



# THE TEMPLE OF CARNISM

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*A Proposal For A Grand Abattoir In Gothenburg  
Using Critical Design*

**Carl Darenlind**

THE TEMPLE OF CARNISM  
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Using Critical Design*

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**CHALMERS**

THANK YOU

ANDERS KARLSSON

BREAKFAST CLUB

DANIEL NORELL

DJURENS RÄTT

DJURRÄTTSALLIANSEN

JOEL MONTGOMERY-CLAESSON

JONAS RUNBERGER

KARIN HEDLUND

LOTTA BERG

MOTHER MARIA

SÄKERT! / TRACEY THORN / WILLIAM BASINSKI

## ABSTRACT

*The greatness of a nation and its moral progress can be judged by the way its animals are treated*

**Mahatma Gandhi**

The human species has buried their dead for the past 100 000 years. The funeral space has created some of the most dignified architecture in our collective memory. How we value the death of other species is however vastly different.

This thesis aims to problematize this. By creating a functional abattoir (the word abattoir derives from the French verb abattre – to slaughter) in tandem with Swedish regulations, the thesis wants to explore how architecture can create solemn spaces for immoral processes to act in.

The industrial revolution was the start of the present-day abattoir, transitioning from small scale slaughter close to home, to large structures located outside of cities. At the same time the process did become progressively mechanized, giving the possibility for an increased slaughter due to the rise in meat consumption. In Sweden alone 2 576 290 pigs were slaughtered during 2016.

The architecture of the abattoirs is nonetheless perceived irrelevant. The Meat and Livestock Commission's Slaughterhouse Design Manual states that the architecture of abattoirs "need not be elaborate". This is in stark contrast from the emphasis we put on the human interment.

In proposing that an abattoir according to present day regulations will be built, located in an urban context (central Gothenburg

at Masthuggskajen), with the possibility for interactions between the city and the slaughter, contrasts will emerge that highlights the slaughter and accentuates moral discussions to the process of the butchering of animals. The proposed abattoir further slaughters all the animals Sweden uses for its yearly consumption of meat in one building, making the building immense.

This proposal has been made possible from researching the current conditions of the meat industry and studying the architectural references in the field of abattoirs. The research has then been translated into a program and architectural design, using mainly digital tools such as Rhino.

While the abattoir, as Lee (2008) notes, have been perceived as a service structure, this thesis aims to give the abattoir the same architectural dignity as a library or a cathedral would receive. In placing it in an urban context, questions on how the abattoir interacts with the surroundings emerges, and interesting clashes between the public and the slaughter surfaces.

This has resulted in a building situated within the context of critical design. The building is 400 x 100 meters large, and aims to raise questions concerning how architecture can be a catalyst for how we perceive practices, and the loss of empathetic spaces and rituals in the industrial slaughter.

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**01.**

**INTRODUCTION**

**STUDENT  
BACKGROUND**

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August 2016 - August 2017

*The truth that makes men free is for the most part the truth which men prefer not to hear*

### **Zygmunt Bauman: Liquid Modernity**

## **INTRODUCTION**

More than 150 billion animals are slaughtered every year across the globe, that is roughly 21.4 animals per person and year for the total global population (The Vegan Calculator, 2018). In Sweden roughly 110 million animals were slaughtered during 2017 (Fransson, 2018). It can be hard to comprehend such large numbers; to fathom the industry behind it, and the suffering the animals sacrificing themselves experience for our constant urge to eat meat.

Another important aspect is that the global meat- and dairy industry stands for 70 % of the global consumption of sweet water (drinkable water), 38 % of the total land usage and 19 % of the emissions of greenhouse gases, making the industry a bigger emitter of greenhouse gases than all the world's transports combined (IRP, 2010).

I myself have been a vegan for 10 years and was vegetarian three years prior to turning vegan, so why people chose to eat meat has always been of great concern to me. Is it because we don't care for animals (but then why do people have dogs and cats as pets)? Is it because we think that we must eat meat to survive even though there are plenty healthy examples of vegans and vegetarians to prove the contradictory?

My thesis is that people eat meat because it's something that they have always done and that it feels comfortable for them. I even state that our society have fallen victim to the psychological phenomena known as

cognitive dissonance. A term used to explain the stress that a person experiences when he/she have two contradictory feelings toward a subject, for example:

*Is it okay to eat meat even though animals die and the earth takes serious damage?*

We rationalise against this argument by claiming that we can't cook anything good that's vegetarian, that lettuce is for rabbits or that meat is just so good I can't stop myself.

This master thesis has therefore set out to explore how architecture can make us see the meat industry in a new light. By creating an abattoir large enough to kill all the animals that Swedes consume every year in one big abattoir in central Gothenburg, and letting the people experience the abattoir themselves, the thesis wants to explore how imagined visitors will react to the abattoir and how they find themselves as an integral part of seeing these animals be slaughtered for the sole sake that they crave a hamburger tonight.

By reconnecting the consumer (us) with the producer (the animal), my claim is that people will start to feel different about their choices when they must see a cow be shot in the head with a pistol and then get a knife slit into her throat so she finally bleeds to death. Through creating this reconnection my conviction is that we as consumers will start to understand how our choices creates consequences for other that may even concern matters of death.



## PURPOSE & EXPLORATION

The purpose of this master thesis is to shine a light on a structure and process that not many architects have given a lot of concern - the abattoir. In witnessing the abattoir evolve with the birth of the industrial era it has become a large silence structure placed in the outskirts of cities, or in the countryside, giving people a distance between the meat that they consume and the animals that has given their life for this consumption. As Young (2009) remarks in her foreword in Meat Modernity and the rise of the slaughterhouse, the slaughterhouse predates the T-Ford assembly line, but instead of putting cars together it concerns itself with dismantling animals.

## METHOD

Firstly, there was a large amount of time spent surveying the field of the meat industry, and the slaughter of animals in the Swedish context. This information gathering ranged from how the Swedish regulatory system concerning slaughter works, to how animals perceive death and understanding the architectural history behind the process of slaughtering animals. When necessary information had been gathered this boiled down to key concepts (see Concept) that was used as reference points for further design. The design firstly took these concepts, and then created functional spaces that abides to Swedish regulatory system and also made a project for all the Swedish meat consumption in one big abattoir.

## MAIN QUESTIONS AND OBJECTIVES

- How can the abattoir be given a more reverent and worthy architecture?
- What happens when you place an abattoir in an urban context?
- Will the design of the abattoir change moral and ethical questions concerning meat consumption?
- What is the architectural difference between an abattoir drawn by an architect and one done by industry consultants (the present common practice in Sweden)?

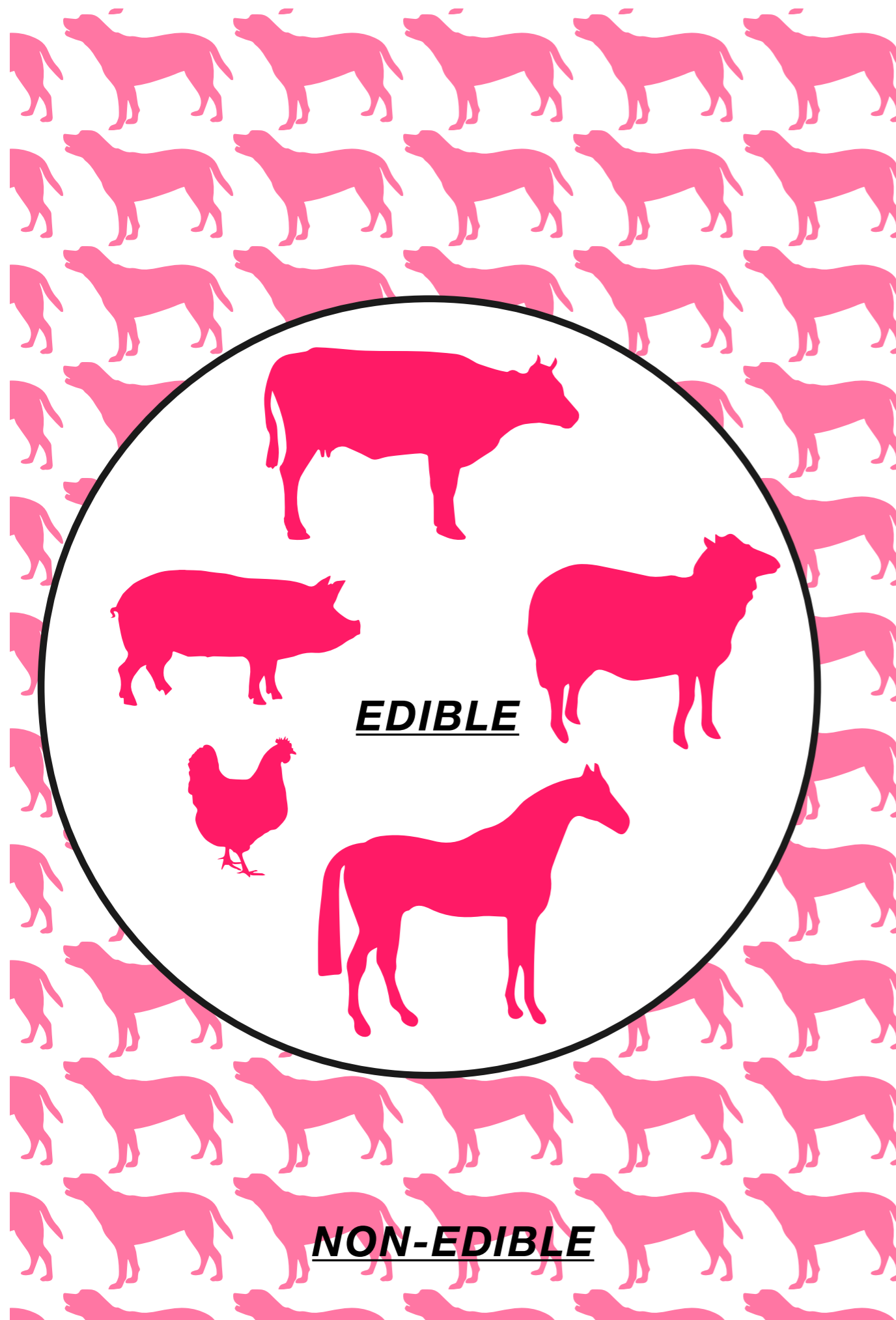
## THEORY

The theory in this field is somewhat limited as there are no present obvious examples where architects have designed functional abattoirs. There are projects from the early years of Le Corbusier (1917 – 1918), and some articles concerning the architecture of the abattoir but nothing comprehensive that can be used as a good reference. Instead, the research comes from the present regulations, and some Swedish industry guides that are used when designing abattoirs. There is also literature concerning the architectural rise of the abattoir with the birth of the industrial era. Some student projects have also been good references in that they give a somewhat new view on how the abattoir could be designed. All this has then been transformed into the thesis. The references has mainly consisted of three parts:

- Swedish Law and project manuals that derives from Swedish law:  
*Giving the project a good start as to measurements and industry standards.*
- Thesis references from other architectural students and projects dating back to the turn of the 20th century:  
*Giving some ideas as of how to start designing an abattoir when architects do it and how it can be done.*
- Written literature about the rise of the abattoir with industrial era:  
*Giving the abattoir an historical context and also critical texts about the use of the abattoir.*

## DELIMITATIONS

The focus has been to limit the thesis investigations down to a certain number of animals, i.e horses, pigs, cattle, chickens and sheep. These animals derive from the Swedish board of agriculture's list of slaughtered animals every year. Another limitation has been that the project abattoir should abide to the Swedish regulatory system as to not get critiqued for the project being unrealistic. Another delimitation has been to not change anything regarding how the slaughter in proceeded but use standard conventions such as carbon monoxide for the stunning of pigs.



## CARNISM

In her 2009 book *Why We Love Dogs, Eat Pigs and Wear Cows: An Introduction to Carnism*, the American social psychologist Melanie Joy puts forward the term carnism. Carnism is the ideology that makes people eat meat and differs from the common term carnivore in that a carnivore is someone who needs to eat meat for their survival. Humans are namely omnivores - which means that we have a body that can digest both plants and meat, being dependent on neither.

Joy (2009) takes the example of a stew served to you by your host. You eat it and it tastes delicious. So eagerly you ask for the recipe but when the host says that it's meat from a golden retriever you probably feel disdain toward the dinner (and the host). Although it's still made of meat and you couldn't discern that it was a dog that you ate before.

This is due to our perception of the meat. This is an essential aspect as pigs and dogs are equally smart (pigs are even smarter), equally social and loyal. The only difference is that our perception of a dog makes it heart-breaking for us to eat it, while meat from pigs we tend to find delicious.

The only real difference is that we have more intimate relationships to dogs than to pigs as dogs are seen in our society as pets, while pigs are food. There is no universal truth that states that pigs are okay to eat but dogs not, it's only the social

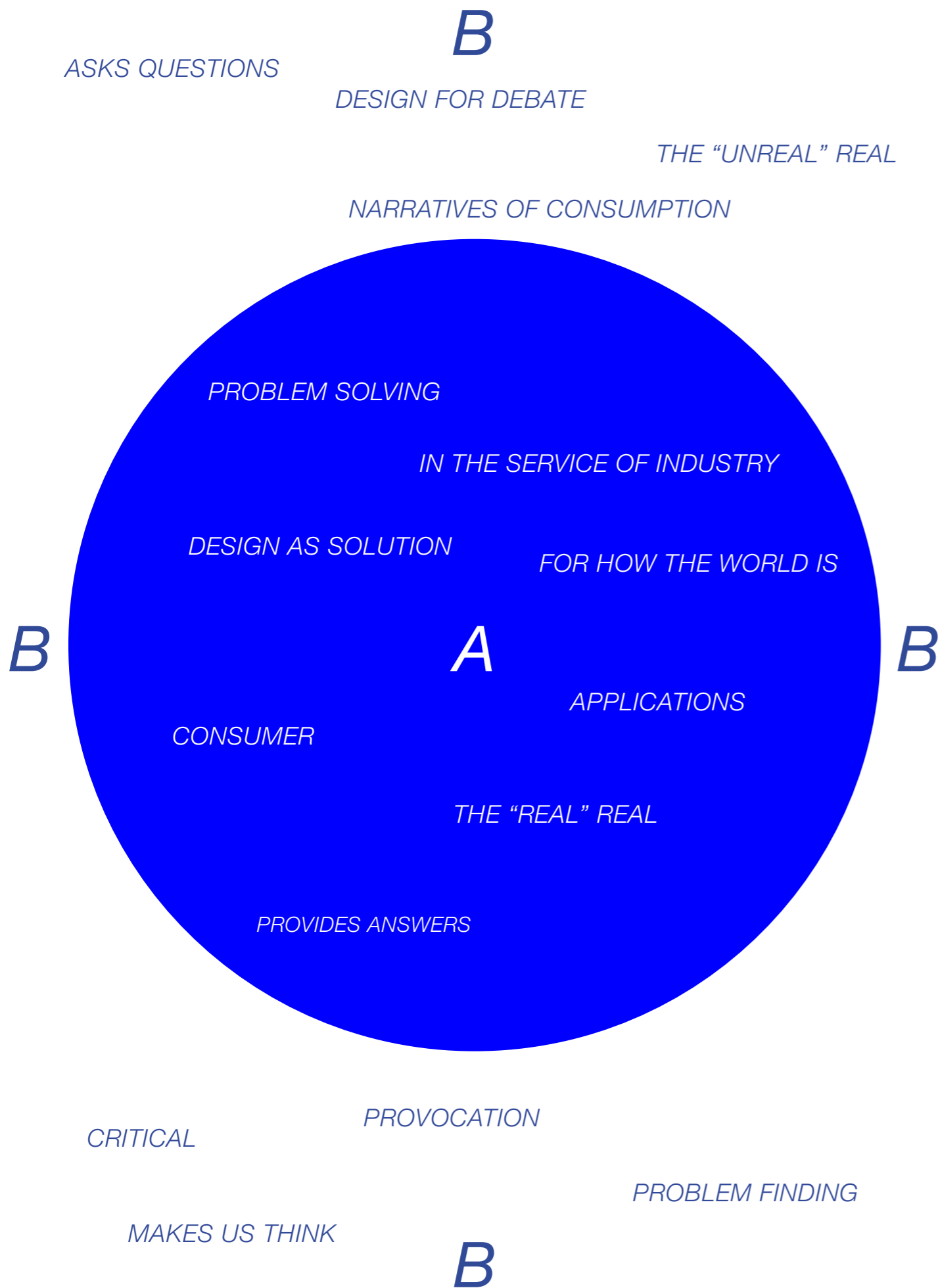
norms that dictates it (among Hindus it's strictly forbidden to eat cows because it's regarded as a holy animal, while dogs are served regularly in parts of China).

Our perception of different animals is due to our schemes of the surrounding world. A scheme is like a mental classification that we use to divide the world so we easier can comprehend the information. This scheme makes us think that it's okay to kill animals such as pigs, cattle and poultry for food while killing a dog or a cat seems almost intolerable.

What Joy (2009) pinpoints is that carnism is a belief system and a choice that people ascribe to as much as feminism or veganism. Carnism states that there are a handful of species we are ready to breed in captivity, force feed and then take to an abattoir to slaughter because we want to eat meat. Doing the same with dogs, cats, lions or parrots would seem cruel.

That's because within the ideology of carnism there are animals that we let live and there are animals that we let die. This is because carnism is an ideology that is based on violence, and with all ideologies based on violence we humans tend to shelter ourselves from it, thus our unwillingness to experience slaughter.

Carnism is a crucial aspect to this master thesis for the reader to fully comprehend what it aims to do.



**CRITICAL DESIGN**

In *Speculate Everything*, Dunne & Raby (2013) speaks about speculative design as an alternative to the problems most designers work with today. Instead of finding an answer to the question of a specific problem such as water shortage in Sub-Saharan Africa or to the current socio-political crisis in Syria speculative design aims to show new ways of seeing the world and to open new perspectives of what could be perceived as wicked problems. This is meant to spring a debate about our current way of living and question how we perceive the world and what current norms we relate our world building to.

It all started out with a list that the authors made (see an interpretation of that list to the left) of A/B design, where A was more of a classical way of dealing with design that is consumer driven problem-solving design, whereas B focuses more on speculative design and design of different realities. This is highly important in projects that deals with scenarios that are not intended to be built, but rather wants to speculate on a future scenario through the lens of a project, and in that saying something about the current state of affairs.

They claim that it all begins with us as a society not being dreamers, any more but rather people that just hope for a better tomorrow, or hope that world won't end

soon. There are no more visionary designs that can change the way people behave but rather just find solutions to everyday problems (Dunne & Raby, 2013). Designers instead try to find solutions to problems instead of dreaming up alternative scenarios where these problems don't exist. In that sense design has become affirmative of the society we live in today.

What they instead propose is that we start thinking (dreaming) about the futures in different scenarios by asking what if-questions. In the case of this master thesis this might be formulated such as what if we build a large abattoir that houses all of Sweden's slaughter in one big urban abattoir. That usually generates much more interesting design discussions than trying to solve already existing issues facing abattoirs for example.

That means that such a project would place itself among projects primarily from the 1960's and 1970's by architecture collectives such as Superstudio, Ant Farm, Archigram and the like. Architectural practices with radical designs that saw it demise when design was incorporated into the neo-liberal capitalist ground of the 1980's (Dunne & Raby, 2013). The authors are although looking promising towards the future while adding: "But to do this, we need more pluralism in design, not of style but of ideology and values."

## THE CONTINUATION OF CRITICAL DESIGN

*War is Peace; Freedom is Slavery; Ignorance is Strength*

**George Orwell: 1984**

They then start to walk through different types of design starting with conceptual design which is design not waiting to be built but rather celebrates its inabilities to be built – making a design as a comment rather than an actual proposal (Dunne & Raby, 2013). This also the point of this design, giving claim to the idea rather than the reality as this is often much more important than the latter. One famous example of conceptual design in architecture is Peter Eisenmanns House VI (Dunne & Raby, 2013).

When we dive deeper into the different categories of conceptual design the critical design pops up as being very interesting for this master thesis. Termed by the authors in the mid 1990's critical design is a way of a designer using his/her skill to show alternatives to how practices are run today. It is in a way translating the critique from the written words into the physical manifestation of design (Dunne & Raby, 2013). It is in the translation between the present reality and the reality of the design proposal from the critical design that interesting discussion may take place that will shed new lights on how we perceive a certain practice. In this sense it is a positive force believing in that we as a species may change how we do things and therefore might find new answers to old problems in the critical design.

Critical design is also in many senses

dark but not dark in the traditional sense. Designers tend to shun away from dark design proposals in a naïve idea that we shall never design anything that is harmful. This naivety is explored in this master thesis by creating an extremely large abattoir and placing it in an urban context just to let people better understand the sheer scale of the industry behind the meat products that they are consuming, thus creating an exciting and challenging clash.

This way of critical design is further reached when the viewers themselves have to ask the question whether if this is real or not, therefore this master thesis highly thinks that it is important that it abides Swedish regulations and industry standards.

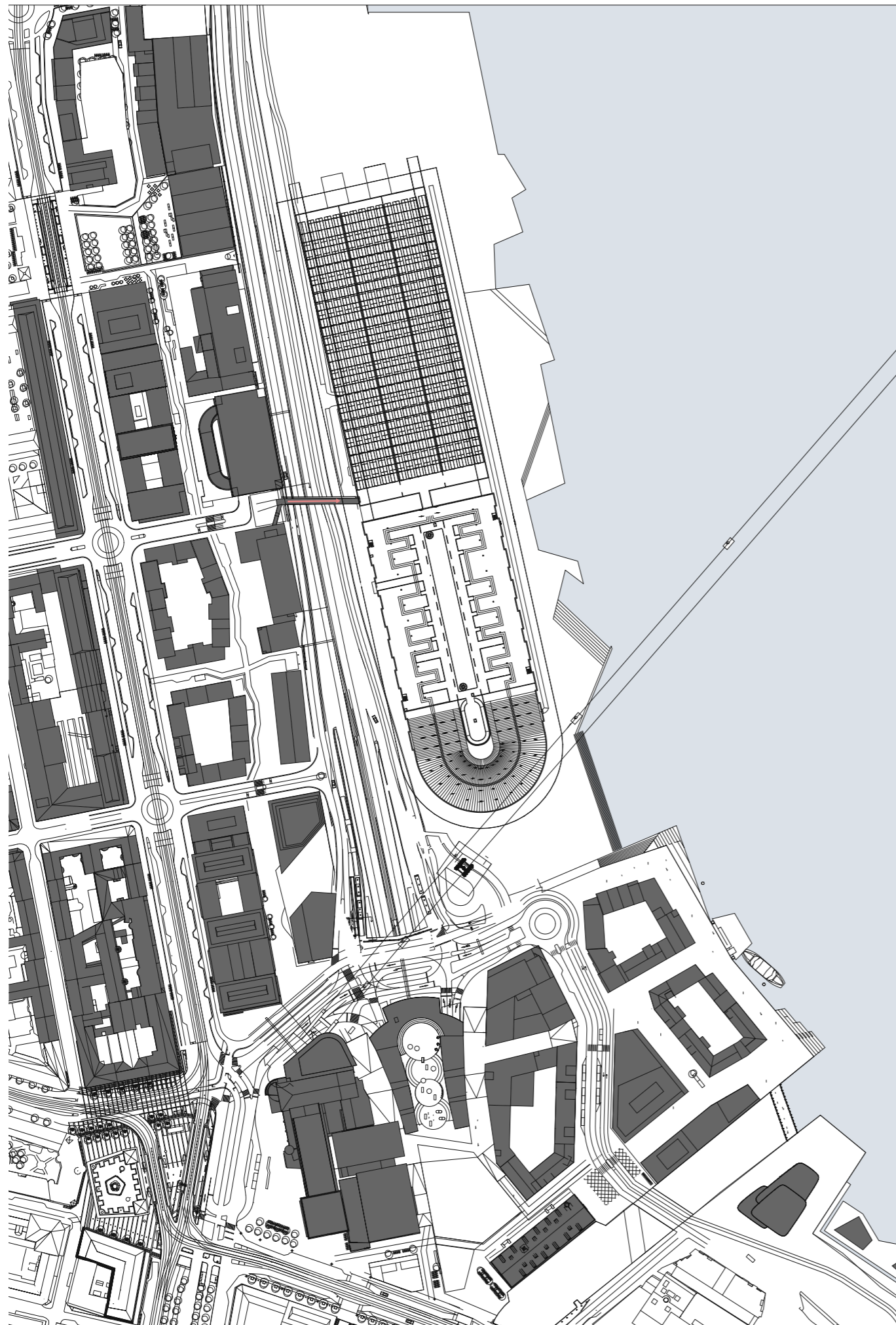
To conclude, this quote answers what this master thesis aims to do:

“A critical design should be demanding, challenging, and if it is going to raise awareness, do so for issues that are not already well known. Safe ideas will not linger in people's minds or challenge prevailing views but if it is too weird, it will be dismissed as art, and if too normal, it will be effortlessly assimilated. If it is labeled as art it is easier to deal with but if it remains design, it is more disturbing; it suggests that the everyday life as we know it could be different, that things could change. (Dunne & Raby, 2013)”.

**02.**

**DESIGN**  
**PROPOSAL**





## SITE PLAN

The site for the proposed abattoir is within the new city district of Masthuggskajen, where once the Stena Line Ferry Terminal to Denmark lay.

Using the old site of the ferry terminal is beneficial in a lot of ways. There is already sufficient space for the kind of infrastructure needed for loading and unloading of the animals, as well as a clear historical connection to the old industrial wharves that once grazed the harbor of central Gothenburg.

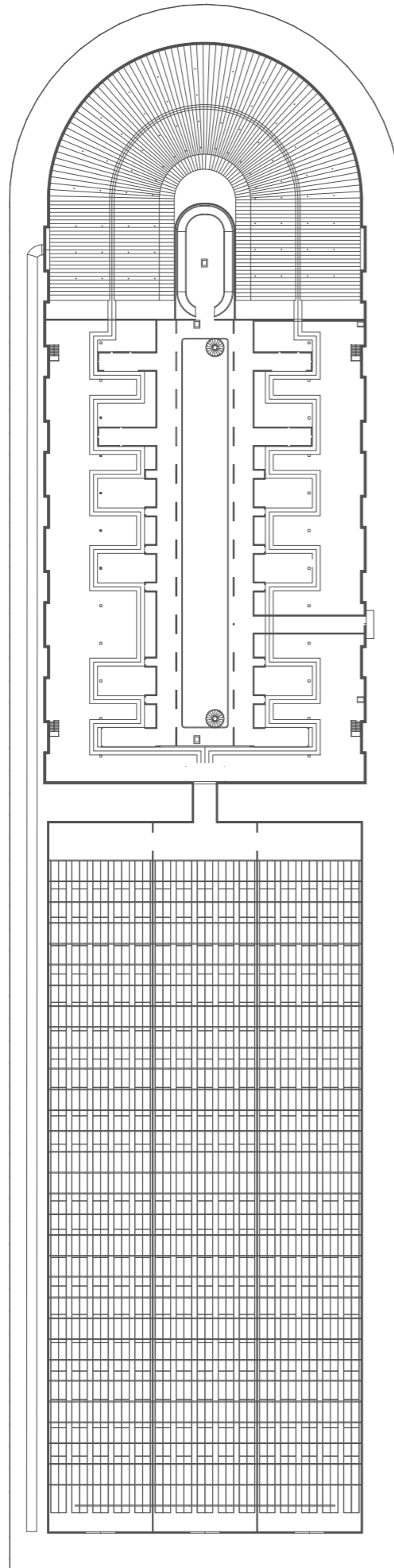
The quai has been broadened to accommodate the abattoir as well as creating a new walk-line along the water, so that the building gives something back to city when taking up such an attractive lot in the city.

At the same time there are not so much need for sanitary grounds when using the existing quai as there would have been if for example housing blocks would have been built here.

Around the building one can see the future of Masthuggskajen according to the proposal that has been granted in the buildings commission. A buzzing city filled with city blocks as the old city meets the new one.

This site is perfect for the abattoir as this gives a lot of variation to the area - not just creating a varied melt pot of housing and industry, but also incorporating the industry in the city. At the same time the freeway Oscarsleden between the housing district and the industrial reduced the threat of noise coming from the abattoir as the animals are slaughtered.

To conclude, the site seems ideal to the demands needed for the project to be a successful one creating a mixture between new and old, industry and housing, consumption and production.



