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CHALMERS SCHOOL OF ARCHITECTURE
MASTER'S THESIS 2022



ABSTRACTS

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JOSEFIN AURORA JOHANSSON

KINTSUGI IN ARCHITECTURE

- EXPLORING HOW ONE CAN INTERPRET THE SOUL OF KINTSUGI INTO THE FIELD OF ARCHITECTURE



MATTER SPACE STRUCTURE

Supervisor: Naima Callenberg

Examiner: Daniel Norell

MT'22

The city is a living creature that is constantly changing, gaining new fragments, gets re-shaped, and loses some of its parts. Today, this is happening more and faster than ever, and the urban landscape is expanding and shifting swiftly. With this radical expansion comes the risk of losing the essence of the historical relation with the site and what once was built.

Architects have a vital role in appreciating the built environment and respecting it, when making decisions in how to handle and develop the scene. At the same time, change is inevitable and drives us forward to create more welcoming and sustainable spheres for everyone. Our cities are today more diversified than ever, which raises the demands on architects to create spaces which are more inclusive and inviting for all kinds of people, and we need to encourage meetings in our communities to take place.

How can we embrace these changes and find beauty in these meetings, while still remembering and honoring the soul of the built environment? Every season will shift, but there is comfort in knowing that the hand of our ancestors are still present in our everyday life.

As a way to approach this subject, this thesis will learn from the Japanese art of Kintsugi, which can briefly be explained as an old

traditional mending technique where cracked pottery is being joined together with gold – which does not only give the object a new life, but also highlights the history of damages. The method also takes on a more abstract shape, relating to Japanese philosophies reminding us to respect and embrace imperfection, and find an acceptance of change.

Exploring how these methods can be applied into architecture, a medieval church ruin in Gothenburg gets explored and repaired – just as the Japanese pottery gets mended. Learning from the concept of Kintsugi, the ruin gets a new life and re-discovers its soul with influences from its history and surroundings, as well as from similar projects dealing with ruins of different kinds.

The ruin will be transformed into a pavilion, which creates new chances for people to meet and socialize in their everyday life, while still providing a scene for more formal events and ceremonies. Roofs and more places to sit make the building more inviting and comfortable, and the site gets more attention drawn to it with a stronger gesture. These added elements are the gold that joins the community back together.

Keywords: Kintsugi, ruin, transformation, mending, time & age, value, authenticity, soul, meetings

JULINA LINDQVIST

MATERIAL DIGNITY



DESIGN ACTIVISM BEYOND BORDERS

Supervisor: Shea Hagy
Examiner: Liane Thuvander
MT'22

This thesis is exploring the definition of material dignity. How we as architects can ensure what is the most worthy and respectful way of treating a material. The aim of this thesis is to investigate if we as architects can become more aware in our material and product decisions when designing, by using storytelling as an alternative method of analysing data.

The purpose of trying out storytelling as a method is to see if it can help us challenge our perception. Storytelling has the power to highlight larger societal problems that otherwise might be concealed, by forcing yourself to put yourself in the shoes of the material. The act of narrating can therefore be considered a highly effective transformative power, to make us question what good and bad choices are, and to think about cause and effect. This makes us question things we otherwise just accept.

The thesis explores a single-use, non-biodegradable plastic bottle that probably all people are familiar with, to uncover and see if it is possible to change one's perception about the material and getting a deeper understanding on how to draw your own conclusions on how to make

conscious material choices.

The storytelling method turned out to be a good way of analysing data and challenging one's perception of a material. However, the method proved very time consuming and perhaps too complex, which means it might not be an appropriate method for architects to use, but more so in research purposes and in school projects to compile and analyse more complex facts and correlations.

What we need to consider to ensure material dignity is to not make assumptions on why and how we use the materials we use and to instead question those assumptions. To recognise that we are the ones that decide its worth, and that it is our responsibility as designers to make decisions that ensure material dignity.

Keywords: Material dignity, Perception, Storytelling, Plastics

MATTIAS JONSSON

LINNÉ LIBRARY



BUILDING TECTONICS

Supervisor: Mikael Ekegren
Examiner: Björn Gross
MT'22

In our ever changing and fast-moving society, stress is an increasing problem. One can ask the question why stress is an increasing problem and why are we living in a pace that is so fast that a lot of us cannot keep up. When we have everything that we need materialistically why can't we aim at having all that we need spiritually and in our way of living. If you can't relax and read a book and absorb that in a natural way, you might be too stressed. If you can't relax when you read, paint, talk with your friends, walk in the forest, or perform any hobby for that matter you might be too stressed. We create our society for us humans yet somehow, we live in a pace that's not suited for humans.

This thesis is an investigation, a discussion about reading and the role of the physical book in a digital world, but also and maybe more about how to live and how to live in a pace that's suitable for us. The result is a proposal for a new library in Linnéstaden in Gothenburg.

A library that's a barrier from the high pace city living. When you enter this library, you should feel relaxed and be align with your pace of living. Forgetting about schedules and time so you can open your mind and

absorb knowledge from all the great authors that's been living before us.

It's a sustainable building in the manner that it's a robust building. It has the intent of standing here for a long time so it will use common and proven building materials to their full extent such as brick, wood, and concrete.

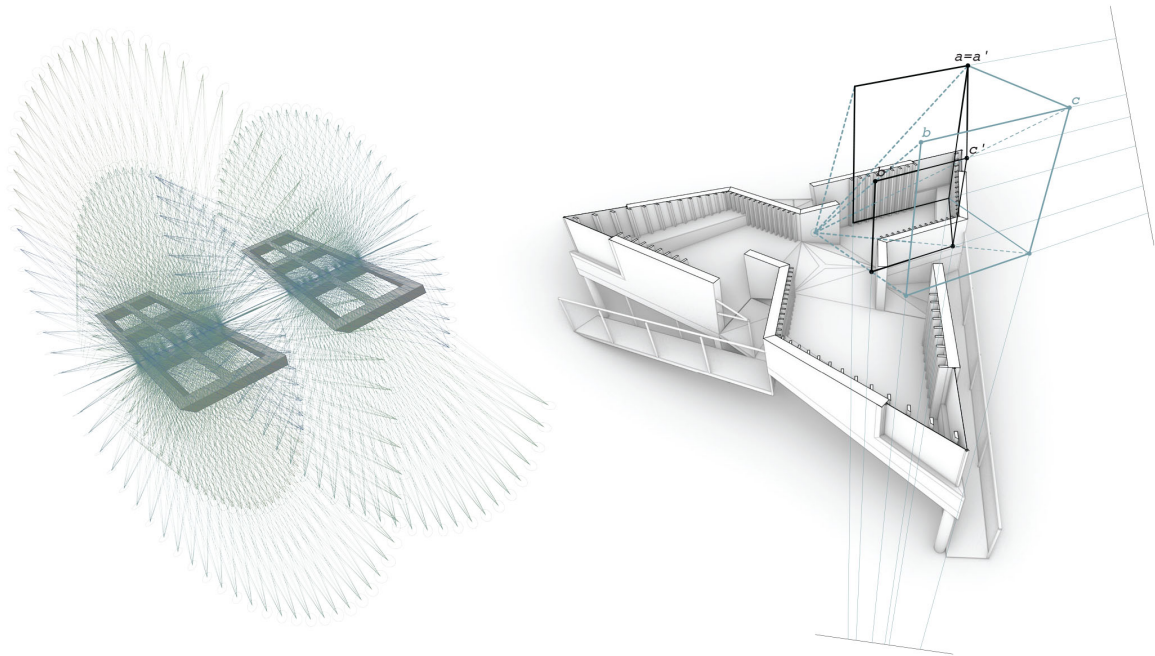
The human brain will probably not change fundamentally over some decades, neither should this library.

Keywords : timeless, stress-relief, brick, relax, focus

DANIEL JONSSON

DECEPTIVE GEOMETRIES

- SPATIAL ANALYSIS AND DESIGN THROUGH THE STUDY OF VISUAL ILLUSIONS



MATTER SPACE STRUCTURE

Supervisor: Malgorzata Zboinska
Examiner: Daniel Norell
MT'22

Not everything is as it seems. Our perception of our surroundings, and consequently our understanding of reality, is merely a product of our own interpretation. Our eyes only receive two-dimensional projections of the three-dimensional world, which our brains then combine and reinterpret as something three-dimensional. Therefore, our perception can also easily be deceived. This has been used by architects throughout history, either to create amazement or to enhance certain architectonic features.

Deceptive Geometries is an umbrella term, coined by the author, for all geometries that in some way feel unintuitive or deceive your perception of reality. This thesis aims to define by example what such geometries can be, and investigate how they can be integrated in architectural design to choreograph spatial experiences.

The conventional way of representing a building with orthographic projections, i.e. plan and façade drawings, is convenient for describing the geometry in a compact manner. However, it does not reflect how the building is perceived in reality. For architecture in general, and geometric visual illusions in particular, the relation between subject and

object plays a central role to the experience, as the vantage point of the observer is crucial to the perception of space. Thus, an extension to descriptive geometry is developed, with the purpose to capture the *perceived* geometry in a progression through space, and to decipher visual illusions.

The thesis consists of an exploration of deceptive geometries and related phenomena, followed by the development of a representation method. The two parts are then synthesized into a speculative design proposal for a building located by the Three-Country Cairn, where the borders of Sweden, Norway and Finland meet. Here, a symbolic representation of the tripoint is created, serving as a testbed for integrating deceptive geometries in architecture.

The overall hope is to contribute to a raised awareness of the importance of geometry to how we understand space, and how easily our perception can be manipulated. Because not everything is as it seems.

Keywords : Visual Illusions, Impossible Objects, Architectural Representation, Descriptive Geometry

SOFIA JÖNSSON

AD HOC ARCHITECTURE

- EXPLORING THE PRESERVATION AND ACTIVATION OF A SITE'S IDENTITY IN A DEGROWTH SCENARIO



MATTER SPACE STRUCTURE

Supervisor: Naima Callenberg
Examiner: Daniel Norell
MT'22

While facing an urgent climate crisis, the idea of degrowth as an economic strategy for reduction of both production and consumption has once again been presented as an alternative possible solution. With the proposal *Ducklands* (1989-1991) of Cedric Price as a starting point in terms of dismantling a site, the project seeks to explore how identities of a site can be preserved and activated in a degrowth scenario.

The thesis is set within a speculative future, in which the extraction of new materials is forbidden. Reused materials stated as the only sustainable option for development in the city has resulted in a shift in material production. Rather than looking for possible sites to build on, extracting inherent materials and components of already existing sites has become an essential part of urban planning.

The site of Gamlestaden slaughterhouse area, Gothenburg, is characterized by its former function: meat production, and a quality of both aesthetics and processes at the site: ad hoc. By transforming the site into a material resource, the preservation of the two identities can be explored. The historical narratives of the site, former industrial

processes, are translated as a design tool for the conversion of the site into another type of industry: from slaughter of animals to slaughter of materials.

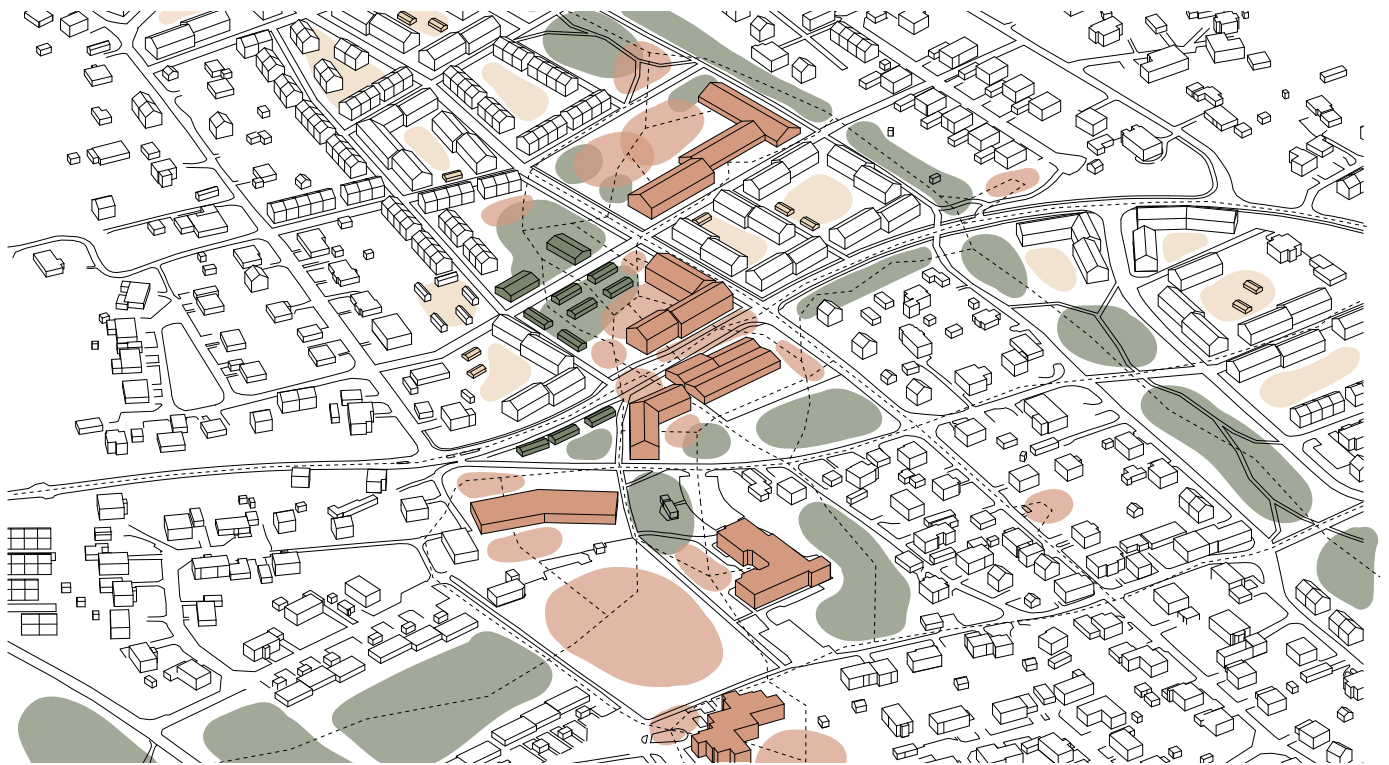
Ad hoc, *for this*, is found as separate objects as well as linked to situations and processes at the site. The situations consist of numerous traces of ad hoc activities, whereas the objects are derelict artefacts isolated from their contextual connection. By extracting design principles from the situations, implementing them in relation to the objects, ad hoc as part of the site's identity will be related to from two different perspectives: through the objects and as a method for transformation.

The outcome of the project is a speculation on how the site transforms, including smaller design projects related to industrial functions. By exploring a possible future scenario, the thesis aims to offer another perspective on how to relate to a site and its identity, as well as commenting on future challenges and potentials linked to the climate crisis.

Keywords : degrowth, ad hoc, reuse, transformation, slaughterhouse area

REGENERATIVE FUTURES

- A TRANSFORMATION OF UPPHÄRAD BEYOND SUSTAINABILITY



RURBAN TRANSFORMATIONS

Supervisor: Ida Röstlund
Examiner: Julia Fredriksson
MT'22

To meet the current climate crisis and the problematic effects of the urban norm society needs to shift. It needs to go from the growth paradigm to a paradigm of regenerative development to reach a future beyond sustainability. The thesis aims to through a local situation exemplify how society on a larger scale can accomplish shifting towards a future beyond sustainability. This is done using three focus perspectives in the rural context of Upphärad. The three focuses are reducing greenhouse gas emissions, circular systems, and regenerative design.

Several methods, such as literature reviews and dialogues with professionals, are combined through research for design and research by design in an iterative process. The theoretical framework covers the discourses of the growth paradigm, the urban norm, as well as how a future beyond sustainability can develop in relation to the three focuses. A design proposal is generated by combining top-down and bottom-up information.

The design proposal is directed at the local scale of Upphärad. It is "urban" design of a rural environment, but also planning of society, as it imagines a future scenario beyond sustainability. The thesis also draws

conclusions about society on a larger level, discussing how local bottom-up initiatives can be supported by collaborations with top-down actors. In rural contexts the bottom-up initiatives are essential for the development beyond sustainability.

The thesis discusses how the physical environment should be flexible and adaptable over time to meet changing needs of the community. Further, the physical environment should gather multiple functions close to each other to facilitate synergies that can create added values. The community needs facilities that support creation of values outside of the growth paradigm and the urban norm. The thesis also draws conclusions regarding the need to be more locally self-sufficient, as this feeds into many of the strategies necessary for a societal shift beyond sustainability. Additionally, the thesis result functions as inspirational material and generates a basis for discussion regarding a societal shift to regenerative futures beyond sustainability.

