

## ABATTOIR'S BOTS

ADAPTATIONS WHERE INDUSTRIES  
BECOME RESPONSIVE URBAN  
SPACES









**DIPLOMARBEIT**

**Abattoir`s Bot`s...**

*Adaptations where industries become responsive public spaces*

Ausgeführt zum Zwecke der Erlangung des akademische  
Grades eines Diplom-Ingenieurs / Diplom-Ingenieurin unter  
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**Univ.Prof. Mag.Art. Christina Hohenbüchler.**

*E264 - Institut für Kunst und Gestaltung*

Eingereicht an der Technischen Universität Wien Fakultät für  
Architektur und Raumplanung  
von

Tugyan Ertürk  
0425877  
erturktugyan@gmail.com

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## **ABSTRACT**

The following thesis is an extension of the of master class project called "BRIDGES" which I attend in Brussels in October 2015. Focus of the master class project was to activate the urban ruptures that were caused by the former industrial foundations. In context of Brussels urban research development "BRIDGES" was the third publication, in 2012 they published "RE:WORK" and in 2013 "END OF LINE". This work should act as a fourth edition in the series.

This thesis will acknowledge the current national demographic situation of Brussels and point out not only the need of rapid production of contemporary housing but also the vibrant social spaces and economic infrastructures. Due to its strategic location (national diversity, connection point of different municipalities and closeness to city center) the city's Abattoir has been chosen to activate as its public space.

The intention of this paper is to analyze the term "responsive" borrowed from the computer industry and adapt it for the matters of urban design. The following thesis will analyze what a responsive public space is, how it should look like, how this can be achieved and what the benefits, drawbacks and necessary tools.

The tools used in the Abattoirs process should be an example for the development of further public spaces in order to create responsive, sustainable and adaptable areas.

# ZUSAMMENFASSUNG

Diese Arbeit ist eine Weiterführung des Studienprojektes "BRIDGES", welches im Oktober 2015 in Brüssel stattfand. Schwerpunkt des Projektes war es, die innerstädtische Brachflächen zu aktivieren, die durch aus ehemaliger industrieller Nutzung entstanden. Im Rahmen des Stadtforschungsprojektes "BRIDGES" wurden zwei weitere Publikation veröffentlicht, "RE: WORK" (2012) und "END OF LINE" (2013). Diese Arbeit sollte als vierter Teil der Serie gesehen werden.

Diese Masterarbeit beschäftigt sich mit der gegenwärtige demographische Entwicklung von Brüssel und der daraus resultierenden Notwendigkeit der Herstellung von leistbarem Wohnraum, sowie auch die Notwendigkeit der Schaffung von sozialen Räume und wirtschaftlichen Infrastrukturen. Aufgrund seiner sozio-territorialen Strukturen (nationale Vielfalt, Verbindungsstelle der verschiedenen Gemeinden und der Nähe zum Stadtzentrum) wurde der ehemalige Schlachthof der Stadt gewählt, um den öffentlichen Raum zu aktivieren.

Die Absicht dieser Arbeit ist es, den Begriff "responsive" aus der Computerindustrie als Prinzip in der Stadtentwicklung zu adaptieren. Die folgende Arbeit analysiert, was ein „respon-siver“ öffentlicher Raum ist, wie er aussehen kann, wie dies erreicht werden kann und was die Vorteile, Nachteile und notwendige Werkzeuge sind.



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## **PREFACE**

My first interaction with the city of Brussels has began through the master class, which is organized by the Cosmopolis and LOUISE (Laboratory Urbanism Infrastructure Ecologies) with the collaboration of universities from Norwegian, Austria, Italia, Spain, Germany, Japan and Brussels.

During the master class i assigned to work on the neighborhood called "Anderlecht" with a specific site where the canal and the metro station "Delacroix" come across. During my researches i saw how these two huge bodies creates segregations at the urban fabric by causing distortion at the social and physical connections, but at the same time i saw another relatively big body which gets active in the certain days of the week and generates immense human interaction and overcomes all the fences along the way (includes the canal and the metro station). This body, that fascinated me so deeply was the historic Slaughterhouse of the Brussels.

The Slaughterhouse and its environment converts it self to an open air market from Friday to Sunday and accommodates more than 100.000 visitors during this three day period. This situation amazed me in a way; how a space can change so dramatically through a single function, and overcomes all the barriers around it like nothing. Unfortunately since there is no public function for the rest of the week, the space is literally empty except the Slaughterhouse employees. I just felt sad after seeing the unused potential of the Slaughterhouse area, the potential what could it be for the inhabitants, the city's international reputation and local well-being. So the theme of this master thesis has born; "Activating the potentials".

The first chapter is the information in-put which investigates the historic evolution of the city and presents the facts about Abattoir (the Slaughterhouse area). The second chapter explains the development project that is created by the government with the private organizations for the Abattoir. The third chapter presents three case studies which are relevant to the theme. The fourth chapter will reflect theme to the Abattoir and propose an architectural and organizational solution in order to activate the Public space.



# **ABATTOIRS**

# **BOTS**



# PAST AND PRESENT

The first time I visited Brussels, we booked a small hostel at the outer municipality called “Koekelberg”. The first impression of the city was that it had an unusual stench and polluted atmosphere. Fortunately, in the next days it changed and I felt it quite dramatically. With my fellow co-students we were able to work in the Zenith building which is located at the Boulevard du Roi Albert II, a business district where all the towers are located in. We walked to work from the suburbs of Koekelberg (Hostel) to the vivid city center of Northern Quarter (Zenith). During our journey we crossed the canal everyday, and everyday we witnessed the contrast between the sides of the canal. It seemed that the canal was a border into two different cities: one city that is vibrant, clean, with new buildings and the other one that has been abandoned.