## FLOOR PLAN 0: PIGS

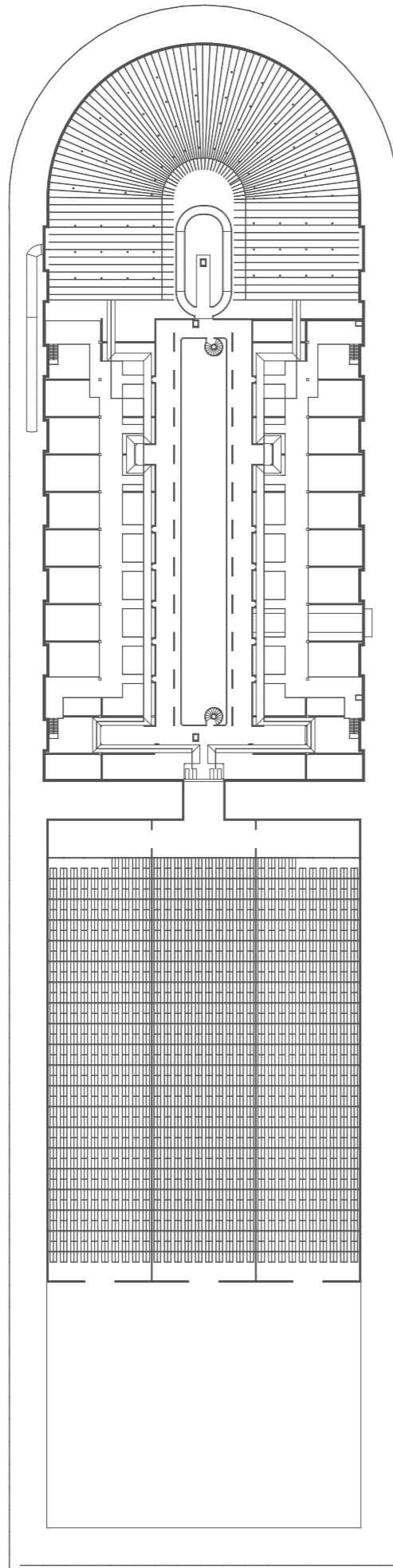
*The division of the floor in the building is based on how much stalling each animal requires. As the pigs are the animal that needs the most stalling they are placed on the first floor where they are stalled in boxes of 20 pigs, each adding up to staggering amount of 12 872 pigs every day.*

*These stalls are divided into three different rooms with 1/3 of the total amount of pigs in every room. The pigs are moved from back to front so when the slaughter commences the stalls empties at the front and then more pigs come in from behind in large rows.*

*After it is time for a pig to be slaughtered a group of round 20 pigs go into the passageway that connects the stalling area with the slaughter area. Here they are sunk down into a carbon monoxide gas chamber where they are rendered unconscious.*

*When they come out on the other side they are bled alive through a cut in the neck making them bleed to death. Then they are taken through a series of steps transforming them from living animals to meat waiting to be sent out for further processing,.*





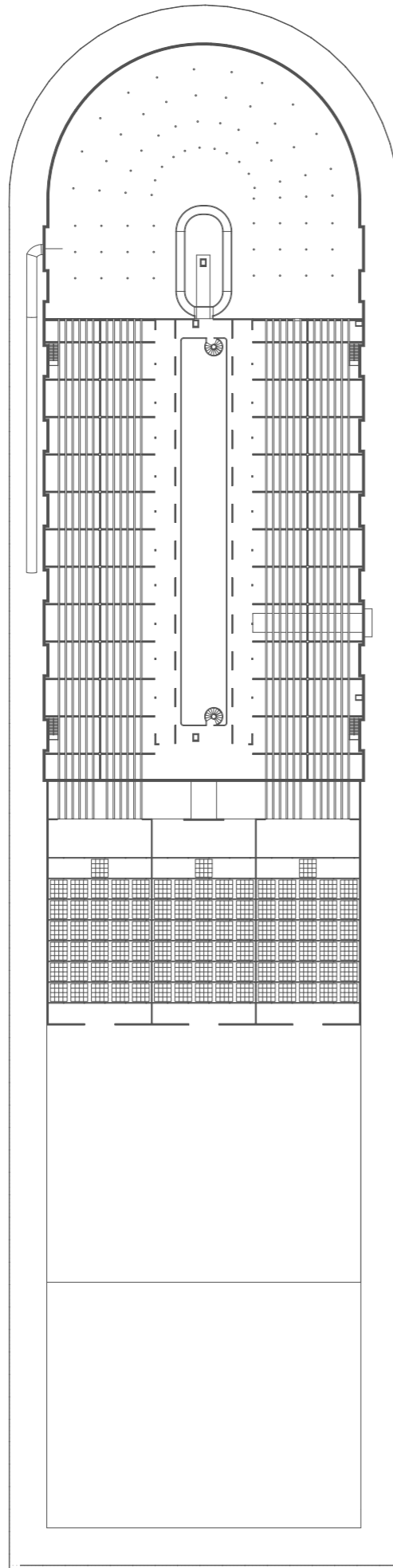
## FLOOR PLAN 1: CATTLE

*The cattle has the need for the second largest stalling, therefore they are placed on the second floor.*

*As they are placed in single stalling boxes there are 2 317 of them, as this is the number of cattle slaughtered every day. These stalls are divided into three rooms with one third of the cattle in each.*

*When it's one cattle's time to get slaughtered it is taken from its stall to a walkway that leads across the stalling building into the slaughter hall. Here the cattle is placed into a box where it is shot in the head to get stunned. As there is a need for 3 cattle to get slaughtered every minute there are four stunning boxes here. Then the cattle is put onto one of the two rows where it bleeds to death by getting cut in the neck with a knife.*

*Then it is taken through a series of steps transforming it from a breathing animal to meat that is put into the freezer and hung waiting to be taken from the abattoir for further processing in a different location.*



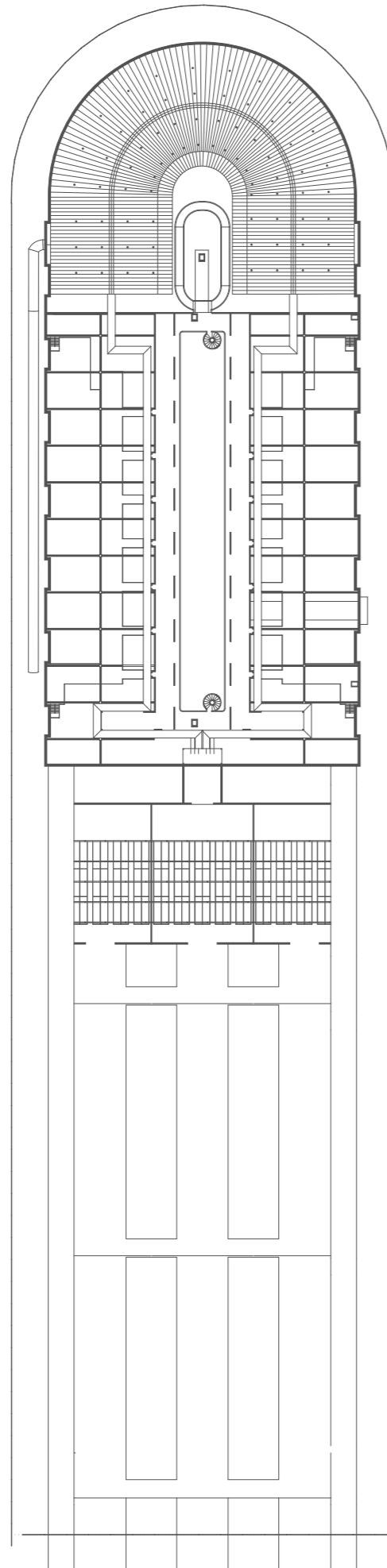
## FLOOR PLAN 2: POULTRY

*Even though there are mostly poultry slaughtered in the abattoir, namely 530 389 poultry every day or 737 poultry every minute, they are packed into small boxes with 40 poultry in each box and those boxes are then stacked on each other so the actual requirement for space isn't that huge, therefore the poultry first come on level 3.*

*When it's time for a poultry to get slaughtered it is taken from its box and then hung up on a line in the stalling room. This process starts in the stalling because the need for slaughter line is so much greater here than for any other animal. Therefore they also get slaughtered in two columns and 24 rows at the same time.*

*The poultry is then taken into a electrified water bath where it gets stunned before its neck is cut open with a mechanical saw blade. After the process of dismembering the body the poultry goes through the freezing chamber where it is sent to packaging directly.*

*This is due to the fact that poultry slaughtered in the morning is sent to the store the same afternoon.*



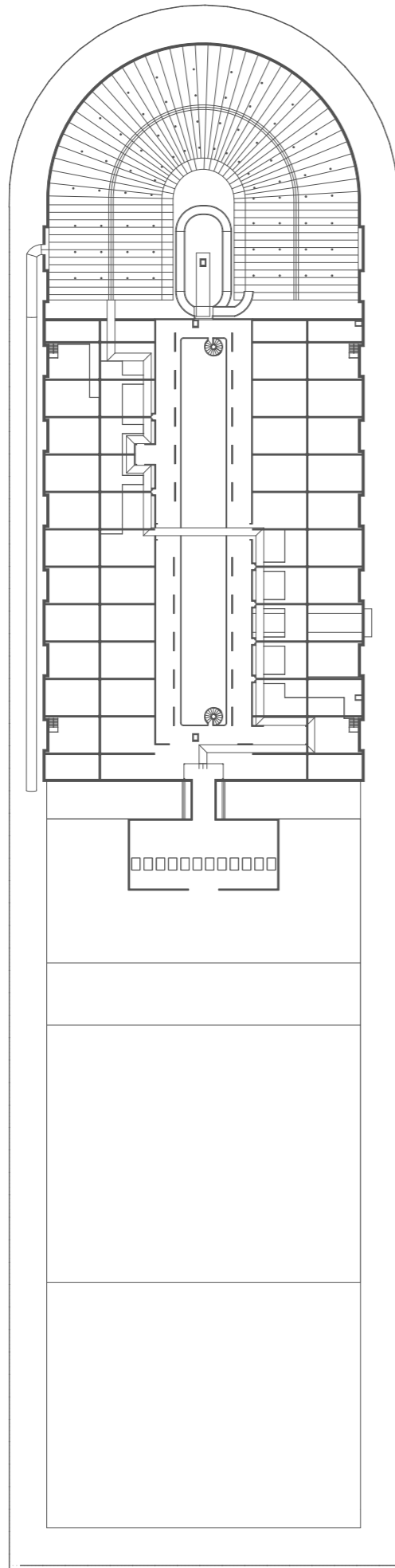
### FLOOR PLAN 3: SHEEP

*There are nearly not as many sheep and lambs slaughtered in the abattoir as the poultry, "only" 1 731 per day or 2 per minute. Therefore there is not that much need for space which leads them to be on level 4.*

*Like the pigs; the sheep and lambs are put into stalling with 20 animals in each stall divided into three rooms with a third in each room. The order starts with the animals in the stalls closest to the slaughter area and is filled from behind when new animals will get slaughtered.*

*The sheep and lambs also gets lead through a walkway between the stalling and slaughtering area, and here they are put into stunning boxes where they then gets electrified through the head to make them stunned.*

*After this process is done they are put on one of two slaughter lines where they are transformed to meat that is stored into the freezing chamber at the end waiting further processing at another location where they are driven to by truck.*



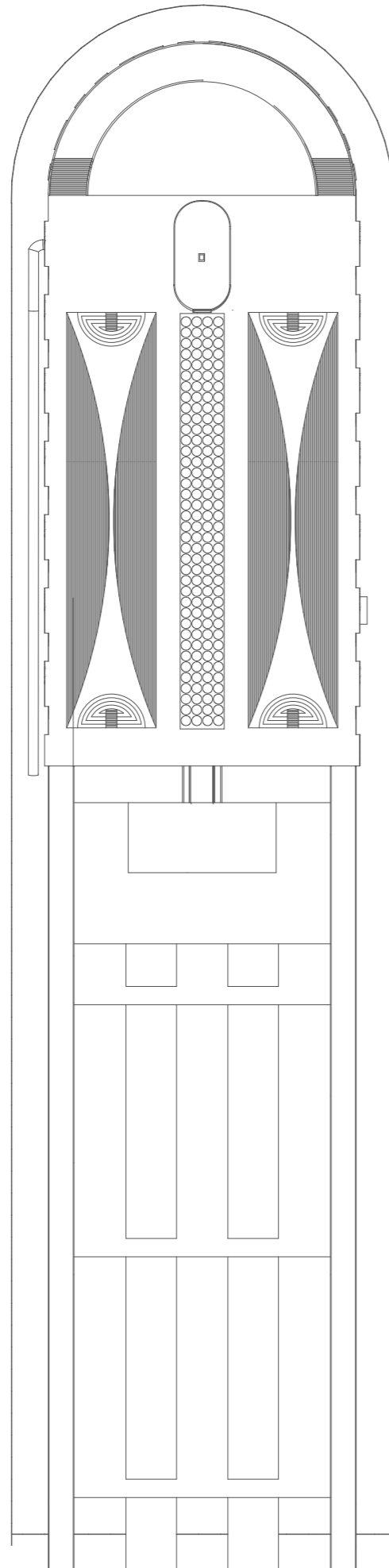
## FLOOR PLAN 4: HORSES

*The horses are the animal that demands the smallest space due to the fact that are not that many horses slaughtered every day - 11 horses per day to be precise. Therefore the stalling requirements are much less significant here than for any other animal.*

*As the other animals, the horses get to their floor using escalators fastened to the outside that takes them up to their floor. When they have been unloaded, they are placed into single stalling boxes with one horse each.*

*When it's their turn to get slaughtered, they are taken across the walkway to the place where they are shot in the head and then are bled to death. As so few horses are slaughtered - there is only one slaughter line that goes around the interior of the building and enters the main space where the visitors are, shown in a perspective later on within this booklet.*

*When the slaughter process is over their carcass are hung to dry like every other animal within the big cooling chamber.*



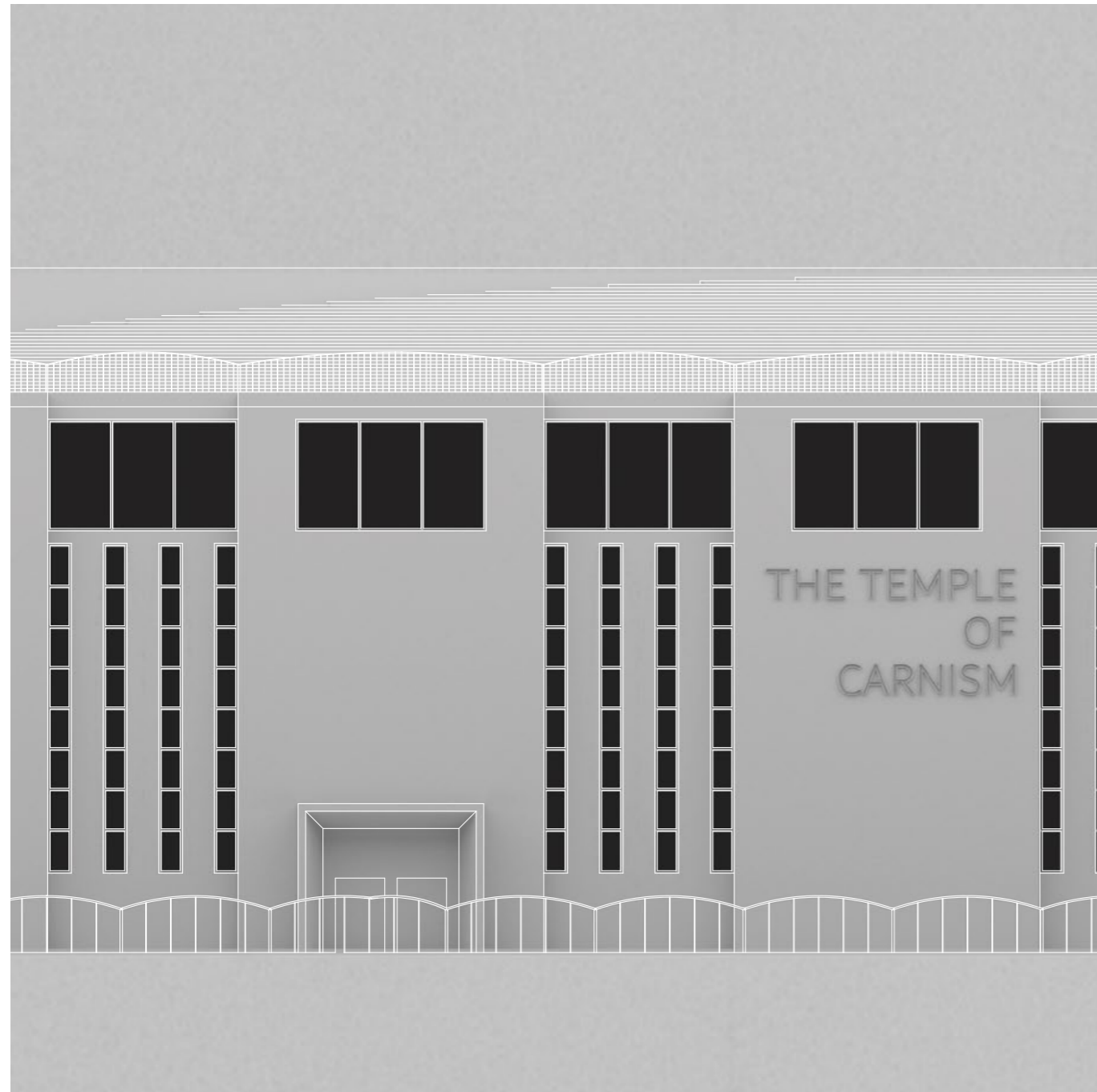
## FLOOR PLAN 5: ROOF PLAN

*The roof plan highlights where the public can use the building the most. With a beautiful vista of the Gothenburg Harbor the roof park highlights some of the urban qualities the project brings to the city of Gothenburg.*

*You access the roof either via the walkway on either side of the building, or using the interior elevator after having visited the abattoir with all that it entails.*

*Here you can also be a part of seeing the animals being stalled into their different stalling rooms using the funicular that goes up the building and that that is shown in a perspective later on in this booklet.*

*There is also a skylight in the middle that lets the sunshine go into the building while creating a beautiful landscape of semicircles on the roofscape between the seating where you can sit and enjoy your stay at the abattoir.*



## FACADES

In designing this abattoir the facades have been an integral part of the design from the start. The concept for the facades have been to try to find a look somewhere between an industrial building and a cathedral - two important themes within the master thesis.

The facades have therefore found a lot of its design in references both old and new, such as the Bankside Power Station in London by Sir Gilbert Giles Scott. Today the building is more famously known as The Tate Modern. Another important reference have been The Woodland Crematorium by Johan Celsing - a building that creates a distinct difference between out and inside.

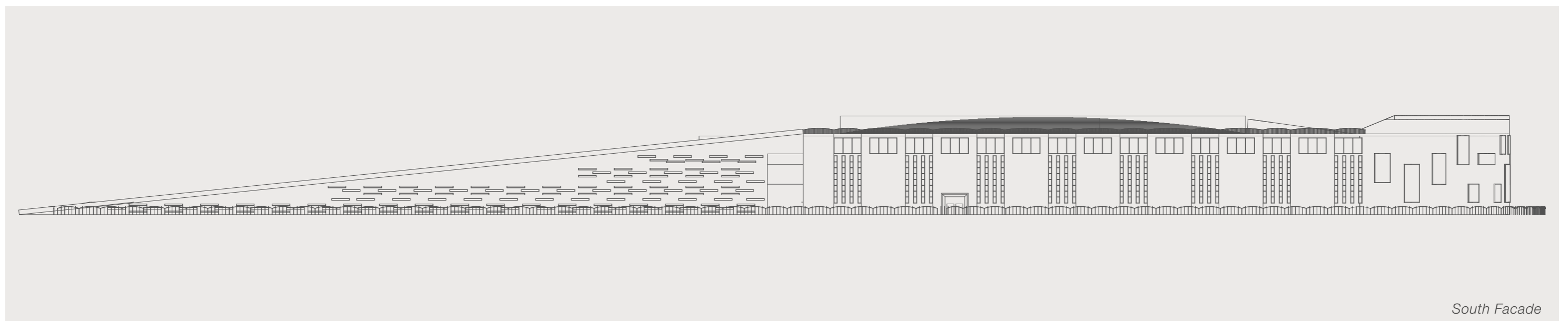
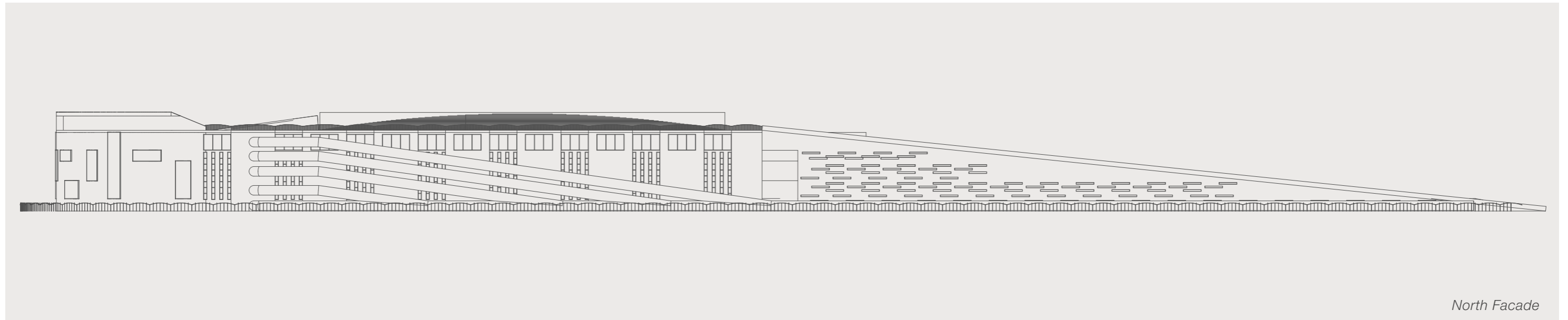
There has also been an effort to find a clear distinction within the facades in relation to the different programmatic functions of the building. Therefore, the stalling for the animals are made with a more randomized facade that underneath follows a clear pattern, while the slaughter part are more

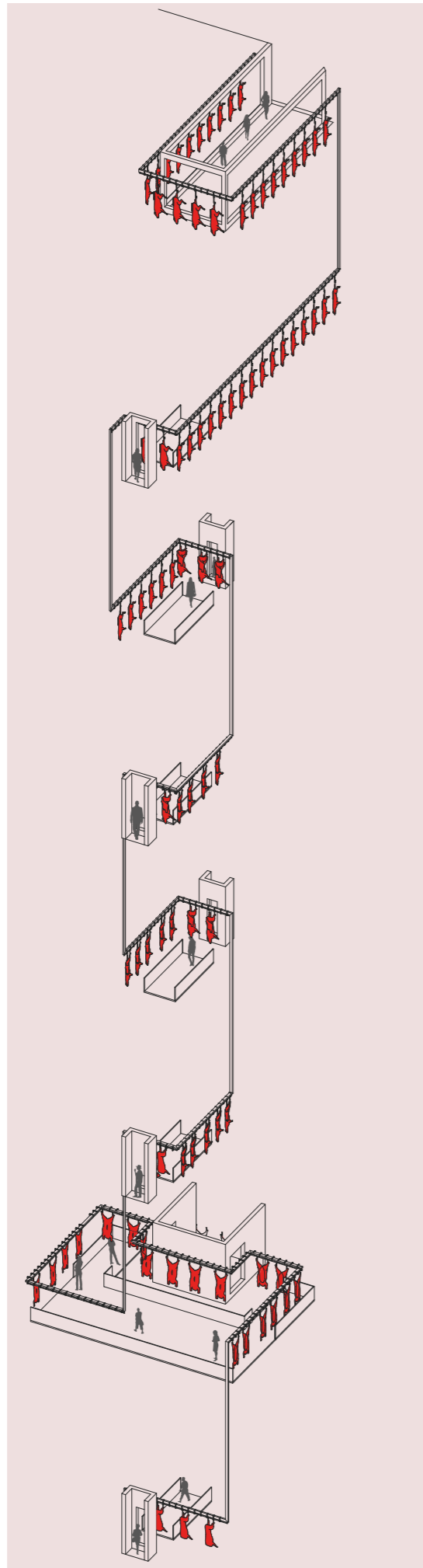
like an industrial cathedral in its smaller windows on the lower part with bigger windows higher up on the building. The part where the freezing takes place is made of different windows that varies in size and placement and that elopes the building in a semi-circle.

The building in itself slopes from the end up to the top of the building creating a roof park where people can relax and enjoy the sun and the view from the Gothenburg harbor.

The materiality of the facade is made up of Kolumba bricks that gives the building a solemn almost eternal appearance making it look almost like a ruin.

The facade is although something that can be developed further within the design to try to find a more coherent appearance that breaks away somewhat from the references and give the building a more updated look.





## PERSPECTIVES

There is always a lot of effort put into how to visualize architecture and finding the right tone for the imagery so that they represent the intention of the project. This rings true especially when it comes to academic projects that are not meant to be built in a traditional fashion.

When finding the right angles and representation in this thesis the goal has always been to represent the absurdity that occurs when humans and dead animals (carcasses) appear in the same imagery. How to find the right tone of absurdity while not letting the images being too much is always challenging.

These images were firstly represented in full color and had a more realistic approach to them. The intention was to make the project seem as plausible as possible so the viewer can start to ask oneself questions like 'Might this project actually be possible?', but when trying out those images together with the tutors it quite early on became apparent that the imagery gave the project more of a sense of completion than the actual design stood for.

Instead, a new tonality was chosen that more represented the Orwellian dystopian feeling of the project. There was more emphasis put on otherworldly qualities that gave the project a more haze-like feeling.

This tonality, in retrospect, feels more fitting for the project and the qualities it tries to adhere to.

The images aim to represent the project in both the grand scale and the smaller intimate scale where animal and human interact. The animals have been given a red tone to let them stick out in the ambiance of the images, highlighting their dead bodies.

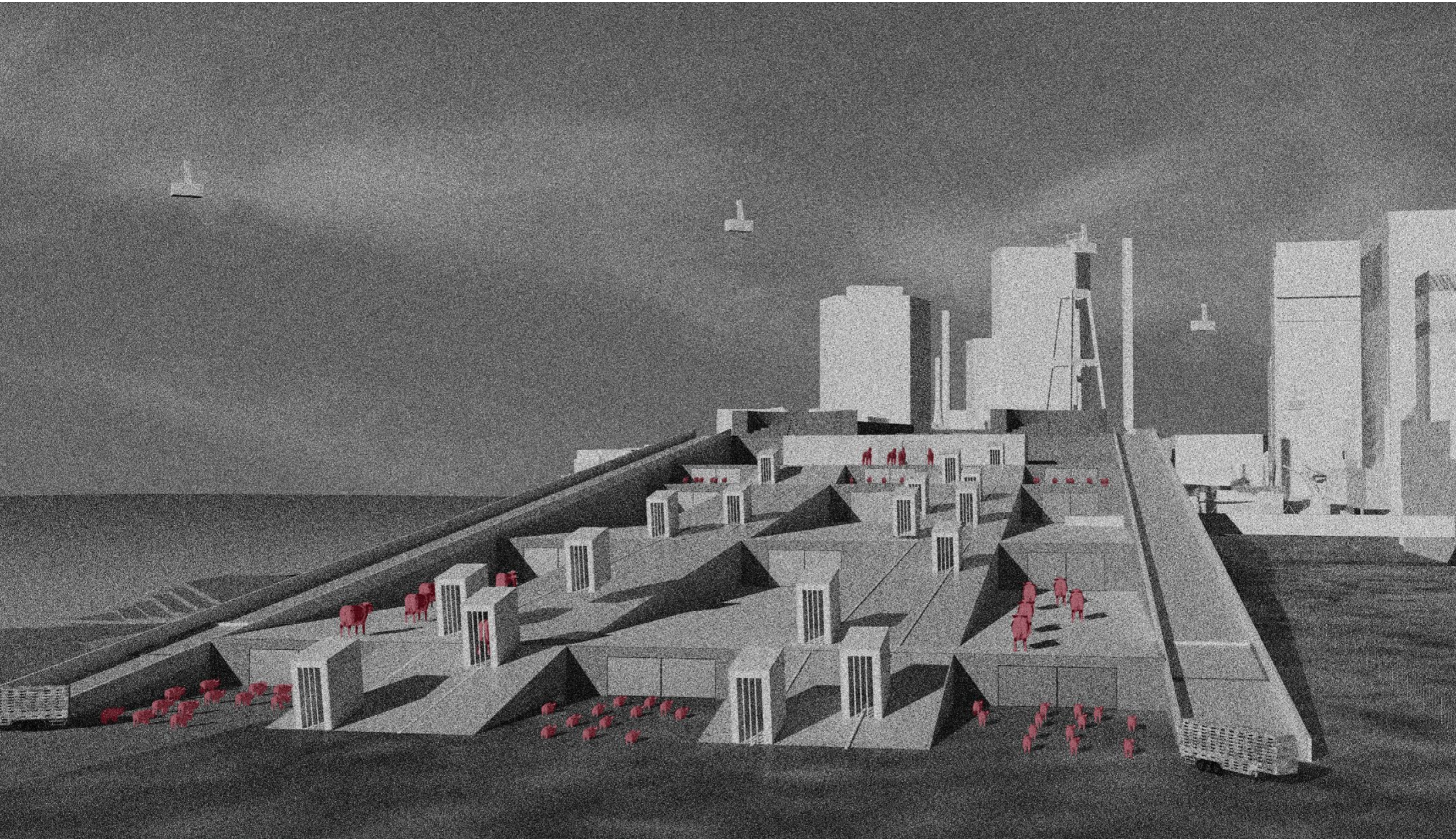
Hopefully, the images give you a sense of the qualities this thesis aims to deliver and makes you question whether a project like this could in any sense be feasible.