Keywords : Beyond sustainability, Reducing GHG emissions, Circular systems, Regenerative design, Rurban context

FOCUS ON SUBURBIA

- A DESIGN PROJECT WHERE THE VILLA SUBURBIA AND ITS PEOPLE PLAY A ROLE IN SUSTAINABLE CHANGE



RURBAN TRANSFORMATIONS

Supervisor: Ida Röstlund
Examiner: Nils Björling
MT'22

Villa suburbs are common sight in the modern city, this is also true to the Swedish urban fabric. There is great demand for these areas, high standard of living with comforts of large space, calm neighborhoods, and high level of privacy. Yet these neighborhoods are seldom in focus in the discussion of urban change, a rhetoric that these neighborhoods are already good and don't need change. They do like many other places bring bad qualities. Issues like inefficient land use, high consumption lifestyles, car dependency, segregation of socio-economic groups, and weak communities. Focus on the villa suburb can in fact contribute to the discourse of more sustainable cities.

This thesis brings ways to see how the Swedish villa suburbia can inhabit sustainable change through design. To add to the current physical environment in such a way sustainable changes can occur. It requires an understanding of why the villa suburbs are still increasingly attractive, to understand not only the issues but also the qualities of the villa suburb so that elements are sustained while bringing further qualities. The case of this thesis is the neighborhood of Solängen in the city of

Mölnadal. A study of the site and interviews with inhabitants and organizations have been done so the design is one with an understanding of the area according to locals. Together with theory a process occurs where research through design reflects in three design concepts that is applied to a block in the center of Solängen. The design concepts being densifying with restructuring of floor plans in villas, densifying with additions of new building units on property, placemaking by creating space for local community to meet, interact and share resources.

The result is a proposal that could bring opportunity of solving larger issues of suburbia. It can combat urban sprawl, bringing efficient land and resource use with densification and more sharing economy. Also combatting segregation and isolation with tighter communities and a diversity of new people through a diverse housing stock. The result can contribute to the discourse of the suburbs role towards a sustainable future.

Keywords: Villa suburb, Densifying, Placemaking, Diversity, Community

ELVIRA KOMAN

A MUSEUM

- FOR THE SCULPTURES OF ILHAN KOMAN



BUILDING & TECTONICS

Supervisor: Mikael Ekegren
Examiner: Björn Gross
MT'22

The experience of architecture is an experience of many layers; it is subjective and connected to its surrounding and it is perceived through all our senses.

The intention is for the thesis to answer the research question with a building that interacts with both its surrounding, its content and its user. The investigation is made through research by design and the thesis is tested through a building proposal of a museum for the sculptures of Ilhan Koman.

Since the sculptures are such a big part of the experience of the building, they are considered part of the context. A pre-study has been made during the autumn investigating the sculptures and their relation to space and atmosphere. The pre-study is a foundation and guidance for the design of the museum. The work is executed by iterations, physical models, and visualizations as guiding tools throughout the process and with several study visits to building references used for a deeper understanding of architecture in connection to the thesis theme atmosphere. The theoretical framework derives from the phenomenological perspective of architecture. With Peter Zumthor, Johan Pallasmaa and Adam

Caruso as references for understanding the theoretical concepts of atmosphere and architectural sensations, the aim is for the project to explore materiality and detail and its meaning for the building and how it is experienced.

The perceived simplicity of the building is meant to enhance an awareness of the physical presence of both the sculptures and the architecture. If they can communicate with each other and speak to us so that we can project meaning to its existence, they can become part of the context and enhance the atmospheric presence of the place.

Research questions:

How do you create architecture based on atmospheric presence?

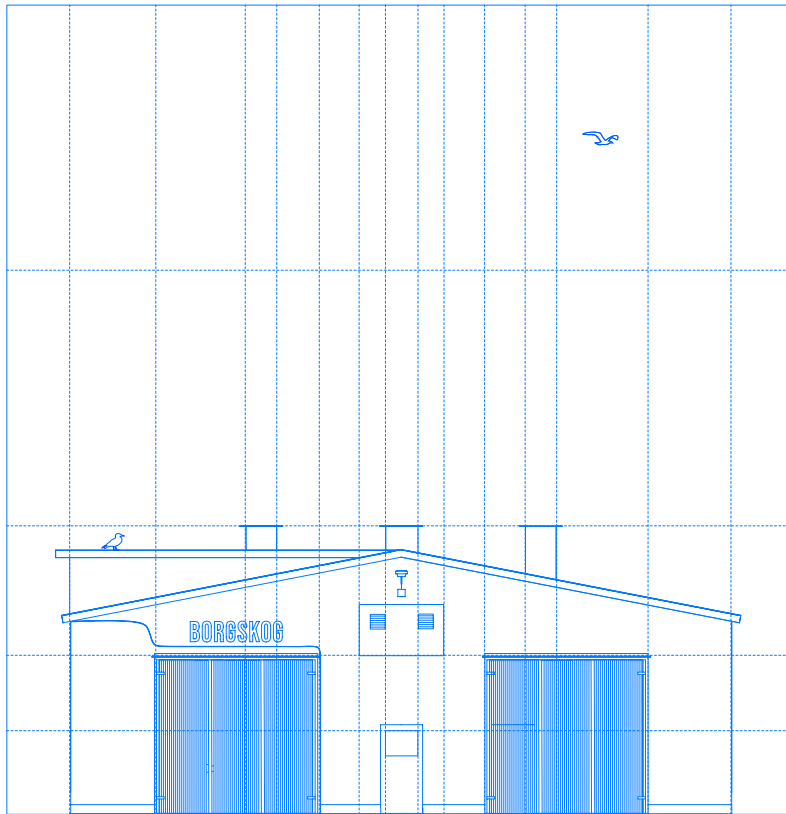
(Atmospheric presence meaning an architectural sensation created not by formalistic concept, but through an experience by the human senses created by place, material, detail and light.)

Key words: Atmosphere, presence, museum, sculpture

ANNA KRISTINSDÓTTIR

RUDIMENTARY ARCHITECTURE

- PHOTO-GRAPHIC DESIGN METHODS



MATTER SPACE STRUCTURE

Supervisor: Daniel Norell
Examiner: Daniel Norell
MT'22

This thesis explores overlaps between architecture, photography, and graphic design. It uses techniques from all three fields as a way to both analyze an existing building stock and develop a particular design process that draws from this analysis. The aim is to enrich architecture with ways of looking and of documenting as well as with particular design sensibilities that take cues from photography and graphic design. My interest in this topic is influenced by my professional background as a photographer and graphic designer.

Graphic design, photography and architecture have a lot in common and create synergies when they overlap. As the theorist Jesús Vassallo noted, architecture and photography share an interest in certain compositional and representational traits, including typology, frontality, and realism. This is evidenced by photographers such as Philip Schaerer or Bernd and Hilla Becher, and in the work of architects such as MOS. Spanning both documentation and speculation, the thesis develops through observing, representing, cataloging, and designing.

The thesis begins with a study of the architecture of Ringön, an industrial district

in the former harbor of Gothenburg. The buildings have developed a clear graphic sensibility due to the use of colorful industrial materials such as corrugated sheet metal. Analyzing Ringön's expressive architecture is akin to discovering and conceptualizing the undesigned - defining and framing symmetries and playful compositions in the expression of the buildings created in the pursuit of optimal functionality. By making observations, I use the collected catalog to define the ingredients that make up the character. The character can, in terminology gleaned from graphic design, be translated into a graphic manual. A framework and an overview of core elements. This manual is used as a guide through the project.

The purpose of the observations is to develop a speculative design project based on the catalog of features and techniques, placed on a site at Ringön. The design project aims to be a building proposal where the character will be in conversation with Ringön's spirit and the intent is to use previously used methods to translate and extend the discoveries and findings I have gathered.

Keywords:
Graphic design, photography, character

PAULINE LAMBERT

TO BE SOMEONE FOR SOMEONE ELSE

- THE ROLE OF ARCHITECT(URE)S IN COUNTERACTING HOMELESSNESS



DESIGN ACTIVISM BEYOND BORDERS

Supervisors: Shea Hagy, Liane Thuvander
Examiner: Emilio Brandao
MT'22

This master thesis investigates the role of architects and architecture in counteracting homelessness. For this study, the project takes place in the context of Charleroi, a Belgian city particularly impacted by a wide range of social issues, including homelessness.

The latter's definition is differentiated from the term houselessness, which means not having a roof over one's head. Homeless here includes all people, houseless or not, who lack a place to call home.

As simple as the definition may seem, homelessness is a highly complex topic. It is thus crucial to have a deep understanding of what it entails before trying to find solutions. Knowledge is built by reaching out to and collaborating with organisations confronted with homelessness daily. Using reference literature, projects, and movies, conducting interviews, and going into the field are additional ways of enquiring about the subject.

The design proposal is based on reality because of the need for contextualised understanding. It is conceived on a plot acquired to build a centre for homelessness

and is inspired by the testimonies of local stakeholders.

Homelessness is deeply related to the social aspect of sustainable development because it is about giving the right to a segregated population to simply be, as anyone else in society has the right to. Working with homelessness is working with social gaps, and reducing those is essential to living in a more just – and thus more sustainable – society.

Knowing this, the outcome of this thesis is the design of a community centre dedicated to social bonding, autonomy development, inclusion, and empowerment of the homeless population in the centre of Charleroi. By designing such a place, the project aims at stepping away from prejudices and being norm-critical. It also aims at turning around the current marginalised position society puts homeless people in. Most of all, it does not aim at changing who homeless people are but rather at giving them a space to be who they want to become.

Keywords: Homelessness, Social Sustainability, Empowerment, Community

CLAUDIA LARSEN

FOREST IN CHAINS

- A CALL FOR ETHICAL APPROACH WHEN BUILDING WITH TIMBER



DESIGN ACTIVISM BEYOND BORDERS

Supervisor: Shea Hagy & Liane Thuvander

Examiner: Emilio da Cruz Brandao

MT'22

Globalization facilitated many advancements in society. Through technology distances have been shortened, markets connected, and cultures shared. However, it has also magnified societal issues on a global scale. Illegal trades permeate all major industries, including the construction sector, and rely on the most vulnerable to build highly lucrative operations.

"Global laws forbid the use of slave labour in the built environment, yet our buildings, and the materials that go into our buildings, are heavily reliant on slave labour." (Grace Farms Foundation, 2020).

In the forefront of sustainable materials, timber has been progressively taking ground for being both ecologically renewable and economically viable. However, it is also amongst the materials at the highest risk of embedded slavery, and often linked to illegal logging, jeopardizing the social aspect and holistic approach of the sustainable development goals.

As architects, are we taking our share of responsibility and playing our part to ensure our specifications are not promoting such practices? **Does the holistic sustainable perception of building with timber reflect the reality?** Also, does the lack of ethical criteria within the construction process

compromise the sustainability status of building with timber?

This thesis aims to raise awareness of this pressing crisis, with an emphasis on the timber supply chain. Having the extraction of wood on the Amazon region of Brazil as a case study, it seeks understanding on the social impact of victims of forced labour, a major type of modern slavery within the sector. By understanding the main global actors, current practices, and policies, it pursues through design to gather the relevant information and arm professionals with the right questions in pursuit of breaking the cycle of vulnerability, exploitation, and re-victimization of those in forced labour.

Continuous graphical reflections are used to support the findings and build the alternative perspectives of building with timber. A continuous construct to the final written and graphical manifestos: **A call for ethical approach in design.** Followed by a designer roadmap directing the reader to available tools to make this happen. A practical invitation for change.

Keywords: Forced labour within the built environment; Timber supply chain; Illegal logging; Social sustainability.

CHALLENGING CONVENTIONS

- CHARGING HABITUAL MOVEMENTS IN DOMESTIC KITCHENS



MATTER SPACE STRUCTURE

Supervisor: Peter Christensson

Examiner: Daniel Norell

MT'22

This study investigates the potential of kitchen topologies as a tool for stimulating physical activity. The latest recommendations for physical activity in Sweden by YFA (Yrkesföreningar för fysisk aktivitet / Swedish Professional Associations for Physical Activity) state the urgent need for increased physical activity and a lessened amount of sitting still. As a response, this investigation unfolds in the heart of the home, a vibrant and beating room for activity — the kitchen. Where better to induce motor practice and cognitive skills than at the domestic place intended for actions involving all human senses?

A century has passed since the emergence of ergonomics and our modern kitchen (Harwood, 2012). The normative visions for a good life, functionality and comfort then, follow us to this day, yet contemporary health issues are different (YFA, 2021). Aiming to identify the norms and drivers behind ergonomics and the 20th century kitchen, this work searches for the discord that seems to reinforce a sedentary lifestyle. Regardless of a causal relationship between ergonomics and human well-being it is significant to question how the built environment shapes human

living. Generally put, how can the built environment encourage a long life filled with healthy habits? More particularly, how can design interventions in the kitchen activate a contemporary sedentary lifestyle, stimulate bodily engagement, motor practice and cognitive training.

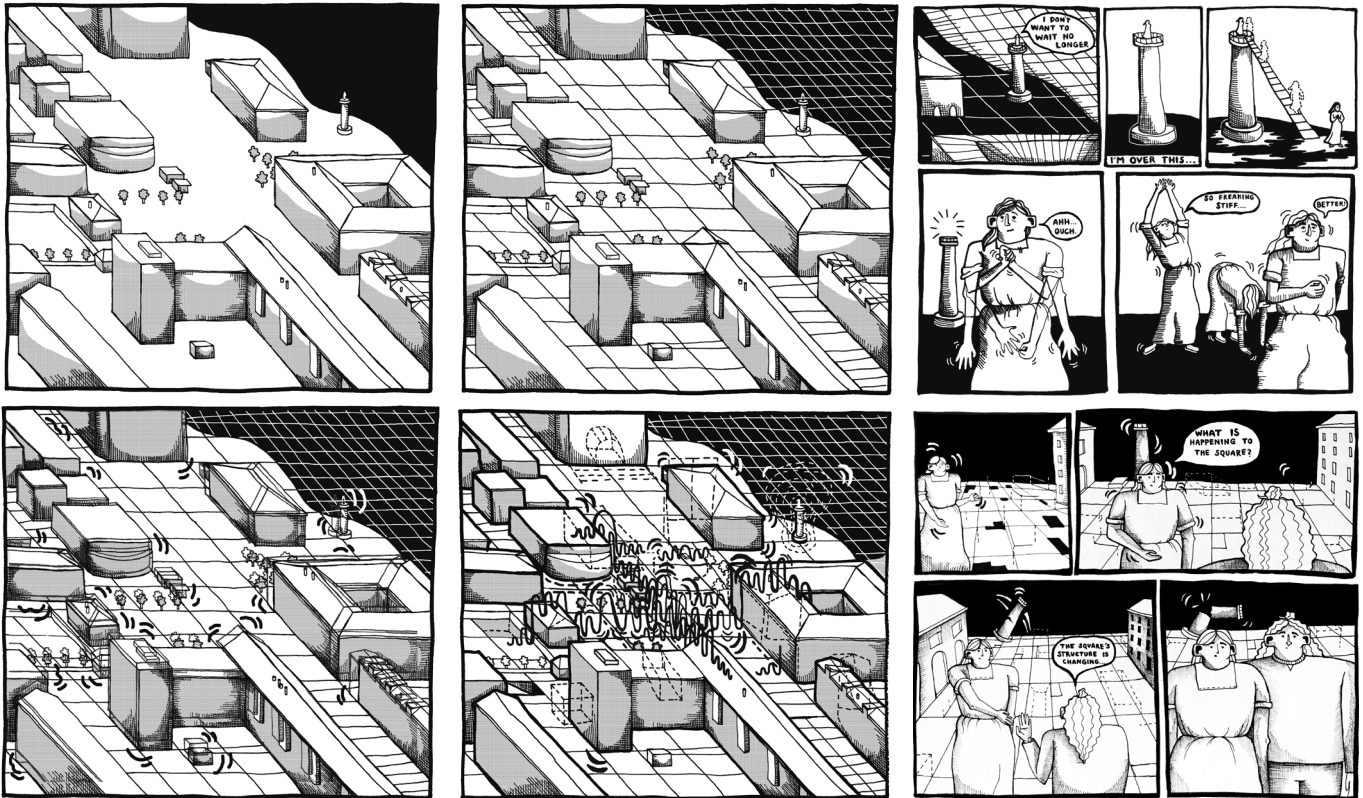
Through a speculative design, this work presents perspectives on habitual movements inside the domestic kitchen. With a primary focus on actions involving fully embodied movements such as; reaching, bending and twisting, the design attempts to encourage more vibrant, diverse and physically active domestic habits. The investigated actions are posed as a dialogue with a set of design statements including low counter spaces, climbable structures and a strict removal of chairs. The design is motivated by a vision regarding physical engagement as something elegant and an integral part of habitual movements.

Keywords : kitchen, ergonomics, domestic, convention, habits, habitual, movement, physical activity

LINNEA LARSSON

DRAWING THE SQUARE - QUEERED.

- PHENOMENOLOGICAL THOUGHTS THROUGH A GRAPHIC NOVEL



MATTER SPACE STRUCTURE

Supervisor: Peter Christensson
Examiner: Daniel Norell
MT'22

Imagine worlds and engage in design through telling stories. - Jiminez Lai. The traditional role of the architect, and architecture itself, is evolving into an increasingly interdisciplinary profession. Where the language of how architects articulate and research their ideas has become more diversified.

