiendomsutviklere og fagfolk. Ellefsen. "Historien om Osloveksten og om hvorfor folk må forlate hus og hjem og bosette seg høyt og tett.

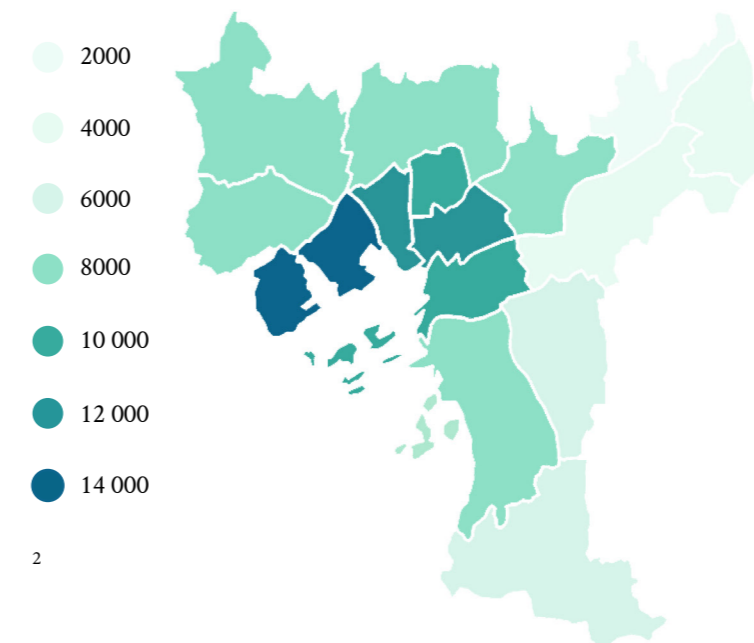
3 -.

Percentage of the housing market with 2 millions in mortgage



1 Access in the housing market

Secondary homes in Oslo



1 Eriksen and Krekling. "Sykepleier hadde ikke råd til en eneste leilighet".

2 Sørgerd. "En av seks boliger i Oslo er en sekundærbolig. Byrådet vil skattlegge dem hardere, men regjeringen sier nei".



The first building period

The history of Ullevål sykehus started in 1884, when the municipality bought 134 decares at Lille Ullevål. It was meant to relieve many smaller hospitals scattered around the city. In addition, the need for a new hospital are closely related to a significant increase in population in the latter part of the 19th century. Between 1879 and 1900 the population number in Oslo doubled, the capital now housed 25 times the number of people it did a century earlier.<sup>1</sup> In the fall of 1884 a committee was formed to propose distribution for mental, epidemical and general hospital units. In the end, they limited it to an epidemical hospital in the first phase.<sup>2</sup> Adolf Schirmer was given the job of designing the hospital. Beside Ullevål Sykehus, his most notable works are the middle building of the National Gallery, Sparebanken and Privatbanken in Trondheim, as well as Tollboden in Oslo.<sup>3</sup> The epidemical hospital was built according to the miasma theory, essentially that diseases were caused by polluted air, spreading it from one individual to the next. Therefore the buildings were low with considerable headroom, the air was ventilated through characteristic air towers (miasma towers). Additionally, the buildings were placed at large intervals, and the outdoor spaces between them abundantly planted. On the 5th of September 1887 the hospital opened, with four hospital buildings, a reception building, an economy building, stalls for horses and a mortuary.<sup>4</sup>

1 Kristiansen and Larsen. "Ullevål Sykehus i hundreår", s13  
 2 Braut. "Ullevål Universitetssykehus"  
 3 Bjerkek. "Adolf Schirmer"  
 4 Braut. "Ullevål Universitetssykehus"

The second building period.

Victor Nordan became permanent architect at Ullevål in 1894, and large parts of the current facility were built during his time. For instance, the characteristic yellow brick buildings were built during this period. Importantly, the architect left the original concept of low buildings, but the ventilation system was kept. The wrought iron balconies were not meant for patients, but for visitors looking at relatives through closed windows.<sup>1</sup>

The third building period

In this period, between 1912 and 1926, Nordan continued expanding the hospital with buildings resembling the previous design, but with greater neo-baroque influences. The gate tower by the main entrance from Kirkeveien was finished in 1924, with the recognizable iron roof.<sup>2</sup>

The fourth building period.