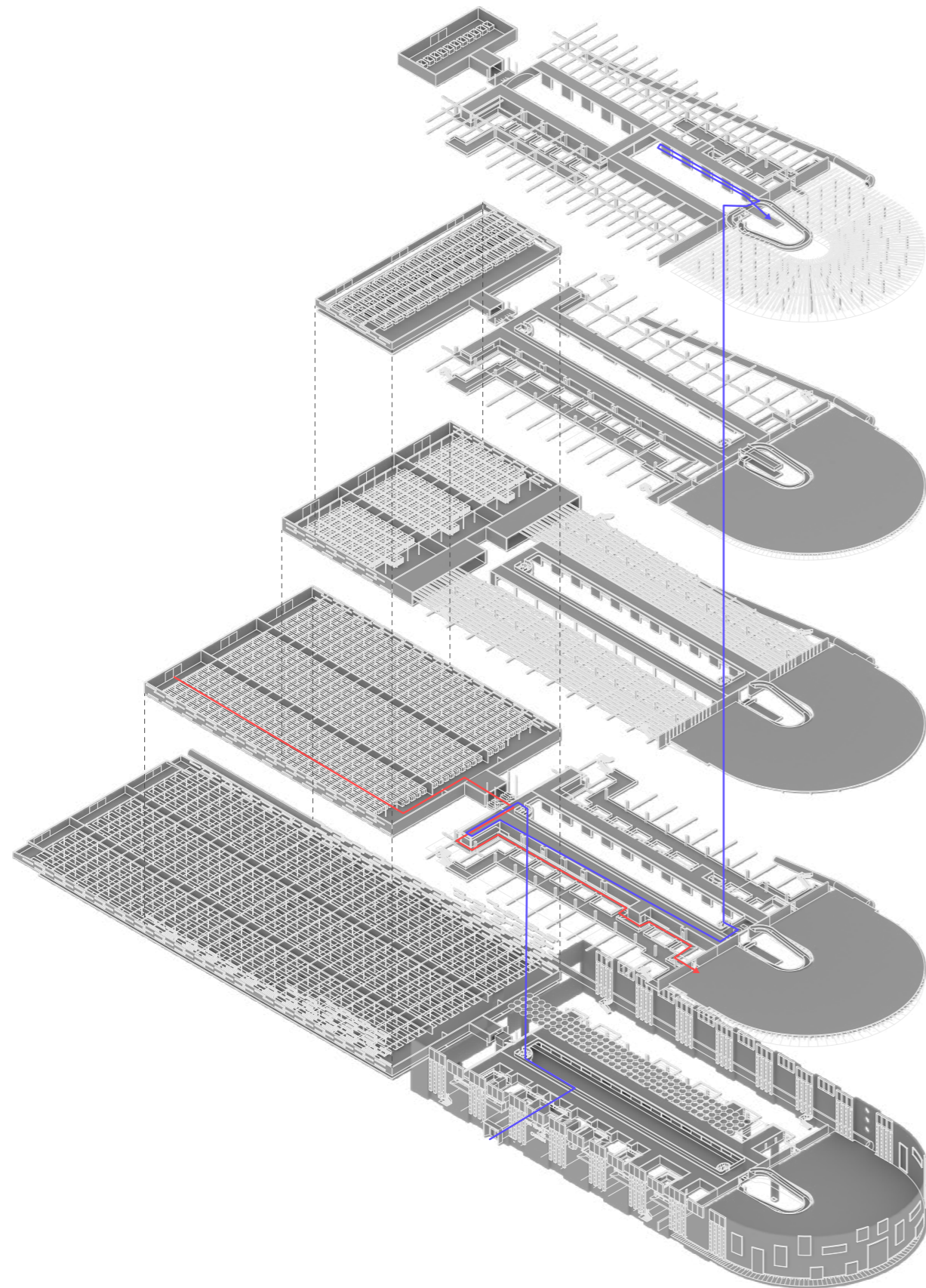












## PROJECTIONS

The projections in this thesis are used to give the project a sense of diagrammatic scale and to enhance important visual connections that the thesis adheres to. To the left one can see an axonometric projection through the building that shows important connections between the levels and how you as a visitor move through the building.

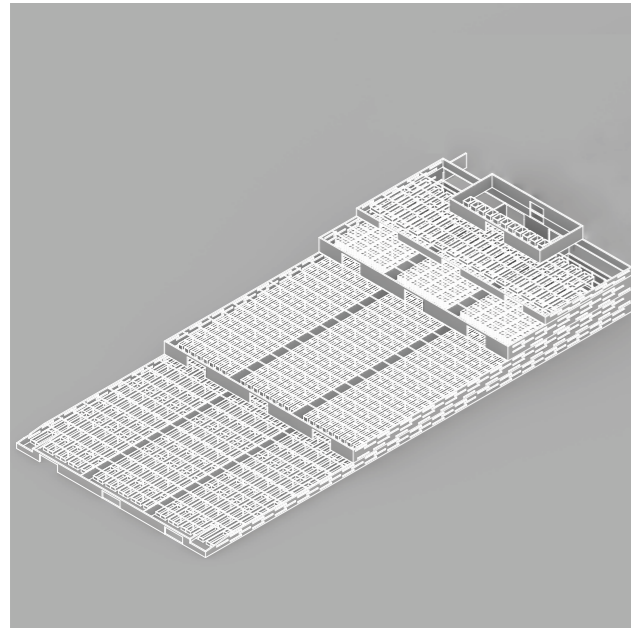
This projection is important so you understand how the different floors connect to each other and how they are a part of an industrial flow that is important within the building. The red shows how a cattle moves throughout the building from breathing animal to meat at the other end, while the blue line shows how a human witnessing the slaughter of the cow moves through the building ending on the fifth and final floor.

On the next page there are examples of important aspects of the building shown through these diagrammatic representations. This is good so you start to understand how parts of the building works as more industrial or large scale objects, while other details are more zoomed into.

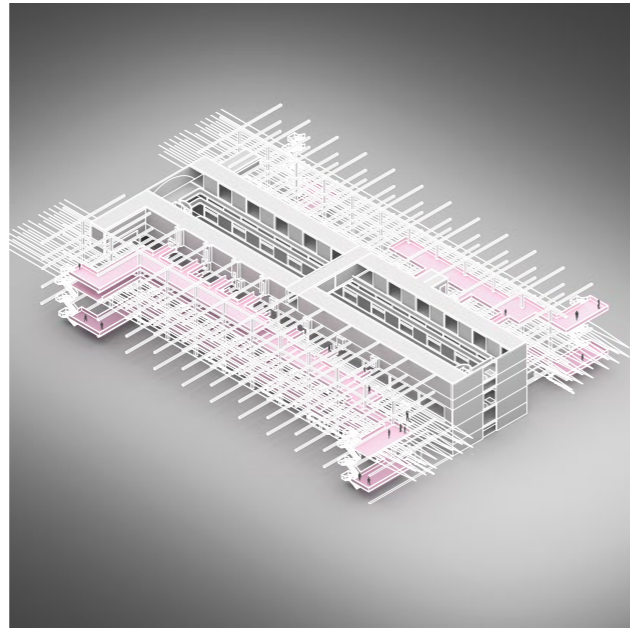
In general, this project have spent a lot of time finding the right scale to represent different aspects of the building that is important for how you adhere to the building.

The last image shows a section in perspective that also gives you a good view of the spatial qualities the projects wants to reach with the big space within and outside while the smaller spaces in-between.

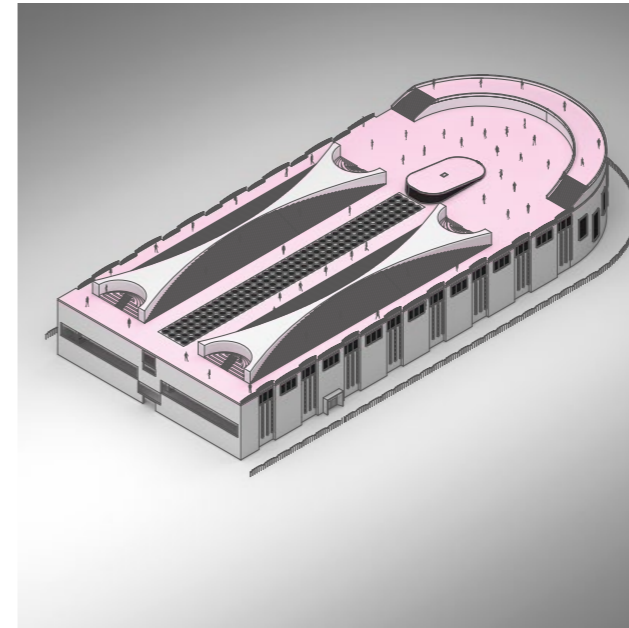
Hopefully these projections will give you a better sense of how the project works on a large and small scale and give you a sense of how one could structurally build a building like this one in its scale.



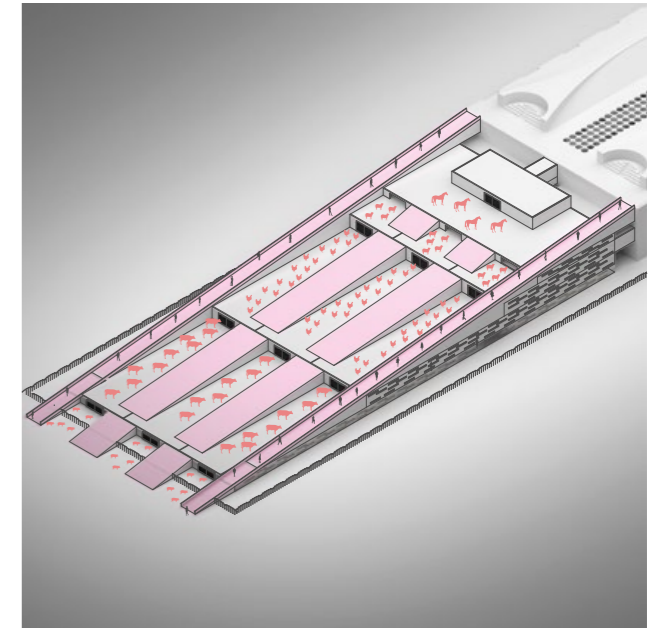
*Animal Stalling*



*Footbridges*



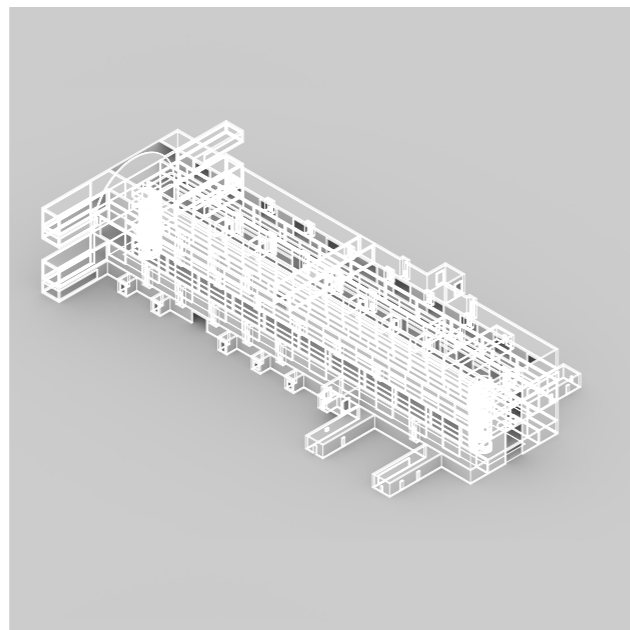
*Roofscape*



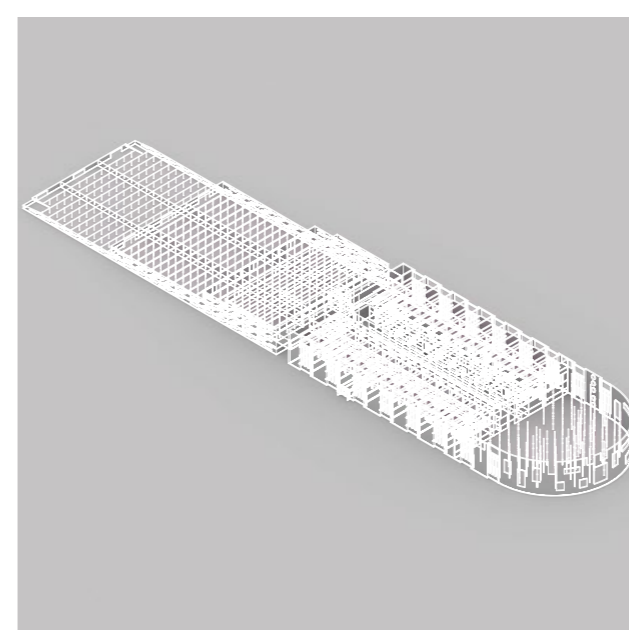
*Roof Ramp*



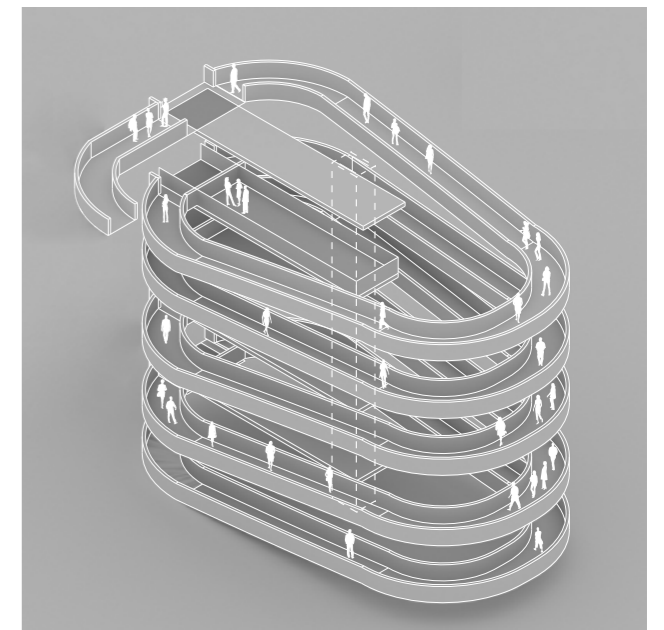
*Main Entrance*



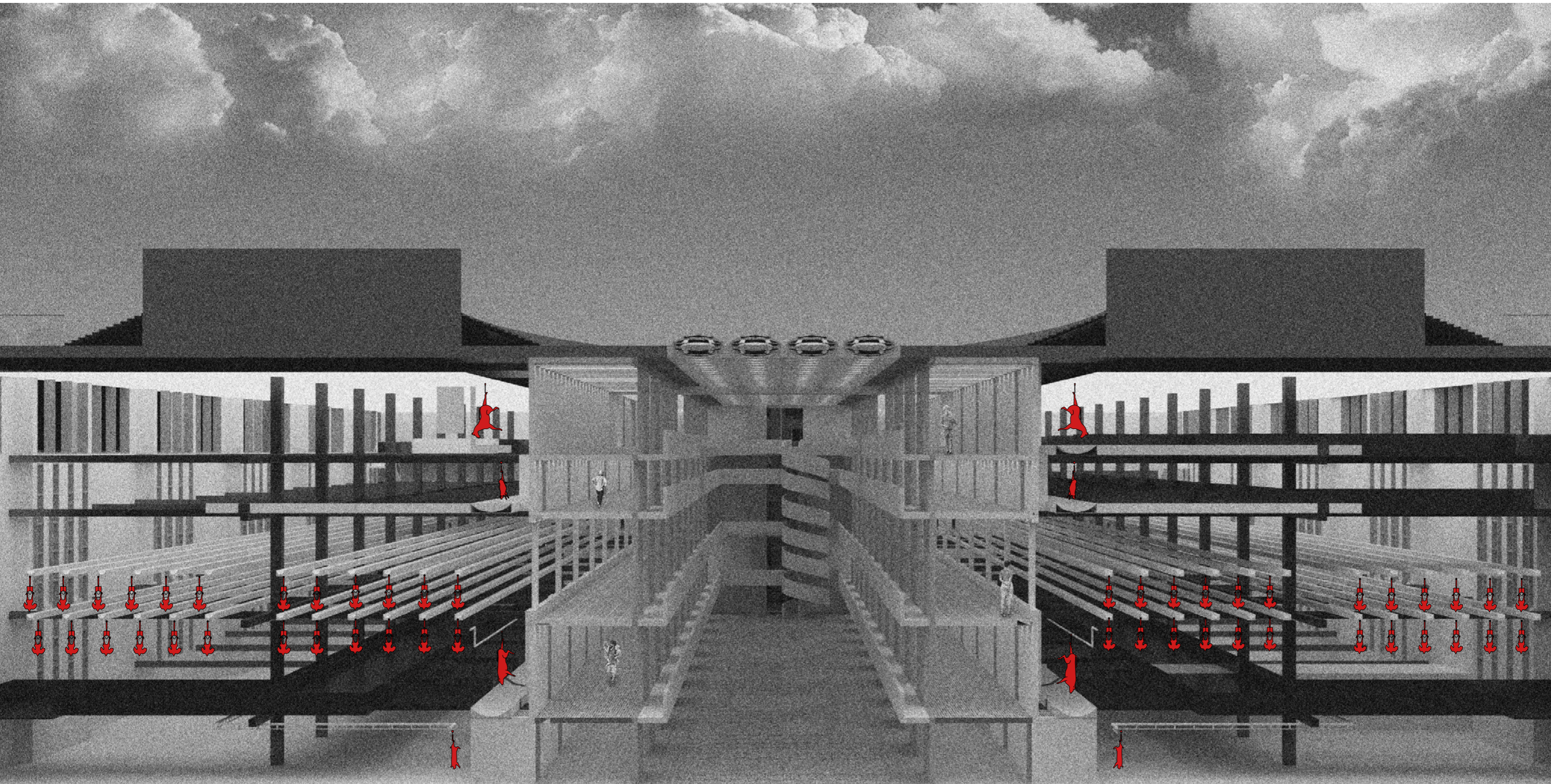
*Main Hall*



*Pillars & Beams*



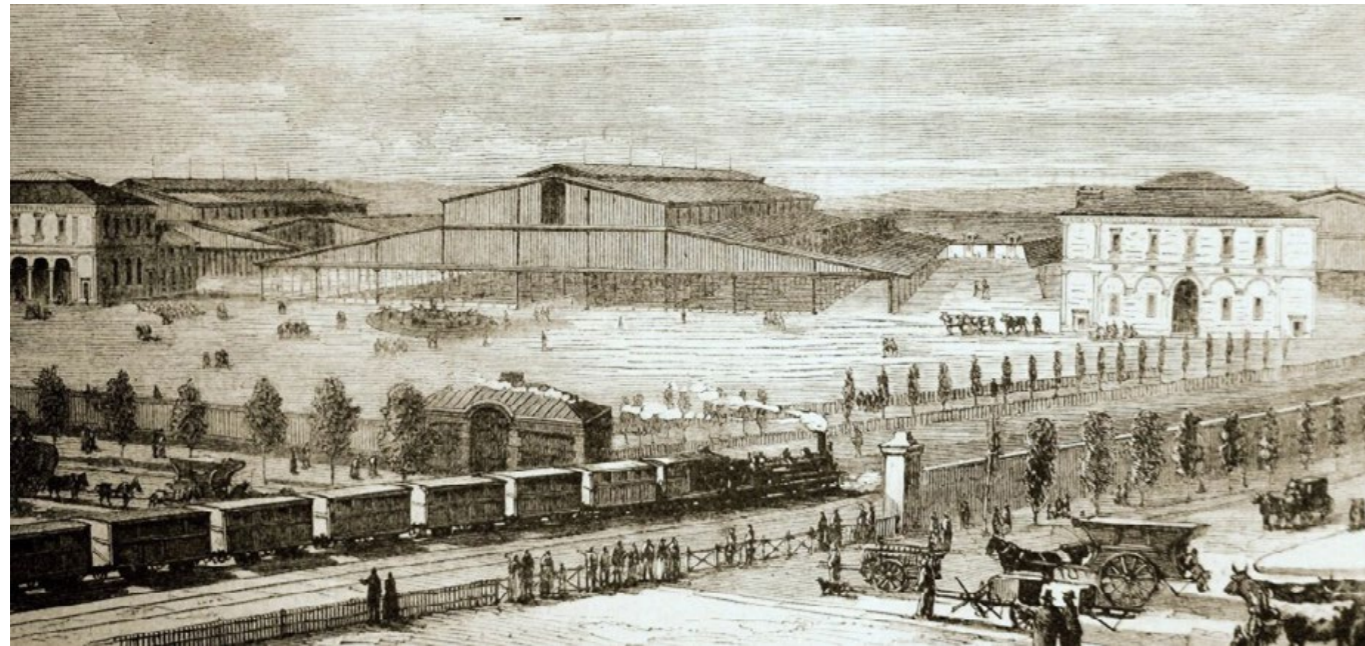
*Ramp*



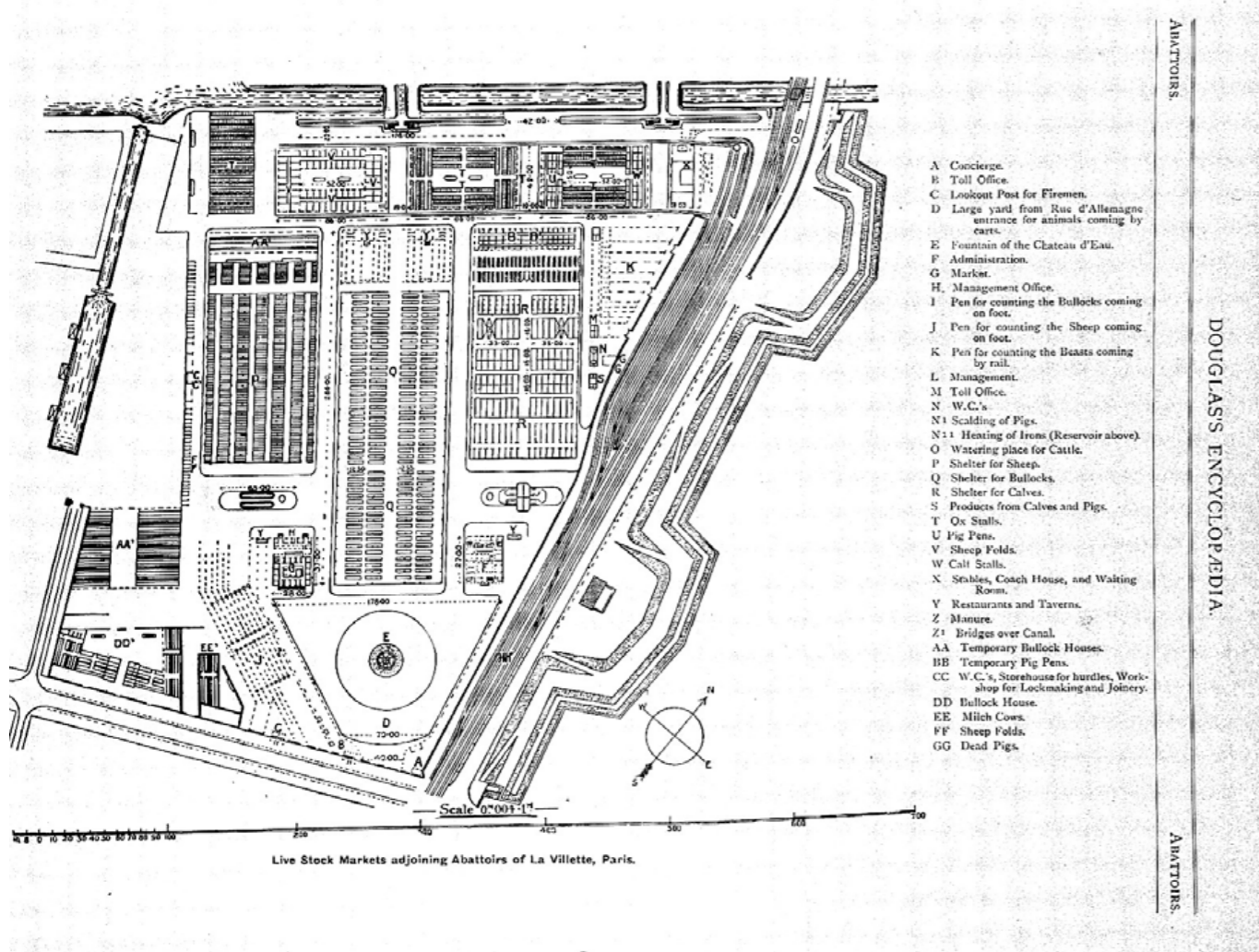
**03.**

**BACKGROUND**  
**INFORMATION**





Les abattoirs de la Vilette (1867) is an early example of a bigger industrial abattoir. (Image credit: [https://commons.wikimedia.org/wiki/File:Les\\_abattoirs\\_de\\_la\\_Vilette\\_en\\_1867.jpg](https://commons.wikimedia.org/wiki/File:Les_abattoirs_de_la_Vilette_en_1867.jpg))



Here one can see the floor plan of the early abattoir of Les abattoirs de la Vilette (1867). (Image credit: [https://commons.wikimedia.org/wiki/File:Les\\_abattoirs\\_de\\_la\\_Vilette\\_en\\_1867.jpg](https://commons.wikimedia.org/wiki/File:Les_abattoirs_de_la_Vilette_en_1867.jpg))

## THE HISTORY OF THE ABATTOIR

*Abattoir*; noun. A slaughterhouse; a place where animals are killed for food. (Oxford Dictionary, 2018).

The abattoir is a product of the modern industrial era with its start in the mid-nineteenth century. Where it was previously common with private slaughterhouses, the demand for a more centralized and controlled process was in dire needs. This was mostly due to the rapid urbanization with people moving into cities and the general unsanitary conditions that followed, as Lee (2008) notes.

One way to start the story of the modern abattoir is to go back to Paris in 1867 and the Central Slaughterhouse of La Vilette, which was the largest establishment in France. It was erected by George Eugène Haussman, who is famous for his refurbishment of Paris in the nineteenth century with the erection of boulevards and public parks that became a standard for the rest of Europe. He was namely the first individual to see that the city's main problem concerned with engineering and organisation (Giedion, 1948).

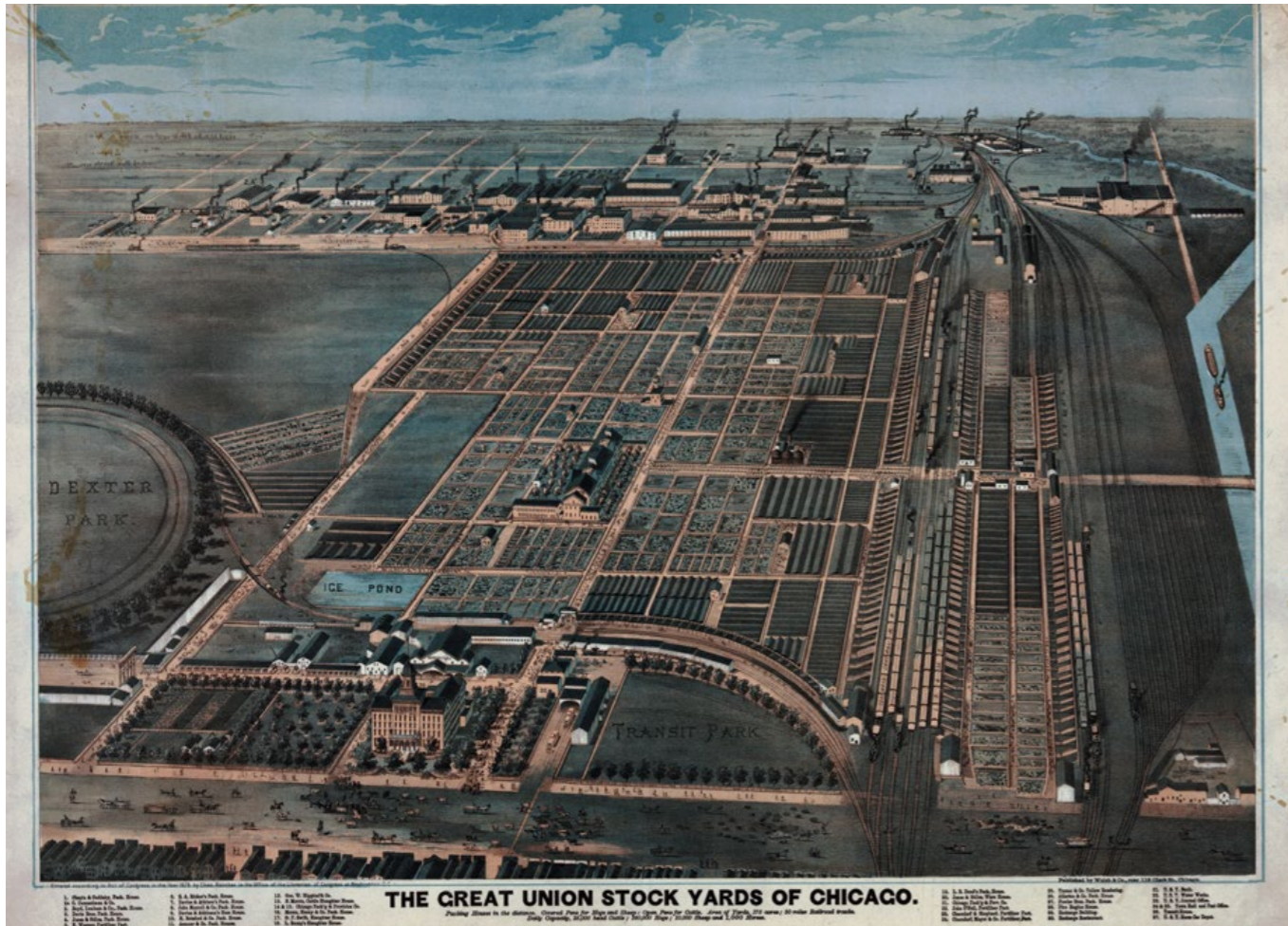
Les abattoirs de la Vilette, as it is called in French was a building built around large scale solutions to the problems of the modern metropolis (Giedion, 1948). There was a railway (which could transport animals) on one side of the abattoir and the Canal St. Denis on the other side. This building, being the first of its kind over the world was

in term predated by public slaughterhouses ordered by the French emperor Napoleon 1 in 1807 that was a solution to the unsanitary conditions by how the fleshers worked at the time. During this time the butchers also start using other parts of the carcasses other than the flesh, for example the blood of the animals was used to refine sugar and manuring the earth (Giedion, 1948).