The canal accommodates various types of industrial buildings which are mostly unused. With all these industrial warehouses, big steel cranes and railways that were so important in the past, now everything looks like a ghost town between the energized city center and the forgotten suburbs. This characteristic of the canal provokes the segregation between the city center and the suburbs. Right after crossing the canal you feel that you are in the city, it feels safe and familiar, more like Vienna, with every step you come closer to the most livable city.

The first addresses the history of Brussels, specifically how it gained its industrial character and how the city shaped itself around it, together with the national diversity and physical segregation that come along with it and as following; the facts about the city and the Abattoir’s Market. This is a summary of researched information to understand the city and its citizens.

1.1 INDUSTRIAL HISTORY OF THE CITY AND WHAT IT BECAME TODAY

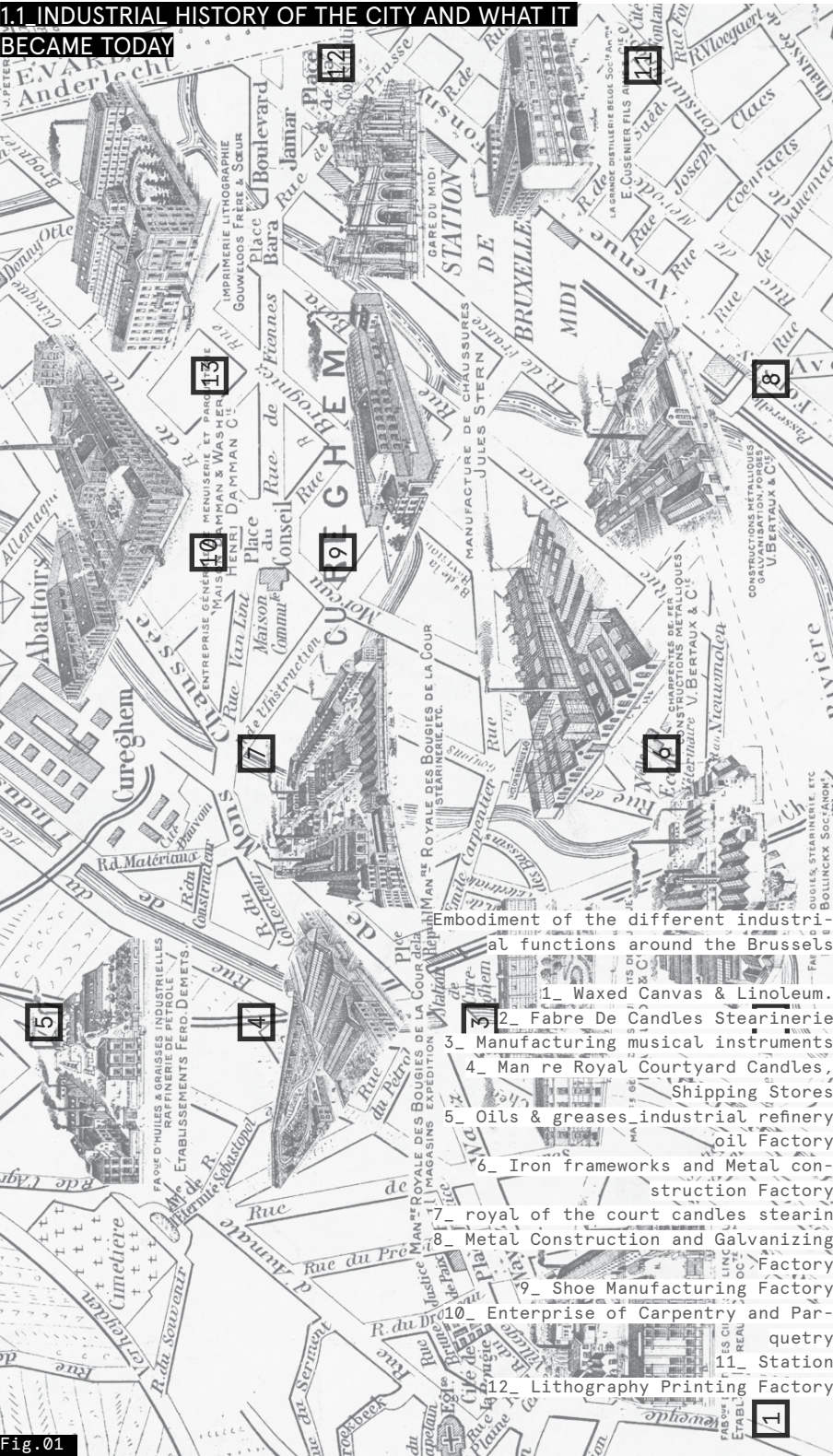


Fig.01



<https://www.britannica.com/topic/history-of-Europe>

10.01.2017

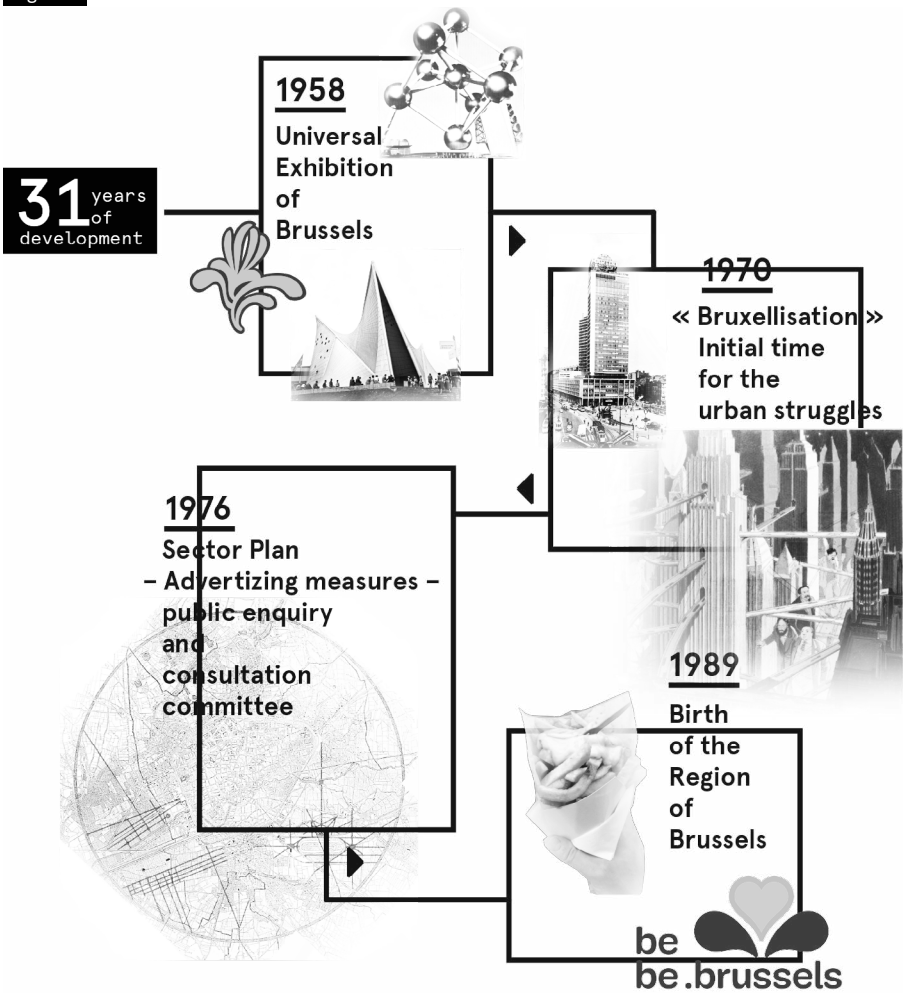
After the industrial revolution in the 19th century, cities began to change dramatically. During the transition to the second industrial revolution Belgium became the second biggest **industrial hub** in the world and the country's capital became the most important industrial pool in the context of **employment**. Countless innovations embodied their selves in along the canals and railways in Brussels. Iron casting, glass manufacturing, zinc factories allowed rapidly the rise of new cathedrals, town and guild halls around the city.

After the industrial revolution in the 19th century, cities began to change dramatically. During the transition to the second industrial revolution Belgium became the second biggest industrial hub in the world and the country's capital became the most important industrial pool in the context of employment. Through the development of machine tools, new manufacturing processes, (from hand to machine production, chemical production, improved efficiency of water power, increasing the use of steam power) and countless innovations embodied their selves in along the canals and railways in Brussels. Iron casting, glass manufacturing, zinc factories allowed rapidly the rise of new cathedrals, town and guild halls around the city.

Unfortunately, like many other cities, Brussels was not equipped at all to handle this kind of immense economic activities in the city. Especially the transportation of goods was starting to become a big issue. To smooth out the process, the city decided to extend the canal to the Charleoi (to the south). Three years later a railway between Brussels and Mechelen started to operate. Another railway that connects the north and south provided a by-pass connection trough the city which became a chief industrial corridor and stimulated the industrialization in Brussels furthermore. Along these lines of connections the factories and warehouses started to leaf out. Brussels became a basin of economical hope. This attribute attracted more work willing people. In 1830 Brussels population grew with 100.000 inhabitants and the number increased more than half in the next fifteen years.