In cartoons you are dancing on the line of narrative and representation, where the activity in the frames, the populated drawings, could be viewed as an architectural program. More importantly, this drawing medium affords the possibility of incorporate representation, theory, fantasy criticism, storytelling and design. The aim with this thesis is to investigate the possibilities and strategies available with in this medium.

To investigate this medium, a narrative is set for this thesis. The narrative functions as a method, meaning that the narrative favours the composition of the cartoon and pushes the thesis forwards. The narrative revolves around the question: Can the square be queerred? As where the comic takes departure in phenomenology's perception of orientation. This philosophical school of

thoughts provides resources for thinking of orientation and how bodies reside in space.

If orientation is a matter of how we reside in space, then sexual orientation might also be a matter of residence? This is the question that Sara Ahmed ask herself in the introduction of her book Queer Phenomenology (2006) where she seeks ways to make phenomenology queer or to detect queer moments that is existing in the writings of phenomenologists. Ahmeds book functions as a base point, the main reference for the theoretical context for this thesis.

The sought-after result is a graphic novel that researches the question asked above, as it simultaneously investigates how and if design iterations can be carried out within the medium of cartoons. The test bed for this narrative is Stigbergstorget, an urban square in the city weave of Gothenburg. In this thesis, Stigbergstorget will work as the space which the narrative revolves around and where thoughts are tested out.

Keywords : Graphic narrative, cartoon, queer space, public space

THE (R)URBAN TEMPORARY

TOWARDS RESILIENCE THROUGH AN ALTERNATIVE COPENHAGEN



RURBAN TRANSFORMATION

Supervisor: Marco Adelfio
Examiner: Kristina Grange
MT'22

This thesis work has its starting point in the increasing challenge of current and future uncertainties, crises, and risks that cities face today and how resilience can enhance our possibilities to counteract those.

Translating this issue into the field of architecture, this thesis identifies the growing disconnect between our permanently planned cities and our faster and faster-changing societies as a challenge towards resilience. Studying recent Copenhagen urban developments - which are hugely based on planning and designing for permanence throughout all scales, functions, and locations - supports the need for a shift in how we develop our cities moving forward. The thesis therefore, explores how, in contrast to that, planning and designing for temporariness can be an alternative approach.

The aim is to create design strategies as a toolbox to set up temporariness in the built environment. Those strategies then get translated into exemplary iterated architectural elements.

Furthermore, the thesis explores how connecting and combining strategies and elements creates an improved (r)urban environment capable of reflecting societies

needs and demands. It moreover investigates how to react to those over time by adapting the elements through their strategies based on their predicted duration of existence.

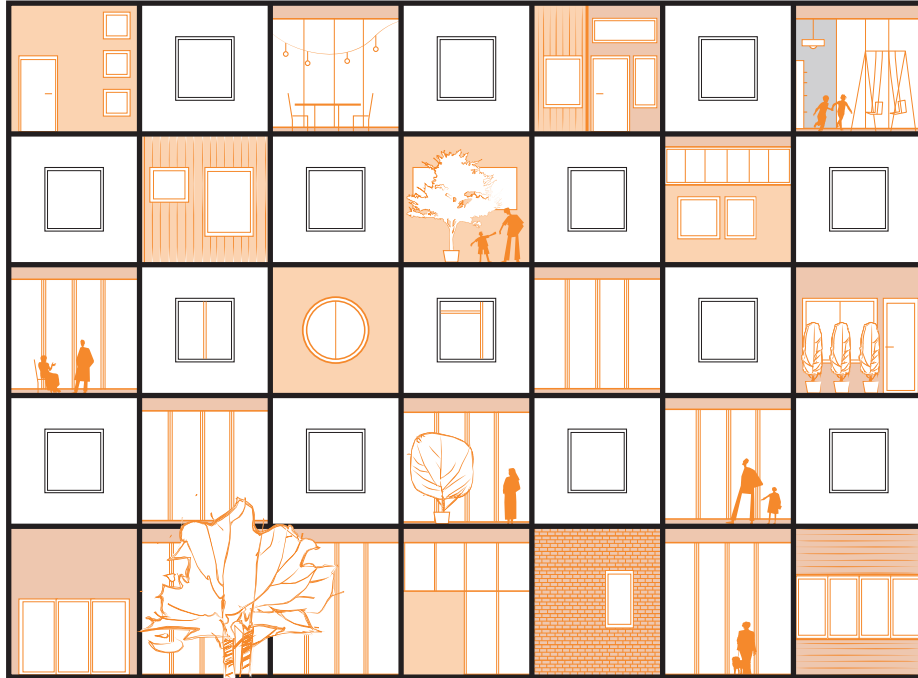
Several supporting site visits help analyze the distinctive identity of the application context, a former shipyard area in Copenhagen called Refshaleøen.

The elements then get implemented in that urban environment to showcase experimental scenarios that explore the possibilities of designing for temporariness as an alternative to the current reality of (r)urban development.

Keywords : Resilience, Temporary, Permanence, Urbanism, Rurbanism

A SPACE FOR GROWTH

- facilitating long-term housing conditions through incremental expansion and residential empowerment



HOUSING

Supervisor: Anna Braide
Examiner: Ola Nylander
MT'22

To have a stable long-term housing conditions, such as a tenant owned apartment, is a financial security that facilitate long-lasting connections within a neighbourhood to form. This is sought-after by many in Sweden, but will for most people take decades to reach. First-time households most often begin with temporary housing situations like rental, that in Sweden offers few if any possibilities to customize their own living spaces. This in turn is what forces them to uproot and move away from their community, to find a more appropriate housing situation when their living situation changes. The expensive housing market in Sweden have contributed to this situation by creating a barrier for the young and financially challenged to access this security. Apart from those with a privileged background, this demographic usually ends up moving between short period contracts or relying on subsidies for a home, which if left unchecked could lead down the road of increased segregation in our society.

This thesis therefore aim to address this situation by developing a concept of affordable housing for first-time households, providing the possibility to have a permanent home and grow roots in their communities, despite changing living situations.

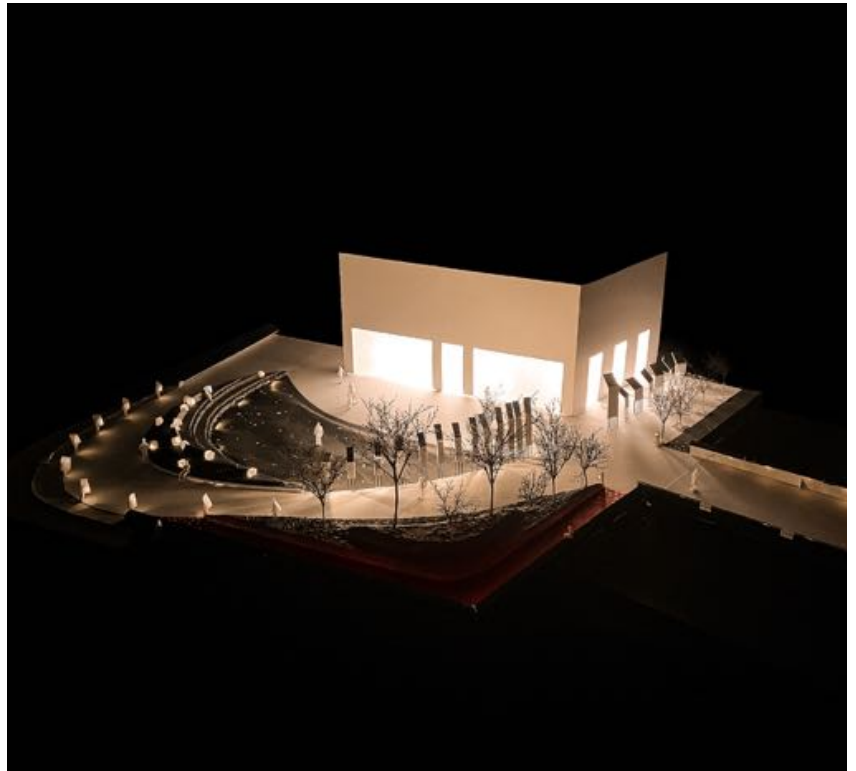
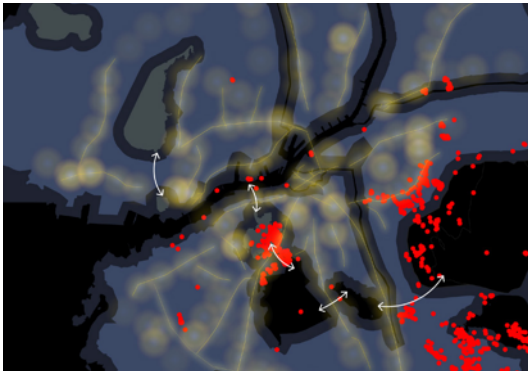
It theorizes affordable housing conditions that can be achieved through self-build methods, where the residents are empowered to by themselves customize and adapt their home to their needs. It will explore how the possibility of long-term residence can be facilitated through incrementally expanded living spaces over time.

A theoretical framework is developed initially through a Research for Design-approach of primarily literature and relevant case studies on incremental and social housing examples, evaluated on feasibility in a Swedish context. Methods for cost-efficient design is gathered along with information on potential subsidies, to aid with developing the design strategies of a new typology. Iterative sketch-phases and analysis in relation to appropriate scenarios of adaptation develop it further. The resulting conceptual housing typology is then collected into a final design proposal for an affordable and incrementally expandable building, applied on a relevant site in Gothenburg in need of more permanent housing opportunities.

Keywords : long-term residence, self-build, incremental/affordable/adaptable housing

AFTER DARK

- SOCIAL-ECOLOGICAL PUBLIC SPACE FROM A DARKNESS PERSPECTIVE



URBAN CHALLENGES

Supervisor: Ioanna Stavroulaki & Joaquim Tarraso

Examiner: Lars Marcus

MT'22

Sustainable urban development calls for urban planning and design supporting both society and ecology; human and non-human species. We need to think of ecology in cities in order to move beyond the traditional human-centred development and reconnect to natural systems. Social-Ecological Urbanism sets the background to address this challenge; identifying the conflicts but also the synergies that emerge from the meeting of urban and ecological systems.

After Dark is a thesis based on the social-ecological approach, rethinking the increasing yet overlooked issue of urban darkness-lighting imbalance. Excessive use of artificial light, light pollution, has slowly replaced the starry dark sky with a gray haze and altered the natural rhythms of dark and light. This has detrimental effects on human well-being and nocturnal species. Values of darkness seems forgotten, despite Earth being dark 50% of the time.

Theoretic research on both light pollution and the values of darkness has grown lately, however a lack of spatial translation beyond solely reducing excessive artificial light is evident. By shifting the perspective in planning and design from mitigating light pollution to focus on the values of darkness we aim to

reintroduce darkness to our urban areas.

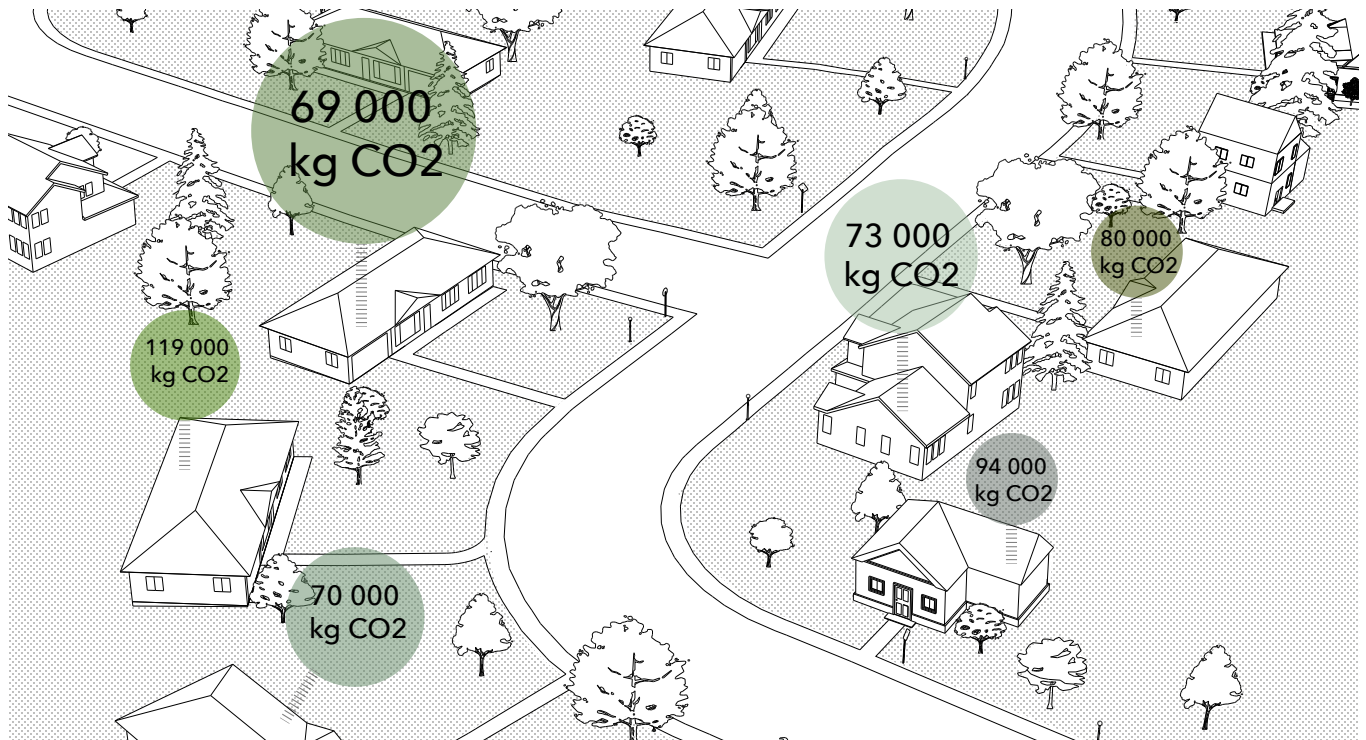
The project is multiscalar - city, district, public space-, illustrating the challenges and opportunities of designing with darkness for humans and other species. The theoretic concept of a "dark ecological network" has been implemented into the context of Gothenburg. The dark network is particularly relevant since one of the most important native species in the region, the bat, is nocturnal.

The potential for areas and connections forming the network on city and district scale were found through data analysis observations. By overlaying data representations of systems in the city, synergies and conflicts between humans and bats were collected. A central development area with an intersection between an important and sensitive structure for nocturnal species and an attractive link for humans is explored in the site scale. The public space has a focus on the visual perception of space in darkness and illustrates the duality of social-ecological needs.

Keywords: social-ecological urbanism, values of darkness, dark ecological network, darkness design

HOW GREEN IS YOUR HOUSE?

- LABELLING CATALOGUE HOUSE'S CO₂ EMISSIONS WITH AID OF LCA



HOUSING

Supervisor: Kaj Granath
Examiner: Ola Nylander
MT'22

Of Sweden's 4.8 million households, almost two million consist of privately owned detached houses. The Swedish catalogue house market produces around 4000 new houses every year. This is an industry that contributes to the building sector's large share of Sweden's total greenhouse gas emissions. Despite this, the catalogue house manufacturers lack information about the environmental impact of their houses. With this year's new law from Boverket requiring new larger buildings to be climate declared, it will also become important for catalogue house manufacturers in the future to exhibit their house's CO₂ emissions.

The purpose of this study is to examine how to communicate the environmental impact of catalogue houses. The aim is to create environmental labelling of the house's CO₂ emissions with aid of life cycle assessment. Together with the labelling, a design proposal for a CO₂ optimised catalogue house is created. Both new materials, building components, latitudes and houses lifespans are investigated.

Main research question examines how customers of catalogue houses can be influenced to make more sustainable choices by

communicating the house's CO₂ footprint in an understandable way with the help of LCA. The thesis subject is explored by using the methods research for design and research on design. Interviews, literature studies, document analysis and study of existing certifications is being conducted. Case studies of catalogue houses, reference project and carbon footprint calculations are executed with the tool CAALA to help apply the information of CO₂ footprint into a labelling system.

The result shows that CO₂ footprint can be communicated with aid of labelling in an understandable way for a catalogue house customer. The houses can also be compared to each other with the aid of traffic light label bars. By changing the building materials and constructions to CLT-wood and foamglas a significant reduction of CO₂ emissions can be done. The roof and foundation are the building parts that emit most CO₂. The most green house calculated is a house with a small roof and foundation area, even though that house has the biggest living area.

Keywords : Life cycle assessment, catalogue houses, climate declaration, labelling

FUTURE OF WORK

- MIXED-USE UNIT DESIGN PROPOSAL FOR WORK FROM HOME



BUILDING DESIGN FOR SUSTAINABILITY

Supervisor: Walter Unterrainer
Examiner: Paula Femenias
MT'22

The recent pandemic has allowed us to operate remotely while remaining connected to our work life. Restrictions are gradually being eased around the world and people are returning to their pre-pandemic lifestyles. However, working environments and patterns must now be reevaluated since many employees and companies believe that it is not required to be in the office every day. As a result, a hybrid scheduling system can be a better alternative, in which individuals gather in the office a few days a week while working from home or remotely rest of the time.