From 1926 continued works were performed by the city architect, but few additions happened before 1940. After the war, the development of the hospital was restarted. The most notable building from this period is the lab-building, with construction starting in 1978. Built in concrete, the structure has a 2.5 m technical floor between the lab floors.<sup>3</sup>

1 Braut. "Ullevål Universitetssykehus"  
 2 -.  
 3 Kristiansen and Larsen. "Ullevål Sykehus i hundreår", s13



13 | Unknown photographer.  
The first buildings at Ullevål Sykehus  
Oslo, 1887-1890.



15 | Unknown photographer.  
Ullevål Sykehus  
Oslo, 1949.



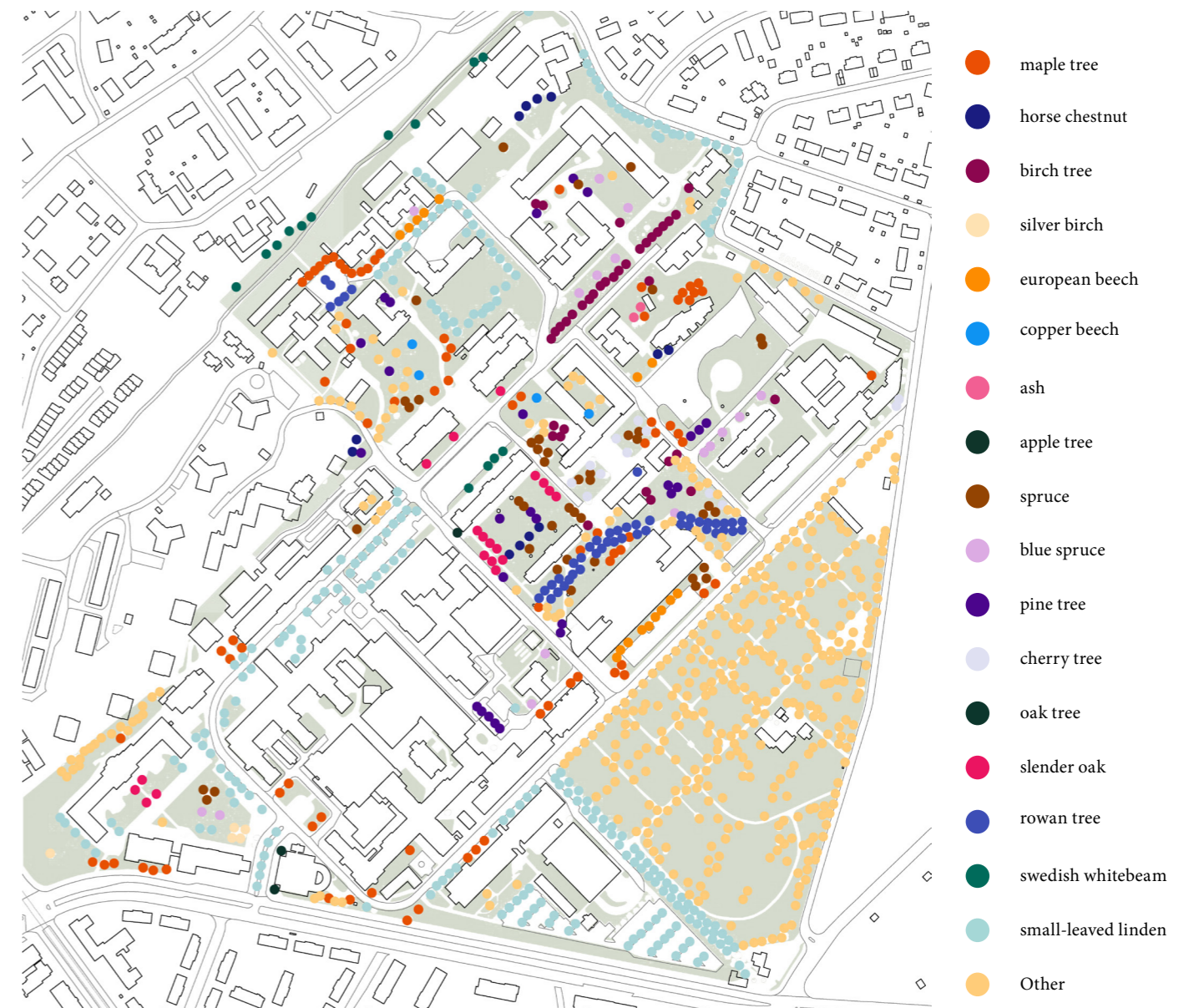
14 | Wilse, A. B.  
Ullevål Sykehus (seen from west) under the second construction period.  
Open fields for future development. Grefsenåsen can be seen in the background.  
Oslo, 1902.