Over time the city's Abattoir needed more space for increasing its production. The owners chose an area with a direct access to the canal and a new bypass railroad in Charleoi. In 1888 the iron cast abattoir was finished with 4 meter high cellars underneath. Cellars worked as coolers of the meat and more then 200.000 animals are slaughtered on a yearly basis. The urban slaughterhouse kept its function till the late 20th century. In 1990 with the new regulations, the open slaughterhouse downsized to a closed building in the same area, the iron cast building and its surrounding became viable for the public use.

Fig.02



From 1958 to 1989 (fig.02) Brussels lived in ups and downs in terms of its urban development. Especially Victor Besme (1834-1904) was an important engineer (/city planner) for Brussels, who influenced the city greatly and gave Brussels the face of as we know it today. He began his professional carrier by building railroads and later in 1858 he was assigned a position as a highway inspector for the suburbs.

His biggest influence on the city begun with the presentation of the "General Plan for the Extension and Embellishment of the City and Suburbs of Brussels" which was published in 1863. The proposal gave a solution for the growing demand of the city, propounded most prominently by the duke of Brabant, the future king Leopold II. He wanted to please the urban development aesthetically and orderly by supporting the wake-up call to expansion beyond the Inner Ring Road. Besme chose the Church of Our Lady of Laeken as starting point and close to the completion he built almost 27-kilometer series of boulevards enveloping the nearby suburbs of Schaerbeek, Saint-Gilles, Ixelles and Saint-Jose-ten-Noode.


After 1860 the creation of these belt of boulevards was largely the work of Besme. His creations of vast parks and boulevards meant to nourish the new neighborhoods in the city (example: Reyers). The plan remained as a guideline during the city's expansion until the inter-war period. The car has been introduced in Brussels streets during this period and unfortunately due to highly attraction of personal transportation, many plans of the Boulevards were changed to highways for the car usage, which intensified in the Second World War.

Meanwhile Brussels hosted the first post-war expo. The focus was on the modernity and progress. The Belgian government reflected this in the theme of the city planning and the interaction of road infrastructure. These highways were meant to allow rapid individual transportation between working, living and recreation zones. As a result, between these areas the urban ruptures started to grow. These ruptures were inherent and didn't seem as problematic back then.