Current housing layouts are not suitable for remote working in long term and this study offers a guideline for spatial organization in housing typologies. In a work-from-home environment, this concept intends to promote social ties and exchanges. It can be observed that working from home has negative effects on mental and physical health, productivity, and focus. Research is done to address these issues through literature studies, case studies and provide solutions in private and social spaces.

Housing layouts, materials understanding, social spaces, and synergies among diffe-

rent users, sustainable design techniques are investigated in case studies from both the international and Swedish contexts.

The research and case study inputs are reflected by designing a mixed-use building which consists of housing, working spaces of different scales and retail spaces on a selected site in Gothenburg as a future work from home solution.

Keywords : housing, work from home, well-being, social interaction.

JOHANNA MATTSSON

THE FORECAST OF TOMORROW

- EXPLORING DESIGN STRATEGIES TO DEVELOP A BUILDING WITHSTANDING FUTURE SWEDISH EXTREME WEATHER



HOUSING

Supervisor: Kaj Granath
Examiner: Ola Nylander
MT'22

As a consequence of climate changes, new or unusual weather conditions at unpredicted locations already affects our everyday life and destroy buildings and homes faster than predicted. However, we still construct our buildings according to previous climate situation. We must face the consequences of climate change and change the way we build to adapt to the “new normal” where extreme heat, extreme cold, storm and frequent rain- as well as dry periods most likely will become reality.

Q1 - What extreme weather could occur in Sweden within 10-20 years?

Q2 - How can a small house be constructed to withstand the consequences of the climate crisis concerning extreme weather in Sweden?

Q3 - What impact would the findings to withstand future weather scenarios for a small house have on planning?

Solutions for each forecast already exist, however there is a gap when the scale from extreme heat to extreme cold is a fact, particularly for northern countries.

In this thesis a design proposal to withstand the negative consequences of climate change is developed. According to the IPCC reports, a realistic Swedish weather scenario is defined, and is the base when studying existing solutions of built references around the world for each criteria. Elements from the research phase is gathered as design strategies which in turn is translated and merged into a design proposal for four small residence buildings in a challenging urban area in Sweden. The site is handled as a microclimate aiming for self sufficiency.

My ambition is to achieve a result of existing solutions merged into an experimental design proposal that could be useful as discussion material for planners, architects and private stakeholders who are interested in the development of constructions adapted to the consequences of the climate change.

Keywords: Climate change, Extreme weather, Design strategies, Swedish context, Microclimate

KLARA MOENE-OMHOLT

BUILDING WITH EARTH

- IN A COLD CLIMATE



BUILDING DESIGN FOR SUSTAINABILITY

Supervisor: Walter Unterrainer & Shea Hagy

Examiner: Krystyna Pietrzyk

MT'22

The climate crisis is one the biggest challenges that have ever faced humanity. The building industry is responsible for almost 40% of all emissions. Looking at the high emissions from many commonly used building materials, changes in choice of material have the potential for making great impacts on the total emissions of the building industry.

The low emission material, earth, is not a new building material. It has been used for thousands of years, and even today, one third of the planet's population lives in houses made from earth, mostly in warm climate developing countries. Earth, being a widely available material across the globe, has the potential to become a common building material in colder climates.

In this master thesis, first, the advantages of earth are explored, including sustainability, recyclability, and relative humidity regulation. The challenges of building in a cold climate are then found, in addition to their impact on earth building. Lastly, how to solve these challenges are studied, including erosion, moisture control, thermal mass, and insulation. In each of these categories, factors that could impact the performance

and advantages are identified, in the form of criteria.

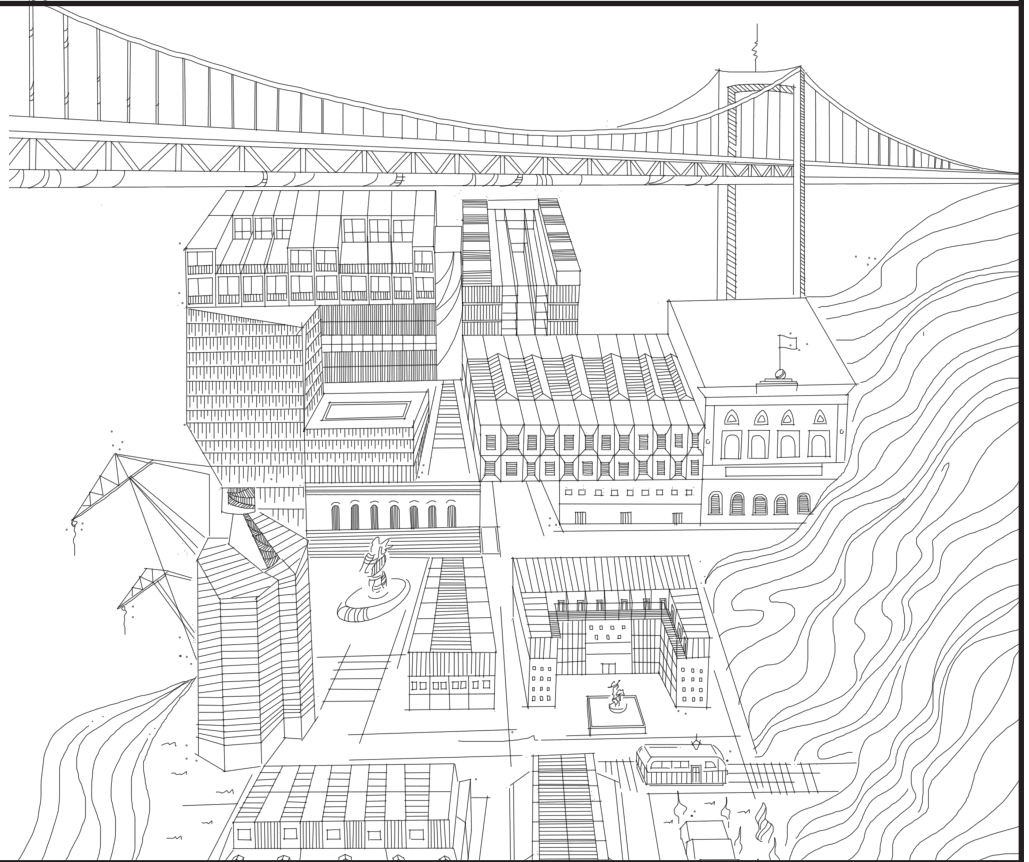
Existing earth buildings in Europe are used as reference projects, to compare them, and the climate they are located in, in order to discover trends and similarities. Three projects, which are close in scale and function of the redesign of a rowhouse which will take place in the end of this thesis, are then studied closer as case studies. The different solutions in the case studies are evaluated using the criteria, created in the theoretical part, and effectiveness and relevance is discussed.

The results from the reference projects and case studies are then used as a base for the redesign of a rowhouse in Höganäs, Sweden. Four suggestions for a redesign have been made. The differences are representing priorities when building with earth in a cold climate. The purpose of this is to see how this rowhouse could have been built, had it been built in earth.

Keywords: Earth, sustainability, indoor climate, cold climate

A LANGUAGE FOR CLOUD NINE

- AN INVESTIGATION ON VOLUMETRIC MODULAR ROOFTOP EXTENSIONS AS SUSTAINABLE MULTIFAMILY HOUSING



HOUSING

Supervisor: Jan Larsson
Examiner: Anna Braide
MT'22

As an outcome of growing populations, high demand for housing is increasing the cost of building for us and our planet, therefore, it is crucial to use the spaces and technologies available wisely in our cities. The construction industry in Sweden faces a great need for more housing, but the progress has not been on par with the need. Rooftop architecture is a solution which offers the opportunity of using the existing infrastructure to create more functional spaces in the city, including but not limited to residential buildings. In this thesis, the modular building method has been explored for this purpose.

Three research questions drive the thesis:

1. How can prefabricated volumetric CLT modules be designed efficiently for rooftop housing?
2. How can a catalogue of possible compositions of prefabricated volumetric CLT modules be designed and composed together to form multifamily rooftop housing that is adaptable to a variety of contexts?
3. Which buildings in the city would be suitable options for rooftop extensions?

Literature and case studies form the foundation of the design process, afterwards, design strategies are drawn from them to

explore design solutions for the concept of volumetric building method with CLT for rooftop housing. Initially, a limited number of modules are introduced, and then they are expanded into multiple apartments and arranged into compositions. In the final step, these compositions have been implemented on two different sites in Gothenburg.

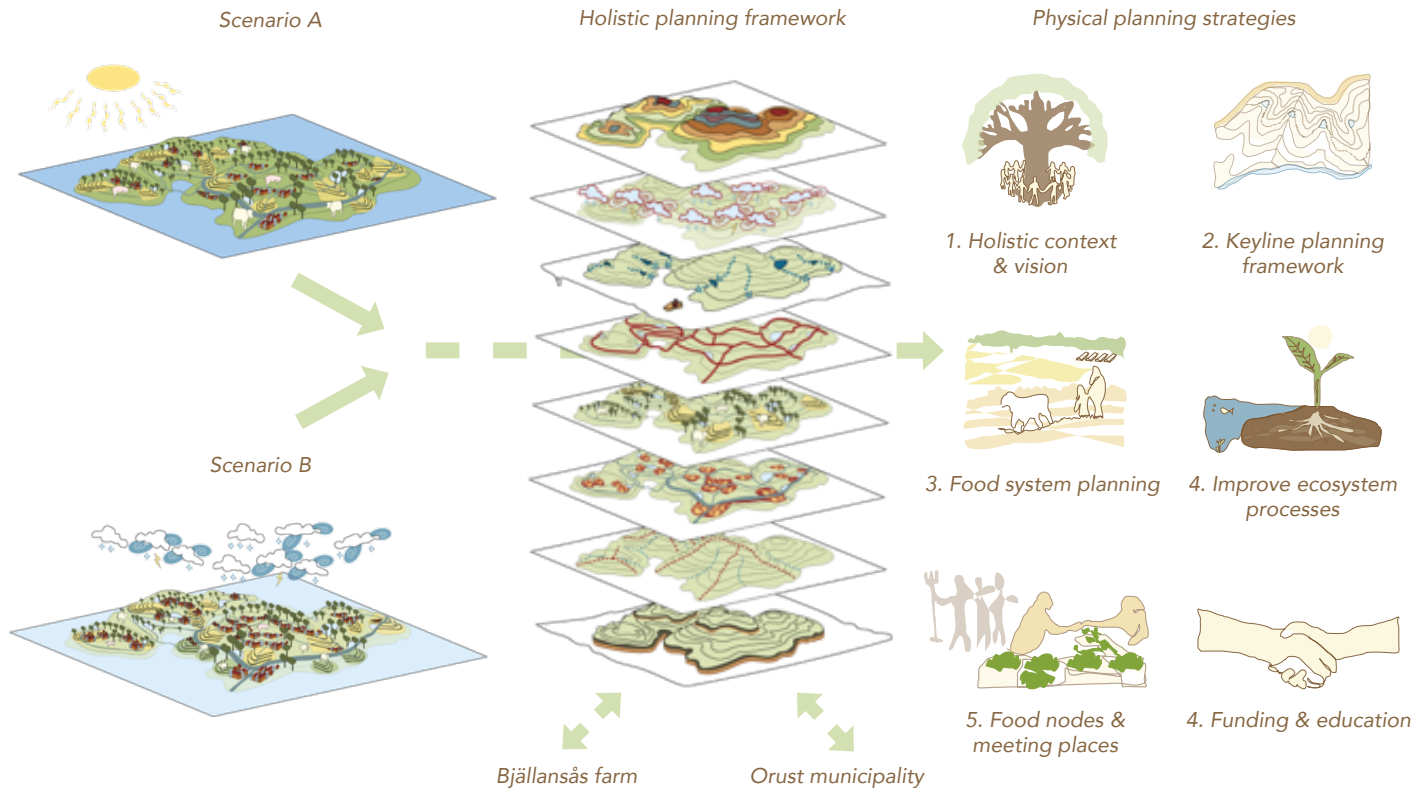
The findings consist of conclusions drawn from this design process for best practices. In summary, the main findings are as follows:

It has been determined that using several modules with different lengths will be more effective in terms of the limitations in the dimensions of the existing building as well as providing to a mix of target users for each case. Furthermore, because of the structural durability of CLT as the main building material, along with the flexibility of organizing the apartments built with modules in diverse compositions, spaces between them can be adjusted according to the requirements for the site.

Keywords : rooftop architecture, modular housing, prefabricated CLT volumetric modules, volumetric construction, timber structures

CARBON POSITIVE FOOD REGIONS

- Design & planning strategies to co-create regenerative food systems



RURBAN TRANSFORMATIONS

Supervisor: Nils Björling
Examiner: Marco Adelfio
MT'22

Carbon positive food regions, proposes a design framework and planning strategies for building a resilient food system with net negative emissions on a regional scale. The aim is to provoke regions, municipalities and nations to support regenerative agriculture that builds topsoil & heals ecosystems. Inspired by the movement of regenerative agriculture it uses a methodology combining Holistic management, Keyline design & Permaculture design into a "Holistic planning framework".

The context are (1) a regenerative cattle farm "Bjällansås gård" in Uddevalla; and (2) the municipality of Orust. Using a method of backcasting future scenarios of a carbon positive, self reliant region informed design research on the farm and municipal scale. The findings informed "regenerative planning strategies", based on "food system design" where what people eat shapes their local landscapes.

The results are design proposal showcasing the future farm & island and the following six physical planning strategies for regional and municipal comprehensive planning; (1) a decision making framework that includes future generations, (2) eight holistic land use planning principles & design layers, (3) farmland protection & food system planning, (4) monitoring & improving ecosystem processes, (5) food nodes for sales & distribution and (6) funding and education of regeneration.

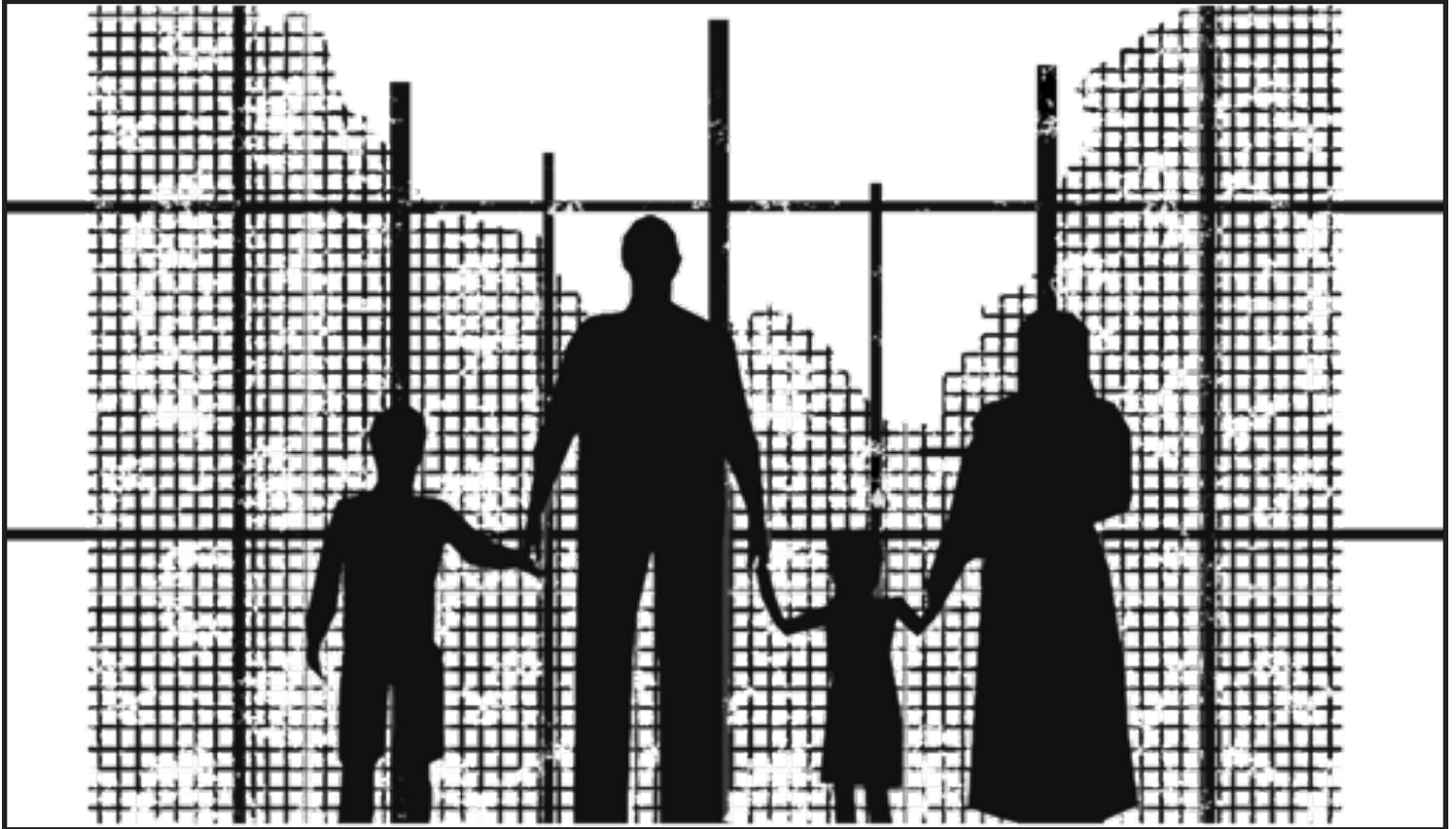
The discussion explores how grassroots actors and planners can co-create local regenerative food systems, who does what and potential conflicts around water/land use. Conclusions? Carbon positive food regions are possible but require ambitious targets & plans and a more multifunctional landscape of agroforestry.

planning, food,
regenerative, farming, climate

ABDULLAH NATSHEH

BEYOND THE BORDER

-NARRATING THE JOURNEY OF THE PALESTINIAN REFUGEES IN JORDAN



DESIGN ACTIVISM BEYOND BORDER

Supervisor: Shea Hagy
Examiner: Emilio Brandao
MT'22

This thesis intends to narrate the journey of Palestinian refugees, choosing Jordan as the study area. It will highlight the stages of the Palestinian journey from exile, displacement, the legal right to return to their homeland, and their lives as refugees in a different country.