16 | Wilse, A. B.  
Ullevål Sykehus  
Oslo, 1926.

Ullevål Sykehus remains open with green areas varying in scope. Within the grounds there are a great number of trees, predominantly linden. Many of the spruces that existed earlier have been lost due to the expansion of the hospital during the last century. Up until the Second World War the hospital had a significant gardening facility, but it has been reduced in the last decades.<sup>1</sup>

<sup>1</sup> Kristiansen and Larsen. "Ullevål Sykehus i hundreår", s 113.



17 | Tree types at Ullevål Sykehus<sup>1</sup>

<sup>1</sup> Klashaugen and Jacobsen. "Ullevål-fra sykehus til grønn bydel", s 48.



At Ullevål Sykehus there are four prominent green areas:<sup>1</sup>

Historical greenspace: Large grass area with barren vegetation

Cultivated greenspace: Denser vegetation, cultivated in terrain

Protected greenspace: Park with substantial grass areas and richly planted with trees.

Cemetery: Borders the hospital in the east. Heavily planted with trees.

<sup>1</sup> Klashaugen and Jacobsen. "Ullevål-fra sykehus til grønn bydel", s 52- 53.



historical  
greenspace



protected  
greenspace



cultivated  
greenspace



cemetery



The good dirt

Recently The Washington Post published an article written by allergist Cosby Stone. She suggests that our increasingly sterile environments may cause health problems. According to her, exposure to natural areas such as farms and forest is important early on in life. In some circumstances, exposing children to more bacteria may prevent allergies. She explains that our modern view on dirt comes from something called the “hygiene hypothesis”;

“As society progressed from one that was chronically burdened with infectious diseases caused by poor sanitation, we reduced our exposure to the things that gave our immune system an appropriate training and tolerance...Growing up in a rural area exposed to farm animals appears to confer decreased risk of allergies and asthma for your lifetime, even among genetically similar populations.”<sup>1</sup>

As well as potentially preventing development of allergies, soil may also contain a small microbe, *M.Vaccae*, that has shown to boost levels of serotonin and norepinephrine, working similarly to anti-depressives once inside the human body. The effect of this soil bacteria was discovered by accident a decade ago. In order to help the immune systems of her lung-cancer patients, Mary O'Brien, injected a serum made from the bacteria. To her surprise, she discovered an unexpected effect. The receiving patients reported feeling happier and in less pain than those not treated with the serum.<sup>2</sup>

1 Stone, "This allergist thinks some dirt and grime can be good for your kids". The Washington Post. 23.07.2015

2 Kennedy, "How to Get High on Soil".

Biodiversity

Biodiversity is variety of life on our planet, and essential to our future existence. The continued loss of biodiversity, just as climate change, represent an acute threat to the overall habitability on Earth.<sup>1</sup> According to a recent study, 40 percent of the insect species on our planet may cease to exist. In fact, three out of four of the most important agricultural plants depend on pollinating insects to produce good crops. Much of our diet is the product of plants, like grains, tomatoes, apples and nuts, and all need pollination. In Norway, one in four of our pollinating insects are listed as endangered. The Norwegian Institute for Bioeconomy, NIBIO, have expressed concern regarding two continuing tendencies.<sup>2</sup>