Although it was the abattoir of La Vilette that became the pathfinder for other nations who wanted to adapt the same principles. Siegfried Giedion describes it like this:

“Dominating the long rows of low slaughterhouses and administrative buildings were three gigantic halls of glass and iron, elegant in design. The central hall, with its nine aisles over 286 meters long served as a “cattleshelter. Here the animals were bought and sold. The two flanking iron constructions were intended for swine, sheep, and calves.” (Giedion, 1948).

The architectural care which was put into the abattoirs de la Vilette became a high mark in the architecture of the abattoirs spawning offsprings around Europe and other places in the world. But things started to happen in America as well and there the idea of mass consumption and the assembly line were of far greater concern than the architecture of the abattoirs. This we will discuss on the next page.



Map Of The Great Unmion Stock Yards Of Chicago

(Image Credit: [https://upload.wikimedia.org/wikipedia/commons/1/16/Union\\_stock\\_yards\\_chicago\\_1870s\\_loc.jpg](https://upload.wikimedia.org/wikipedia/commons/1/16/Union_stock_yards_chicago_1870s_loc.jpg))



Illustration Of Hog Slaughtering And Pork Packaging In Cincinatti

(Image Credit: [https://commons.wikimedia.org/wiki/File:Hog-slaughtering\\_and\\_pork-packing\\_in\\_Cincinatti\\_LCCN2004677270.tif](https://commons.wikimedia.org/wiki/File:Hog-slaughtering_and_pork-packing_in_Cincinatti_LCCN2004677270.tif))

## CONTINUATION OF THE HISTORY OF THE ABATTOIR

At the same time that Les abattoirs de La Vilette was being erected in France, things started to happen in America as well.

Chicago was expanding rapidly and the city had a hard time to keep up with finding a good solution to the question of slaughterhouses as well which led the city to create the Union Stock Yards, the largest cattle market in the world at that time. It was opened during Christmas in 1865 (Giedion, 1948). The union stock yard was created like a large rectangular grid with streets at exact angles and covered about 120 acres of pens when it opened in 1865. In 1886 the Union Stock Yards had a processing capability of 200 000 hogs daily (Scientific American, 21 August 1886, p. 120).

It was in USA were you also started to see the beginning of the slaughter process being something that happens far away from regular consumers. As this was such a wide large country it was impossible to populate it the same way that Europe was populated. So when settlers had grasped the vastness of this continent they understood that the only economic viable reason was to herd animals in large groups in the countryside for them later to be transported to the cities for slaughtering and consumption - thus has the slaughter process started to accurately look like the one we experience today.

The start of the meat industry in America can be traced back to Cincinnati and the

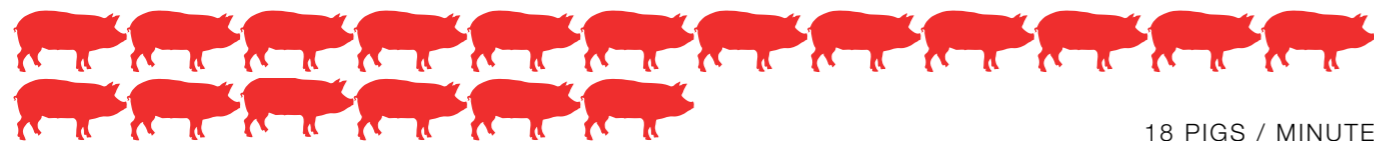
1830:s. An area that was at the time seen as the last safe haven before turning back east again this region was filled with corn that sold very poorly according to the logic of need and demand. Instead they started letting hogs run around in the wilderness for 5 - 6 weeks and eating corn before slaughtering them and sending the meat east. An ingenious way to a problem that dealt with locale and also the start of the biggest controlled genocide (that of animals) in human history.

In the beginning, the slaughter took place in a separate space than where the freezing and packaging took place but around the mid 19th century all took place within the same roof, where the abattoir also started to use the animals own weight to hasten the process by slaughtering them on the highest level and then using gravity to lead them through the building (Giedion, 1948). The same methods of killing were used then as now - one quick blow to the head and thereafter letting the animal bleed to death. With the introduction of the refrigerator car in the 1870's slaughte could take place all year around and be sent by trains all over the US continent as well to other places.

Since then, not much has happened in the abattoir industry. Some techniques have changed, but the process remains in many ways intact. Even though it predates modernity, slaughter is still left where others have sprung by.



737 POULTRY / MINUTE



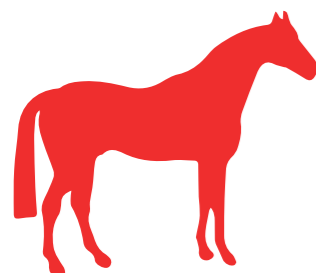
18 PIGS / MINUTE



3 CATTLE / MINUTE



2 SHEEPS / MINUTE



1 HORSE / HOUR

## STATISTICS

In Sweden today, there are quite good statistics and regulations regarding how many livestock are killed every year in Swedish slaughter and abroad. There are statistics that are provided by both the National Board of Agriculture, the National Food Agency and by Statistics Sweden. These are then concluded into statistical data that are published every month. For the previous year's total amount of slaughter, the new statistics arrive in February every year. Here one can also follow the growth and demise of certain type of animals and see how the slaughter has changed over the years.

All these statistics have given the numbers on the left side that show how many animals of each type are slaughtered every year. These are also the animals that Statistics Sweden use in the reports, and therefore these are the ones that are used in this master thesis.

These numbers to the left have been given by taking the total amount of slaughtered animal of one kind. Then this number has been divided by 52 as the slaughtering process goes through the whole year not taking vacation during summer or winter. Thereafter the number has been divided by 5 as the usual numbers is five days of slaughter every week. Then this number has been divided by 12 as there is usually two shifts working one-day shift and one-night shift. The 12 hours exclude time for preparation and cleaning between the

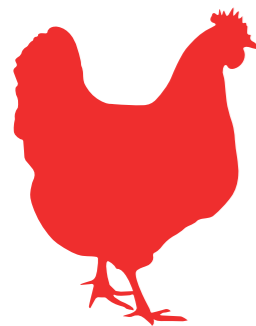
shifts but includes effective slaughter. Thereafter this number has been divided by 60 to reach a number on how many are slaughtered every minute.

What the numbers pinpoint is how many poultry are slaughtered every minute (737). One could even make the claim that if you want to eat meat it is better to eat cattle, horse or pig if you at the same time wants to save lives as there are more meat per unit of animal (an industrial term used) than on one chicken or hen included in the family poultry).

On the next pages you can also find statistics regarding how much space an animal need in stalling. This number has been leading in calculating the amount of stalling place every animal need in the design of the proposal in this master thesis.

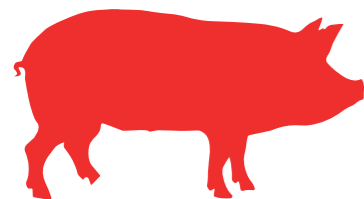
Lastly, you will also find the most used ways of stunning animals. Pigs are usually stunned by carbon dioxide gassing, poultry and sheep by electrical stimulation, and cattle and horses by a shot through the head with either a rifle or a shotgun. This is to pierce through the brain making the animal unconscious.

One quickly notices when working with these numbers that there is a sense of individuality that is lost in the process of listing the large quantities of livestock butchered every year. They rather become statistics than feeling and sensory beings.



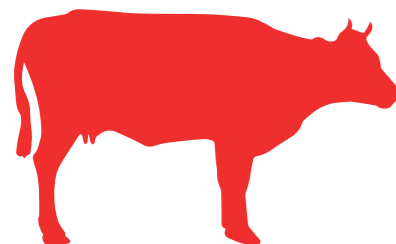
**103 919 390 SWEDISH POULTRY (INCLUDING CHICKEN, HENS, TURKEYS) SLAUGHTERED EVERY YEAR**

Import = 32.7 %  
 103 919 390 x 1.327 = 137 901 031 poultry  
 137 901 031 / 52 = 2 651 943 poultry / week  
 2 651 943 / 5 = 530 389 poultry / day  
 530 389 / 12 = 44 199 poultry / hour  
 44 199 / 60 = **737 poultry / minute**



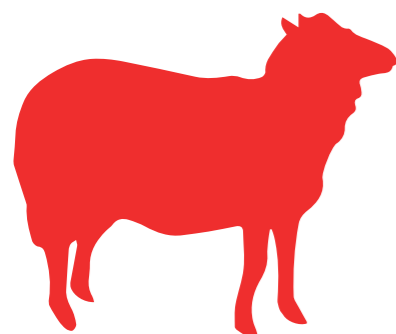
**2 576 290 SWEDISH PIGS (INCLUDING FATTENING PIGS, SOWS, BOARS, YOUNG PIG, YOUNG BOARS) SLAUGHTERED EVERY YEAR**

Import = 29.9 %  
 2 576 290 x 1.299 = 3 346 601 pigs  
 3 346 601 / 52 = 64 358 pigs / week  
 64 358 / 5 = 12 872 pigs / day  
 12 872 / 12 = 1 072 pigs / hour  
 1 072 / 60 = **18 pigs / minute**



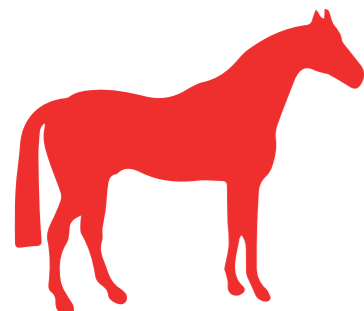
**406 030 SWEDISH CATTLE (INCLUDING FATTENED CALVES, CALVES, BULLOCKS, MALE BOVINE ANIMALS, BOVINE ANIMALS, BULLS, HEIFERS, COWS, YOUNG CATTLE, ADULT CATTLE, COWS) SLAUGHTERED EVERY YEAR**

Import = 48.4 %  
 406 030 x 1.484 = 602 549 cattle  
 602 549 / 52 = 11 587 cattle / week  
 11 587 / 5 = 2 317 cattle / day  
 2 317 / 12 = 193 cattle / hour  
 193 / 60 = **3 cattle / minute**



**261 610 = SWEDISH SHEEPS (INCLUDING LAMBS, SHEEP) SLAUGHTERED EVERY YEAR**

Import = 72 %  
 261 610 x 1.72 = 449 969 sheeps  
 449 969 / 52 = 8 653 sheeps / week  
 8 653 / 5 = 1731 sheeps / day  
 1731 / 12 = 144 sheeps / hour  
 144 / 60 = **2 sheeps / minute**



**2 270 SWEDISH HORSES SLAUGHTERED EVERY YEAR**

Import = 25 %  
 2 270 x 1.25 = 2 838 horses  
 2 838 / 52 = 55 horses / week  
 55 / 5 = 11 horses / day  
 11 / 12 = **1 horses / hour**

**DEMANDED SPACE FOR ANIMALS IN LOOSE HOUSING**

	Weight (kg)	Storage during daytime (Sqm)	Storage during nighttime (Sqm)
Cattle	< 100	0.5	1.0
	100-250	1.0	1.5
	250-400	1.5	1.9
	400-600	2.0	2.3
	> 600	2.5	2.7
Sheep & Goats	< 50	0.3	0.5
	> 50	0.5	1.0
Pigs (Slaughter Pigs)	< 120	0.55	0.75
Pigs (Adult Pigs)	> 120	1.0	1.5

**DEMANDED SPACE FOR CATTLE IN ONE-ANIMAL BOXES**

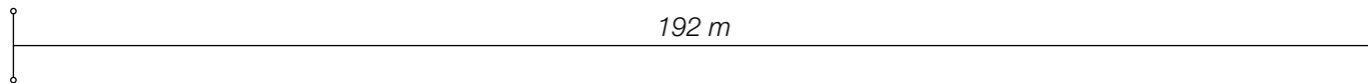
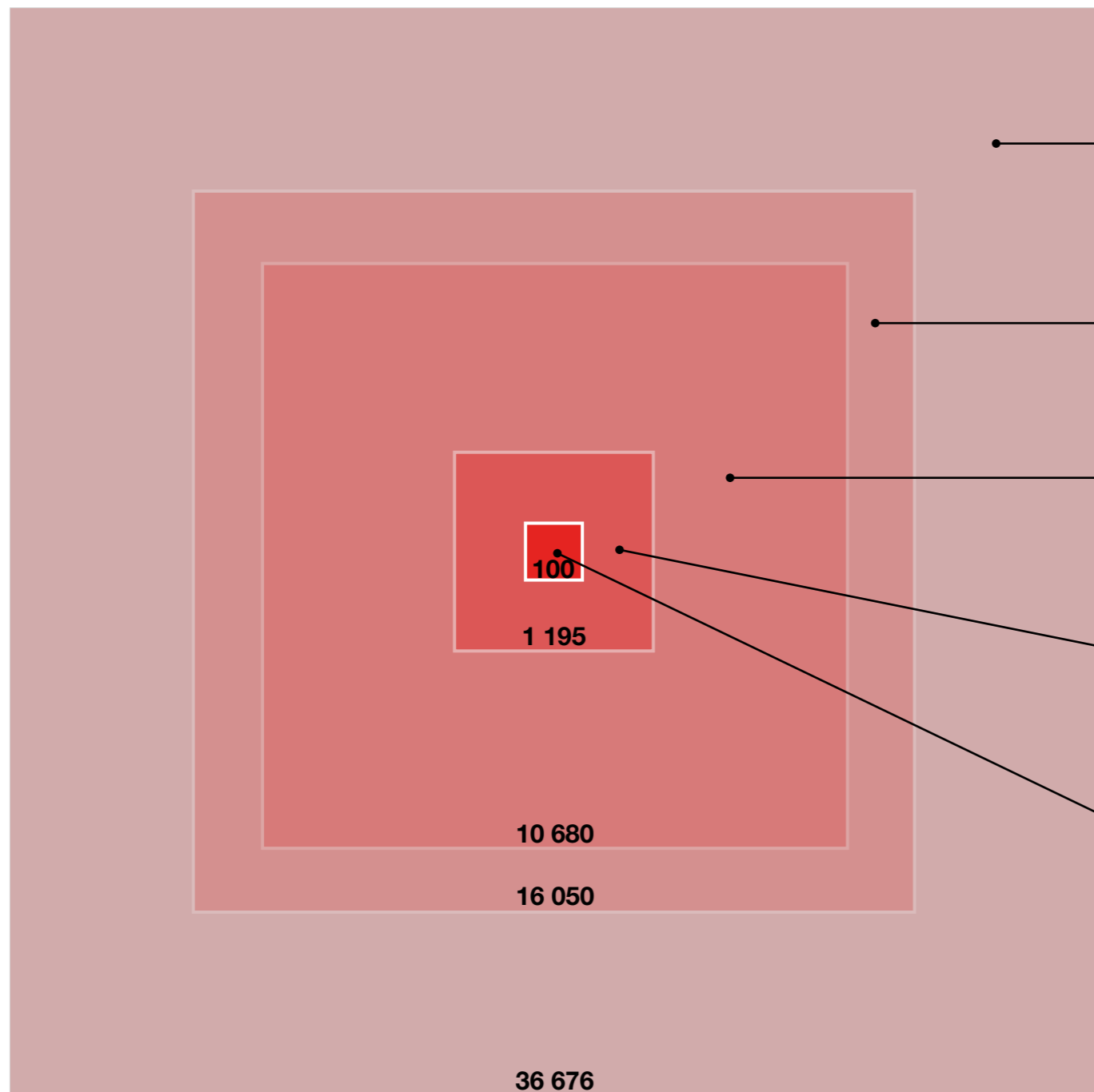
Length of animal 1 <sup>1</sup> (m)	Estimated weight (kg)	The smallest length of the box <sup>2</sup> (m)	The smallest width of the box in withers <sup>3</sup> (m).
< 1.80	550-650	2.5	0.8
1.80-2.0	650-850	2.75	0.85
> 2.00	> 850	3.0	0.9

1) distance from base of tail to base of horn

2) if the box is not ortagonal enough the length will increase in the amount that is needed for the animals amount to rise and lay down will not be impaired.

3) the box shall be so wide downwards that the animal could lay down without any hindrance.

**SLAUGHTER HALL**  
**SQUARE MEETERS NEEDED**



**POULTRY**

1500 sqm = 3000 heads / hours  
 73 352 (chicken killed / hour) / 3000 = 24.45  
 1500 sqm x 24.45 = 36 676 sqm  
 $\sqrt{36\ 676} = 192\ m$

**CATTLE**

1500 sqm = 30 heads / hour  
 321 (cattle killed / hour) / 30 = 10.7  
 1500 sqm x 10.7 = 16 050 sqm  
 $\sqrt{16\ 050} = 127\ m$

**PIGS**

1500 sqm = 250 heads / hours slaughter hall  
 1780 (pigs killed / hour) / 250 = 7.12  
 1500 sqm x 7.12 = 10 680 sqm  
 $\sqrt{10\ 680} = 103\ m$

**SHEEP**

1500 sqm = 300 heads / hour slaughter hall  
 239 (sheep killed / hour) / 300 = 0.796  
 1500 sqm x 0.796 = 1195 sqm  
 $\sqrt{1195} = 35\ m$

**HORSES**

1500 sqm = 30 heads / hour slaughter hall  
 2 (horses killed / hour) / 30 = 0.066  
 1500 sqm x 0.066 = 100 sqm  
 $\sqrt{100} = 10\ m$

**ACCEPTABLE MEANS OF ANESTHESIA**

	Stunner	Rifles	Hit against the head	Electricity	Carbon Dioxide
Cattle		○			
Sheep		○			
Goats		○			
Reindeers & deers		○			
Other ruminants		○			
Pigs		○			
Horses		○			
Hens					
Other poultry					
Ostriches					

○ also shotguns are an acceptable means of anesthesia

**KILLING METHODS OF PROVISIONS-PRODUCING ANIMALS**

	Bleeding of unconcius animal	Decapi-tation of unconcius animals	Head-dislocalisation of unconcius animals	Hit against the head	Distance killing	Mace-ration	Ane-sthetic	Gas: Carbon Monoxide
Cattle								
Sheep & goats				△				
Reindeers & deers								
Other ruminants								
Pigs				△				
Horses								
Hens and turkeys		○	○	△				
Unhatched and halfhatched chickens								
Day old chickens		○	○					
Other poultry		○	○	△				◓
Ostriches				△				

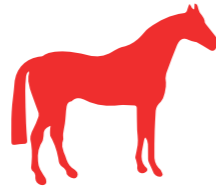
○ for certain weight-categories there is no need for unconsciousness

△ age- or weightlimited

◓ only quails

# HORSES

HORSES = HORSES



**KILLED EVERY YEAR: 2 270**

IMPORT = 25 %

$2\ 270 \times 1.25 = 2\ 838$  HORSES CONSUMED IN SWEDEN EVERY YEAR

$2\ 838 / 52 = 55$  HORSES SLAUGHTERED / WEEK

$55 / 5 = 11$  HORSES SLAUGHTERED / DAY

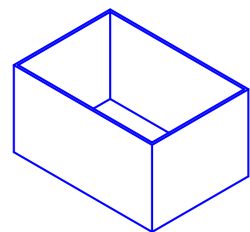
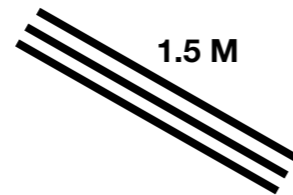
$11 / 12 = 1$  HORSE SLAUGHTERED / HOUR

**SLAUGHTERING LINE NEEDED:**

1 HORSE SLAUGHTERED / HOUR

HHEEP = 1.5 M LENTH

$1.5 \times 1 = 1,5$  M SLAUGHTERING LINE



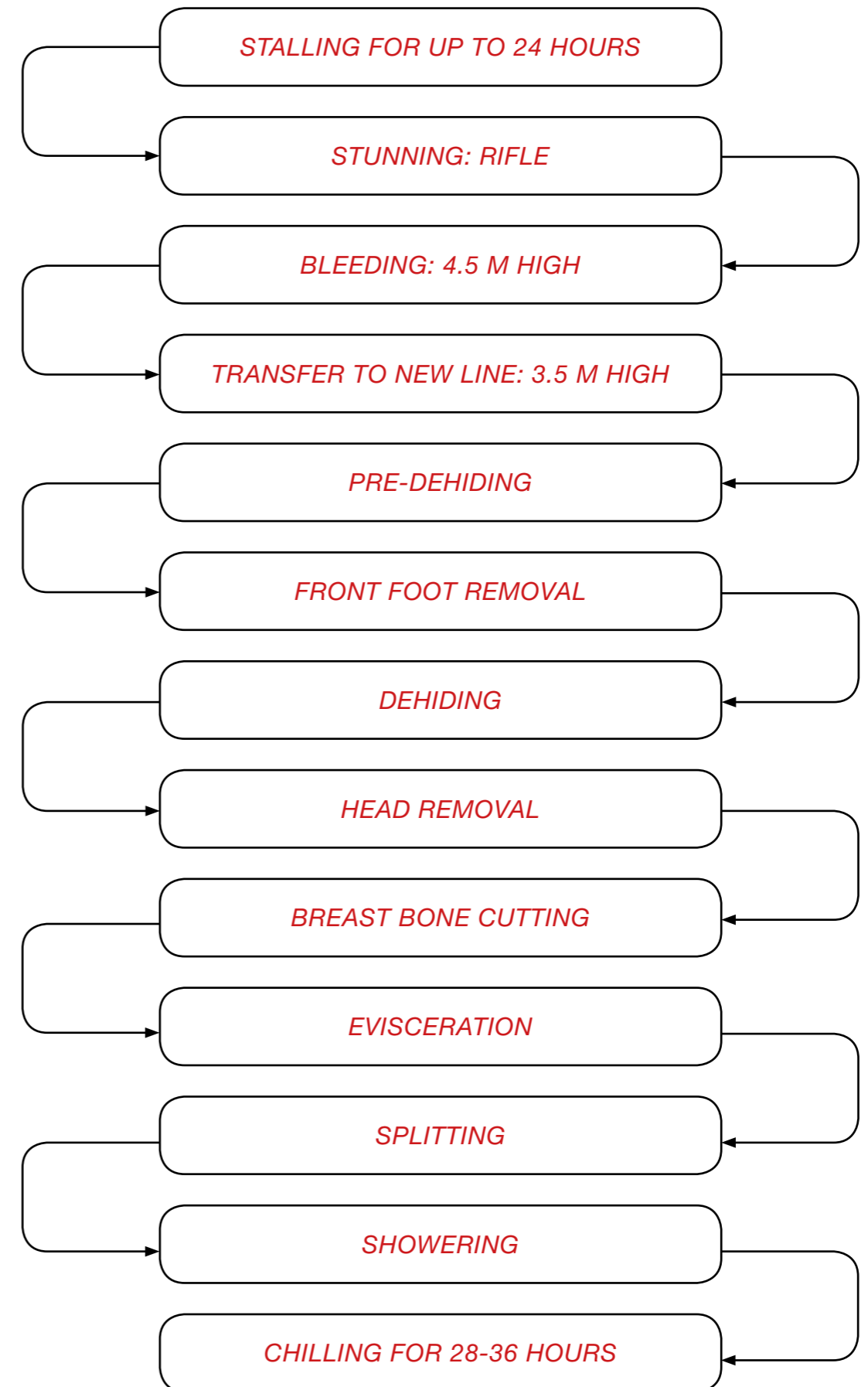
**STALL BOXES NEEDED:**

11 HORSES SLAUGHTERED / DAY

HORSE MEASURE = 3.2 x 2.2 M ONE BOX STALL

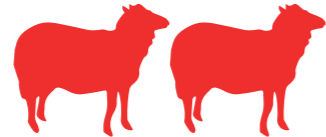
= 11 (3.2 x 2.2) M ONE BOX STALL

# SLAUGHTER PROCESS



# SHEEP

SHEEP = LAMBS, SHEEP



KILLED EVERY YEAR: 261 610

IMPORT = 72 %

$261\ 610 \times 1.72 = 449\ 969$  SHEEPS CONSUMED IN SWEDEN EVERY YEAR

$449\ 969 / 52 = 8\ 653$  SHEEPS SLAUGHTERED / WEEK

$8\ 653 / 5 = 1\ 731$  SHEEPS SLAUGHTERED / DAY

$1\ 731 / 12 = 144$  SHEEPS SLAUGHTERED / HOUR

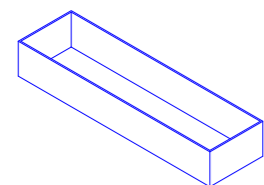
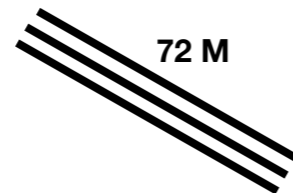
$144 / 60 = 2$  SHEEPS SLAUGHTERED / MINUTE

SLAUGHTERING LINE NEEDED:

144 SHEEPS SLAUGHTERED / HOUR

SHEEP = 0.5 M LENTH

$0.5 \times 144 = 72$  M SLAUGHTERING LINE



STALL BOXES NEEDED:

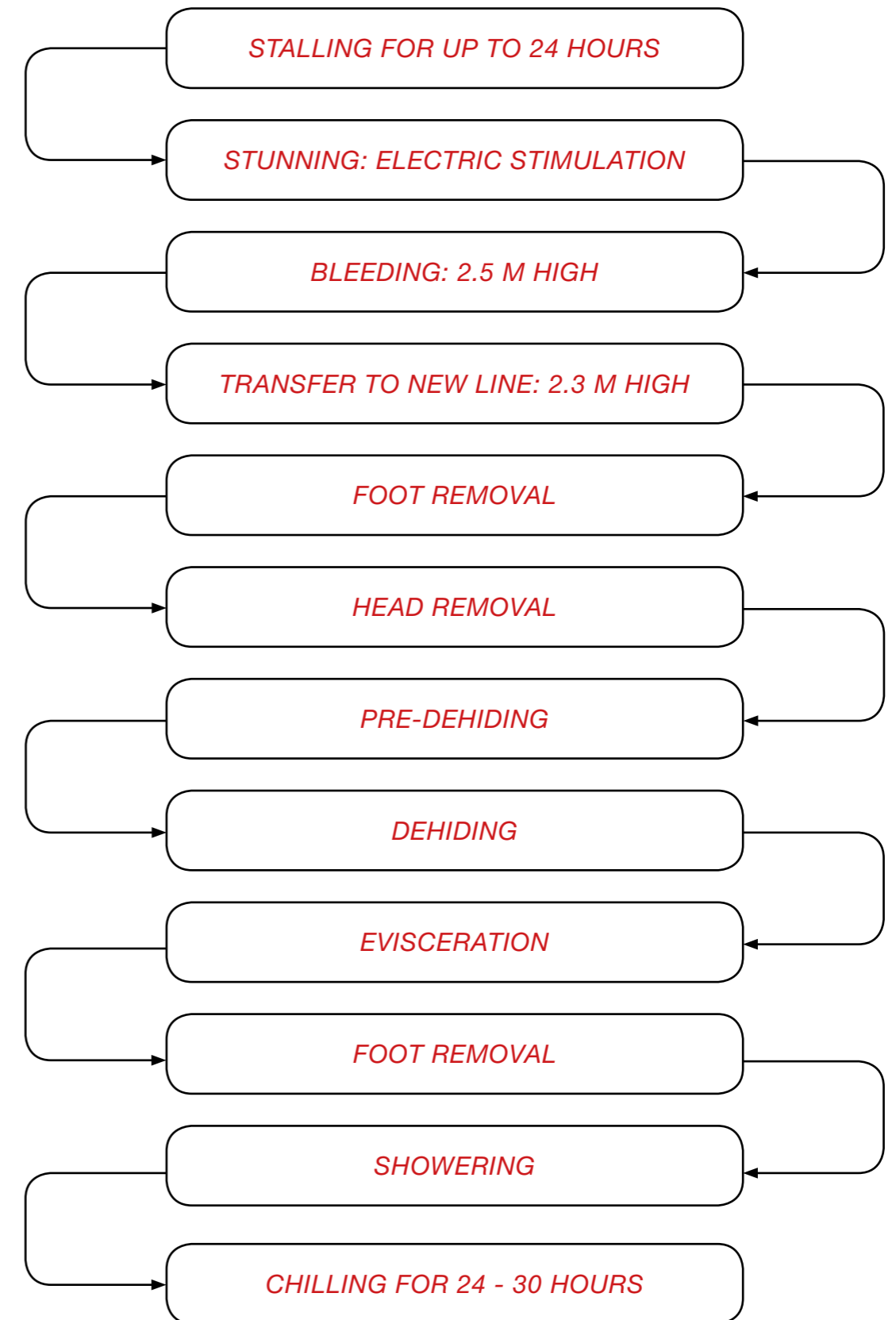
1 731 SHEEPS SLAUGHTERED / DAY

SHEEP AREA = 0.75 SQM / SHEEP & 20 SHEEPS / STALL

$0.75 \times 1\ 731 = 1\ 298.25$  SQM

$1\ 298.25 / 20 = 65$  STALLS

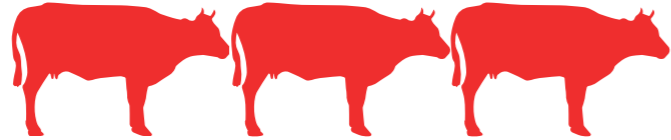
# SLAUGHTER PROCESS





# CATTLE

CATTLE = FATTENED CALVES, CALVES, BULLOCKS, MALE BOVINE ANIMALS, BOVINE ANIMALS, BULLS, HEIFERS, COWS, YOUNG CATTLE, ADULT CATTLE, COWS