With a focus on analyzing the tangible and intangible aspects of a Palestinian refugee camp in Jordan in light of its state of permanent temporariness; as it acts as a significant factor in the lives of the Palestinian refugees and their journey.

The temporary role of the refugee camps has caused an issue for the lack of certainty on how long this temporary state might persist, often it lasts longer than anticipated, and in the Palestinian case it has gone on for 74 years, which had negative impacts on the built environment of the refugee camps and the sense of identity.

The outcome of this thesis focuses on preserving the Palestinian journey and conserving a nation's memory while raising awareness about the lives of millions of unfortunate individuals who were forced to flee their homeland to survive.

It is also a personal notion of being a link between the author and his ancestral roots, being a Jordanian citizen from Palestinian roots.

Keywords : Palestine, Jordan, Refugees, Refugee camp, temporary, Identity.

JOHAN NILSSON

TA I TRÄ

- EXPLORING THE TACTILITY OF WOOD FOR A RESTAURANT ENVIRONMENT



MATERIAL TURN

Supervisor: Kengo Skorick & Jonas Runberger

Examiner: Jonas Lundberg

MT'22

Touch is arguably a very important sense in architecture. Touch is a huge part of how we experience and navigate the world. Our ability to touch helps us understand and explore our environment, as well as connect with people. There is a gap in today's architecture, where touch and tactility are undervalued and a bias toward vision predominates. Limiting architectural design to only its strongest visual moments gives a one-dimensional experience.

Architecture is far from just a visual experience. It is an extension of nature in our built environment. In a similar way to a forest, architecture engages all our senses, creating a richer experience of space. As with the forest, food is an experience that involves all the senses. Sight, touch, smell, taste, and hearing all influence each other in a complete sensory experience.

The design proposal is a wood building and a multisensory restaurant, which is a concept that focuses on treating all the senses to create an immersive experience that enhances the flavor of the food. It is located at Kungstorget in Gothenburg which has a history connecting it to both wood and food. The thesis works with textural inves-

tigations and iterations exploring a variety of technics that can change the visual and touchable tactility of wood. The thesis explores both tactility and design with the goal of making a more tactile and touchable architecture.

Some research suggests that wood, tactility, and touch potentially could affect emotions and mental health. The design proposal is made with the focus on making a more tactile and touchable architecture with the knowledge that it potentially could have deeper effects than just spatially.

The first conclusion made for this thesis is that you can use closeness in design by either working with the material to human or human to the material, as a way of creating opportunities for touch. The second conclusion made is working with surfaces we naturally touch and surfaces we naturally don't touch. Because we explore with touch, we can use more complex or unique textures on surfaces we naturally don't touch which potentially could invite touch.

Keywords : Tactility, Touch, Wood, Restaurant

ISABELL NORDMARK

REVISITING THE PICTURESQUE - THE PRESCHOOL BUILDING AS GARDEN



MATTER SPACE STRUCTURE

Supervisor: Daniel Norell

Examiner: Daniel Norell

MT'22

The picturesque landscape garden was an instrument of emotion and imagination, brought forth in movement. In contrast to earlier gardens, the picturesque landscape garden was marked by a natural appearance, asymmetry, irregular shapes, partial views, oblique movement, and individual "scenes" with varying characters.

The project draws on historical theories and practices of 18th-century landscape gardening, gathered from a review of primary sources written at that time. The focus of the thesis is the qualities of view, movement, character and variety, as they were used in the landscape garden.

The project is also concerned with contemporary discourse on using historical sources to influence contemporary architecture.

The features and practices of the romantic era landscape garden are interpreted architecturally, suggesting tools to achieve a corresponding built space.

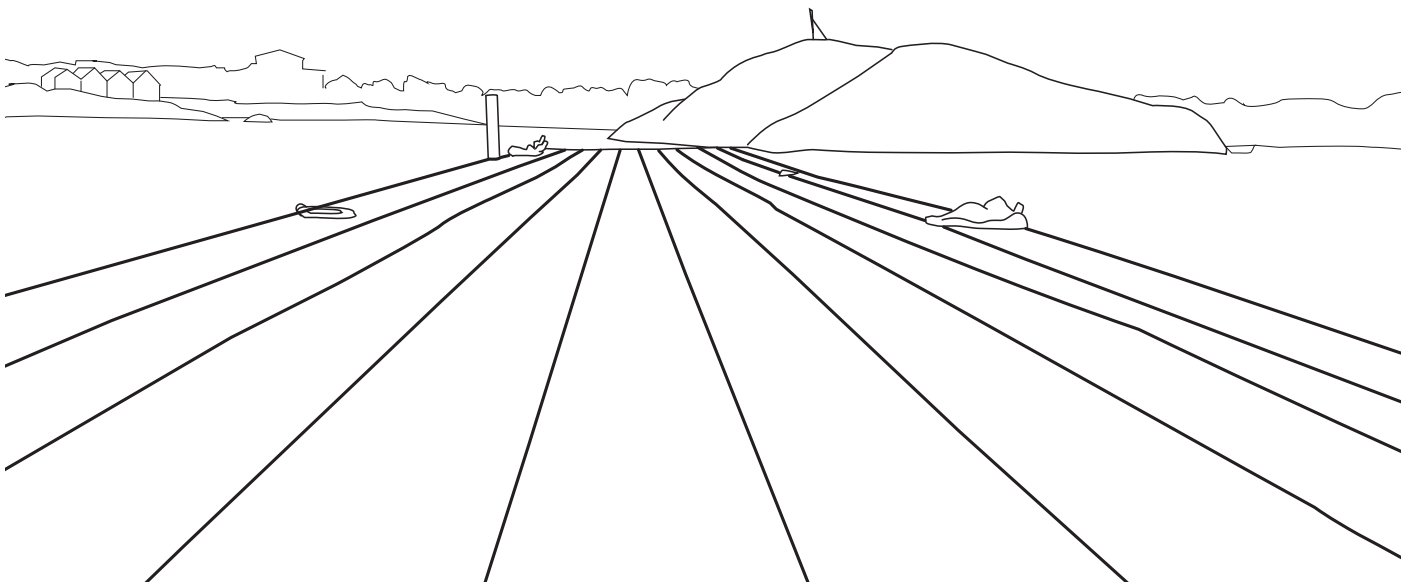
These insights are applied to the architectural program of a preschool in Gothenburg—seeking to inspire movement and imagination.

Keywords: Landscape garden, picturesque, preschool

ELLINORE OLOFSSON

TO SEA OR NOT TO SEA

- AN EXPLORATION OF HOUSING DESIGN ON WATER IN THE VARIED CLIMATE OF THE ARCHIPELAGO



RURBAN TRANSFORMATION

Supervisor: John Helmfriðsson
Examiner: Julia Fredriksson
MT'22

The starting point of this thesis is based on the possibility to explore alternative building design in coastal and water vicinity environments. To study exploitation where buildable land is limited and nature preservations creates values to preserve and protect.

The aim has been to produce a plan proposal on Öckerö in Gothenburg's northern archipelago. In addition to find tools to develop design and housing on water in the varied and harsh climate.

The locally based project identified and mapped the need for housing in the municipality. In the process, the theoretical framework has been involved in the inventory of housing qualities, such as meeting places, intersections between private and public, and safety in the area. Weather elements and the local needs also dictate the framework for design. Mapping of the proximity to central Gothenburg and the historical narrative of Öckerö is examined and taken into account.

The possibilities of the site have been used in the project, additionally challenged by the existing structures on the island. To create space through volume configurations, spatial investigations and light that will enhance the new residential area. The proposal includes floating housing with focus on the plan structure to improve the social interaction and lift qualities for the local area.

As detailed plans and building permits are slow processes, the proposal can be designed as both temporary and permanent. The result of this thesis is a housing project with a mix of units in a small scale that will support the local housing needs in the municipality. The place where the project will be designed, analyzed and evaluated is an area that will be connected to the center on the island.

Key words: archipelago, coastal community, suburb, pontoon housing, weather, wind, water, nature, housing, meeting places, social interaction

SOFIA OLSSON

BERGSLAGEN BELONGING

- AN INVESTIGATION OF TRADITIONAL BUILDING TECHNIQUES IN RELATION TO PLACE IDENTITY.



BUILDING & TECTONICS

Supervisor: Björn Gross
Examiner: Mikael Ekegren
MT'22

As a constant coming and going of trends could risk fueling a lack of context within contemporary architecture, perhaps using regional architecture as inspiration could enable the creation of something that is rooted in place identity. Through this thesis a traditional building technique of vernacular architecture, more specifically the log timber construction, is investigated in relation to how it can be used within contemporary architectural projects in order to connect to the history of a region.

The cultural geographical area of Bergslagen, Sweden, originates from its many accumulated mining industries and the scattered developments of old log timber buildings are still characteristic for the area today. My hometown Sala, situated in a part of this area, is known for its silver mine that used to be the most important resource for extracting silver in Sweden. Its main function today is tourism-related and there is a need for an additional building in the form of a visitor center. Designing a contemporary building to a historically valuable site like this puts emphasis on the ability to connect to the identity of the place, making it a relevant project for researching the topic of interest.

The design process is mainly based on research by design where the log timber construction and its qualities are being investigated through a design proposal. Research for design is also implemented as reference studies on contemporary buildings using the log timber construction are carried out and research is done on vernacular log timber traditions.

Critical regionalism functions as a theoretical framework with the ambition of achieving a result that hopefully relates to the context without simply being a nostalgic image. The design focus is put on enhancing the construction through exposing it, making it readable and by doing so exploring its possibilities of functioning as a link between the addition and the already existing buildings.

Keywords : log timber construction, vernacular architecture, visitor center

MATILDA OLSSON

UNLOCKING EARTH

- ONE STEP FURTHER TOWARDS A CONVENTIONAL USE OF RAMMED EARTH AS A BUILDING MATERIAL IN SWEDEN.



BUILDING DESIGN FOR SUSTAINABILITY

Supervisor: Shea Hagy
Examiner: Walter Unterrainer
MT'22

Earth is a material with excellent health properties, low embodied energy, and the possibility of being indefinitely recyclable. As a structural building material, it has great potential in reducing emissions caused by the building sector.

This master's thesis is exploring the limits of implementing rammed earth in a Swedish context, and how to overcome them through design. Building laws and regulations, climate, costs, and rammed earth knowledge are all topics considered relevant and where the exploration is initiated.

Swedish building regulations are in general quite vague, and definite conclusions are hard to make. Most challenges are found when looking at mechanical resistance and durability. There are multiple new, as well as ancient examples around the world proving its potential, though the impact of the Swedish climate, with intense wind and rain, is uncertain due to water solubility. An array of solutions to handle erosion are discussed in this thesis.

The procedure of approving new building materials is another challenge, it is currently adapted to conventional industrial materials, and not materials with varying properties like earth. Prefabrication, which already has been initiated on a small scale, can be a solution. It

enables careful and frequent monitoring and testing, ensuring good quality. Prefabrication also brings down the costs, making it more time-efficient with fewer in situ manpower hours. With set routines, knowledge will increase which is necessary for the development of rammed earth in Sweden.

All challenges in implementing rammed earth in a Swedish context are considered solvable, but the first steps and investments needed are huge in proportion to the lack of demand on the market. The much-needed transition into a more sustainable society is approaching, and with it comes a demand for more sustainable building solutions, where rammed earth is prominent.

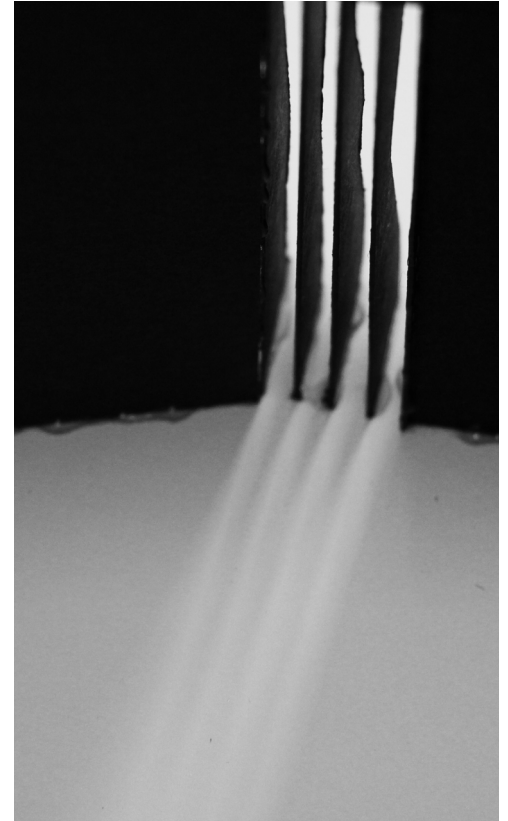
The investigation is resulting in a redesign of an already existing design, using rammed earth. Details are adapted to the circumstances of each individual element, and the proposal can thereby, be viewed as a compilation of possible wall compositions using rammed earth in a Swedish context.

Keywords: Excavated clay, rammed earth, prefabrication, BBR, erosion.

KRISTIN ORETORP

THE SOUND OF ARCHITECTURE

- MUSIC IN ARCHITECTURAL DESIGN



MATTER SPACE STRUCTURE

Supervisor: Peter Christensson
Examiner: Daniel Norell
MT'22

Throughout history, there have been analogies between Architecture and Music as creative and artistic practises. Analogies in the methods of conducting the creative design process. Analogies in the vocabulary used to describe how we create and experience music and architecture. Analogies in how we use notation as a means of describing our artistic intentions.

In this thesis, these analogies will be explored using the shared vocabulary as framework and layered mapping as working method.

The aim is to explore how the shared vocabulary could be used as a framework within which architecture could be analysed and experienced through a musical lens, and how such a framework could be a starting point for developing a method where music can be integrated in my own design process.

The site for the project is the Gothenburg Opera, a building with a multitude of features and sequential shifts. Using a framework including five terms from the shared vocabulary of both music and architecture as framework, the existing building will be mapped in a layered notation structure.

The final map is used as a foundation in the design process of an extension to the Gothenburg Opera, as well as the basis of conversation within an established collaboration with Daniel Berg and Tobias Granmo, musicians and professors at the Academy of Music and Drama.

DEFINED SHARED VOCABULARY

Rythm
Harmony
Volume
Ornamentation
Movement

KEYWORDS

Music
Shared vocabulary
Layers
Notation

NEW NORDIC ARCHITECTURE

- SUSTAINING FOOD, NATURE, AND ARCHITECTURE BASED ON LOCAL RESOURCES AND THE NEW NORDIC KITCHEN MANIFESTO



RURBAN TRANSFORMATIONS

Supervisor: John Helmfridsson
Examiner: Nils Björling
MT'22

There are many connections between architecture and food - they are creative practices highly connected to history, trends, culture, and constants in our lives. Today, our globalized world has made us disconnected to the natural processes in both fields, as products are highly processed through several steps before it is reached its final destination.

The New Nordic Kitchen is a movement within food that promotes use of food and traditions from the Nordic region in an environmentally sound and healthy way. A manifesto was formulated in 2004 to guide chefs in their work. In this thesis, the manifesto is translated to architecture and used as the concept.

Consequently, the thesis engages in theories in architecture: Regenerative design, wellbeing and comfort, and primitivism. Furthermore, the thesis discusses the standardized construction industry in opposition to handcraft and local production. Vernacular Nordic architecture is an important reference, and natural, local materials are used.

The site of the thesis is Gerlesborg in Bohuslän, Sweden. Because of the connection to food, the program of the

project is a restaurant where all food can be gathered in the immediate surroundings, just like the materials of the building. Many artists live in Gerlesborg, and therefore, an additional building for exhibitions and to gather in is placed on the site.

On the grass field where the buildings stand, three buildings completely clad in straw rise. The fourth is a greenhouse, prolonging the vegetable season for the restaurant. Views towards a mountain and the sea are important to the building complex, and people are invited to experience them with the building.

The manifesto showed to be easily applicable to regenerative architecture. It is a clear strategy, and one can interpret and put different amount of importance to different points. If to be built in reality, a close collaboration with craftsmen would be important, as the project works outside of regular building regulations.

Keywords : New Nordic Kitchen, regenerative design, local materials, vernacular architecture.