1. The landscape is changed because of large scale agriculture, with focus on greater efficiency. Patches of agricultural land becomes bigger and more uniform. In between spaces and pockets are often neglected, for example field, stream and road edges. There are in such spaces our pollinating insects often dwell.<sup>3</sup>

2. Secondly, a decrease in flower species in meadow, pasture and grass is evident. They are vital, because they offer nutrients to pollinating insects.

Homogenous landscapes dominated by either productive forest, arable landscape or buildings makes it more difficult for insects and plants to thrive. Loss of plant diversity affect insects, who in turn are important nourishment for birds, bats and other animals.

1 Carrington. "What is biodiversity and why does it matter to us".

2 Dramstad and Pedersen."Disse trendene er dårlig nytt for pollinerende insekter".

3 Dramstad and Pedersen."Disse trendene er dårlig nytt for pollinerende insekter".



18| Unknown photographer.  
Geitmyra School Garden  
Oslo, 1910-1920.



19 | Harvesting at Geitmyra.  
Geitmyra School Garden  
Oslo, 1910-1920.



20 | Thorkelsen, Jens Thorkel.  
Geitmyra School Garden  
Oslo, 1912.



Health

Recent scientific studies have shown that urban green spaces can have important health benefits. Already in 1984, a researcher named Roger Ulrich discovered a curious pattern. Patients given rooms overlooking trees were discharged on average a day sooner than the other patients. Why? In 2015 a study was published in the journal Scientific Reports, with researchers from the United States, Canada and Australia. They studied the city of Toronto, comparing two sets of data, with 95 000 respondents. The first measures the distribution of green space, while the second measures health. According to the researchers, an increase of ten trees on a block created a one percent increase in the mental and physical health of nearby residents. Furthermore, a study made in the U.S. between 1990 and 2007 found that cardiovascular illnesses rose in places where trees yielded to the emerald ash borer plague, contributing to 20 000 more deaths. The data from the Toronto-study also suggests an increase of trees can help people suffering from cardio metabolic conditions.

According to Marc Berman, the leader of the study, just looking at a tree could have positive benefit:

“The environment has to have some kind of stimulation to activate your involuntary attention - your fascination...Your eye is captured by the shape of the branch, a ripple in the water; your mind follows.”<sup>1</sup>

<sup>1</sup> Hutchinson, "How Trees Calm Us Down". The New Yorker. 23.07.2015

According to a study conducted at the University of Michigan, exposure to green surroundings can help us perform better in cognitive assessments. Volunteers were sent on two different fifty-minute walks, through either an arboretum or city streets. Those who had taken the walk through the arboretum performed twenty percent better when tested on memory and attention, as well as being in a better mood.<sup>1</sup>

<sup>1</sup> Hutchinson, "How Trees Calm Us Down". The New Yorker. 23.07.2015



20 | Vegetation at Ullevål Sykehus



Solutions for increasing the biodiversity at Ullevål Sykehus

Sedum green roof

A sedum green roof is a light structure that only requires a thin level of soil and little maintenance. It can be placed on inaccessible parts of the roof and provide shelter for plants and insects. In addition, sedum green roofs contribute to stormwater management by increasing the runoff coefficient. Best suited for larger roof areas and retrofitting of existing buildings because of light weight and low cost.