In the following years the situation worsened and ended in automobiles dominating even the smallest streets in the city. This dense network of urban highways, mag-

nified with the transformation of more boulevards into highways. The situation started to be heavily criticized by Brussels residents and local authorities.

Fortunately, during the 1970s Brussels municipal authorities started to realize the aggressive effects of the urban ruptures caused by the over scaled transportation structures. Once and for all the importance of public spaces such as parks, boulevards and squares was understood by authorities. Modernist planning was abandoned by supporting the new urban renewal policy which was inspired by per-modernist architecture and urbanism.









Victor Besme  
Plan for the Boulevard de Plus Grande  
Ceinture.

**L** Fig.04





Victor Besme  
General plan for the extension and  
embellishment of the city and suburbs  
of Brussels

## 1.2\_NATIONAL DIVERSITIES AND SEGREGATIONS IN BRUSSELS

Fig.05



**BRUSSELS has three official languages.**

Two of them are very commonly spoken: Dutch and French, which even separates their selfs even in information tags on the streets.

Unesco Cultural  
Declaration  
on Cultural  
Diversity.

ARTICLE 1 Cul-  
tural diversi-  
ty: the common  
heritage of  
humanity

Culture takes diverse forms across time and space. This diversity is embodied in the uniqueness and plurality of the identities of the groups and societies making up humankind. As a source of **exchange, innovation and creativity**, cultural **diversity** is as necessary for humankind as biodiversity is for nature. In this sense, it is the common heritage of humanity and should be recognized and affirmed for the benefit of present and future generations.

In the following chapter we will look at Brussels diversity; focus will be on the nationalities, languages and demographic polarizations of the city.

After the independence of Belgium, in the late 19th century, the language balance shifted in Brussels from Dutch to French. Especially in the courts, administrations, army, culture and media, French became the dominating language, mostly as a political and an economical status symbol in the society. French was a precondition, especially if you wanted to climb the social ladder. Massive population growth during the industrial revolution (in 1830, 50.00 inhabitants and in 1914, 750.000) and providing primary and secondary education only in French caused immigrants to adopt French as the main language. This process is also called in Brussels Frenchification.

One can clearly feel the presence of these two languages around the city. Every name tag on the streets, every menu in the restaurants, every information sheets that you see in the undergrounds, buses and trams are written in both language. Television and newspaper outlets are also being published in both languages.

I had the chance to talk with a local student from France, who has been working and studying in Brussels for a while. She started to learn Dutch (Flemish) as French nationals who can speak both languages have an advantage of getting more social attraction. So, while the French language strategically holds the upper hand (80% of Brussels residents speak French), socially Flemish Dutch still has its value in the city.

There are various international institutions in Brussels. Some of the most present ones are the European Union (EU), the North Atlantic Treaty Organization (NATO), the World Customs Organization, the European Organizations for the Safety of Air Navigation (Eurocontrol). In addition various international conferences (like the G7 summit) are being held in Brussels. These enormous conferences cause a temporary increase in population and creates a shift in the social infrastructure, which push the limits of the already pumped public spaces.

Due to English and French being an official language in many international organizations, French slowly overcome Flemish Dutch in the city. Many citizens with Flemish



background are able to speak French, but one can not say the same visa verse.

The general language division of the population looks as follows: 5% speak only Dutch, 17% speak Dutch and French, 38% speak only French, 23% speak French and another foreign language, 17% speak neither French nor Dutch. As we can see almost 78% of the population speaks French and 22% of the people speak Dutch, from which 77% can speak French as well. This 2015 data draws us a clear image how the language balance in the city looks like. Especially the people who can speak French and another foreign language increases , due to the constant rising number of immigrants. Brussels has 176.124 inhabitants, 65% of them are Belgian citizens, 23% foreigners from the EU and 12% foreigners from non-EU countries, mostly from Morocco, Turkey and Africa. It is a growing multicultural metropolis.

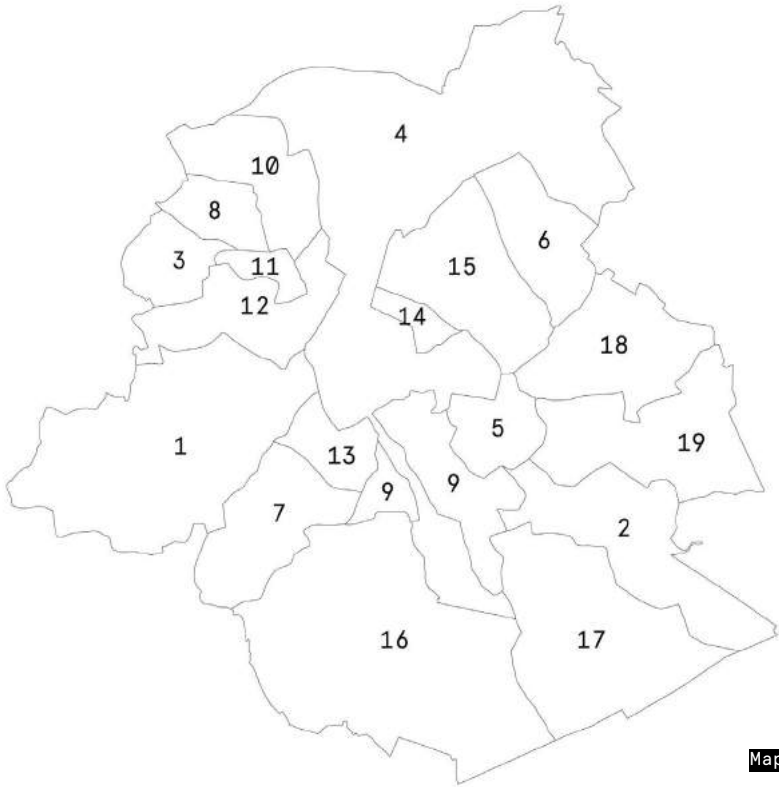
Christian  
Kesteloot

Built  
Environment  
(1978-)  
Vol. 20, No. 3,  
pp. 205

*"In societies with low level of public intervention in the socio-spatial field (housing, provision, public transportation, facilities, education, sports, cultural infrastructure, and so on...) this spatial polarization would generate social polarization through the field of collective consumption. "*