LINNEA RAMNE

CERAMIC SPACES

- EXPLORING CLAY BUILDING AND CERAMIC HERITAGE IN HÖGANÄS



RURBAN TRANSFORMATIONS

Supervisor: John Helmfridsson
Examiner: Nils Björklund
MT'22

This thesis is an exploration of clay and ceramic building, manifested in the design of a public ceramic workshop and exhibition space in Höganäs.

Situated in the south Sweden, the material context is determined by the clay-rich earth and local ceramic production that began here in the early 1800's, including bricks, tiles, industrial ceramics and the famous brown salt glazed stoneware pottery produced by Höganäs Keramik. Connection to the town's ceramic heritage remains strong to this day with small-scale production of salt glazed pottery enduring, although industries have since closed. This presents both a challenge and possibility of tending to this heritage before it is weakened, or eventually, lost.

Using clay and ceramic building materials as a point of departure in defining the architectural design, the project aims to explore how material, architecture and functions can relate to local context and heritage when applied in a contemporary

building. The design process of which is anchored in material explorations that draw influence from the ritual of making ceramics, local building traditions and techniques, conversations with craftsmen and architects alike and through own explorations of the materials.

The material explorations are applied in the architecture of the proposed building, which explores and showcases contemporary clay building as part of its local context. Simultaneously, it enables a creative space for ceramic artists and enthusiasts alike to practice their craft, share knowledge and exhibit their work to the public. The thesis explores local traditional materials and craftsmanship in creating a space that relate to local heritage through architecture and the ritual of making ceramics. But the work also raises questions regarding how we value craft in objects and architecture.

Keywords : Clay, ceramics, craftsmanship, Höganäs, local materials, exhibition space, ceramic workshop.

REBECCA RUDIN

RE-PRINT

- AESTHETICALLY REPURPOSING ARCHITECTURAL ELEMENTS WITH NANOCELLULOSE HYDROGELS



MATTER SPACE STRUCTURE

Supervisor: Malgorzata Zboinska

Examiner: Daniel Norell

MT'22

Working with the naturally occurring biomaterial cellulose, the thesis aims to explore how degraded elements can be preserved and creatively re-imagined by 3D-printing new surfaces with a nanocellulose-based hydrogel. Embracing the unpredictable agency of the material while prioritising process-driven ornament and tactility. Particular emphasis is placed on the exploration of nanocellulose coatings on solid wood elements, analysing the compatibility of combining wood fibers in two different states of matter.

The nanocellulose material explored in the thesis is provided by Chalmers Chemical Engineering Department, Boregaard and RISE Innventia in the form of nanocellulose hydrogels. The cellulose derives from the common wood pulp which can be extracted from trees and plant matter and is constituted of hydrophilic polymer networks with unique qualities in regards to softness, wetness and compatibility with living tissue.

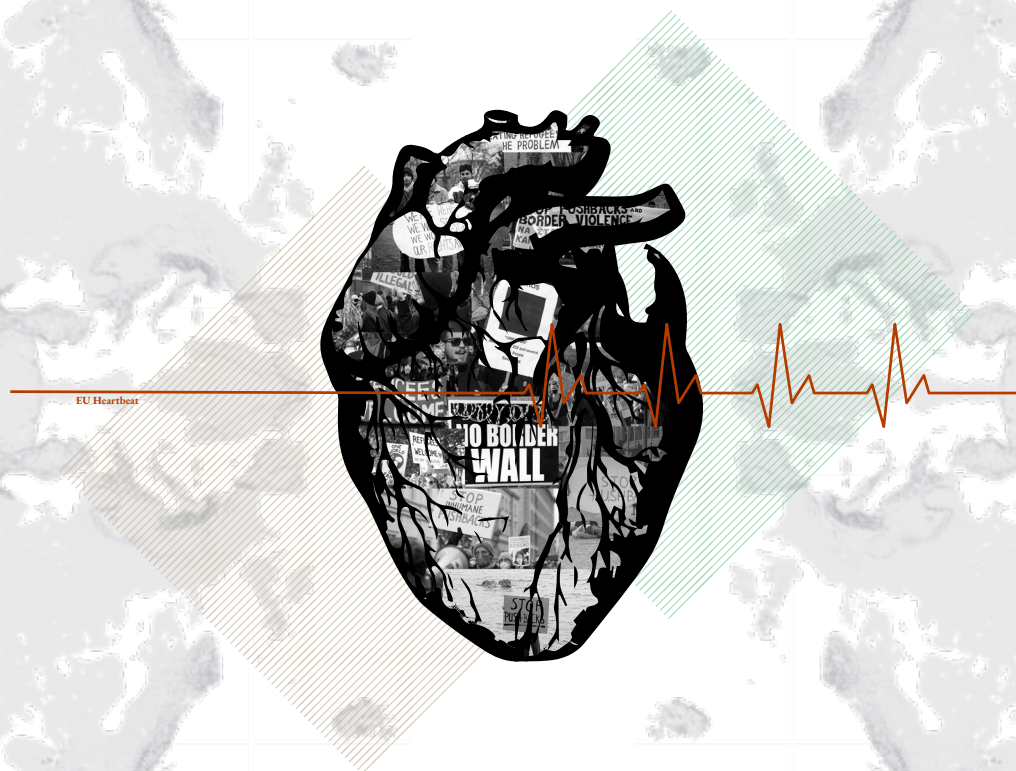
The material has previously mainly been utilized within the field of tissue engineering and biomedical research to print scaffolds for cell attachment and growth. Within the recent past the material has also started

to gain wider popularity in various design fields due to their biocompatibility, mechanical properties and high abundance.

The thesis presents a design proposal of three interventions to be implemented internally at Götiska Tornet in Stockholm. Exemplifying through prototypes how the nanocellulose hydrogel can be 3D-printed on degraded wood as an aesthetically enhancing coating to preserve and restore an existing interior. The design implementation of research findings through large-scale application aims to increase awareness and cultivate familiarity with bio-fabrication in the architectural discipline, examining both the potential and issues that are raised by introducing new materials to an existing architectural context.

Keywords : nanocellulose, bioprinting, robotic additive manufacturing, water-based materials, experimental restoration

// ALTERNATIVE BORDER REALITIES



Supervisor: Emilio Brandao & Shea Hagy
Examiner: Marco Adelfio
MT'22

The right to asylum is protected by international and European legislation. Nevertheless, border countries' national sovereignty is instrumentalized against migrants and their rights to prevent them from reaching the EU's territory. This manifests in inhumane fortifications along the border lines. A fortified EU effectively denies refugees their right to seek asylum which results in irregular migration with high fatality rates. The current situation violates the Charter of Fundamental Rights of the EU and must be confronted beyond the political discourse. Amongst others, the legislative opposition and human rights organisations are pushing for a paradigm shift in EU migration politics. Assorting migration as inevitable, they develop sustainable strategies

Keywords: Political Architecture, Speculative Design, Migration, European Borders, Alternative Reality.

VANESSA SAUERBORN

MEMORY OF INDUSTRIAL

- INDUSTRIAL HERITAGE IN THE CONTEXT OF GROWING CITIES



Source: Örebro bildarkiv.

RURBAN TRANSFORMATION

Supervisor: Nils Björling
Examiner: Kristina Grange
MT'22

As our cities are growing, old industrial facilities are no longer located at the outskirts, but are rather becoming of interest for future new city districts, densification and transformation. One such industry is the CV-area, short for Centralversktaden in Örebro, Sweden.

There are many qualities found in industrial facilities like CV that make them desirable for diverse set of purposes; their robustness, the care and effort put into their architecture, the location with closeness to the city, and the fact that they embody a significant industrial heritage of the city and their inhabitants. The concern driving this thesis is that future plans driven by economic interests might neglect the non-tangible values found in these unique environments.

The plans and strategies that are being implemented in the care and development of their future densification are discussed in relation to how abstract values such as heritage and collective memories are approached. A central aspect that is discussed is the priority of interpretation, meaning that the values and interpretations influencing the final results are steered by what individuals or groups are involved and

invited into the process. The thesis further speculates what different scenarios accomplish or perhaps risk failing to accomplish with consideration for the identity and heritage of the space as well as the relationship between the architect and the user.

The observations from said research raise discussions and questions about value and identity, guiding laboratory design onto one chosen site, the CV-area, in order to further observe how change in physical space relates to overall perception of an area's identity. This is done through three hypothetical scenarios where different interests and people have the priority of interpretation. These scenarios make up a part of the results of the thesis, together with discussion about intangible values such as heritage, identity and collective memories as well as thoughts about how one as an architect might approach it differently, in an effort to further discussions about what we truly want these unique historical spaces to become.

Keywords: heritage, history, transformation, industry, collective memory, identity

CHRISTINA SAXONI

EXPLORING COMMONING AS A TOOL FOR SOCIAL INTEGRATION

-RE-USE OF ABANDONED BUILDINGS AND PLOTS FOR THE CREATION OF COMMONS



DESIGN ACTIVISM BEYOND BORDERS

Supervisor: Emilio Brandao, Shea Hagy

Examiner: Marco Adelfio

MT'22

Since 2011, Europe has experienced an unprecedented influx of people fleeing countries facing political turmoil. Refugees in Greece have been admitted to state run camps, segregated and excluded from social life and have been denied their basic human rights.

In the meantime the Greek socioeconomic crisis since 2008 has led to high unemployment rates, the increase of homelessness, poverty, rising inequalities and expressions and acts of racism and xenophobia. Housing exclusion and affordability has become a rising concern and the state has treated refugee housing issues as emergency problems for a transient population, independent from those of the local population, and tackled them with temporary solutions.

On the contrary of the above mentioned negative consequences, different citizen-led initiatives claiming the right to the city through commoning have emerged. People joined, created networks of solidarity such as community kitchens and collaborative self organized housing squats. Copying strategies from those housing squats have been pointed out as prominent fields for social innovation.

This thesis aims to examine characteristics of housing as commons, through literature readings, research about collaborative housing solutions and visiting and observing commons, while rethinking and mapping the current unused urban infrastructure. The context for this exploration is a neighbourhood in central Thessaloniki where abandoned buildings and undeveloped plots exist in abundance. This 'dead' property provides opportunities for the integration of newcomers, by creating housing solutions for both them and locals. Although initiating this project to explore practices of integration of refugees, the intention is to benefit both existing citizens and newcomers.

Collaborative housing forms and intercultural living can facilitate interaction between inhabitants and offer opportunities for mutual learning. Furthermore, using interstitial space for commoning activities, as space in the making, through social participation and self-management can support people's empowerment and inclusion.

Keywords : housing as commons, social integration, newcomers

SARAH SCHOBERLEITNER

WE FEEL UN·SAFE

AN EXPLORATION OF PLANNING OPPORTUNITIES WITH A GENDER PERSPECTIVE TO ENCOURAGE URBAN SAFETY.



CRITICAL SPATIAL PERSPECTIVES

Supervisor: Bri Gauger

Examiner: Isabelle Doucet

MT'22

The importance of safety for women has been widely recognized as one of the key aspects of equal and socially inclusive cities. Many cities have already contributed and promoted work for safer cities, however, this is an evolving issue that continues to require extensive development work, especially considering women's perspectives. This entails recognizing that these urban safety issues do not affect all women equally, but rather are a construct of many factors that depend on the social affiliation and characteristics of the individual. This thesis thus aims to answer the question: How and in what ways can spatial planning with a gender perspective encourage the feeling of safety for all?

This is explored by examining existing spatial approaches to safety and by conducting a case study in the district Biskopsgården in Gothenburg. Through various conversations and observations during night walks and community meetings, it was feasible to focus on women's perceptions, experiences, and needs. Furthermore, by conducting an analysis of the different actors in the area and the work already done for safety, it was possible to identify the general focus of the safety

debate in the area, what is missing and how spatial planners could contribute to it.

The methods show that current efforts to promote safety focus on the crime prevention and the behavioral patterns of assailants, which severely restricts residents access to urban resources and thus has a profound impact on women and other marginalized groups. Furthermore, the strategies used to prevent crime often have the opposite effect and rather contribute to making people less safe. The question arises as to what planners can focus on beyond what is being done today to productively engage in the safety debate. As a result, the thesis expresses that safety needs to be considered in a broader context with interrelated factors such as access to services and the fulfillment of basic human needs. For spatial planners, this means engaging at the local level and treating residents as experts in order to develop effective strategies that do not exacerbate their sense of feeling unsafe. Combined with aspects of existing planning approaches, this can lead the way to safer and more inclusive cities.

Keywords: women, intersectionality, urban safety, fear, spatial planning

HOKEN

- A TRANSFORMATION GUIDED BY THE IDENTITIES OF VARBERG



RURBAN TRANSFORMATIONS

Supervisor: Marco Adelfio
Examiner: Nils Björling
MT'22

When a place is facing transformation, a balancing act arises between preserving and renewing. What might be seen as a valuation of physical objects to be either kept or removed, is also a selection of memories to bring into the future. As architects, we have a responsibility to understand the place and not let norms guide these decisions at the expense of local, everyday qualities experienced by the users. An understanding of the unique atmosphere is crucial to consider in a place's development, as it is closely associated with the feeling of belonging and identification.

The thesis focuses on a part of a development area in Varberg that is currently in transition. The harbour that shaped the town, will be replaced by a new urban-influenced city district, Västerport. Hoken, a pier located at the interface between the old Varberg and the upcoming neighbourhood, is included in the transition but its future is still uncertain. This is the starting point of the thesis.

The aim is to explore methods for capturing and conveying place identity, with collages as a narrative design tool, and to use the guiding narrative as the main driver for a

transformation proposal. The thesis is mainly driven by a research-by-design method, supported by literature studies to frame the theoretical approach. During the process we aim to understand the site with a phenomenological mindset, which puts emphasis on capturing not only physical characteristics, but also making intangible aspects visible. By drawing in layers, physical objects can be supplemented with activity and strengthened by an emphasised feeling. One by one, the collages create scenes. Together, they tell the story of Varberg.

The result of the thesis can be divided into two parts, the architectural proposal and the methodology behind it. The captured place identity guides the transformation process, in order to protect the attachment between the people and the place. The outcome is a transformation proposal for Hoken, into a new public space, that allows for Varbergs unique atmosphere to flourish despite times of urban renewal.

Keywords: Transformation, Place identity, Tangible and intangible heritage, Narrative thinking, Collage

SOFIA SELIN

IDENTITIES OF A CITY IN TRANSFORMATION



RURBAN TRANSFORMATION

Supervisor: Nils Björling
Examiner: Kristina Grange
MT'22

In Kiruna there is an extensive city development process going on. To enable the important iron ore mining to continue, the original city center needs to be demolished and will be replaced with a new one a few kilometers to the east. The transformation process highlights questions about identity and sense of belonging in relation to a place. Also the power dynamics between different stakeholders, who is in charge of the narrative and who defines what Kiruna is and should be in the future. This results in a thesis question asking how architects can express and revive identities and heritage of a place through a critical perspective on a top-down development.

The identities of a place is defined as the social interactions with a certain space, situated in a network of resources creating a meaningful whole. Since identity is central for issues of meaning, commitment and loyalty, it needs to be valued and handled with care in a city development process.

The traditional perspective of Kiruna is questioned in this thesis and unseen or hidden narratives are brought to the light. Architecture is used to emphasize what challenges Kiruna faces today but also to

bring new solutions into the discussion. The proposal in this thesis gives new perspectives of how to view architecture and the power dynamics in the area, such as giving space for bottom-up processes driven by the people.

It discusses how old and new identities can contribute to each other, correlate in the physical environment and create a framework that is both adaptable and stable. In this process architects should be a catalysator and integrate bottom-up processes with top-down development. Processes of both kinds are needed but the bottom-up ones need to be given space to make sure all narratives are valued equally. Only then will they have its place in the identity network and create the important commitment and loyalty to this particular place.

Keywords : Place identity, identity networks, narrative, place making, heritage

OLEG SOKOLOVSKYI

GROWING SMALLER

RURBAN INTERVENTIONS FOR DEGROWTH



RURBAN TRANSFORMATIONS

Supervisor: Ida Röstlund
Examiner: Julia Fredriksson
MT'22

Many small towns in Swedish rural areas were developed around one dominating industry which they have been depended on. But high dependency on industries and economic growth often made them vulnerable to unexpected crises. Yet, the current consensus is that continuous economic growth is necessary for prosperity and freedom. Municipal plans and documents prioritize attracting businesses as a remedy for depopulation in rural areas. But as history has shown, there is a need for an example of different forms of development there.

The thesis aims to explore how planning and design can bring positive change in rural areas that have been affected by shrinking population. The case of this thesis is a town Silverdalen in Hultsfred municipality. The design proposal takes into consideration the context of the place and its history. The thesis will further explore how small shrinking town with industrial heritage can be transformed with spatial interventions that add new uses to post-industrial places. This is done by researching practices of degrowth and how they can be applied to a specific context.

The thesis work is a combination between the methods research by design and research for design. The theories of rural shrinkage and degrowth have been studied to create an understanding on how a small town with industrial heritage can be revitalized. By exploring the context of the place, its history, and possible stakeholders, a proposal has been developed. It takes its cues from practices of degrowth – reuse of existing structures, create possibilities for sharing economies and generate social activities. The result is several design interventions that together strengthen the public space and revive previously abandoned places.