Meadow green roof

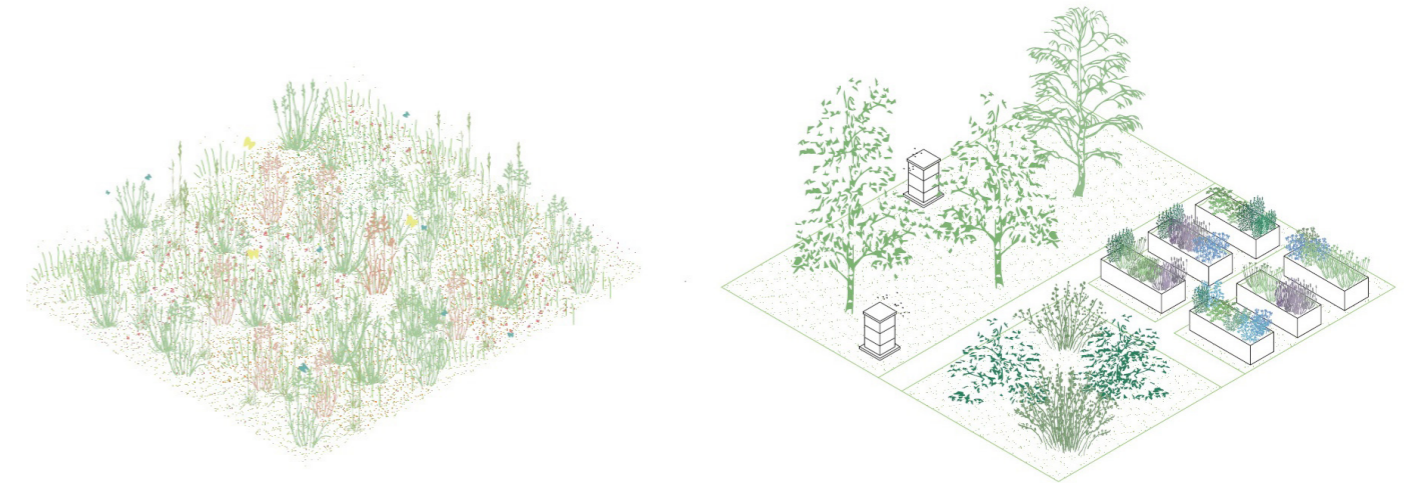
Compared to a sedum green roof it can sustain a larger volume of plants. Those who normally thrive in meadows, are well suited because they survive in relatively nutrient poor environments with occasional drought. Due to the weight of the medium and plants, meadow green roofs need heavier structures to support them.

Pollinators Garden

By growing plants that provide pollen and nectar, we can help pollinators thrive. A pollinator garden provides a varied all year habitat where trees, bushes and flowers provide a continuous source of nutrition. Fruit trees flower in the spring, berries and most flowers in the summer and some all through to autumn. The unique microclimate in the garden must also be considered. Pollinators favour spaces sheltered from the wind.