Gathering all of these different nationalities in the city with a poor level of public interaction, the socio-spatial polarization is unavoidable. If we look at the Data Maps, we can see the divisions of the nationalities in Brussels. The segregation between EU-foreigners, other (non-EU) foreigners and the Belgian citizens especially at the lower Brussels is apparent. (see Map.1-13)

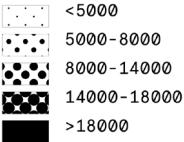
Brussels  
Municipalities



Map.01

Name	Population	Area	Density
1_Anderlecht	117,412	17,7 km2	6,663 km2
2_Audergem/Oudergem	33,161	9,0 km2	3,685 km2
3_Berchem Sainte Agathe/ Sint Agatha Berchem	24,224	2,9 km2	8,353 km2
4_Bruxelles Ville/Stad Brussel	178,512	32,6 km2	5,477 km2
5_Etterbeek			
6_Evere	47,180	3,1 km2	15,219 km2
7_Forest/Vorst	39,556	5,0 km2	7,911 km2
8_Ganshoren	55,613	6,2 km2	8,970 km2
9_Ixelles/Eisene	24,269	2,5 km2	9,708 km2
10_Jette	85,541	6,3 km2	13,578 km2
11_Koekelberg	51,426	5,0 km2	10,285 km2
12_Molenbeek Saint Jean/ Sint Jans Molenbeek	21,638	1,2 km2	18,032 km2
13_Saint Gilles/Sint Gillis	50,659	2,5 km2	20,264 km2

Population Density  
Habitants/km2 2014

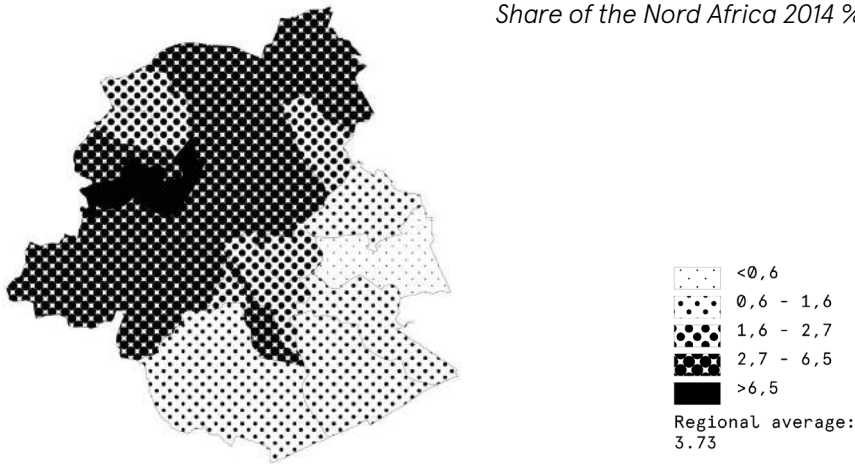


Regional average:  
7209,50

14_Saint Josse ten Noode/ Sint Joost ten Node	27,402	1,1	km2	24,911	km2
15_Schaerbeek/Schaarbeek	132,590	8,1	km2	16,369	km2
16_Uccle/Ukkel	81,944	22,9	km2	3,578	km2
17_Watermael Boitsfort/Wa- termaal Bosvoorde	24,619	12,9	km2	1,908	km2
18_Woluwe Saint Lambert/ Sint Lambrechts Woluwe	54,311	7,2	km2	7,543	km2
19_Woluwe Saint Pierre/Sint Pieters Woluwe	41,207	8,9	km2	4,630	km2

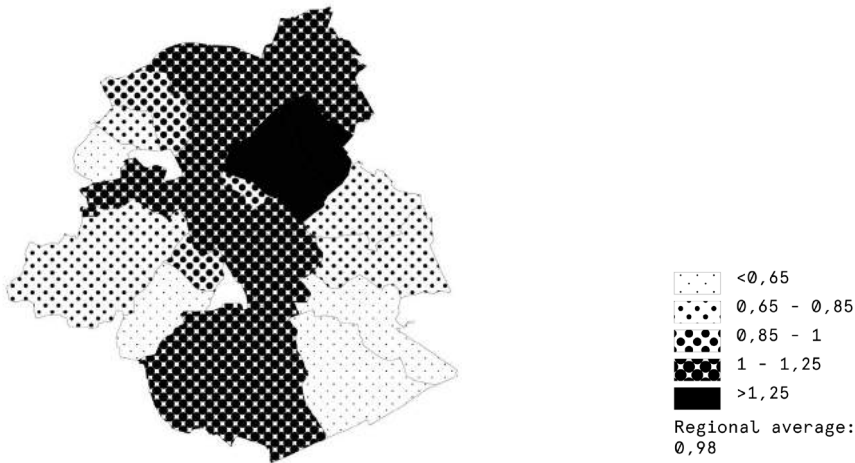
Map.03

Part de l'Afrique du Nord 2014 %  
Share of the Nord Africa 2014 %



Map.04

Part du reste del Europe (hors UE28) 2014



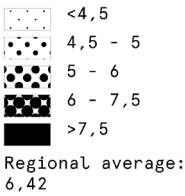
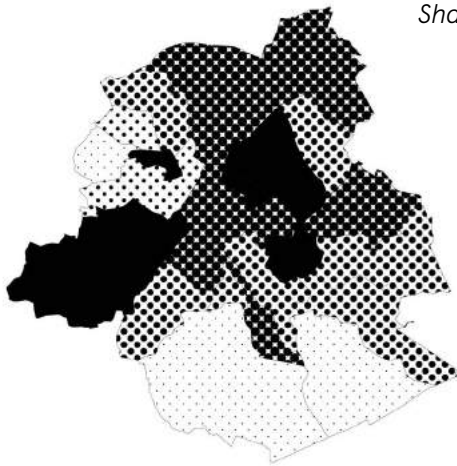
Map.05