**KILLED EVERY YEAR: 406 030**

IMPORT = 48.4 %

$406\ 030 \times 1.484 = 602\ 549$  CATTLE CONSUMED IN SWEDEN EVERY YEAR

$602\ 549 / 52 = 11\ 587$  CATTLE SLAUGHTERED / WEEK

$11\ 587 / 5 = 2\ 317$  CATTLE SLAUGHTERED / DAY

$2\ 317 / 12 = 193$  CATTLE SLAUGHTERED / HOUR

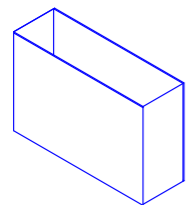
$193 / 60 = 3$  CATTLE SLAUGHTERED / MINUTE

**SLAUGHTERING LINE NEEDED:**

193 CATTLE SLAUGHTERED / HOUR

CATTLE = 1.2 M LENTH

$1.2 \times 193 = 232$  M SLAUGHTERING LINE



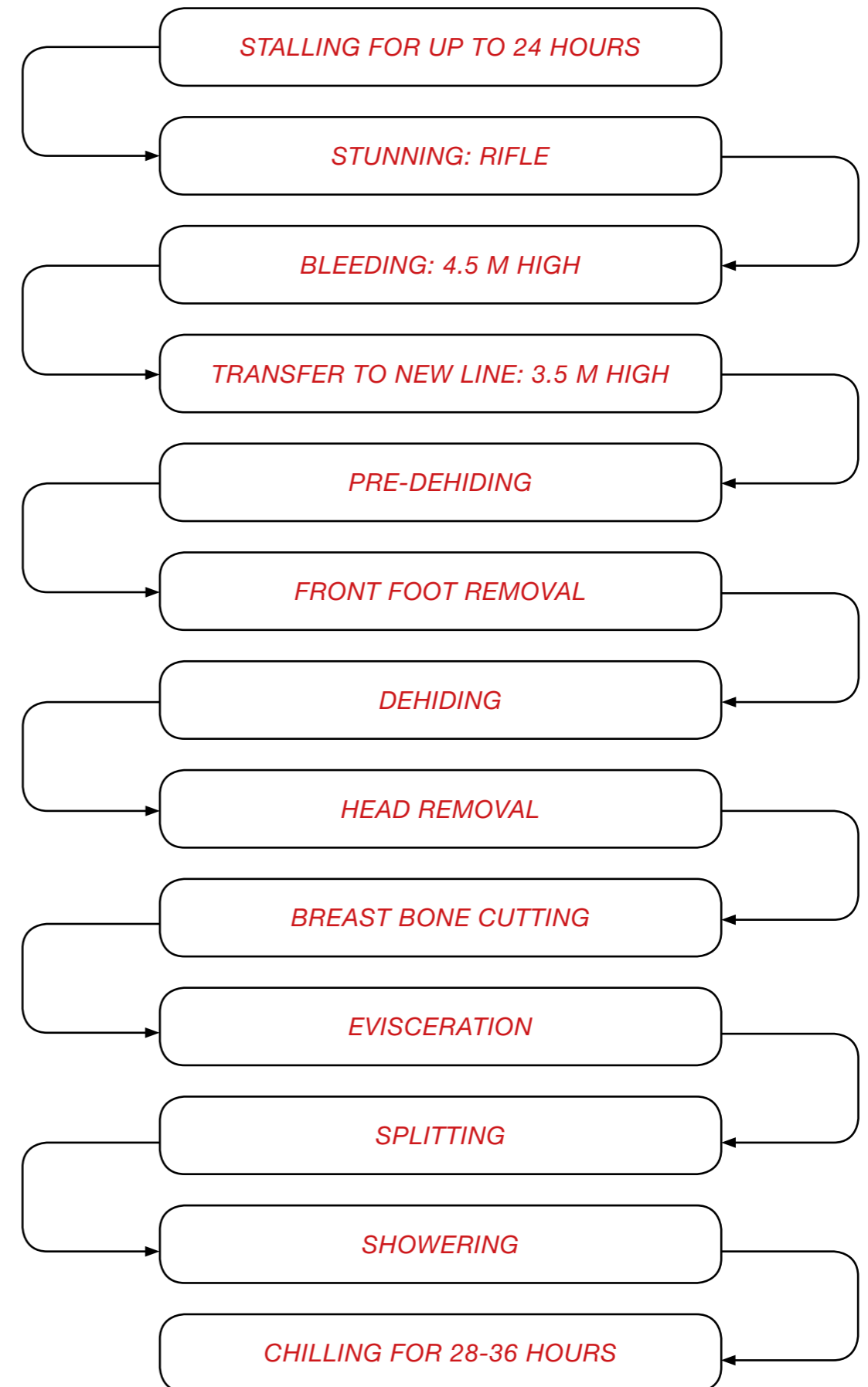
**STALL BOXES NEEDED:**

2 317 CATTLE SLAUGHTERED / DAY

CATTLE MEASURE = 0.85 x 2.75 M ONE BOX STALL

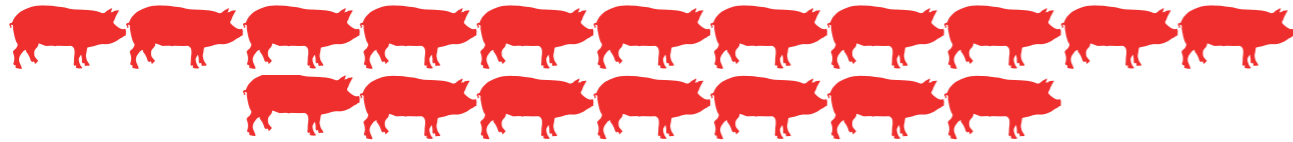
= 2317 (0.85 x 2.75) M ONE BOX STALL

# SLAUGHTER PROCESS



# PIGS

PIGS = FATTENING PIGS, SOWS, BOARS, YOUNG PIG, YOUNG BOARS



**KILLED EVERY YEAR: 2 576 290**

IMPORT = 29.9 %

$2\,576\,290 \times 1.299 = 3\,346\,601$  PIGS CONSUMED IN SWEDEN EVERY YEAR

$3\,346\,601 / 52 = 64\,358$  PIGS SLAUGHTERED / WEEK

$64\,358 / 5 = 12\,872$  PIGS SLAUGHTERED / DAY

$12\,872 / 12 = 1\,072$  PIGS SLAUGHTERED / HOUR

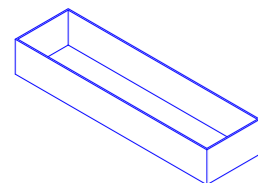
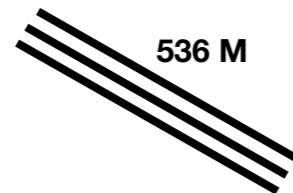
$1\,072 / 60 = 18$  PIGS SLAUGHTERED / MINUTE

**SLAUGHTERING LINE NEEDED:**

1 072 PIGS SLAUGHTERED / HOUR

PIG = 0.5 M LENTH

$0.5 \times 1072 = 536$  M SLAUGHTERING LINE



**STALL BOXES NEEDED:**

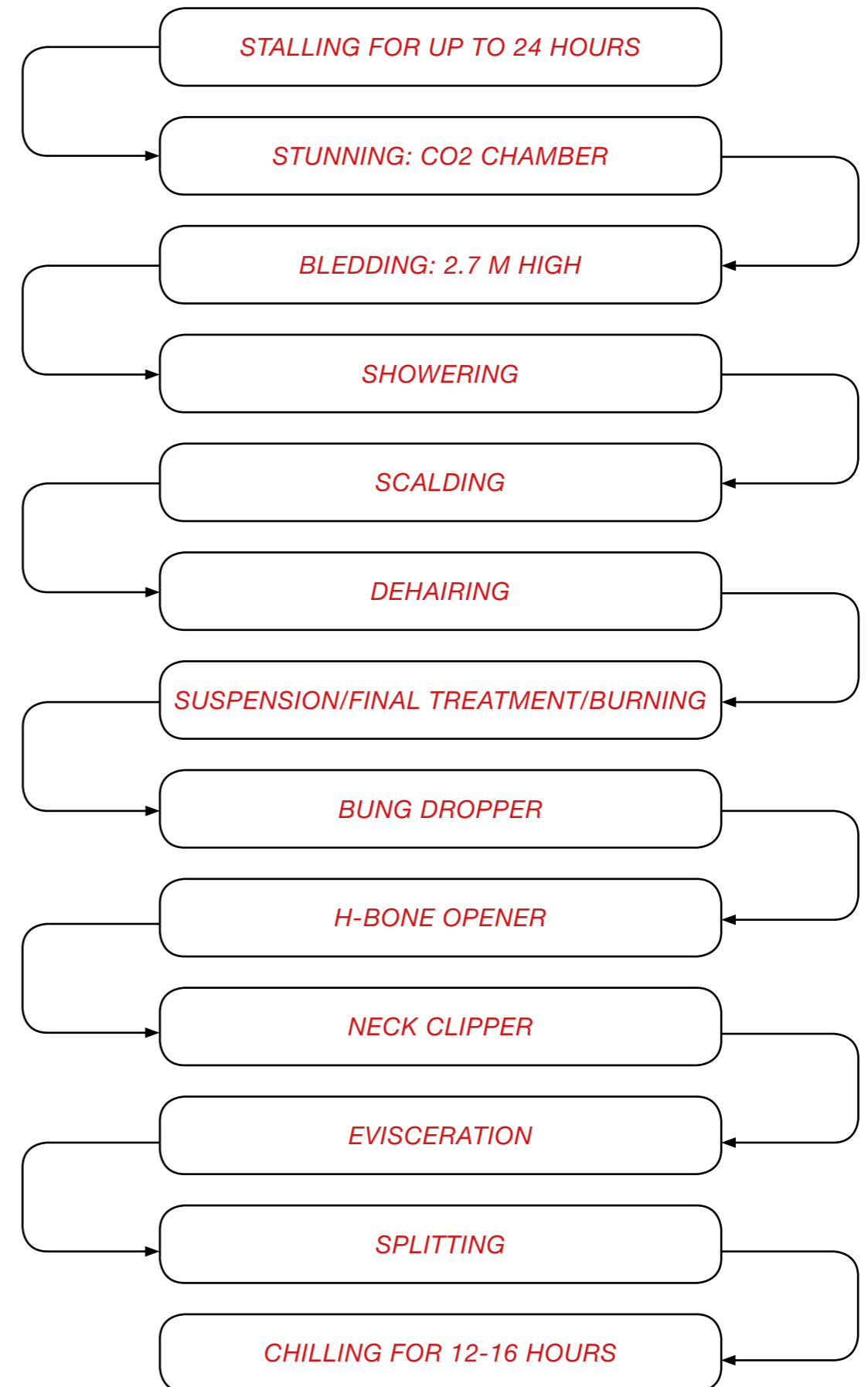
12 878 PIGS SLAUGHTERED / DAY

PIG AREA = 0.75 SQM / PIG & 20 PIGS / STALL

$0.75 \times 12\,878 = 9\,658.5$  SQM

$9\,658.5 / 20 = 483$  STALLS

# SLAUGHTER PROCESS



# POULTRY

POULTRY = CHICKENS, HENS, TURKEYS



KILLED EVERY YEAR: 103 919 390

IMPORT = 32.7 %

$103\,919\,390 \times 1.327 = 137\,901\,031$  POULTRY CONSUMED IN SWEDEN EVERY YEAR

$137\,901\,031 / 52 = 2\,651\,943$  POULTRY SLAUGHTERED / WEEK

$2\,651\,943 / 5 = 530\,389$  POULTRY SLAUGHTERED / DAY

$530\,389 / 12 = 44\,199$  POULTRY SLAUGHTERED / HOUR

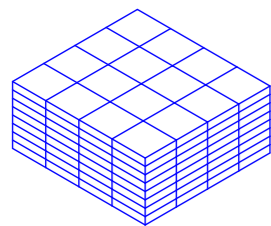
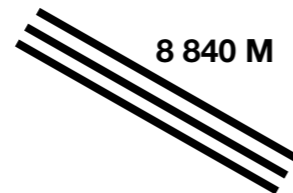
$44\,199 / 60 = 737$  POULTRY SLAUGHTERED / MINUTE

SLAUGHTERING LINE NEEDED:

44 199 POULTRY SLAUGHTERED / HOUR

POULTRY = 0.2 M LENTH

$0.2 \times 44\,199 = 8\,840$  M SLAUGHTERING LINE



STALL BOXES NEEDED:

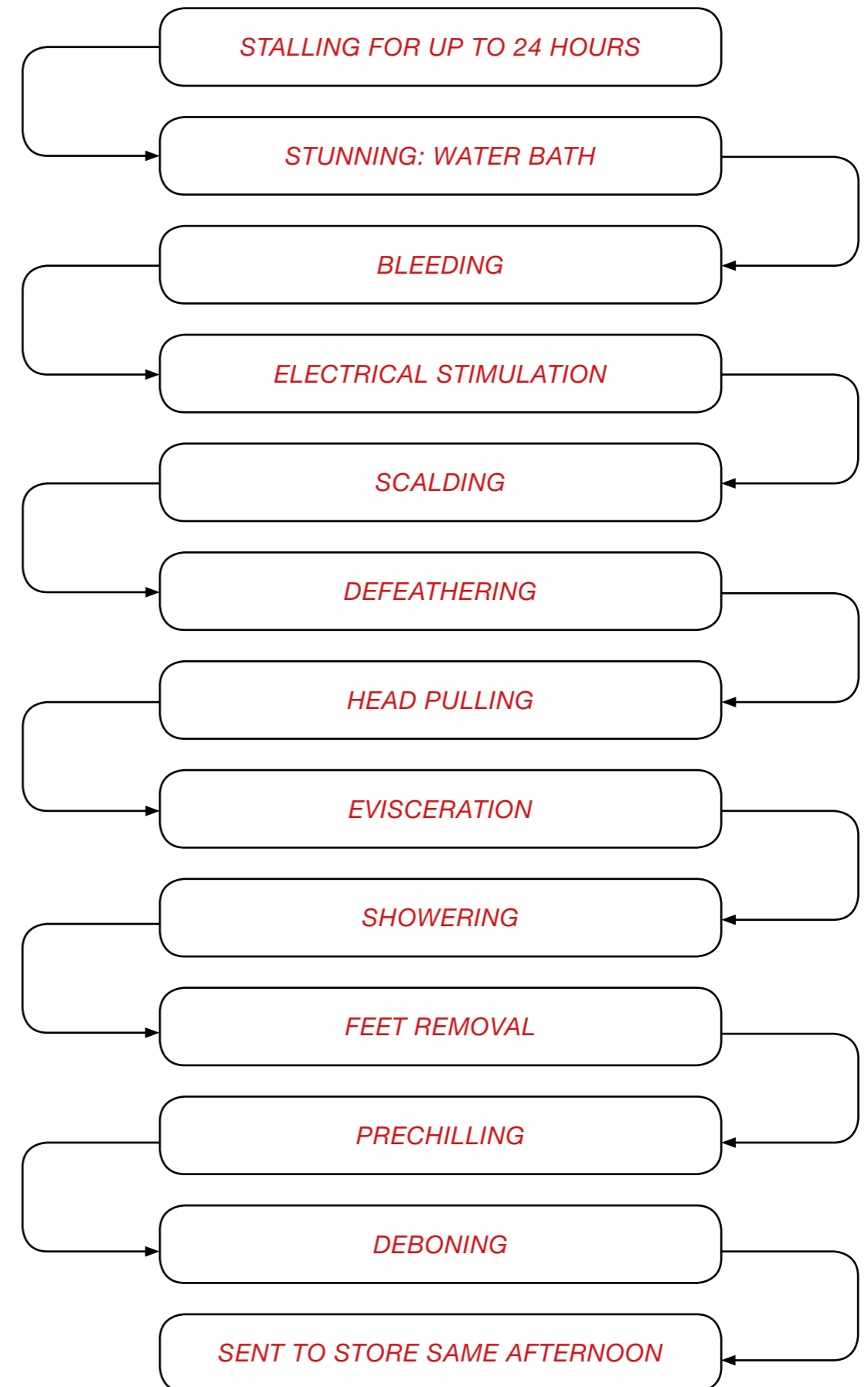
530 389 POULTRY SLAUGHTERED / DAY

POULTRY BOX SIZE = 119 x 112 x 26 CM & 42 POULTRY / BOX

POULTRY BOX MODULE = (2 x 4) x 4 BOXES

BOXES NEEDED =  $530\,389 / 42 = 12\,628$  BOXES

# SLAUGHTER PROCESS





## A LOOK AT THE INDUSTRY

When examining what information one can find on Swedish abattoirs one soon realize that there is hard to find any good information about them. In comparison to other countries like Denmark (Danish Crown, n.d.) there are hardly any resources about how they work or interviews with their workers. The industry as of 2011 employed 14 000 people within the breeding of livestock and 10 900 people within the slaughtering line (Svenskt Kött, n.d.).

When the Swedish photographer Erik Lindegren tried to visit an abattoir in 2008 he had a hard time finding anyone who would let him in although he called all the abattoirs in Sweden at the time (Folkesson, 2008). Finally, he could get into an abattoir by saying that the images were for an art project. This lead to the exhibition Walls of Glass which has toured around the country and have been shown both in galleries and libraries. The history behind the exhibition also in some sense speaks about the unwillingness of the industry to let anyone near its vicinities.

In 2015 the animals rights group Djurrättsalliansen released the webpage The Animal Factory (<http://djurfabriken.se>) to much alarm in the public debate due to the mistreatment of animals that the group could show. The images shown there were all from abattoirs located in Sweden and filmed between 2008 - 2015, mostly undercover. The public alarm due to this release shows in some respect that

people are not yet ready to face the truth of the industry that they support by eating livestock.

During the process of this master thesis there has been attempts at contacting the abattoir industry to try to visit an abattoir, and to gain more insight into how the slaughter process works but this has been shown to be a harder endeavor than previously imagined. The industry is in many sense very closed off and don't go easy on visitors or other people from the society it provides with meat.

This fact shows the importance of the master thesis in that it wants to show how this process works architecturally, and as a part of a modern society that in some sense has lost contact with how its products are made.

The images shown on these next pages are from the exhibition Walls of Glass by Erik Lindegren and shows a bit of how the industry looks like today. The images are from the abattoir Dahlbergs Slakteri in Bråvalla.

**IMAGES BY ERIK LINDEGREN**





DALSJÖFORS ABATTOIR



KRISTIANSTAD ABATTOIR



LINKÖPING ABATTOIR



SKÖVDE ABATTOIR

## WHERE THE SWEDISH ABATTOIRS RESIDE

If you do a search on abattoirs in Sweden you will get 281 hits (www.hitta.se, 2018). If you then start examining them closer as to where the vicinities are you soon find a clear pattern emerging. In contrast to older Swedish abattoirs such as Slakthusområdet in Stockholm you see that they are mostly located in rural areas or heavily industrial areas. Here are four images showing four of Sweden's biggest abattoirs and their place in a context.

They usually don't show any hints of being an abattoir apart from images of trademarks such as Scan or other big industrial brands.

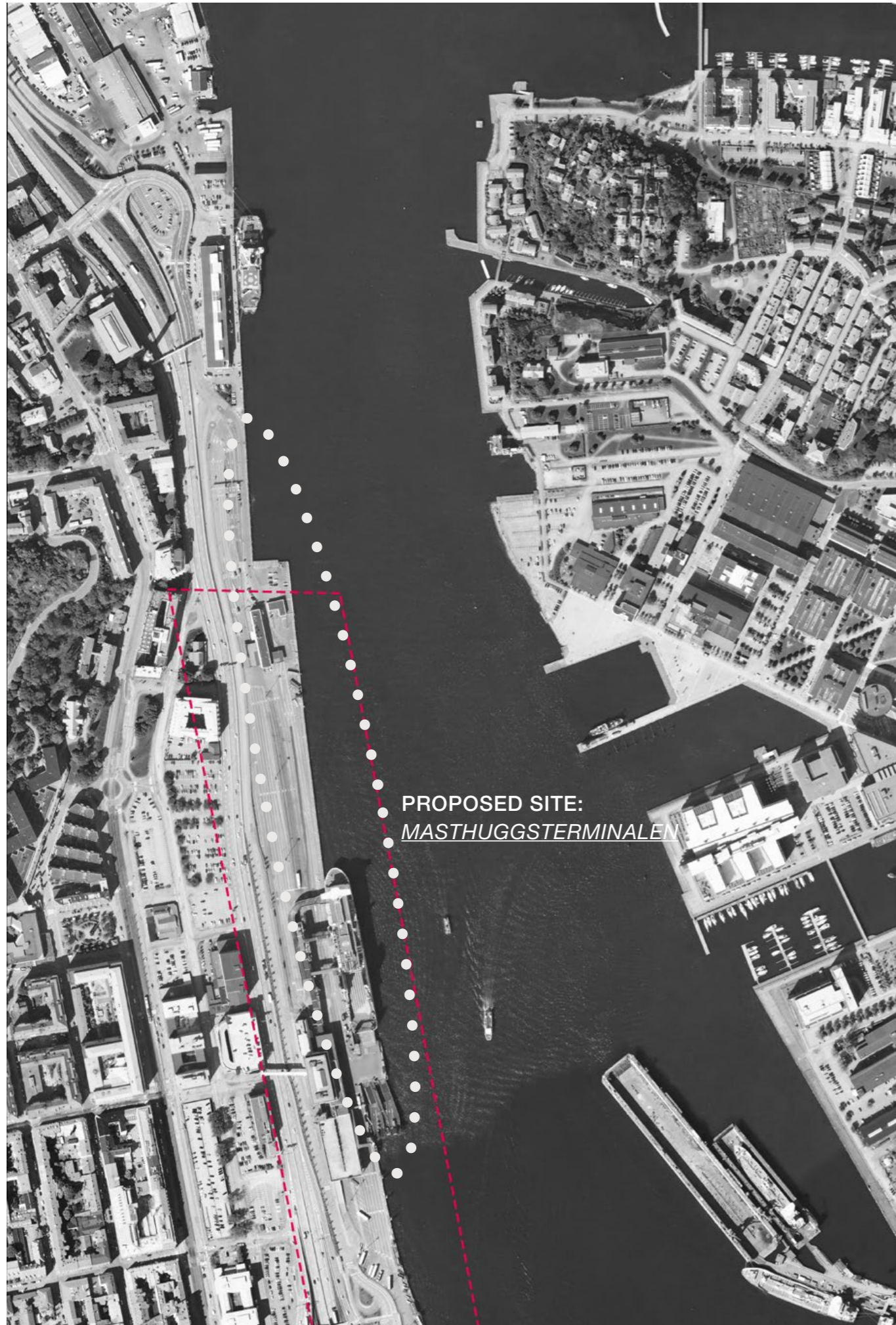
This makes it hard for the public to understand the significance behind what happens behind these large industrial sheds which leads to the slaughter becomes a part of an anonymous history behind silent walls.

This emphasizes this master thesis aim to place the abattoir in a more public and rural context as the abattoirs of today are hard to reach and find in cities.

When placing them in a more urban context, interesting connection will start to happen that will be interested to investigate further in this master thesis.



LINKÖPING ABATTOIR IN BIRD'S EYE VIEW



## THE SITE

Masthuggsterminalen is a very special place in the city of Gothenburg. This is the site where the Stena Line ferries to Denmark departs from. As there are only a number of departures per day the building stays empty for the major part of the day. The building itself speaks of travelling with the rectangular shape giving it an element of departure and speed. It is almost like an air terminal, although not as fancy.

Close to the vicinity of Järntorget with its spiraling night life Masthuggsterminalen is an unurban oasis in the city. With the proposal for Masthuggskajen (that also has been agreed upon) the terminal will be even more awkward. Among some of the cities newest building that hopefully will buzz with life Masthuggsterminalen stands there silent and empty.

At the same time Masthuggsterminalen inherits a lot of the values that one would look for when designing an abattoir. There

are a lot of spaces for the amount of trucks that would be needed to transport all the animals to the site. There will also be the possibility to transport them by boat from Denmark as this is one of our mayor sources of meat.

As it is close to the water one could easily create a back and a front of the building if that is deemed necessary. If there is extra space needed it would also be possible to create artificial islands to Göta Älv to add extra space.

It is also the perfect match between the urban buzzing street life and the industrial history of Gothenburg that the project strives for. There would also be a strong possibility to create a building that speaks with the city.



View from Lindholmen towards the Ferry Terminal at Masthugget today  
(Image credit: The author)



View from the Ferry Terminal at Masthugget towards Lindholmen today  
(Image credit: The author)



View from Lindholmen Parking Lot Next to the Ferry Terminal at Masthugget  
(Image credit: The author)



View from the Ferry Terminal at Masthugget towards Lindholmen today  
(Image credit: The author)





View from Första Långgatan towards the Masthugget Ferry Terminal Entrance  
(Image credit: The author)



View from the passing Bike Lane towards the Ferry Terminal at Masthugget today  
(Image credit: The author)



The passing road next to The Ferry Terminal at Masthugget today  
(Image credit: The author)

**04.**

**REFERENCES**



Johan Celsing Arkitektkontor - The New Crematorium Exterior Perspective 1  
(Image credit: [https://commons.wikimedia.org/wiki/File:Nya\\_krematoriet\\_September\\_2014\\_12.jpg](https://commons.wikimedia.org/wiki/File:Nya_krematoriet_September_2014_12.jpg))



Johan Celsing Arkitektkontor - The New Crematorium Exterior Perspective 2  
(Image credit: [https://commons.wikimedia.org/wiki/File:Nya\\_krematoriet\\_September\\_2014\\_03.jpg](https://commons.wikimedia.org/wiki/File:Nya_krematoriet_September_2014_03.jpg))

## JOHAN CELSING ARKITEKTKONTOR

### THE NEW CREMATORIUM

THE WOODLAND CEMETERY, SWEDEN

2013

The new Crematorium by Johan Celsing Arkitektkontor is a jewel of architectural quality placed in the pine struck forests of the Woodland Cemetery which famously hosts buildings by both Gunnar Asplund and Sigurd Lewerentz. The motto for the project that won the anonymous international competition in 2009 was “A Stone in The Forest”.

The building is designed in accordance with the surrounding forest making it a building that interacts poetically with its surroundings which has been a major factor for the architects. The facade is made of brick from the Danish brickmaker Petersen and the inside is made up of exposed white concrete and glazed bricks while the floor is made of marble from Brännlycke in Sweden. ([https://www.celsing.se/project\\_display.php?id=81](https://www.celsing.se/project_display.php?id=81)).

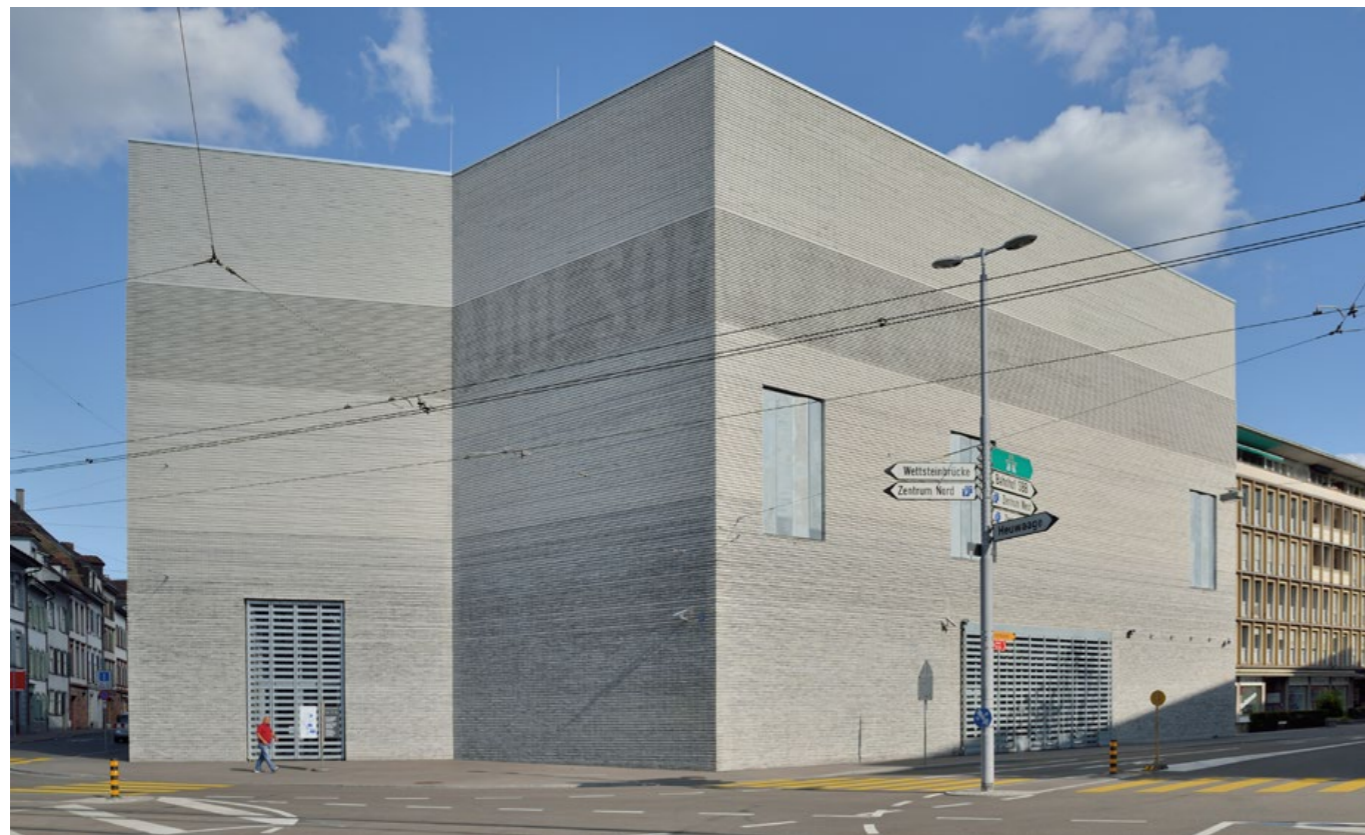
In his essay from the Swedish architecture magazine Arkitektur Lauri (January 2014) describes the project as being dualistic in its formal exterior and its more private interior, something that is accentuated by the dark bricks in the exterior and the white concrete in the interior. An official facade for everyone but an interior for those who are in line with what is happening inside.