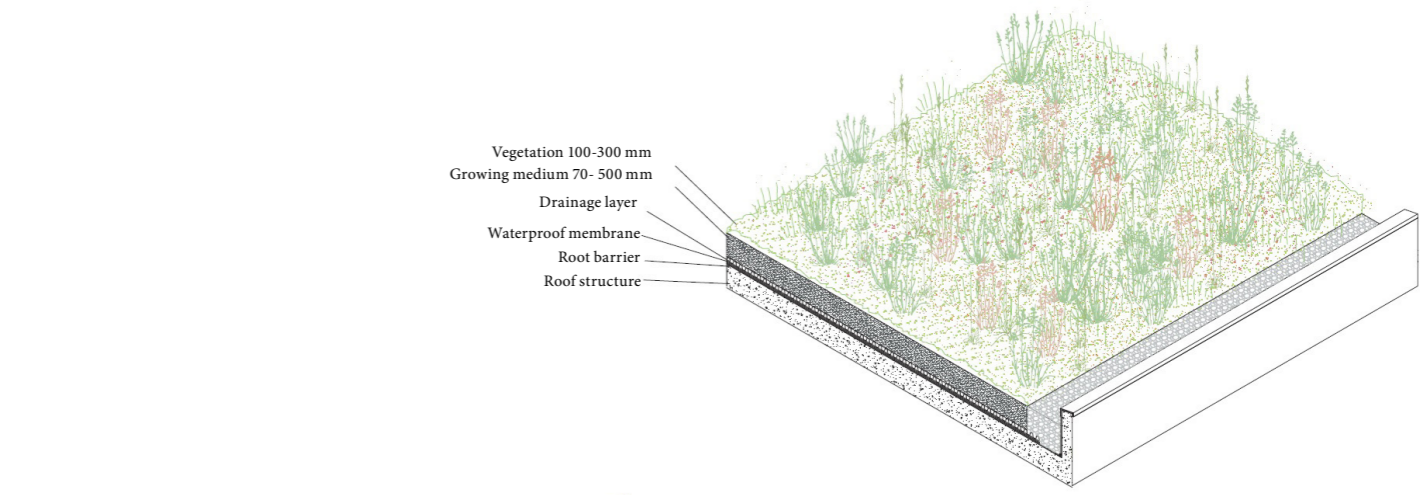
Meadow

They have rich diversity of flora, up to 40 different species of vascular plant can be found in one square meter. As a result they are perfect environment for beetles, wasps, grasshoppers and butterflies. However, they do not appear by themselves, and depend on human activity to exist. Luckily they are very easily planted and maintained, with reaping once a year. Normal lawns found in urban areas do not offer much in terms of biodiversity, and replacing some with meadows would be effective. A meadow can range from one square meter to one hectare.

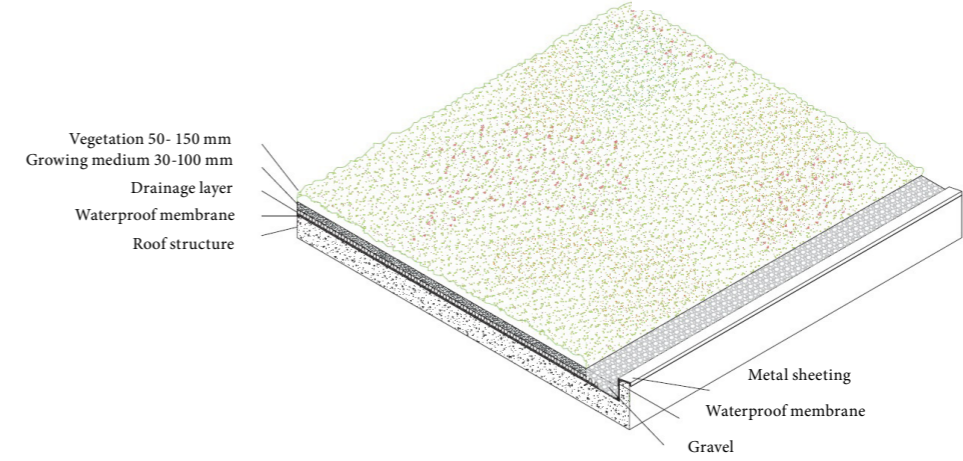


Meadow

Pollinators garden



Meadow green roof



Sedum green roof



### RESTORATION AND PROTECTION

I plan to map the current protected buildings, and consider the future protection status following the relocation. Secondly, I will analyze the buildings in their original context. As a result of pragmatic developments at the hospital, some of the intended qualities have been lost. Now that its function as a hospital ceases, it might be possible to restore some of the spaces that have been lost in time.



### BIODIVERSITY

Investigate whether green spaces can be developed further. There are plenty of homogenous grass, but it offers little in terms of biodiversity. How can the value of the area be increased for both humans, and other species?



### SUBSISTENCE

There are strong historical links to agriculture and farming at Ullevål, and it has left its mark on the area all since the middle ages. Today, the allotment gardens at Geitmyra maintain this tradition. There is great value in such functions in the urban city, and they keep alive an important relation to our natural surroundings. In addition, they are a reminder of a time not so long ago, when food was produced closer to one's doorstep. I want to create a strategy for allotments in the area, available to its future residents. Secondly, I want to examine whether an existing building, in connection to the land, could serve as an educational facility for urban agriculture.



### NEIGHBOURHOODS

The project area already has a substantial number of buildings, built in different times and designed within different architectural traditions. I want to schematically propose how the existing building stock could house new functions in the future, and how they consequently form definable neighbourhoods with different qualities.



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