Part des pays OCDE  
(hors europe turquie et ameriquelatine)  
Share of OCDE Countries (Excluding Europe, Turkey and Latin America)



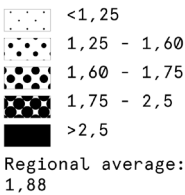
Map.06

Part des nouveaux etats membres de l'UE  
*Share of the new member States of EU*



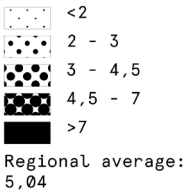
Map.07

Part des autres pays 2014%  
*Share of the other Countries 2014%*



Map.08

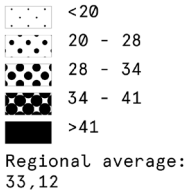
Part des Francais 2014%  
*Share of the French 2014%*



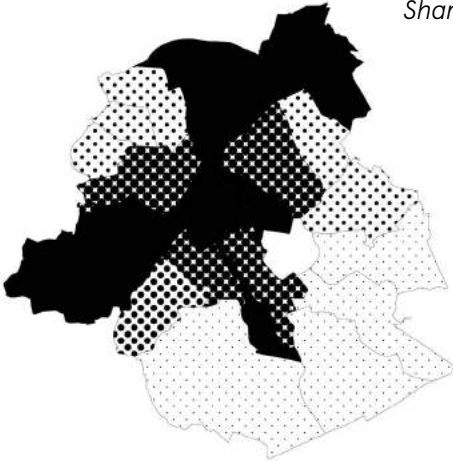
Map.09



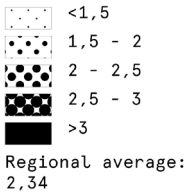
Part des Entrangers dans la population totale 2014%  
Share of the Foreigners in the total Population 2014%



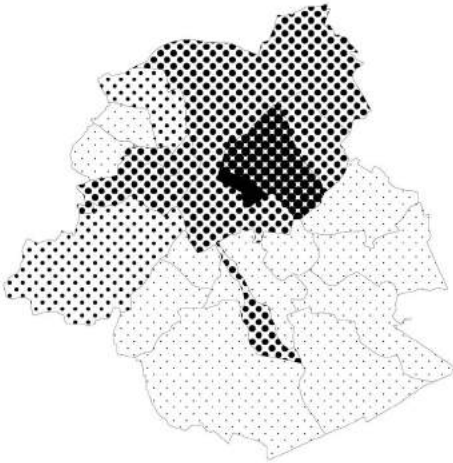
Map.10



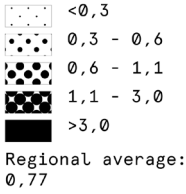
Part de l'Afrique subsaharienne 2014%  
Share of the Sub-Saharan Africa 2014%



Map.11

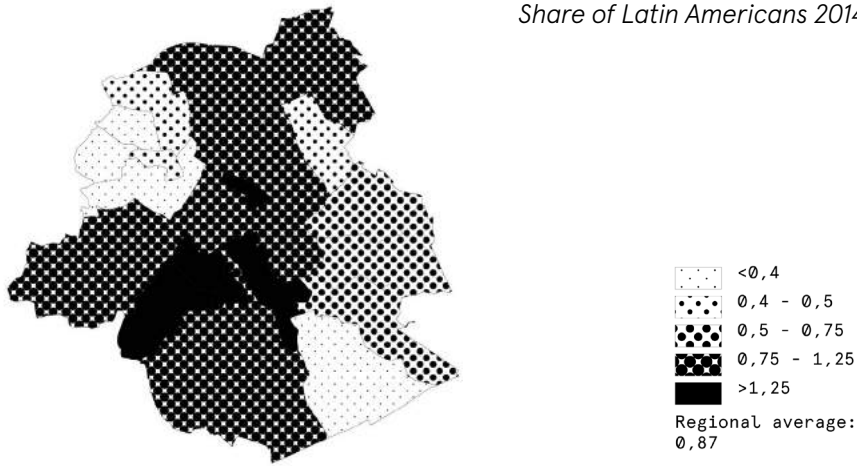


Part de la Turquie 2014  
Share of Turkey 2014



Map.12

Part de l'ameriqua Latine 2014  
Share of Latin Americans 2014



Map.13

Part de l'Europe des 15 (hors Belgique)  
2014 %  
Share of Europe 15 (without Belgium)  
2014 %