Johan Celsing has been inspired by formal poetry in the creation of the crematorium in that it has a structure that ties everything together but at the same time gives a richness in variation. This is something this master thesis wants to strive for in how it has the slaughter lines that creates a coherent feeling of togetherness but at the same time every slaughter line is unique as every animal needs and wants are unique.

Also, the placement of the ovens and the contrast between them and the white room has been an inspiration to the abattoir in how they as four monolithic solids contrasts the openness of the white space - being further enhanced by the black doors.

Lauri (January 2014) says something beautiful about the crematorium that is something that is also a part of this master thesis:

“It hovers between death as a part of nature’s way and humans cultural will to all the time stand up against the vanity. It is a journey of redemption that is described - a way to get closer to death” (authors translation).



Christ & Gantenbein - Kunstmuseum Basel Exterior Perspective 1  
 (Image credit: [https://commons.wikimedia.org/wiki/File:Basel\\_-\\_2017\\_-\\_Kunstmuseum\\_Basel\\_-\\_Neubau.jpg](https://commons.wikimedia.org/wiki/File:Basel_-_2017_-_Kunstmuseum_Basel_-_Neubau.jpg))



Christ & Gantenbein - Kunstmuseum Basel Exterior Perspective 2  
 (Image credit: [https://upload.wikimedia.org/wikipedia/commons/6/6e/Neubau\\_des\\_Kunstmuseums\\_in\\_Basel\\_5.jpg](https://upload.wikimedia.org/wikipedia/commons/6/6e/Neubau_des_Kunstmuseums_in_Basel_5.jpg))

## CHRIST & GANTENBEIN

### KUNSTMUSEUM BASEL

BASEL, SWITZERLAND

2016

The extension to the Kunstmuseum Basel by the Swiss architecture office Christ & Gantenbein is a monolithic building that creates a new square and public space in an otherwise heavily trafficked road. The entrance to the building is both from the street seen in the images but there is also a connection to the museum from the old Kunstmuseum Basel from 1936, under the existing road.

The biggest inspiration taken from the project is how the building treats the brick facade. The facade is made of brick from the Danish brickmaker Petersen Tegl and is the format of 228 x 108 x 54 mm. There are two different colors: D91 and the custom made D11. The building is almost like a mountain range that there are a lot of close to Basel. The industrial feeling has been highlighted by using only a few vertical windows that can be closed with hot-galvanized-steel shutters. (Stylepark, 2017).

There is also an intricate playful interaction

between the base and the top of the building where the brick moves from a darker color in the bottom to a lighter version on the top that also holds a LED-screen shown during the night which can showcase messages for all people who come to visit the building at night.

The building highlights many qualities of how bricks can be used carefully in the facade of a building as well as how to create a building that aims to add urban functions to the surrounding streetscape. Something that is highly regarded and is taken into consideration into the master thesis.



*Kville Food Hall Seen From The Tram Stop  
(Image credit: The author)*



*Kville Food Hall Seen From The Interior  
(Image credit: The author)*

## GUSTAV APPELL ARKITEKTKONTOR

### KVILLE FOOD HALL

GOTHENBURG, SWEDEN

2013

The Kville Food hall by Gustav Appell Architects is a much-celebrated new food hall in the city district Kvillebäcken, in Gothenburg. The building was nominated with the Kasper Salin award in 2013, as well as the Mies van der Rohe award in 2015.

The architects have made similarities with the building and the library or the central station as it is a big open room in the city for everyone to enjoy where you don't need to consume anything if you don't prefer to. They also make a statement saying that usually buildings like this are often quite closed off to the public eye, making this a super public building instead. (<http://www.gustavappell.se/projekt/kville-saluhall/>)

The project shares many similarities with the proposal for the abattoir in that it wants to be something more public for the whole society to fully enjoy. It also deals with the same type of products (primarily meat) and uses this to create a beautiful public room in the city. The Kville Food Hall also has materials that are important references for the master thesis as these are robust materials (concrete, brick, steel) that can take its share of wear and tear.

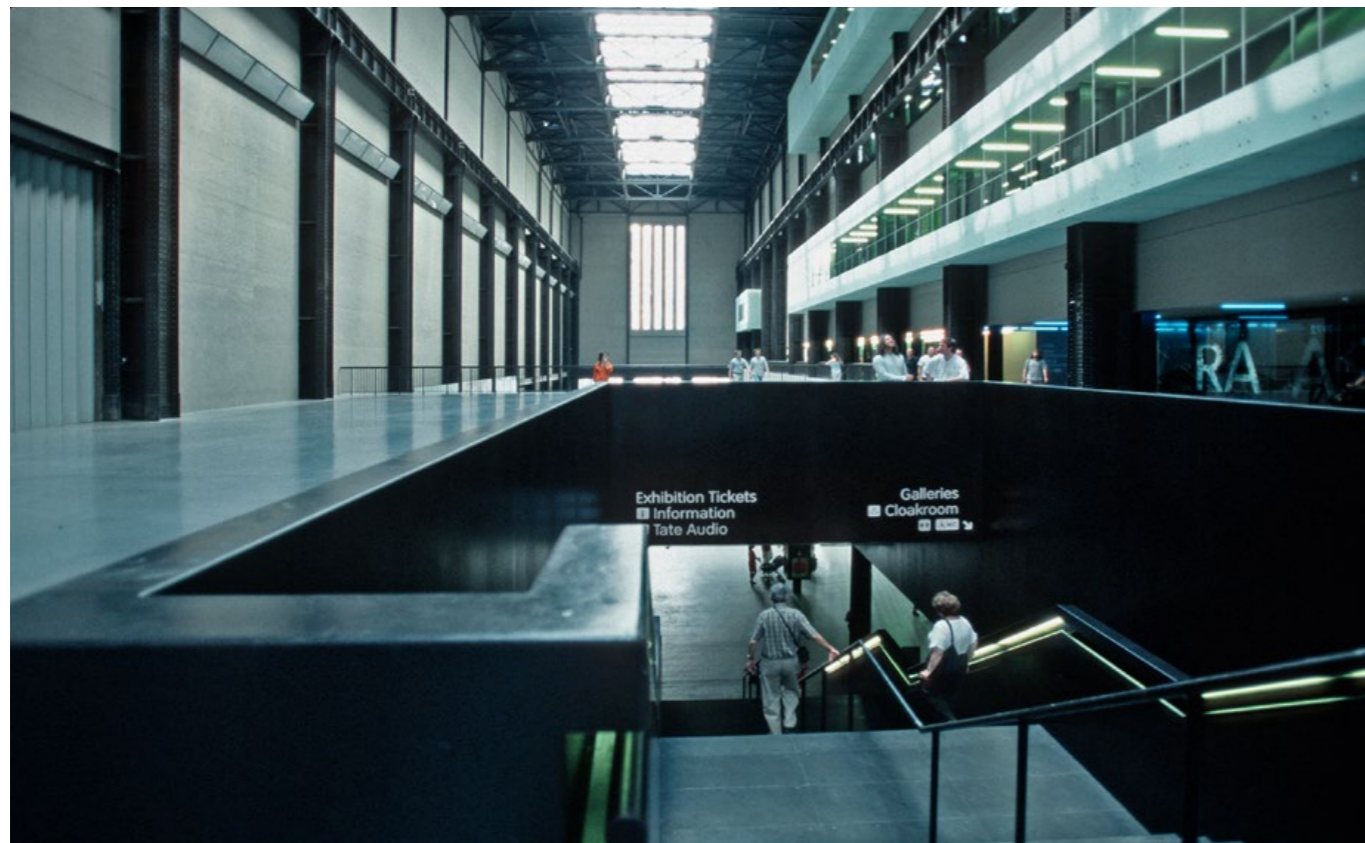
In describing the building in the Swedish magazine Arkitektur, Svensson (2013, November) names it aptly the food cathedral, which is the same words aimed for in description of the abattoir in this master thesis. The food hall is also described as being rejuvenated as a part of an ongoing international trend of the food hall as both a public space and tool for planners in urban redevelopments. Or "a sort of cathedral for the urban middle class" (Svensson, 2013, November).

The building situates itself in the current Swedish trend of neo-classical architecture, much to the similarities of famous architects such as Tony Fretton and David Chipperfield - a trend that also this master thesis aims to take part in. The building also has a terrace that has no clear functions but to be more as a meeting place for people close by. Something this master thesis also derives from.

To sum up - this project is an important aspect as it tries to deal with the same questions that the abattoir aims to deal with it - how to create a celebrated dignified architecture for something that has been marginalised.



*Sir Giles Gilbert Scott - Bankside Power Station Exterior Perspective*  
(Image credit: [https://commons.wikimedia.org/wiki/File:Bankside\\_Power\\_Station.jpg](https://commons.wikimedia.org/wiki/File:Bankside_Power_Station.jpg))



*Sir Giles Gilbert Scott - Bankside Power Station Interior Perspective*  
(Image credit: [https://upload.wikimedia.org/wikipedia/commons/2/2f/Tate\\_modern\\_london\\_2001\\_05.jpg](https://upload.wikimedia.org/wikipedia/commons/2/2f/Tate_modern_london_2001_05.jpg))

## SIR GILES GILBERT SCOTT BANKSIDE POWER STATION (TATE MODERN)

LONDON, UNITED KINGDOM

1947

The Bankside Power Station, or as it is more famously known today; The Tate Modern, is an art of industrial architecture by the British architect Sir Gilbert Giles Scott (famous for having designed the red telephone booths in London) which was an extension to the existing Bankside Power Station that had been residing in the area since 1891 (Greater London Industrial Archaeology Society, 2010).

In his essay about the station Stephen Murray (Greater London Industrial Archaeology Society, 2010) refers to it as a cathedral of power - linking the immense structure creating energy for London to that of the old cathedrals to which it mimics. It is just a bit smaller than St Pauls Cathedral with the chimney being 99 meters tall (although this led to some pollution problems).

When the power plant was closed in 1981 there was a strong debate on how to preserve the building as it had become such an icon to the city of London - like Battersea Power Station, also by Sir Gilbert Giles Scott. The building that once had been so contested started to regain some of its worthy praise (Greater London Industrial Archaeology Society, 2010).

In 1994 Tate Gallery acquired the building to make it a venue for their collection of modern art - something that also happened when it opened in 2000.

This building is an interesting piece of architecture in relation to this master thesis has how it now hosts one function (energy in the case of Bankside Power Station; the act of slaughter in the case of this master thesis) but might sometimes soon need a new program as peoples and society's collective opinions change.

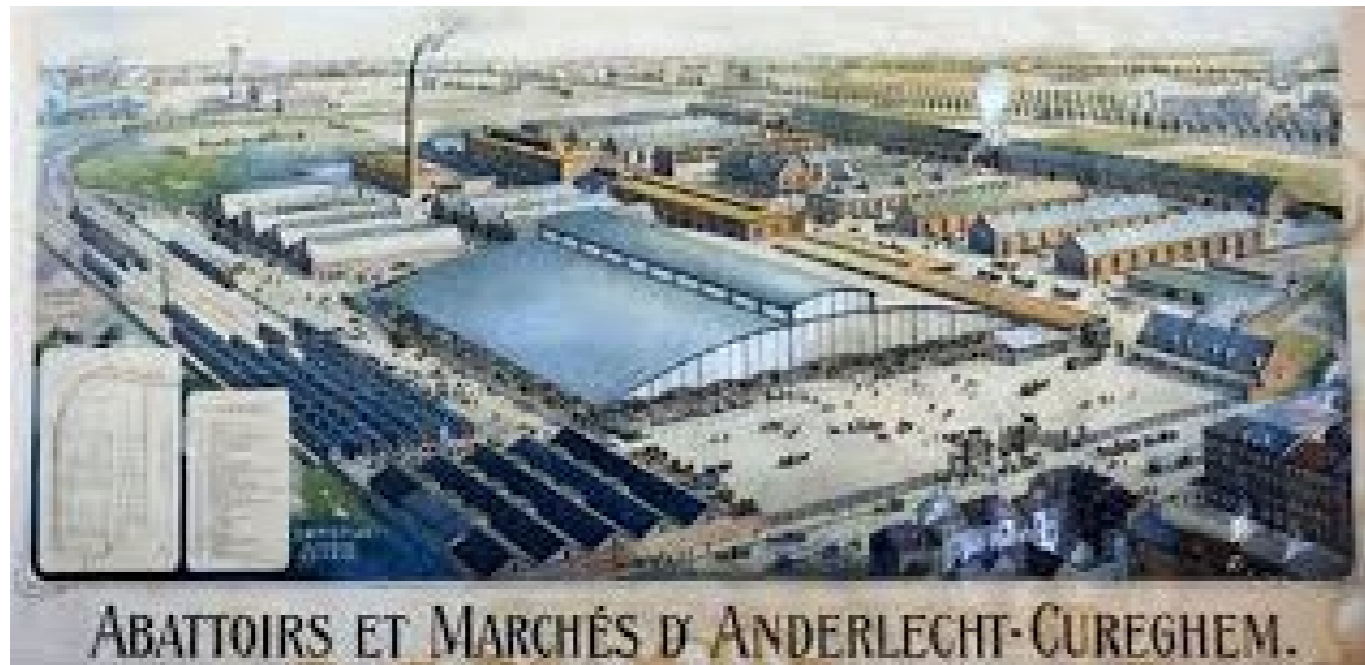
In this case this master thesis lies extensively on the Bankside Power Station in how this transformation has been so successful and in how this has given so much to inner city of London.

Even the site in that sense relates to the master thesis in that it is an old harbor site being transformed into something more urban giving other qualities to its citizens.

At this - the Bankside Power Stations is an interesting testament to how a building can host so vastly different programs but still work so elegantly thanks to its architecture.



Émile Tirou - The Abattoirs Of Anderlecht / Cureghem Exterior Perspective 1  
(Image Credit: <http://www.abattoir.be/sites/files/content/abattoir%20old%20picture.jpg>)



Émile Tirou - The Abattoirs Of Anderlecht / Cureghem Exterior Perspective 2  
(Image Credit:

[http://www.coop.brussels/decouverte/wp-content/uploads/sites/2/cache/2016/09/abattoirs\\_et\\_marches\\_anderlecht\\_dessin-765cd/476626945.jpg](http://www.coop.brussels/decouverte/wp-content/uploads/sites/2/cache/2016/09/abattoirs_et_marches_anderlecht_dessin-765cd/476626945.jpg))

ÉMILE TIROU

THE ABATTOIRS OF ANDERLECHT / CUREGHEM

BRUSSELS, BELGIUM

1887-1890

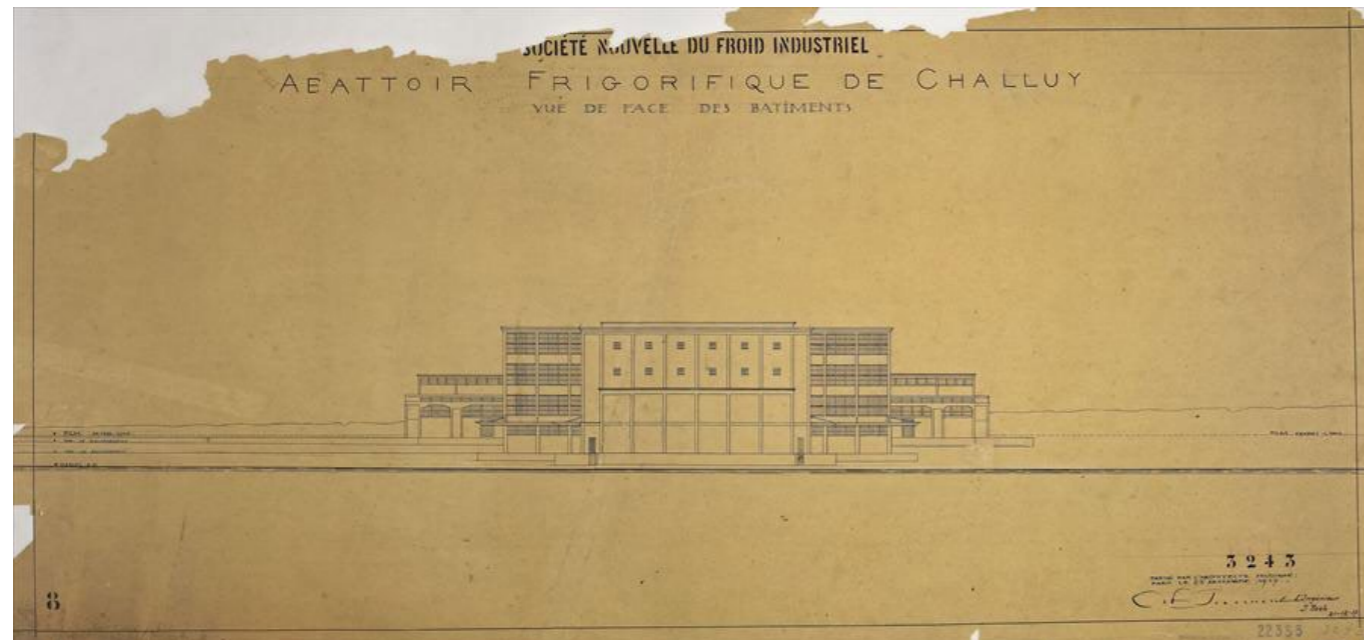
The abattoirs of Anderlecht, or Cureghem, is a famous example of large scale public abattoirs that replaced the old private slaughter houses across Europe during the latter part of the 19th Century. Transcending from communal slaughter that often was unsanitary and caused major problems to the health conditions of the city and its dwellers, to this large scale abattoir located outside of Brussels was primarily for sanitary reasons (as well as removing the stench and screams that the abattoir entailed).

The abattoir was designed by the Belgian architect Émile Tirou, who designed a building with a square metal roof 100 meters long. The roof is supported by 100 columns in cast iron, which are placed in a grid every 10 meters. In between you find brick-built barrel vaulting. The inspiration came from the Grande Halle de la Vilette in Paris (abattoir.be, 2018).

The main entrance is also adorned with two tanned cast bulls designed by the french amalier sculptor Isidore Bonheur (bronze-gallery.com, 2018). Besides the large steel glass structure in the center of the compound, there are many adjacent buildings that complete the abattoirs.

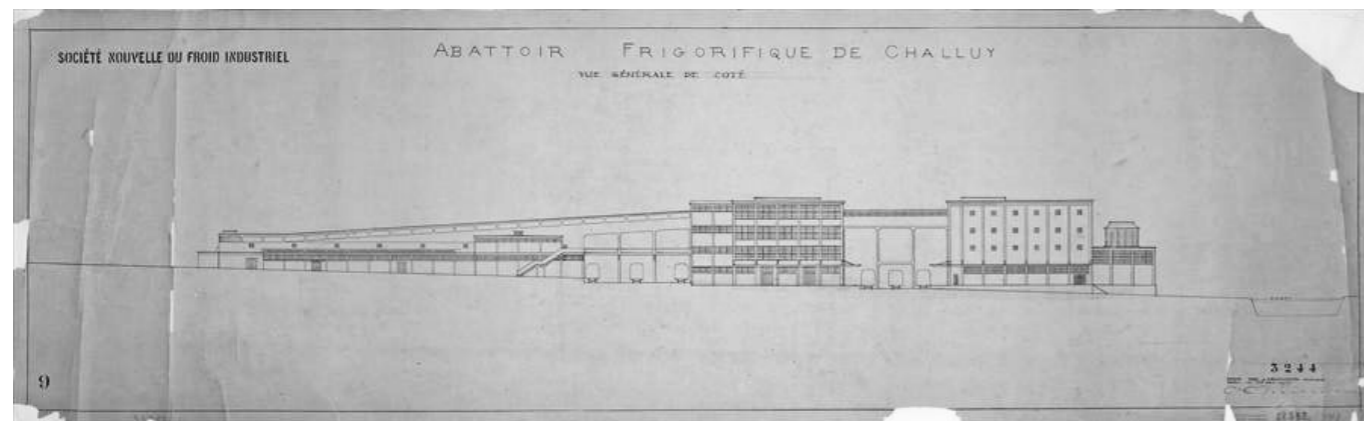
The abattoir is still in use today even though there are other functions that have been placed within the abattoir as well.

This building is interesting within the context of this master thesis as it shows earlier designs of abattoir that vastly differs from how abattoirs are designed today. This was still a very open and public building filled with glass walls and two bulls that framed the entrance to the building. This is in stark contrast to how abattoirs are designed and planned today; often located in large industrial districts or in the countryside.



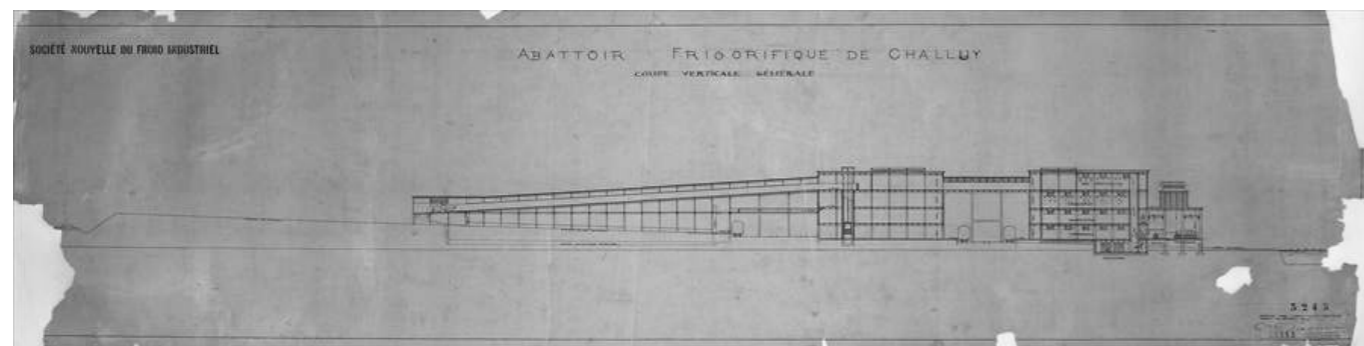
Le Corbusier - Abattoir Frigorifique Chally Floor Plan

(Image Credit: [http://www.fondationlecorbusier.fr/CorbuCache/900x720\\_2049\\_1123.jpg?r=0](http://www.fondationlecorbusier.fr/CorbuCache/900x720_2049_1123.jpg?r=0))



Le Corbusier - Abattoir Frigorifique Chally Facade

(Image Credit: [http://www.fondationlecorbusier.fr/CorbuCache/900x720\\_2049\\_1121.jpg?r=0](http://www.fondationlecorbusier.fr/CorbuCache/900x720_2049_1121.jpg?r=0))



Le Corbusier - Abattoir Frigorifique Chally Section

(Image Credit: [http://www.fondationlecorbusier.fr/CorbuCache/900x720\\_2049\\_1122.jpg?r=0](http://www.fondationlecorbusier.fr/CorbuCache/900x720_2049_1122.jpg?r=0))

## LE CORBUSIER

### ABATTOIR FRIGORIFIQUE

CHALLUY, FRANCE

1917

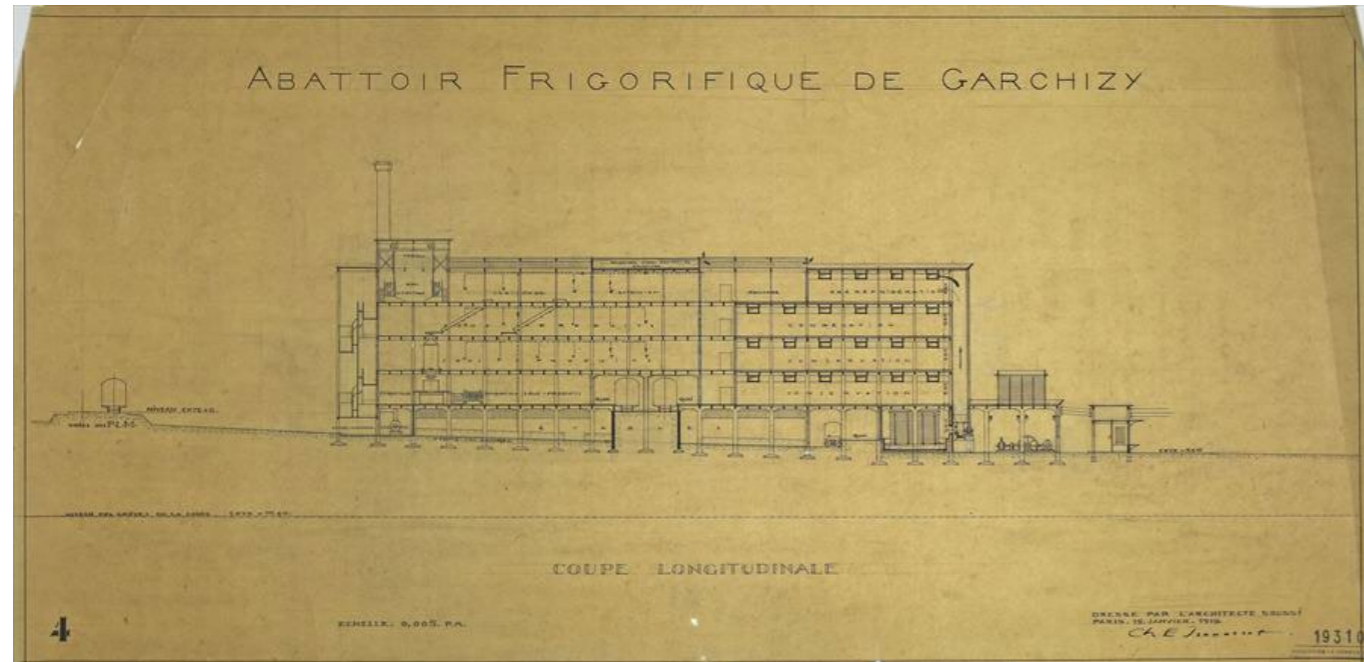
Some of Le Corbusier's first projects were proposals for abattoirs in two competitions held in France. The first one was in 1917, and was a competition held by the US military. Le Corbusier wanted to break away from the traditional European slaughterhouses and proposed a design both "simple and logical". Le Corbusier was very influenced by the mechanical engineer Frederick Winslow Taylor, whose "Principles of Scientific Organisation of Factories" had been published in France in 1912.

His proposal was built on three different buildings with different fenestration. The first one was for cattle stalls, the second for the slaughtering and the third for refrigeration. The buildings were connected by bridges and conveyor belts and it was intended that the animals should be brought through the different buildings with the use of movement and gravity. This by after the slaughter they should be moved from the top floor down through the floors on the conveyor belts.

The building was categorised by orthogonal frames, visual dynamics through ramp and external stairs. There was a clear identification of functional units and integration with circulation networks. The buildings spoke about a clear industrial vocabulary and was free of decorations.