Keywords: degrowth, rural shrinkage, post-industrial places, adaptive reuse.

CITY CAMPUS

= study environments exploring urban connection through place identity features



URBAN CHALLENGES

Supervisor: Joaquim Tarasó
Examiner: Kengo Sasaki
MT'22

Higher education students are traditionally in a transition between late adolescent and young adult. This is a time in life of big changes: students move to new towns, get their first own apartment and the campus often becomes their main dwelling area. Many campuses are complexes focused to a certain part of the town they are located and all aspects of the education are done there. This means students risk getting isolated from the rest of the town resulting in a lack of sense of belonging to the community the university is supposed to support. Other campuses are serving smaller faculties and lack a varied study environment suitable for different learning styles.

The purpose of this thesis is to investigate how the design of a small scale, deconstructed, city campus can create a meaningful relationship between students and their location by exploring concepts of identity and awareness of an urban place; and provide sustainable and varied study spaces that function as a support to existing campuses in the local context.

To gain a comprehensive understanding for the design this study will explore the

theory of the concept of place identity, the contemporary discourse on educational environment, learning styles and different types of learning spaces. It will also explore how the concept of phenomena can be used to merge the educational environment and the identity of place to create meaningful encounters for students.

A city campus concept is formed by first analyzing a site's different qualities in its surrounding urban context; and its place identity features. Secondly by exploring spatial qualities of learning spaces, the way they relate to different learning styles, in model studies. The site qualities, the place identity features and learning spaces are then merged and analyzed in explorative model studies.

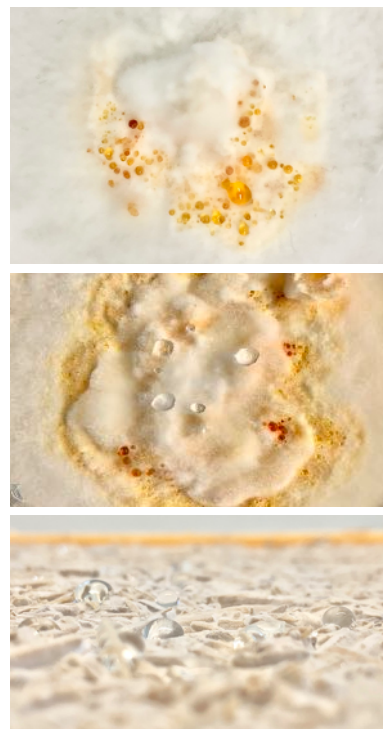
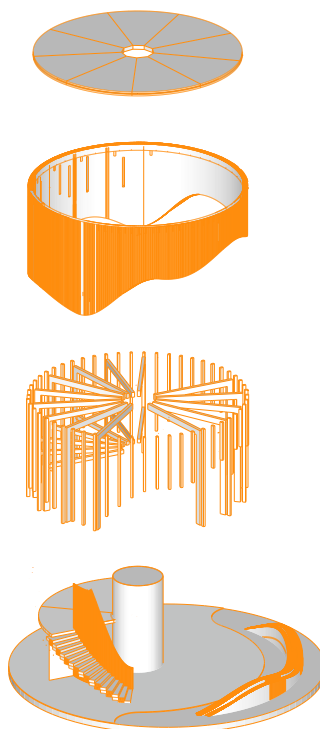
The city campus design is formed by designing both indoor and outdoor spaces. The design is developed in a public space in Gothenburg, from Bastionsplatsen along the moat to Drottningtorget. However, the goal with the design concept is to explore ideas with a generic application regarding educational spaces and how they can relate to place identity.

Keywords : Place identity, Educational environment, Learning styles

MALINA TEZYCKA

MYCONNECTION

THE ENDEAVOUR OF BONDS WITH NATURE



MATERIAL TURN

Supervisor: Jonas Lundberg & Jonas Runberger

Examiner: Kengo Skorick

MT'22

The development of agriculture allowed the human population to grow many times larger than thousands of years ago. Nearly all agricultural practices generate waste in large quantities in numerous countries, while the great advantage of its reuse is omitted. Diverse agricultural, cellulose-based waste substrates are being burnt causing a major source of environmental pollution in developing countries. Incorporating the biomimicry's ideology, where one organism's waste material becomes another's raw material, in the building industry partly brings relief to the environment. Moreover, the meeting point of science and design would allow biology to produce building materials.

This thesis explores the potential of bio fabrication and the reuse of biowaste as a paradigm shift toward providing a circular economy by designing materials that can be reused, repaired, and remanufactured. The main scope of the research focuses on the compound of agricultural solid-waste substrates and mycelium. Research has shown that mycelium performed the ability to create a self-grown vast network, binding parts of organic substrate allowing us to produce bio-composites for various uses.

The thesis involves biologically driven research to explore the qualities delivered by the composites and their application in the design of an outdoor teaching pavilion, as a tool for human and nature coexistence. The circumstances that we experience in the early stages of our life have a great impact on the shape of our personalities. The concept of outdoor learning concentrates on education through practical activities providing long-lasting effects of the skills development essential for modern life, such as communication, innovation, team spirit, autonomy, and creativity. The greatest values that drive the concept of biophilia are impossible to perceive with the bare eye. The project will attempt to discover such conditions through material-driven design.

Keywords : biofabrication, mycelium, outdoor school, material design

MARTINA VERME

RETHINKING A PLACE FOR CHANGE

- An architectural interpretation of the incarcerated youth's place for treatment.



HEALTHCARE

Supervisor: Susanne Clase
Examiner: Göran Lindahl
MT'22

SiS is envisioned to be "a place for change" - giving individually adapted care and better conditions for a functioning life of youths in compulsory care. However, the dual tasks of treating and guarding present the challenge of developing the physical environment since it is a key factor for enabling receptivity to care. Research shows that the physical environment is linked to negative connotations within today's society including stigmatization, negative self-image, and actions within the youth's lifeworld, often resulting in unsuccessful readaptation.

The thesis aims to rethink the youth's place for treatment within compulsory care by extracting and clarifying its role within the organization, at the institutional site and in the space for care. The project contains three connected parts. Firstly, applied research of the youth's subjective experience of socio-spatial concepts presented by being "in place" for care, as well as the field of Evidence-based healthcare design with a focus on psychiatry. Secondly, a concluded framework with general recommendations for the development of a treatment facility, which is then used to present the third part: a final design proposal applied to a certain institutional site. This way, the architectural

process explores the potential role of a future treatment facility acting on the border of the institutional sphere. Both motivational and preventative design methods carry this exploration resulting in a new treatment facility that could ease residential facilities with the intention to provide a clear chain- and center of care as a key towards an exit. The project is presented from four identified spatial perspectives that support the youth needs, contributing to knowledge development that supports the incarcerated youth exit process. The framework also complements the participatory process, which is currently complex and sensitive to set up due to an inaccessible user group. Thus, this becomes one of many investigations developing an evidence-based starting point for design decisions. Finally, it informs a preventative approach toward youth criminality while shifting the prioritization and presumptions of youth needs within the institutions.

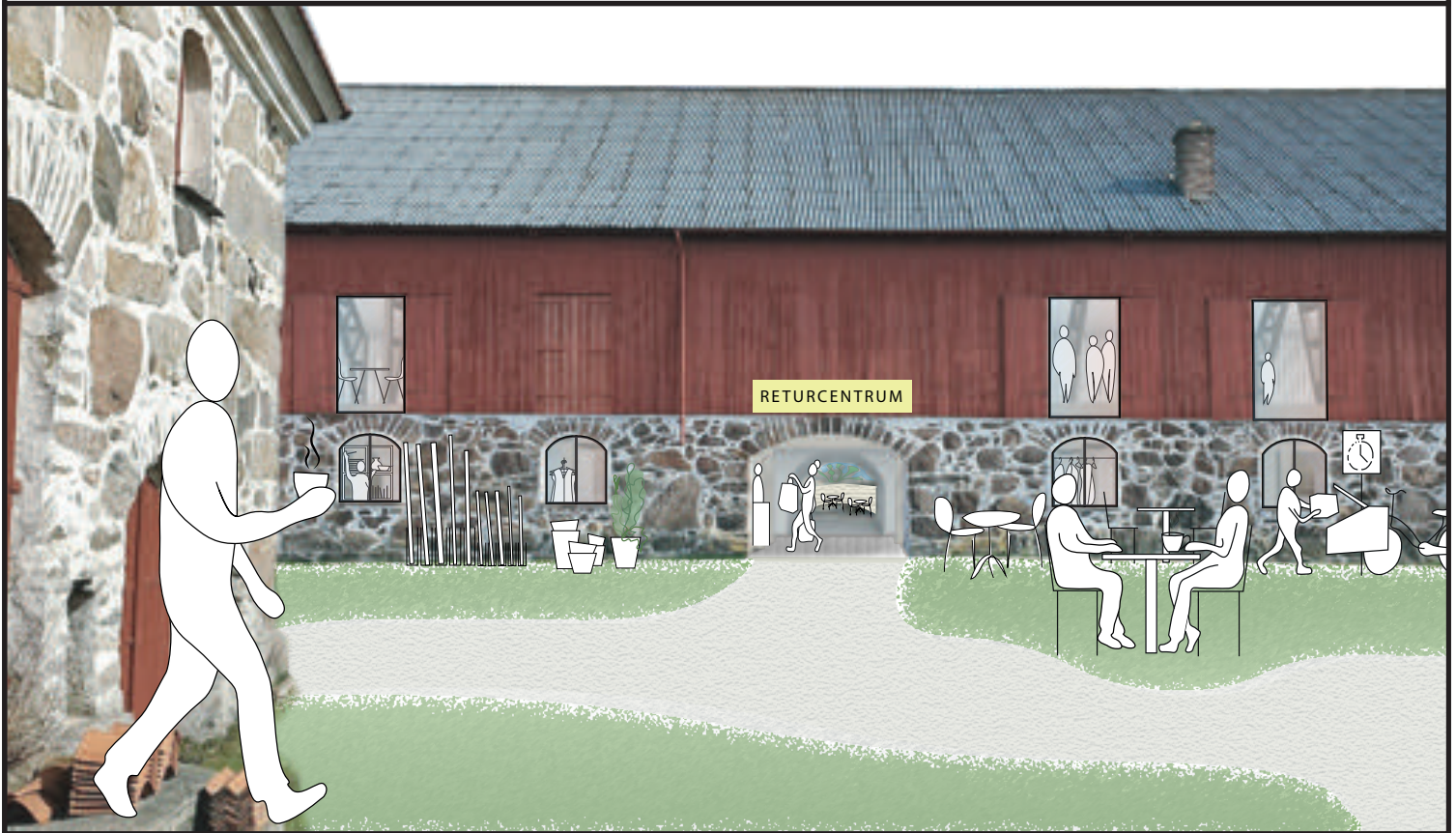
We need to ask *ourselves*, what does "a place for change" really mean for the youths *themselves*?

Keywords: Compulsory youth care, Socio-spatial experience, Place for treatment

SARA MOBERG & HELENE WALLBERG

DELANDETS MÖNSTER / THE PATTERN OF SHARING

- AN INVESTIGATION OF HOW DESIGN CAN SUPPORT AND ENCOURAGE SHARING OF RESOURCES AND SPACES



HOUSING

Supervisor: Claes Caldenby
Examiner: Anna Braide
MT'22

This master thesis is examining how design can enable and contribute to a more sustainable life in our built environment, by presenting opportunities to share resources and spaces in a simple and attractive way in a housing area.

The surrounding environment affects our way of life, and the structures of an area that are developed today affect the premises of life for generations to come. The prevailing living standards in our part of the world are contributing to climate change and this way of living must change. By addressing these issues already in the planning phase, sustainable lifestyles can be made easier. Through communication with Derome (an operative actor working with societal development) this project can be relevant to actual development and connect research and practice. Derome is now planning a new housing area, Göinge By, in the outskirts of Varberg, with the aim to build Sweden's largest climate-neutral housing area.

The thesis question is: How can design support and encourage sharing of resources and spaces in a residential area in Sweden?

The patterns that are presented in the appendix *A pattern language for sharing*, is central in the thesis, consisting of six patterns, or principles, for sharing of resources and spaces and can be seen as a guide. The patterns are adaptable to different contexts and conditions but are developed with Göinge by in mind. In the appendix some overall theory is gathered, but above all the patterns *The Return Center*, *Workshop*, *Office spaces*, *Laundry*, *Exchanges*, and *Loans* are presented.

When the patterns are put together, a system of sharing is established from household level to district and city level. The patterns are functional alone but are strengthened by co-existence. All patterns presented, have been assembled and tested in a design example in Göinge by.

Keywords: sharing, sustainable lifestyle, resource efficiency, circularity, housing development, behavioral design

The report is written in Swedish.
Nyckelord: delande, hållbar livsstil, resurs-effektivitet, cirkularitet, bostadsutveckling, beteendedesign

YU WANG

ILLUSION SPACE

- EXPLORATION AND APPLICATION OF PROJECTION MAPPING TECHNOLOGY IN SPATIAL DESIGN



MATERIAL TURN

Supervisor: Kengo Skorick & Jonas Runberger

Examiner: Jonas Lundbery

MT'22

Architects are always late to embrace the technological shift, which is rooted in architectural tradition. But in this era of rapid development of various technologies, architects are also seeking more diverse approaches. In *The Second Digital Turn*, Mario Carpo pointed out that variability is a deep-rooted ambition of architects and designers, and the design professions are now coming to terms with a new kind of digital tools they have adopted—no longer tools for making but tools for thinking (Carpo, 2017). In this context, the thesis intends to explore transformations that new technologies can bring to architecture design and try to expand the boundaries of the architectural discipline.

This thesis discusses how projection mapping technology may affect the architectural design process. The general principles of projection mapping are summarized through case studies, and these principles are used as the basics of the design experiments. With the method of research by design, the design experiments are used as the main tool to explore the interaction between physical objects and virtual projection, as well as to simulate the spatial effects that projections can achieve speculatively. These effects were eventually applied to an Immersi-

ve theater design where the audience can follow the actors in a sequence of space to experience the narratives of *Rashomon*. In this theater, different scenes can be represented in the same physical space through projection mapping, the limited space can be extended, non-existent objects can be created, and the shape of the space can be changed according to the demand.

There are two lines of design method in this thesis: one is the design of the physical environment that will be projected, and the other is the design of the virtual projection content. The combination of projected images and the physical environment is the main focus of the design, and the architect controls the boundary and relationship between real and virtual. In this thesis, the design experiments and immersive theater design parts have an equally important place in the outcome, because the exploration and application of the possibility of projection mapping technology is the main goal of this thesis.

Keywords : The Second Digital Turn, Spatial Augmented Reality, Projection Mapping, Immersive Theater

REIMAGINING A MILLION

-An investigation into the potential of the dwellings of the million program



HOUSING

Supervisor: Maria Nilsson

Examiner: Ola Nylander

MT'22

The inspiration for this thesis is the idea that architectural interventions are dependent on context. Every site and era of building has more or less its history, social factors, and culture, which all are essential to take into account when designing. Which begs the question, what can an architect do to enhance these qualities?

The focus will be on buildings from the record years of residential building in Sweden, the million program, specifically the residential buildings built in the 1960s. Today, there is an abundance of these buildings, which now are in desperate need of repair or demolition. The general societal consensus seems to be that these buildings lack architectural quality and should get demolished. This thesis's purpose is to argue the difference; it aims at finding qualities of the era and enhancing them.

The project will provide a perspective that can inspire developers and municipalities in what can be done with these buildings, providing an option not only from an aesthetic point of view but also from a sustainability point of view.

The project consists of analyzing different

apartment typologies, reading texts about the history behind the million program, looking at materials, and creating an extensive analysis of the site and its layers. From this, the thesis will be developed through research by design by creating models and digital visual representation.

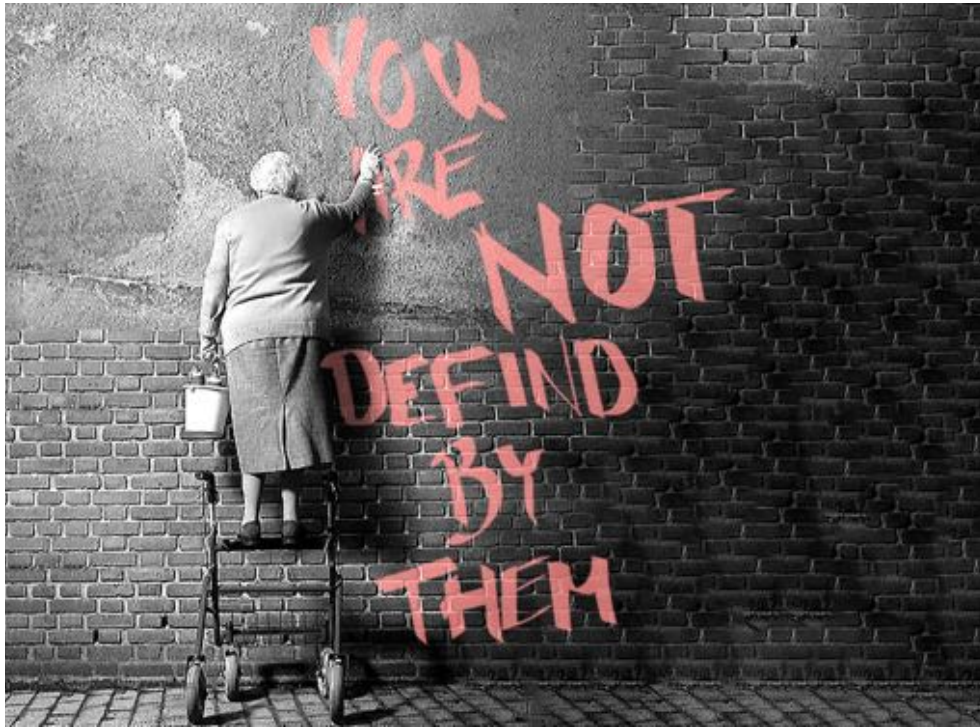
Research question:

How can a residential building of historical value be complemented in a way that increases its liveability and character?