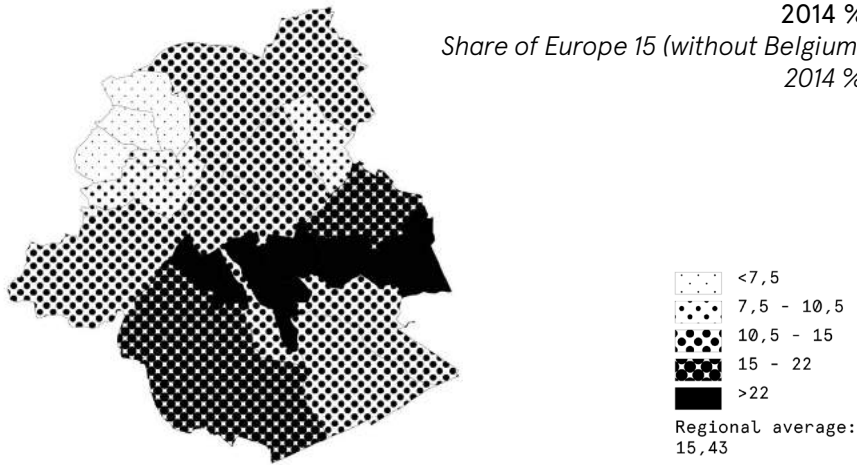
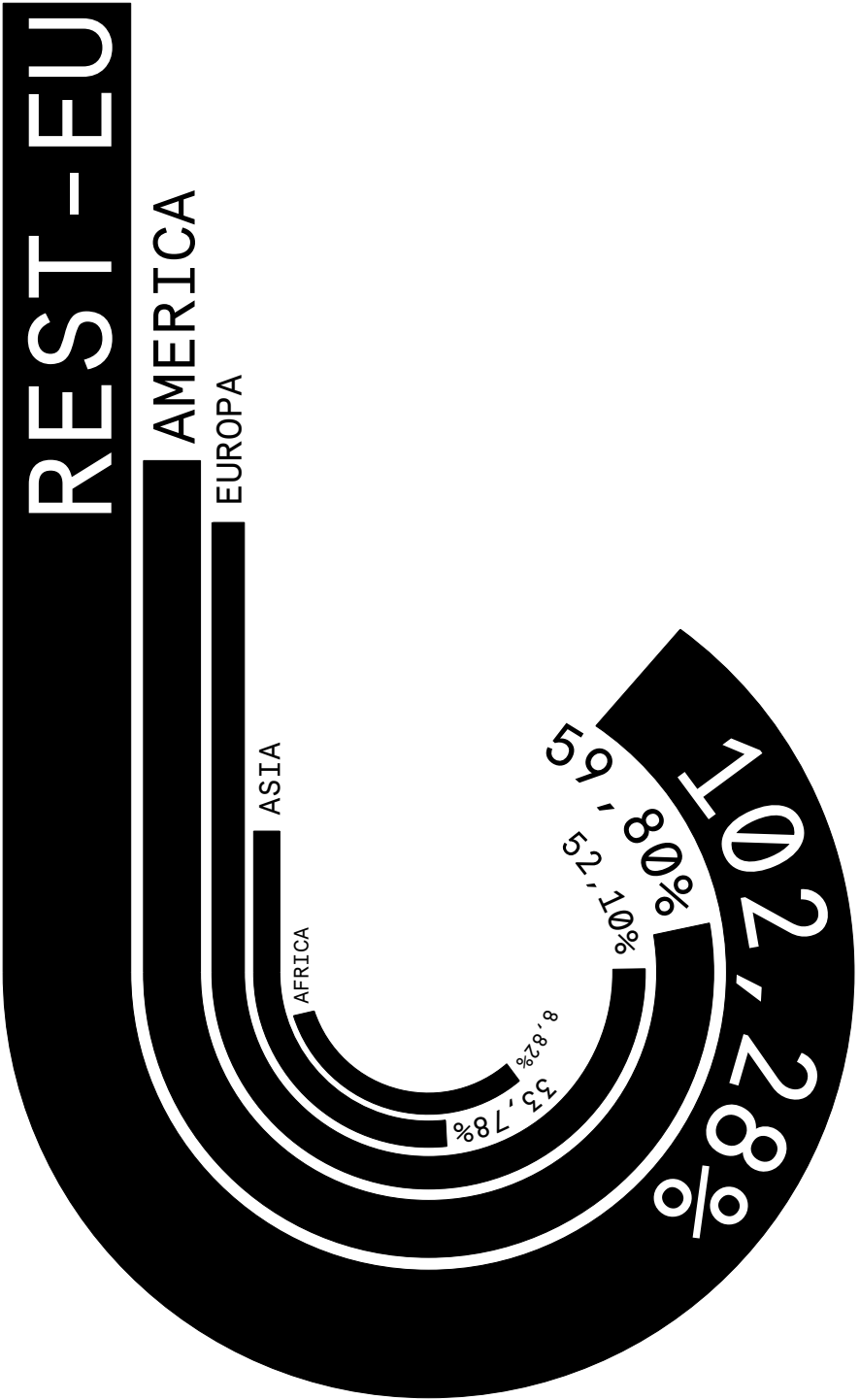


Fig.06



Demographic growth of Brussels in  
different Nationalities  
between 2000-2016



Christian Kesteloot

Built Environment  
(1978-)  
Vol. 20  
No. 3  
pp. 215

The spatial polarization of Brussels indicates in three levels.

The polarization between the region and the external periphery and with an international polarization between nineteenth-century neighborhoods and the rest. The second level of polarization dividing the inner communes of Brussels in to rich and poor, foreign and Belgian, young and old. The third level of polarization scales into the coordination of regional and municipal policies. In many cases they interact in the wrong way, because of the mismatch between regional and municipal attitudes.

1.3\_UNDERSTANDING THE ABATTOIR

Fig.07



**During the Market days.**  
The public space is full of  
stalls and vendors.

[http://  
thecitygeek.  
tumblr.com/  
search/  
abattoir](http://thecitygeek.tumblr.com/search/abattoir)  
22.03.2017

For many Bruxellois, Kuregem (part of Anderlecht) is a no-go zone. The area between Midi station and the canal is mostly associated with **unemployment, illegal trades and occasional violence**. Still there is one big attraction in the heart of the neighborhood: **the market** on the site of the Abattoir. Every weekend it draws about **100.000 people**, mostly non-European **immigrants**. The slaughterhouse itself is an important employer in a neighborhood ravaged by industrial decline.