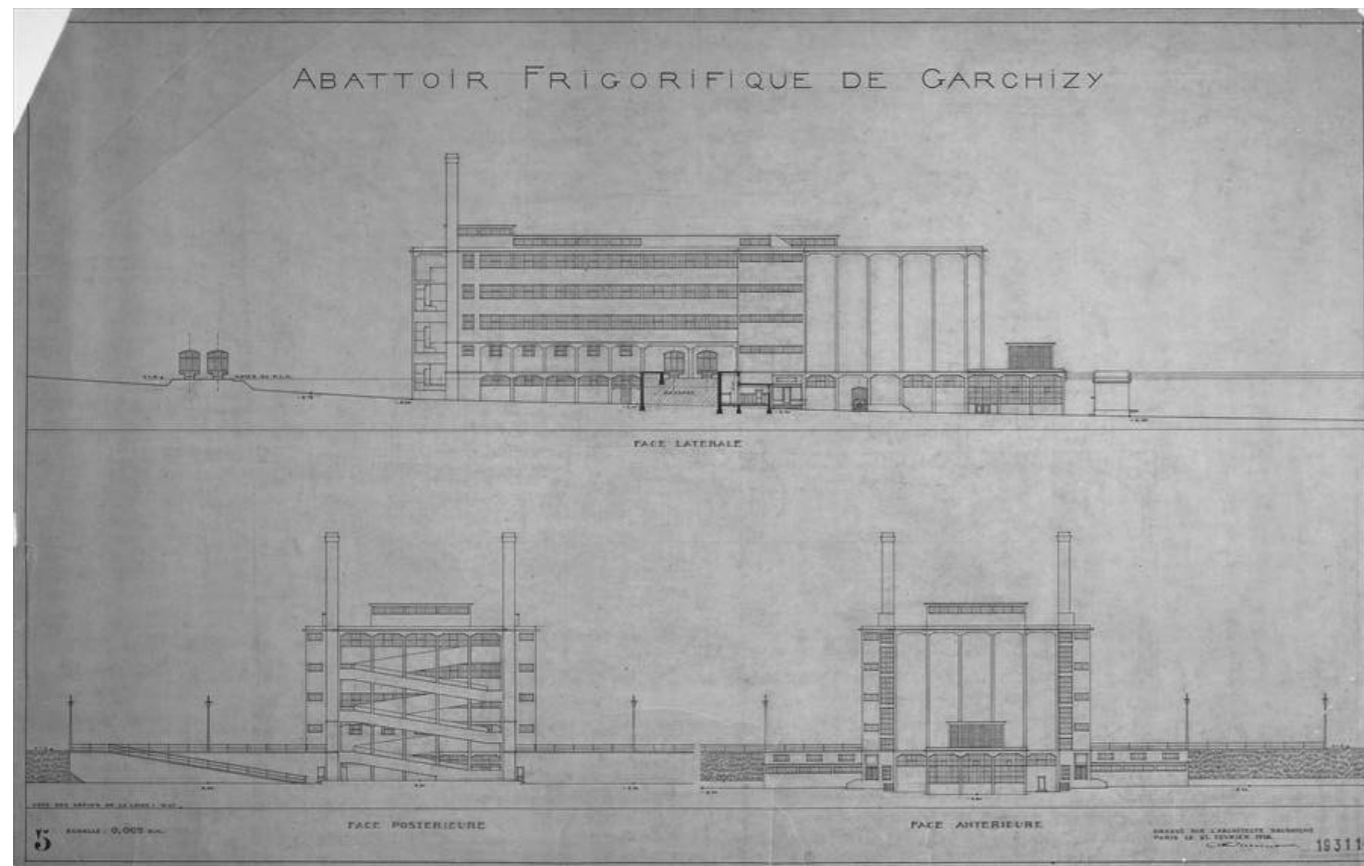
In a sense this proposal (although he didn't win) was a foreshadowing of what was to come for the modern abattoir. Away from small slaughterhouses connected to the farm, this was an abattoir meant for the modern industrialized city with focus on sanity and a clear movement toward separation between the food you buy and how it is produced.





Le Corbusier - Abattoir Frigorifique Garchisy Sections

(Image Credit: [http://www.fondationlecorbusier.fr/CorbuCache/900x720\\_2049\\_1126.jpg?r=0](http://www.fondationlecorbusier.fr/CorbuCache/900x720_2049_1126.jpg?r=0))



Le Corbusier - Abattoir Frigorifique Garchisy Facades

(Image Credit: [http://www.fondationlecorbusier.fr/CorbuCache/900x720\\_2049\\_1127.jpg?r=0](http://www.fondationlecorbusier.fr/CorbuCache/900x720_2049_1127.jpg?r=0))

## LE CORBUSIER

### ABATTOIR FRIGORIFIQUE

GARCHISY, FRANCE

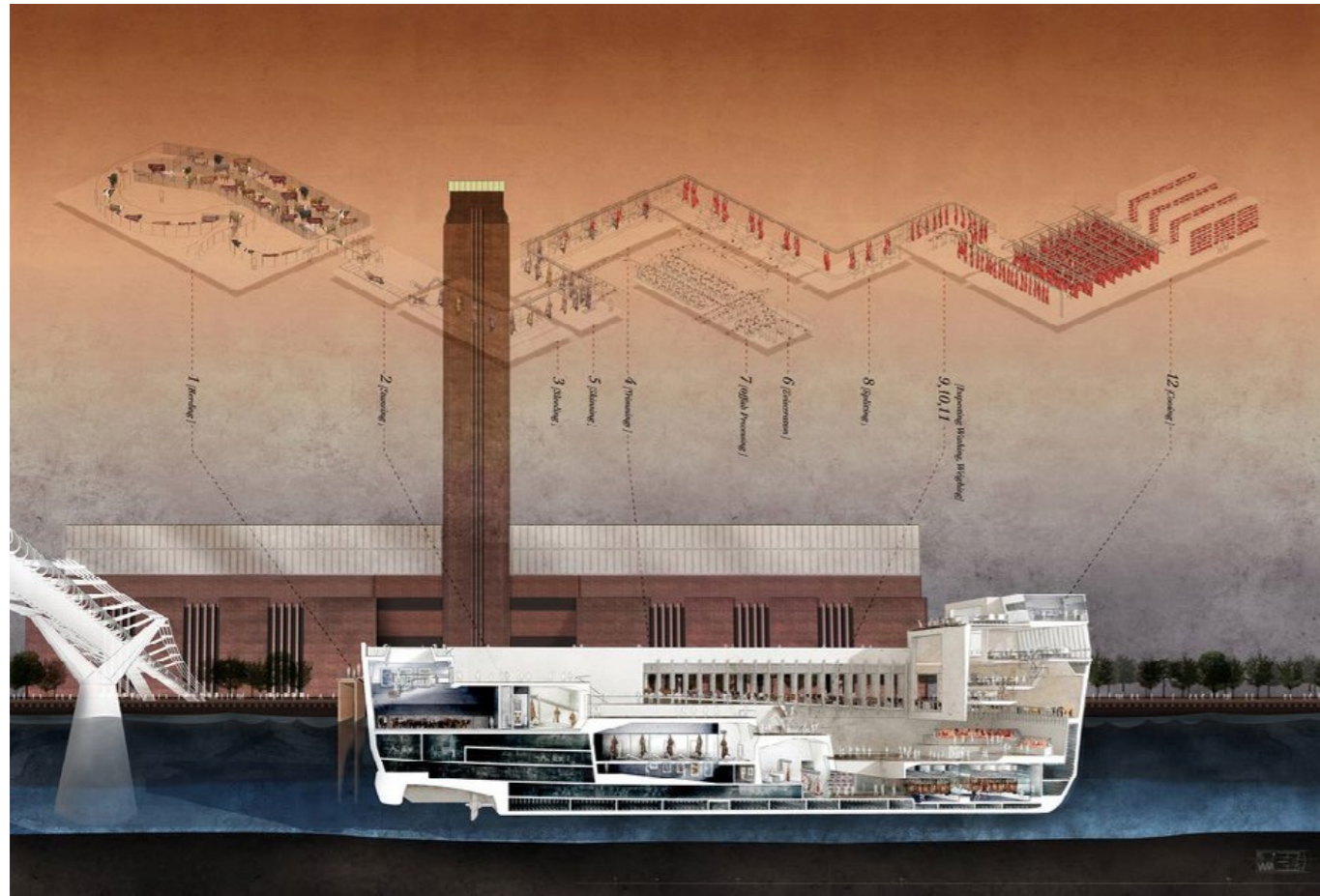
1918

The second proposal for an abattoir by Le Corbusier was in Garchisy, France. This was however also never built. The design is similar to the one in Challuy with same expression of verticality in the facade and the same fenestration-motif. This was right after Le Corbusier had designed the Domino House, so the domino columns was prominent in the facade. There are also the typical ribbon glazing in the facade which would be a hallmark later on for Le Corbusier.

The projects as such were very influential for Le Corbusier as they performed his new architectural language of reinforced concrete frames and slab with cubic forms, flat roofs and industrial windows. He was also very fascinated about how

the abattoirs fitted in the communication network and therefore became a part of something much larger. That is to say how animals (nature) is harnessed and transformed to a consumer product by an industrial process, to be finally distributed out to the people of the country.

This would influence Le Corbusier's later work and his idea for the utopian city as well as the design for the rest of the abattoirs and how we today see abattoirs as effective machines for killing animals and providing food to the people.



Janice Lau - Atrocity Exhibition Long Section  
(Image Credit: <https://www.rca.ac.uk/students/janice-lau/>)

**JANICE LAU**

**ATROCITY EXHIBITION: A PUBLIC ABATTOIR**

ROYAL COLLEGE OF ART

2014

Janice Lau's master thesis Atrocity Exhibition - A Public Abattoir from Royal College Of Art in London, 2014, is one of two thesis references that has been found, that concerns the question of the architecture of the abattoir and the ethical aspects of eating meat.

meat from cell cultures. The abattoir also includes a public market and restaurant using the architecture as a tool to reveal the process.

Her master thesis was featured in Dezeen Magazine on the 21st of July, 2014

The reference is a good one as it shows how other students of architecture has tackled this field. It also gives good guidelines for the transformation from meat industry to the future of growing meat from cell cultures.

The thesis takes its start in that it has been classed as a class-D felony (on par with soliciting a minor) to release unauthorized information on "animal facilities." Therefore it makes it harder and harder for the public to gain information about the abattoirs and other animal facilities.

It represents this visually effectively through a section called the morality section, which offers a good insight into the moral aspects of slaughtering animals and how this section can change over time.

The thesis instead chooses to focus on exposing the meat industry through an abattoir for cattle, that during time will transform itself into a plant for growing

### PICK YOUR COW

 UK13200000000000000000 Breed: Shorthorn Sex: Female Born: 01.01.2006 Farm: Cambridgeshire (Cambridgeshire)	 UK13200000000000000000 Breed: Holstein Sex: Female Born: 14.06.2005 Farm: Devon Cattle (Somerset)	 UK13200000000000000000 Breed: Holstein Sex: Female Born: 17.01.2005 Farm: Devon Cattle (Somerset)	 UK13200000000000000000 Breed: Holstein Sex: Female Born: 17.01.2005 Farm: Devon Cattle (Somerset)
 UK13200000000000000000 Breed: Holstein Sex: Male Born: 01.02.2006 Farm: Devon Cattle (Somerset)	 UK13200000000000000000 Breed: Holstein Sex: Male Born: 01.02.2005 Farm: Devon Cattle (Somerset)	 UK13200000000000000000 Breed: Holstein Sex: Male Born: 01.02.2005 Farm: Devon Cattle (Somerset)	 UK13200000000000000000 Breed: Holstein Sex: Male Born: 01.02.2006 Farm: Devon Cattle (Somerset)
 UK13200000000000000000 Breed: Shorthorn Sex: Female Born: 15.02.2005 Farm: Devon Cattle (Somerset)	 UK13200000000000000000 Breed: Shorthorn Sex: Female Born: 02.01.2005 Farm: Cambridgeshire (Cambridgeshire)	 UK13200000000000000000 Breed: Holstein Sex: Female Born: 12.01.2005 Farm: Devon Cattle (Somerset)	 UK13200000000000000000 Breed: Holstein Sex: Female Born: 12.01.2005 Farm: Devon Cattle (Somerset)
 UK13200000000000000000 Breed: Shorthorn Sex: Female Born: 01.11.2006 Farm: Cambridgeshire (Cambridgeshire)	 UK13200000000000000000 Breed: Shorthorn Sex: Male Born: 01.01.2006 Farm: Cambridgeshire (Cambridgeshire)	 UK13200000000000000000 Breed: Shorthorn Sex: Female Born: 01.01.2005 Farm: Devon Cattle (Somerset)	 UK13200000000000000000 Breed: Shorthorn Sex: Male Born: 08.07.2004 Farm: Cambridgeshire (Cambridgeshire)
 UK13200000000000000000 Breed: Shorthorn Sex: Female Born: 01.11.2006 Farm: Cambridgeshire (Cambridgeshire)	 UK13200000000000000000 Breed: Shorthorn Sex: Male Born: 01.01.2006 Farm: Cambridgeshire (Cambridgeshire)	 UK13200000000000000000 Breed: Shorthorn Sex: Female Born: 01.01.2005 Farm: Devon Cattle (Somerset)	 UK13200000000000000000 Breed: Shorthorn Sex: Male Born: 08.07.2004 Farm: Cambridgeshire (Cambridgeshire)

### CHOOSE YOUR STEAK

We have a passion for honest, high quality steak. Always fresh from our cows on board, our steaks are hand-trimmed, perfectly seasoned and expertly grilled just the way you like it.

**Signature Ribeye 18 oz**  
Our juicy, 18 oz bone-in ribeye is rubbed with special seasoning and grilled over an open flame.

**Eye of Prime 12 oz/ 16 oz**  
Slow-roasted, hand-cut, fully-trimmed and served with your choice of Classic au jus/ French Onion au jus/ Roasted Garlic cream sauce.

**House Filet 7 oz/ 9 oz**  
House-seasoned and grilled to perfection, our signature filet is treasured for its tenderness and savory taste.

**Portabella Peppercorn Filet 9 oz**  
Rubbed in 7-pepper seasoning then grilled to perfection. Topped with fresh portabella mushrooms sauteed in a Cabernet wine glaze.

**Filet Mignon 8 oz/ 10 oz**  
Cut fresh, exceptionally tender, juicy and flavourful.

**Fire-Grilled T-Bone 16 oz**  
A hearty strip and a tender filet in one perfect cut. Char-grilled over an open flame.

**Fontina Stuffed Fillet 7 oz**  
A tender filet stuffed with wild mushrooms, creamy fontina cheese and roasted red pepper, served with roasted garlic sauce.

**Chop Sirloin 8 oz/ 12 oz**  
A juicy top sirloin, seasoned with Prairie Dust

**Bleu Filet 7 oz/ 9 oz**  
A tender filet cooked the way you like then topped with a bleu cheese crust. Served with a savory red wine Bordalaise.

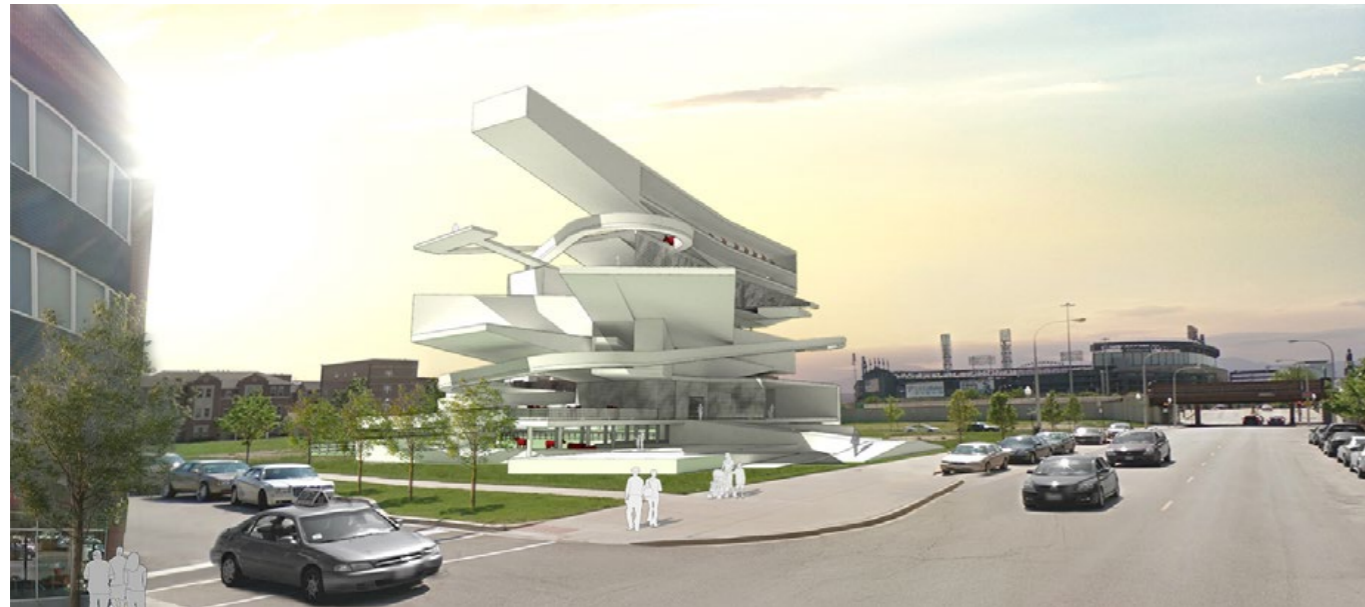
**Loughorn Steak Tips 12 oz**  
Marinated, heavy steak tips, grilled with caramelized onions and sauteed mushrooms.

All steaks are served with your choice of side, a mixed green or Caesar salad and freshly-baked wheat bread

How would you like your steak cooked?  
(Rare: Cool, red centre; Medium Rare: Warm, red centre; Medium: Bright pink throughout; Medium Well: Very warm, pink almost gone; Well: Very warm, brown throughout)

**\*CATTLE PASSPORT** All the meat you will be enjoying are prepared in our onboard slaughterhouse and kitchen. We also provide information from their cattle passports to help you understand the full story of your food. Cattle born in or imported into Great Britain since 1 July 1996 must have a cattle passport. This identifies them and their movements and must remain with them throughout their lives. The cattle passport records the animal cartag, breed, sex, date of birth, genetic Dam and where it has traveled.

Janice Lau - Atrocity Exhibition The Steakhouse  
(Image Credit: <https://www.rca.ac.uk/students/janice-lau/>)



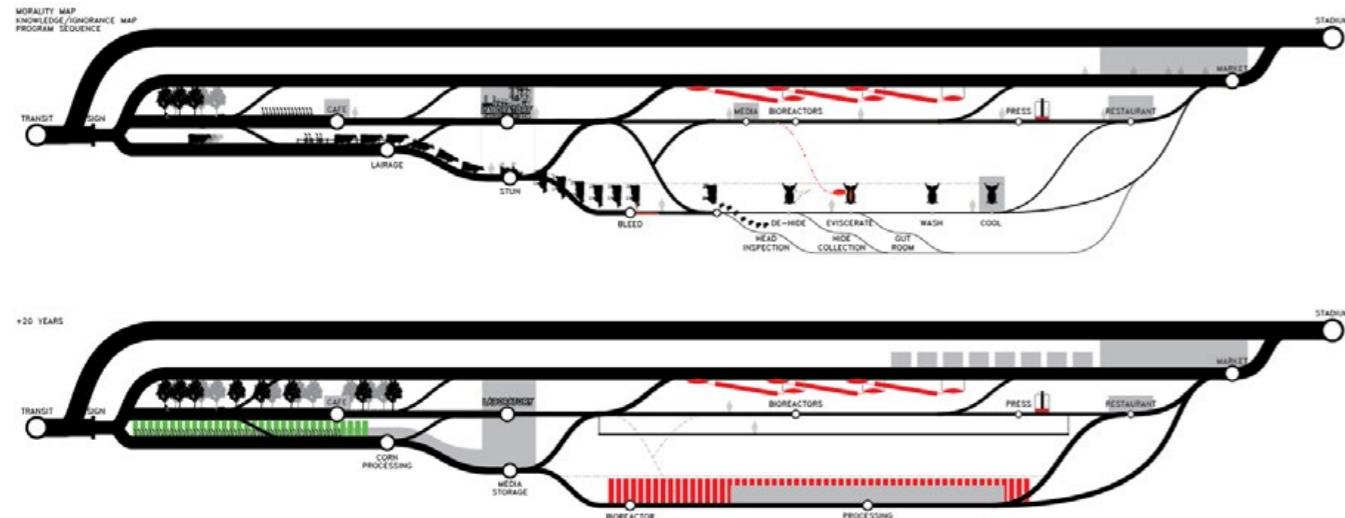
Lily Chung - Meat Culture Render

(Image Credit: <https://aap.cornell.edu/student-work/meat-culture-censored-spaces-and-radical-alternatives>)



Lily Chung - Meat Culture Diagram

(Image Credit: <https://aap.cornell.edu/student-work/meat-culture-censored-spaces-and-radical-alternatives>)



Lily Chung - Meat Culture Morality Section

(Image Credit: <https://aap.cornell.edu/student-work/meat-culture-censored-spaces-and-radical-alternatives>)

**LILY CHUNG**  
**MEAT CULTURE:**  
**CENSORED SPACE AND RADICAL ALTERNATIVES**

CORNELL UNIVERSITY

2014

Lily Chung's master thesis *Meat Culture: Censored Spaces and Radical Alternatives* from Cornell University, 2014, is one of two thesis references that has been found, that concerns the question of the architecture of the abattoir and the ethical aspects of eating meat.

Her master thesis was awarded with 2014 Cornell Thesis Award and was advised by David Eugin Moon and Caroline O'Donnell. The site for the project is the Illinois Institute of Technology Campus in Chicago, Illinois.

The thesis takes its start in that it has been classed as a class-D felony (on par with soliciting a minor) to release unauthorized information on "animal facilities." Therefore it makes it harder and harder for the public to gain information about the abattoirs and other animal facilities.

The thesis instead chooses to focus on exposing the meat industry through an abattoir for cattle, that during time will transform itself into a plant for growing meat from cell cultures. The abattoir also includes a public market and restaurant using the architecture as a tool to reveal the process.

The reference is a good one as it shows how other students of architecture has tackled this field. It also gives good guidelines for the transformation from meat industry to the future of growing meat from cell cultures.

It represents this visually effectively through a section called the morality section, which offers a good insight into the moral aspects of slaughtering animals and how this section can change over time.

# SWEDISH LAW

# URBAN PROJECT

# INTER- ACTION

# REVERENCE

## CONCLUSION & CONCEPT

Through the work that has been put into understanding the context of the present-day abattoir and the condition that lay ground for it concepts have start to emerge that will now be examined further:

### SWEDISH LAW

When reading through the texts from the different ministries in Sweden working on the questions of livestock and slaughter (most importantly Swedish National Board of Agriculture & National Food Agency) there has been a clear understanding that the law is important for how abattoirs are designed, especially when there have been a hard time finding any representatives from the industry who would like to give their view on the abattoir. This master thesis also understands that the proposal is much more powerful if it abides to regulations set in Sweden, so no objection can be made that the project is too unrealistic to be built due to it not taking care of stalling or other important factors.

### URBAN PROJECT

In seeing where the abattoirs of today are located it is not hard to understand that people have no idea as to how the slaughter process looks like. As they are tucked away in industrial areas or in the countryside with a blank facade there is hard to understand what goes on behind the walls. Therefore, the abattoir in this master thesis sets out to be an urban piece in an urban context

where it will be given a clear and dignified role to the slaughter and where everyone who sees it will know that there is an abattoir that resides here.

### INTERACTION

By letting visitors interact with the abattoir and see the process from inside they will have a better understanding of the slaughter process and what lies behind it. They will also start to meet strange sights in seeing the abattoir placed in such a weird context that perhaps will get them to further question their beliefs in carnism.

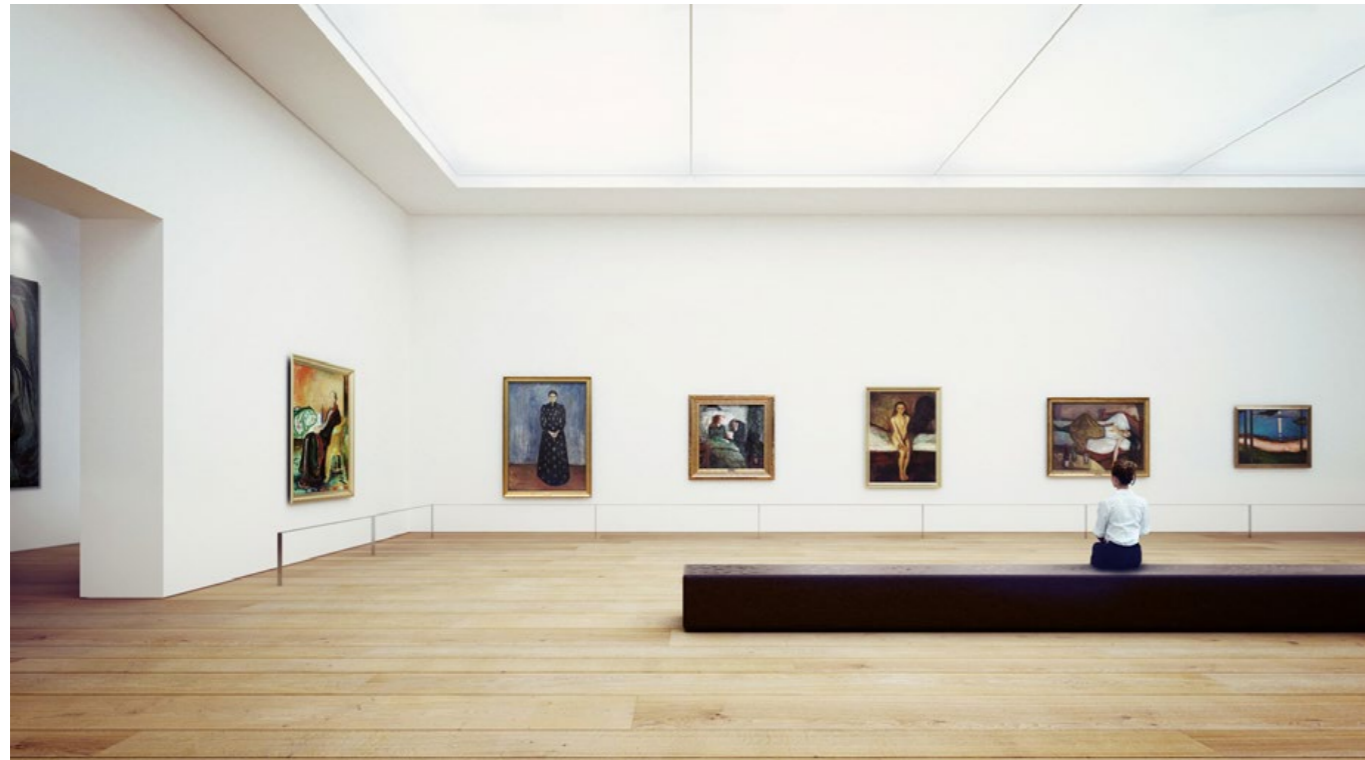
### REVERENCE

Most importantly is perhaps the notion of reverence - the notion that this master thesis is made for the animals and how the animals have been mistreated in surrendering their life to a process they don't perhaps event don't want to be a part of. The building itself will want to feel like a cathedral of slaughter as this process will make it the whole sacrifice of the animals much more debatable but also touching and interesting.

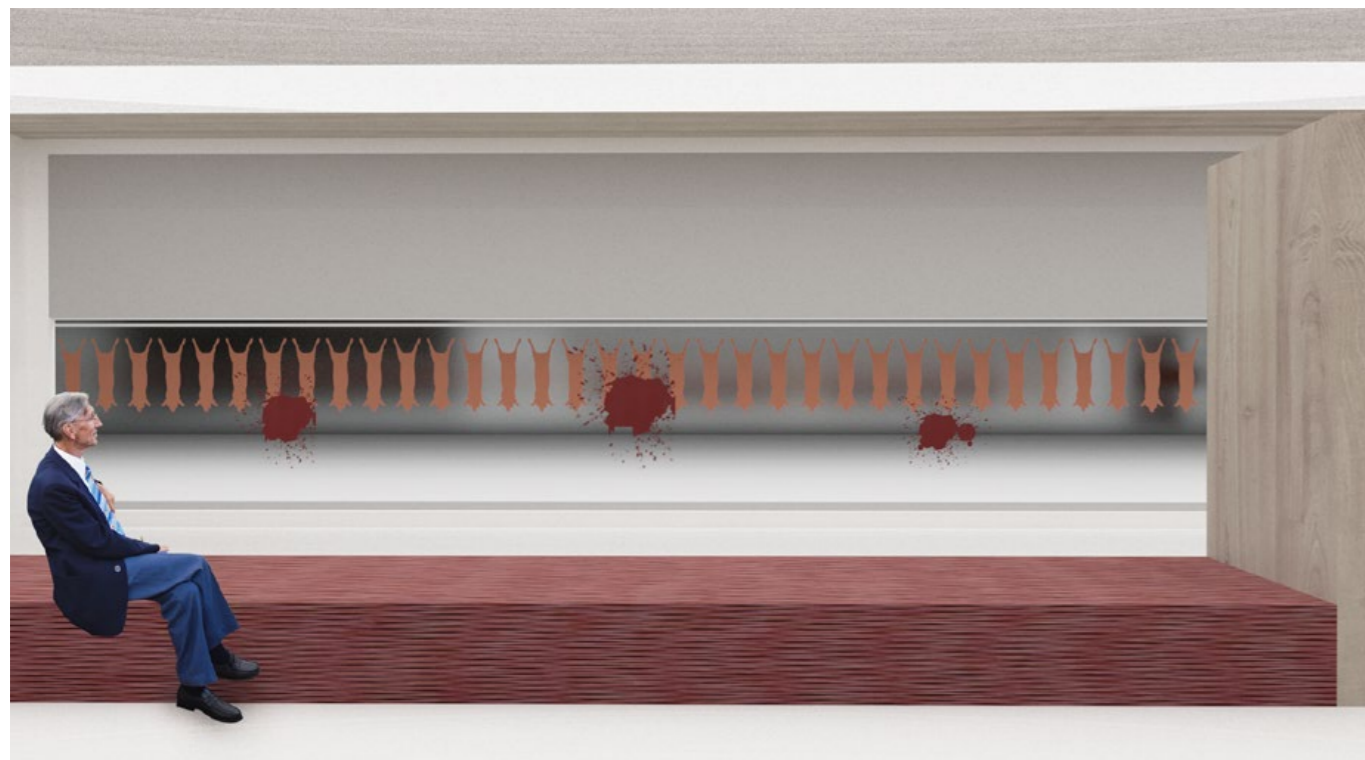
*These are the four conceptual pillars that this project has used as guidelines in creating the building that is presented in this booklet. It is now up to you as a reader to decide for yourself if you feel that these four criteria are met.*

**05.**

**DESIGN**  
**EVOLUTION**



Concept Image Reference: Klaus Schuwerk: Munch Detention (Image by M.I.R.)  
(Image credit: <https://www.mir.no/work/#munch-detention->)



Concept Image  
(Image credit: The author)

## KEY DESIGN EVOLUTION UNTIL MID-TERM CRITIQUE

The actual design evolution started with interim seminar 1 and the critique that the project received there. The critique was mainly projected towards the lack of design, even though there was a clear understanding that the project grasped the statistics and process behind the slaughtering of animals with interesting references (mainly the two projects by Le Corbusier and the two master thesis's).