Keywords: The Million Program, Residential, Refurbishment, Identity, Sweden

MIND THE GAP

- DESIGNING AGE-INCLUSIVE PUBLIC SPACE IN FRIHAMNEN



DESIGN ACTIVISM BEYOND BORDERS

Supervisor: Shea Hagy
Examiner: Emilio Brandao
MT'22

Many times, demographic position defines one's place in society, because most often we categorize people based on their age (as well as on their sex and race, but with less awareness). Ageism is both manifested and supported in the built environment. On the one hand, ageist attitudes are often unconsciously influencing the design of space. On the other hand, this space then continues to reproduce ageist perspectives that caused them in the first place by influencing the behaviour of the people who use them.

In this thesis, we investigate how we can design public space to combat ageism. Therefore, we conduct a case study in Jubileumsparken in Gothenburg which explores ways to design with and for older people through experimental and activist practices. We deliberately open the definition of the architect including all who participate in the creation of space. Consequently, we use a participatory placemaking methodology, Re-coding, and apply our own approach based on actions and reactions on it.

In our literature review, specific focus lies on the right to the city for older people and intergenerational social interaction. The former implies equal access and use of public

space, the latter focuses on public spaces as meeting places for the whole society. Analysing these two concepts in relation to ageism gives us a theoretical base on how to tackle ageism in the design practice which is further investigated in our case study. In our first workshop with older people, we step away from the traditional role of the architect and become listeners to the older people's stories. In a second action, older people co-generate design ideas for Jubileumsparken which form the base for our spatial proposal of an outdoor library. We develop that idea further by incorporating research, other stakeholders and the first workshop which leads us to the design of UNTOLD! – a place to exchange stories through different forms of interactions.

With this thesis, we wish to raise awareness for the deeply internalized and neglected topic of ageism in the built environment and support a paradigm shift in designing age-inclusive public.

Keywords: Ageism, Public Space, Age-inclusive, Intergenerational interactions, Right to the city



HEALTHCARE

Supervisor: Elke Miedema

Examiner: Cristiana Caira

MT'22

More than 100,000 sports injuries requiring medical examination occur in Sweden every year. These injuries affect the injured and their classmates, colleagues, and family members. Rehabilitation from sports injuries can be difficult, both physically and psychologically. Many people feel that their rehab facility doesn't take mental health issues well into account after being treated in the hospital. They often experience negative emotions such as depression, isolation, stress, and lack of motivation. Rehabilitation training should start from a more comprehensive point of view, placing physical and psychological rehabilitation in an equally important position. Therefore, this master thesis will give a plan for a rehabilitation center in Gothenburg, where people receiving rehabilitation training can have good communication with the community and the natural environment. Gothenburg's new city center is rapidly being built, and residents need new rehabilitation training facilities, which is an opportunity to provide a more successful training environment.

Research shows that increased physical activity, exposure to the natural environment, and enhanced interpersonal communication with the community can positively affect

rehabilitation training. The psychological effects of these activities include relaxation, a sense of achievement and pleasure, and a sense of belonging, which can better solve the psychological problems during rehabilitation training. In addition, good mental health can play a role in speeding up physical recovery. It brings about a rehabilitation training process that takes into account both physical and psychological rehabilitation. These methods are explored through research, site analysis, and sketching to propose an environment suitable for physical and mental healing.

The project is based upon a Research-Informed Design approach, including literature studies, interviews with patients and a relevant academic researcher(n=4), and reference studies focused on encouraging exercise and enhancing the connection to nature. The result may contribute to a raised discussion about the spatial and psychological needs of people affected by a sports injury and the importance of connecting the community in the development of health-promotive environments.

Keywords : rehabilitation, injury, disability, mental issue, community

TO PERCEIVE THE CITY

- Exploring the notion of negative spaces as a node for urban perception



URBAN CHALLENGES

Supervisor: Kengo Skorick
Examiner: Joaquim Tarrasó
MT'22

The starting point of this master thesis is to explore how negative space in cities affects people's perception and experience of urban space, and affects people's way of movement and social interaction through design.

In this master's thesis, my research object is selected as viaduct space. The high-speed transportation system occupies an important position and space in Gothenburg. It is undeniable that the rapid development of infrastructure to facilitate cars and trains has divided the city into small chunks and created obstacles to mobility at a human scale. In addition, Gothenburg has very good river resources, but some of the river banks are not well used to create public value. For example, where railway tracks and bridges cross rivers, the continuity of walking along the river is interrupted. The dark, noisy and cluttered space under the bridge brings a strong sense of insecurity and depression to pedestrians, which are invisible psychological effects.

In many cases, slow pedestrians and bicycles are on the ground level of the city, and people need to look up to get a sense of the city, while cars and trains can read

the urban space at high speeds. What if the continuous space of the viaduct is used to create pedestrian space occupying the upper part of the city?

At present, some infrastructures are facing the situation of abandonment around the world, but there are still new viaducts being built. Therefore, besides of considering the coexistence of the viaduct and the existing environment, how can we consider the coexistence of future planning? How do we consider new construction to achieve its own future flexibility?

The viaduct is connected to the surrounding environment in various and complex ways, which brings both challenges and opportunities to the improvement of urban space. This thesis discusses how to connect the infrastructure with the surrounding urban assets to provide high-quality experience value for the urban low-speed traffic groups, so as to create a dialogue between people, space and movements.

Keywords : Viaduct, Negative space, Perception, Public space

LINA ZACHRISSON

HIDDEN IN PLAIN SIGHT

- UNCOVERING MIGRANT GEOGRAPHIES IN THE EXTERNAL BORDERLANDS OF EUROPE



DESIGN ACTIVISM BEYOND BORDERS

Supervisor: Emilio Brandao & Shea Hagy

Examiner: Marco Adelfio

MT'22

This thesis seeks to understand how spatial - built and natural - environments operate in Europe's external borderlands to facilitate and condition human migration. It aims to find new ways in which architects can engage with authoritarian instruments of power that spatially manifest themselves in and around increasingly militarized border regions. As concepts and spatial instruments, the borders will be viewed through the lenses of human mobility, irregular migration, and the creation of territory.

As the Schengen agreement guarantees free movement across all internal borders between member states, the EU sees the need to increase security and control over who and what gets to cross the external borders. Meanwhile, public interest in nationalism and anti-immigration rhetoric continues to grow, rendering displaced populations increasingly vulnerable as they attempt to navigate the European borderlands in search of safe ground.

Current European migration policy leaves large populations of migrants trapped in transit countries on Europe's fringes, in a state of permanent temporality, in-between

both humanitarian facilities and legal frameworks.

With the support of field investigations and inquiry in the crisis-ridden border regions of North Macedonia, this work tries to understand and visualize the border's inherently spatial nature and the borderlands as a territory for shaping multiple narratives and geographies of migration.

It centers around the connections and socio-spatial relations between the actors and processes that contribute to this production of the migrant narrative. The thesis seeks to uncover converging paths, chains of relations, and hidden dimensions of the realities that migrant populations suffer when crossing borders. Through an uncovering of such intersections and divergencies, the outcomes of this work explore speculative interventions for a more inclusive and socially sustainable narrative of the European borderlands.

borders | irregular migration | human geography | awareness | relational analysis

MARINA ZAITEVA

SHADOWS IN THE DARK

- METHODOLOGY FOR EMPOWERMENT OF ELDERLY THROUGH
ARCHITECTURE



DESIGN ACTIVISM BEYOND BORDERS

Supervisor: Emilio Da Cruz Brandao

Examiner: Marco Adelfio

MT'22

The thesis discusses a multilayered subject – the potential of elderly's empowerment, and associated problems of the nowadays architectural practice.

Firstly, the thesis explores problems, connected to elderly. There's an urge for a better environment because of an increasing ageing population. Isolation is a big problem among elderly. Elderly's health and activity level create certain requirements for design, accessibility, and puts a demand for different types of housing, and services. People see elderly mostly as a group which only demands care, and do not contribute to the society. The authors' idea is to change the youth-centered philosophy, and keep elderly as a part of a modern life, making them influential actors with the help of architecture. Architecture is a mediator between bodies and surroundings. And a well-designed space is a medicine. The goal is to change elderly from passive individuals into active and empowered participants of the society. It's important to strengthen their contact with the community, reduce ageism, provide equal access, and participation. Involvement of elderly will create a positive healthy community, and it will benefit to all of residents.

Secondly, the thesis is an attempt to rethink the modern architectural practice and education. Teaching and practicing architecture should be improved, in order to meet a changing complexity of needs of the humanity and the environment. A drastically changed world, cities, society require an innovative approach, rather than that, which was developed a century ago, as well as it requires involving many different stakeholders. The discussion about it is open-ended, and should be taken as an ongoing process, where asking questions is more important, rather than finding answers.

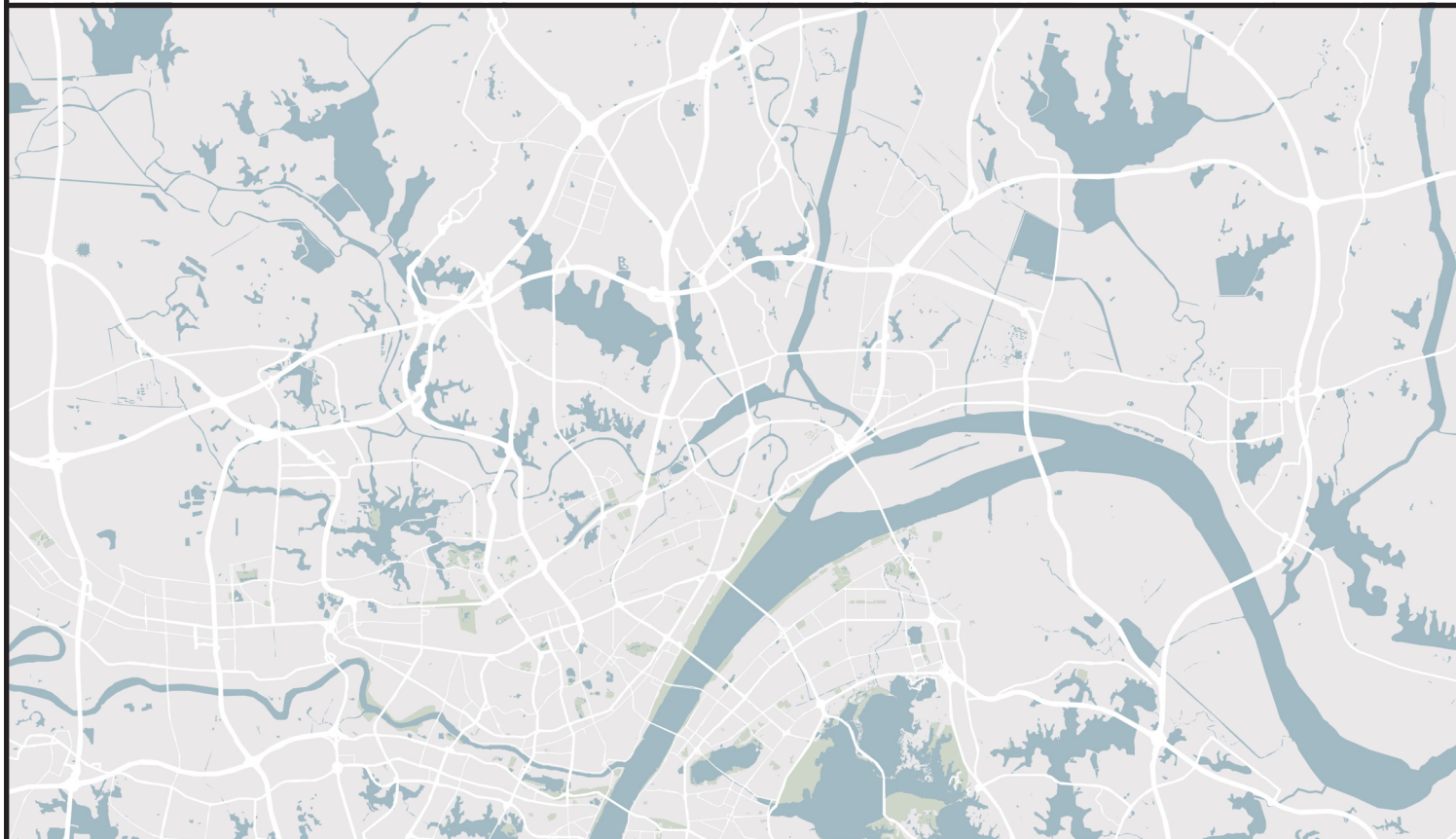
Through many different tools, connected to interaction with elderly and architectural practice, a design methodology for elderly's empowerment was created. The proposed methodology is a challenging step into a field of third age life improvement, and rethinking of the modern architectural practice.

With the development of this project, the author wants to promote "a culture of involvement", equality, empowerment, and social sustainability.

Keywords : elderly, inclusion, methodology, rethinking, innovative, open-ended, social sustainability, ambiguity

CHUNLU ZHU

RECONNECT CITY & WATER



URBAN CHALLENGES

Supervisor: Joaquim Tarraso

Examiner: Kengo Skorick

MT'22

The context of the design proposal is city of Wuhan, China, which has a indivisible relationship with water(Yangze river). From historical and current perspectives, water shaped the city while the city also limited water.

Over the centuries, citizens in Wuhan have fought to resist flooding because of the weather conditions and low topography. A growing population and the scarcity of agricultural land led to the draining and reclamation of large bodies of water, which exacerbate the flooding risk.

Even though specific climate predictions remained in uncertainty, it is nevertheless a fact that we need comprehensive analysis and assessment for flood risk to better understand the elements that causing floods, while searching for further measures to guard against, and to take advantage of, flooding.

The oldest protective measures in Wuhan were to enclose land with dykes, these high dykes tend to get in the way of any direct relationship between the city and water, and just leave a rigid and inflexible impression to the kids and citizens, which indicates that

these structures need to be better incorporated into the urban fabric.

The starting point for this Master's Thesis was to search more resilient and long-term measures for flooding mitigation from an architectural perspective, thereby promoting and reproducing the connection between the city and water. Conformable to more resilient solution, dynamic landscape design is introduced as a method to connect current context with stormwater as a flexible and variational element to promote urban resilience. Thereby, water management and dyke adaptation needs to be integrated into urban life, thus promoting outdoor activity and interaction between the city and water.

Research into the field of layer models and spatial qualities defined the target environment and strategies for promoting sustainability through design.

Keywords : multifunctional dykes; water management; public activities; resilient design

JIMMY ÖRTENDAHL

PAPER DOMUS

- THE ARCHITECTURAL POTENTIAL OF PULP



MATERIAL TURN

Supervisor: Jonas Lundberg
Examiner: Kengo Skorick & Jonas Runberger
MT'22

Cardboard and paper is a cheap and easily accessible material with a wide variety of uses ranging from packaging of products to furniture design and even structural building elements. Besides being versatile in its area of use the it also has a low environmental impact since it is mainly constructed from renewable sources containing cellulose. On top of that the material itself can be recycled, picked apart and reused for the production of more paper when it has reached its expected lifespan. Still only about half of the around 400 million tons of cardboard and paper being produced each year is recycled. This means that approximately 200 million tons of cardboard leaves the recycle chain and ends up in landfills or is being incinerated which releases the stored carbon dioxide within the material.

This thesis is aiming to make use of the cardboard and paper that is being wasted every year to be upcycled into architectural building elements. There are already projects that utilize cardboard as a building material. From using recycled paper tubes as pillars, to layering sheets of cardboard into building elements. The disadvantage of these methods is that they rely on intact

or newly produced cardboard instead of recycled. This paper however is exploring the method of molding with paper pulp in an architectural context. By combining shredded cardboard or paper, water and an adhesive agent the pulp can be compressed or molded into solid elements that can be used to design building elements.

Three different methods of working with the pulp is further investigated in this paper: compressive molds, rammed pulp, manually applied, and printing with pulp. In addition to these production methods a variety of additives will be used in the pulp to alter its material properties. These two variables is then combined to create discrete building elements made from paper pulp. Finally, these elements are put into context through a building proposal in Gothenburg entirely made with waste cardboard and paper.