The design process then started out in rhino and the drawing of the different stalls to grasp how big the building needed to be. There was already sufficient data that backed this support but not enough of design.

There was a quick conclusion that the building needed to be extremely big (at present day the building measures 370 x 87 meters at its base), and there was also an idea to place the levels with the different slaughtering of animals regarding how big stalling the animals needed. This meant that the pigs started on level 0, followed by in turn the cattle, the poultry, the sheep and lambs, and finally the horses. Although the poultry were by far the ones that were largest in quantities they needed lesser stalling than the cattle and pigs since they are so small. In placing the stalls on top of each other the building reached an impressive height of 22 meters excluding the roof. This was due to the different requirements on how much space the animals needed in the slaughter line. Pigs are calculated to need

a height of 3.5 meters, the cattle 5 meters, the poultry 2 x 2.25 meters (double line in height due to them being so many), the sheep and lambs 3 meters and the horses 5 meters.

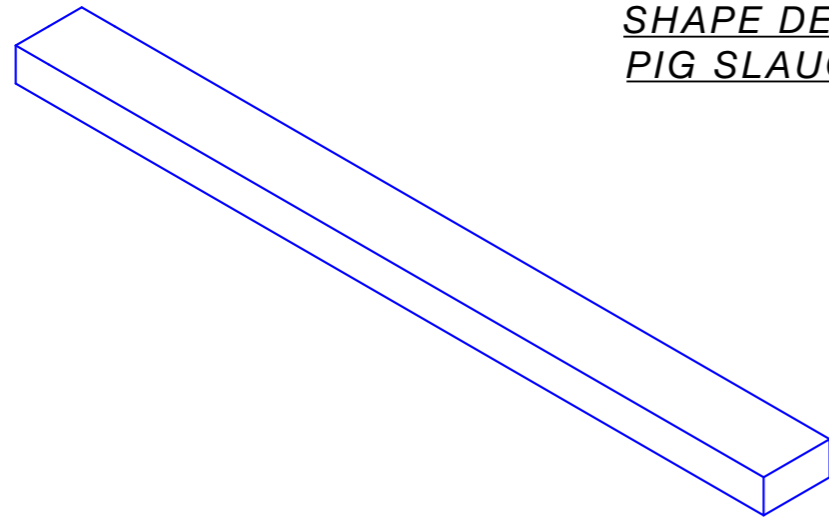
In the middle there was a gallery for visitors who came via an underground passage and then walked through the building level by level forcing them to continue upwards as the only elevator down was at the top of the building which would lead them out. Until this point they were only shown parts of the slaughter through framing as shown to the images on the left, but when they had walked through all the galleries the elevator would show them the whole slaughter process.

The main emphasis until the mid-term critique were put in the design of the frames of the pigs (shown on the next side) and how the visitors would perceive that part of the slaughter.

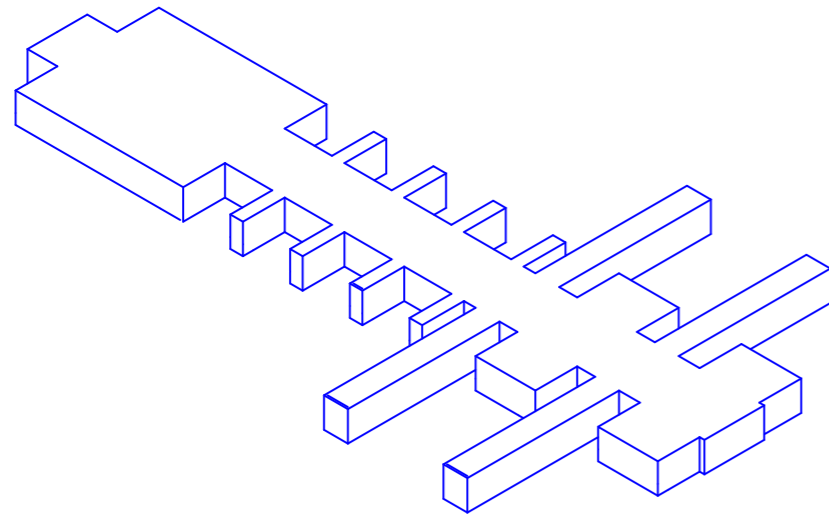
Shown are also the framing that were each tailor-made to special aspect of the slaughtering process as to maximize effect of the experience for the visitors.

One other important aspect was reached during tutoring when there was a discussion if the floors between the different slaughters couldn't be removed as to let the building be one large room - something that was implemented into the project.

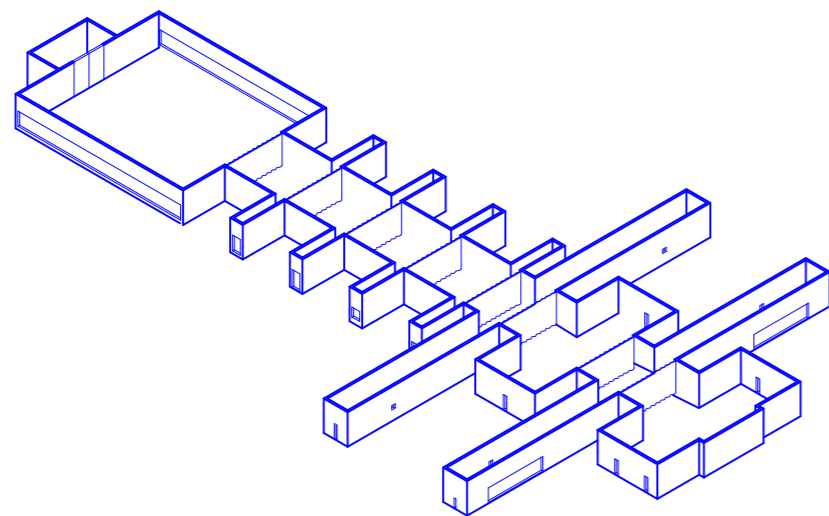
SHAPE DEVELOPMENT  
PIG SLAUGHTER HALL



1. Cuboid

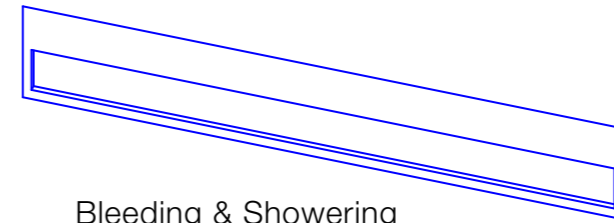


2. Reshaping According To Points Of Interest



3. Placing Windows to Maximise Effect

WINDOW FRAMES:  
PIG SLAUGHTER



Bleeding & Showering



Scalding



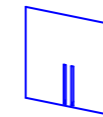
Dehairing



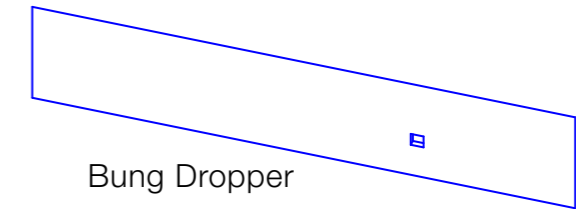
Final  
Treatment



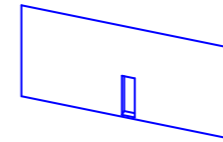
Burning



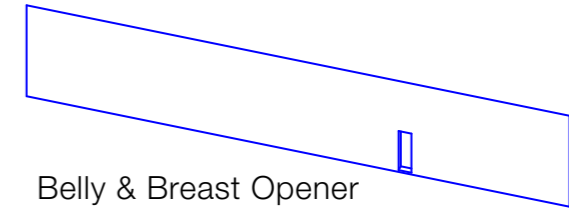
Fore Paw Cutter



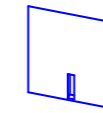
Bung Dropper



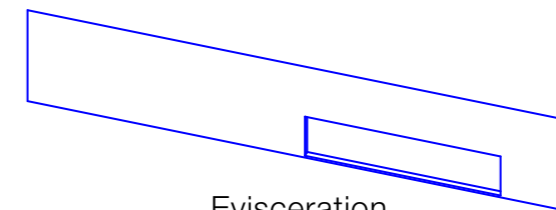
H-Bone Opener



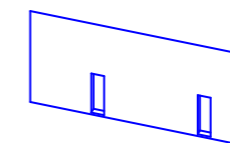
Belly & Breast Opener



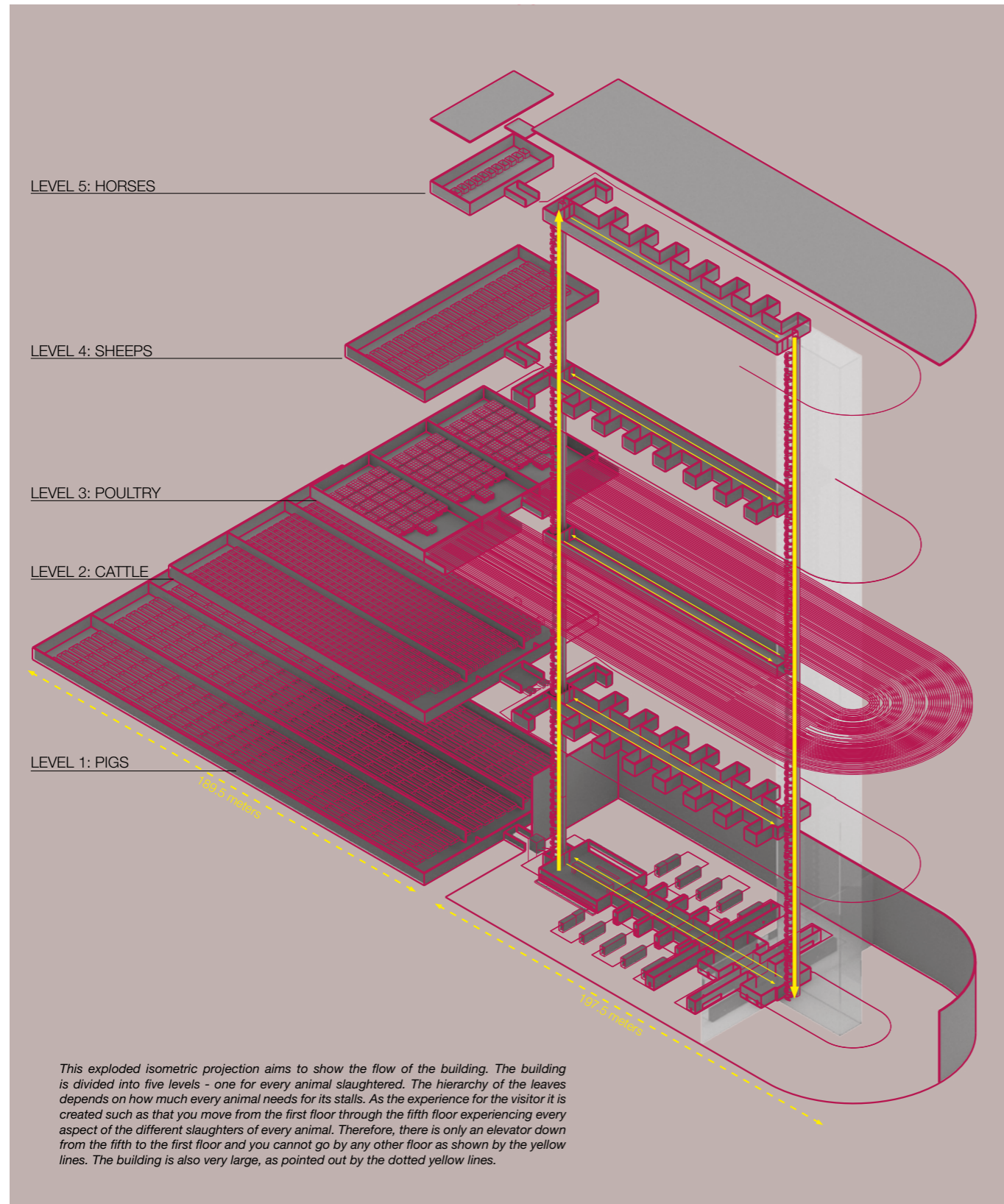
Neck Clipper



Evisceration



Splitting



## MID TERM PRESENTATION & REFLECTION

The mid-term presentation for this master thesis was on the 21st of March in the afternoon. The presentation dealt mainly with trying to present the project both as a large building connecting the different floors and the different aspects of the slaughter, with detailing in on the pig slaughter via rendered perspectives of different frames of the slaughter. There was also a model of the pig slaughter in scale 1-200 and a physical landscape model with the building placed out, although a set location wasn't decided yet.

The oral presentation presented the building through two different individuals visiting the building - Lisa the pig and Marvin the human visitor who was here on a tour of the gallery. This became a strong concept and got appraisal from listeners who thought that the story behind the building became stronger when presenting it through two main characters that one could follow through their journey in the building. The presentation also gave some insight into the context of the industry as well as presenting it in an urban scale at the ferry Terminal at Masthuggskajen. The presentation then concluded by stating these words:

"I would rather claim that this project is a commentary about the Swedish meat industry and the architecture it positions itself in. In extension the thesis is a try to answer the modern phenomena of how we as western industrialized people have

become so distant from the products we consume and how they are made. In the end it all comes down to the statement from Sir Paul McCartney rephrased into a question:

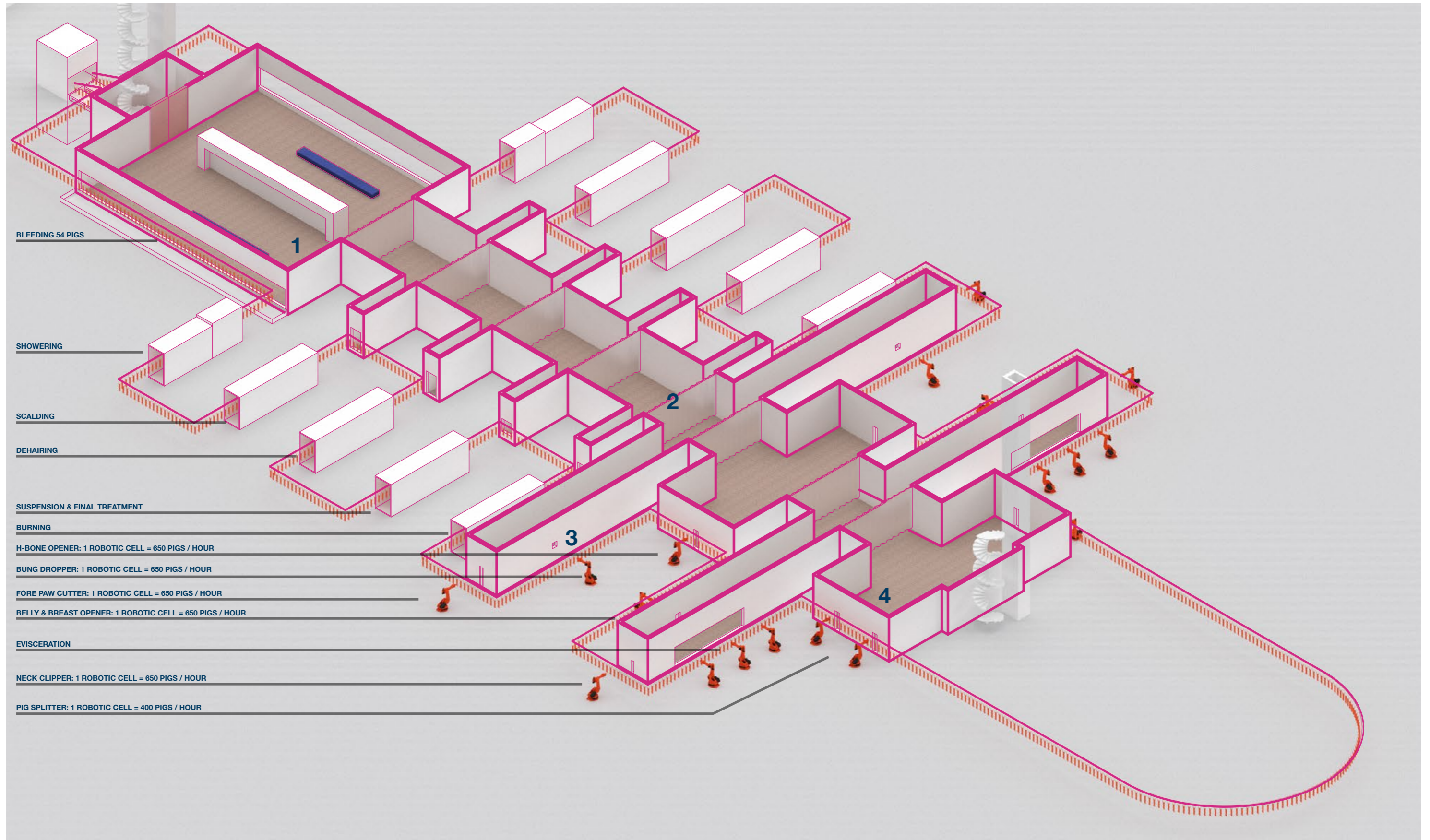
If slaughterhouses had glass walls would everyone be a vegetarian?

The critique toward the project was mainly focused on that the building still held a too programmatic and diagrammatic scale. The board on the left could be a diagram over an abattoir - not an actual abattoir. There were also questions concerning the facade and if it should have glass walls highlighting the whole process regarding the quote that the oral presentation ended on.

The people who critiqued it said that they understood that there was no clue that this master thesis understood the process and industrial standards behind an abattoir but they wanted to see more architecture. They also thought that the site might be challenging in that it needed to hold so many trucks for this project to be feasible.

Another comment regarded the roof and the idea of giving something back to the city by adding a roof landscape / park that could be used by the whole city making the building a more apparent part of its context and surroundings. To conclude, the critique was important in driving the project forward.





# PIG SLAUGHTER



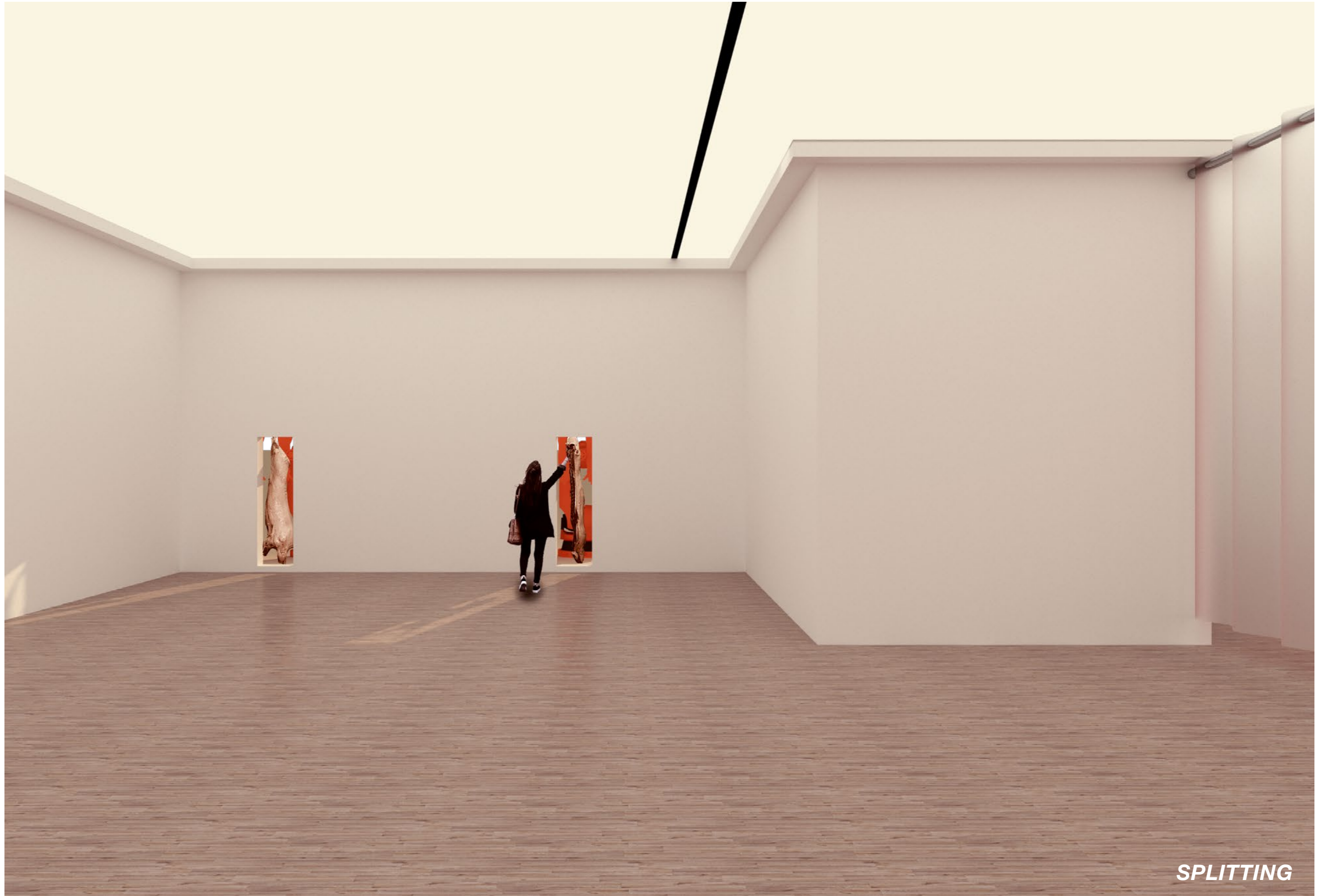
***BLEEDING***



***BURNING***



**BUNG DROPPING**



**SPLITTING**



## OPEN SEMINAR PRESENTATION & DISCUSSION

The final seminar, which is the examination part of the master thesis, took place two weeks prior to the open seminar which is the public presentation of the project.

The final seminar for my thesis didn't go super good - one could even claim that it went bad. My examiners thought that the master thesis had good intentions but they lacked parts of the execution, as well as the presentation of it. That which is often the case with me, I struggled into the last minute of the thesis to complete everything and hadn't slept the night prior to my presentation so I was both awfully tired and exhausted when the presentation took place.

I had spent most of my time those last weeks working on an extended model of the abattoir, enormous in both size and scope measuring almost two meters by 60 centimeters. My examiners also mentioned that the model, although impressive in the hours put into it, lacked the finesse needed for such a model. Wouldn't it be more impressive if you could open it and look inside it, take of the facade and see the interior. Now it instead almost became a shell in some sense.

I barely passed and even though I should have felt relief, I rather felt uneasy with myself. Was this it? Luckily, the open seminar was still due and there were two optional weeks where one could work more to finalize the project.

I spent those two last weeks on basically redoing the whole graphical approach to the project. From images that were trying to assemble something realistic to images that became more eerie, more dystopian or Orwellian. I wanted to give the project a certain ambiguity that had lacked before. Playing around with colors and monochrome, I found a good road in-between where the images were almost completely black and white, while the animals popped out in a reddish hue. This gave the project a much more feeling of unease - something you weren't quite sure if it was from a fantasy world somewhere in the future or if it could be the building of your next door neighbor.

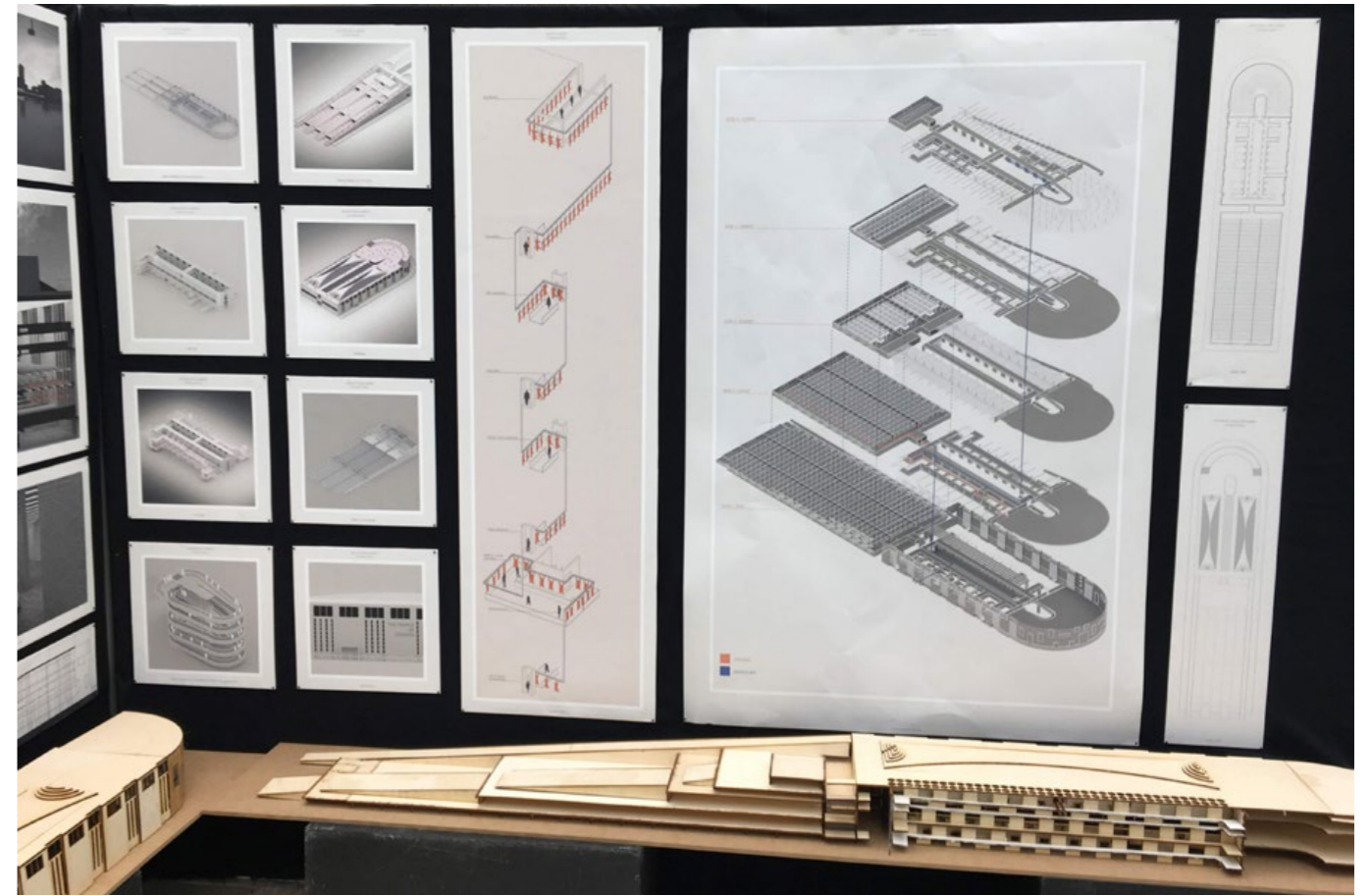
This turned out to be a successful move because when the day of the open seminar arrived, everything went in exactly the opposite way as it had done when I did the final seminar.

My external critic Charlotte Erdegard did really seem to be impressed by my accomplishment and here critique would rather be described as general questions to the audience as well as me on how it is morally right or not to eat meat.

What had happened was that the presentation became much more coherent letting the qualities of the project be much better showcased than during the final seminar. Sometimes, those two extra weeks could make all the difference.



Presentation Board 1  
(Image credit: Lisen Darenlind)



Presentation Board 2  
(Image credit: Lisen Darenlind)



Presentation Models  
(Image credit: Lisen Darenlind)



Presentation Models  
(Image credit: Lisen Darenlind)

**05.**

**REFLECTION**



*Ibland gråter jag bara för att tiden går  
(Sometimes I cry just because time goes by)*

**Marit Bergman**

## REFLECTION

When making a master thesis you have a lot of time to reflect on your role as an architect, as a student and also as a human being. What constitutes a good master thesis? Are you contributing somewhat to some discussion going on in society or in the architectural field? Does architecture actually matter or is it just superfluous stuff that we humans do because we are afraid of our own mortality?

As long as there have been architects, there have been a discussion about what actually defines architecture. There are countless definitions out there, which I think is good. As other complex arts, architecture can't be distilled down into a catch phrase - every new project deserves a new definition of architecture.

In this project I have used architecture to be a means of trying to answer the fundamental question why we human beings use such different architecture for ourselves, while we let other thinking, breeding and feeling animals mere be a part of an industrial wheel. Is it because we don't claim to understand other animals and their needs, is it because we are afraid to ask them the question, or is it merely not that important to us.

Using architecture then to visualize other worlds and realities where these questions are raised, is in my way of seeing a really good way to use architecture (at least in this project).

Then one can always question the solutions to the design, but my hope is at least that you who read this has in some regard seen the potential that architecture contains and how we can use it in different contexts to raise important questions about pressing subjects that I feel that we discuss too little.

Having said all this it is important to stress that making a master thesis in architecture can be really challenging to you as an architecture student but also as a human being. There have been little time during the spring of 2018 where I have had the chance to meet my loves ones, or finding time to exercise and maintain a good health.

Me and some fellow students (partners in crime) have been barricading ourselves in the computer labs and forming our group The Breakfast Club we have managed to make it through in one piece. Without you my breakfast club, I would have never been able to pull this off.

**06.**

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NO ANIMALS WERE HARMED IN  
THE MAKING OF THIS MASTER THESIS