The final part of this chapter will cover the market and bring our understanding of the city further. The Abattoirs market is located in Curagem (a part of Anderlecht), an immigrant district. Because the inhabitants of the district are mostly immigrants, one supposes that it is situated in a suburb lays at the city skirts, but Curagem is located almost in the city center, next to the Brussels canal, which many Brusselers avoid. Even though its monumental identity old slaughterhouse fails to get attraction between these ruptures, where the area is mostly associated with unemployment, drugs, vandalisms, illegal trades and occasional violence.

After downsizing the Urban slaughterhouse the place became more of a „free space“ than a public space, having the slaughter house in the urban content allowed growing the market function in the area. A market that appears only trough Friday to Sunday, which still remains in function today, is the most popular market in Brussels. Everything can be found and bought in this market; from high quality meat and vegetables to cheap plastic puppet toys and clothing.

The power of the market comes from the quality of the foods that are available at a reasonable price, which plays a big role for the families who come here to do their weekly grocery-shopping. The market attracts people especially with lower income and creates a migration flow three days of the week between Friday till Sunday from the other districts. Therefore the population of the area increases and decreases on a weekly basis. Both phases are for the Abattoir extreme, during the market days during the increased phase more than 100.000 people visit the area, and during the decreased phase the surroundings are deserted. This is an extreme situation. The potential of the area is not being fully used.

Besides the weekend market, an after work party takes place in Boeremet (actual iron cast slaughterhouse) of Abattoir on weekly basis. While it gathers people under the roof of the iron cast slaughterhouse, it has no effect on using the potential public space around it. In addition the event has a winter break due to the cold weather condition of Boeremet.



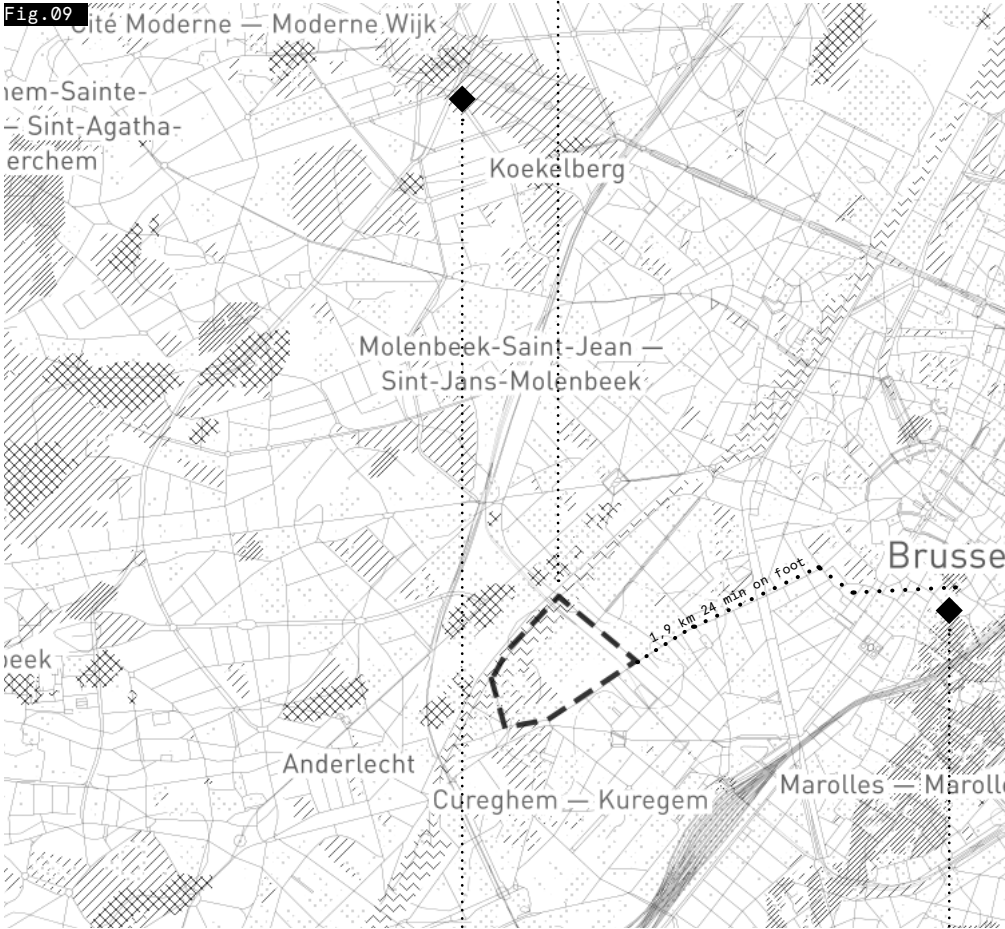
Fig.08

Abattoir during the weekdays.  
Totally empty, the Doors are  
closed but not forbidden to

# ABATTOIR

- 1.9 km 24 min on foot to the city center.
- Over 100.000 visitor to the Market.
- Great mixture of immigrants and Brussels
- Widely known, everybody has a mental map on the area.
- Direct transportation possible through the Delacroix Metro Station.

Fig.09



## Elisabeth Park

:: Park with the National Basilica of the Sacred Heart

## Grand Place

:: Market Square surrounded by Guildhalls

**Botanique**

:: Cultural center in an old botanic garden.

**Le Berlaymont**

:: European Commission Headquarters

**Auto World**

:: Museum with more than 250 legendary cars



Fig.10

**Entertainment Centre**  
:: Packed with different social activities. Sport center, Cinema, Restaurant, Cafes etc. Quite ugly building and environment

**Car Park area** :: Parking space for 80 cars. Extensively used during the Market days.

**FoodMet** :: Food Market open every day. Focus is on meats, vegetables, and fruits.

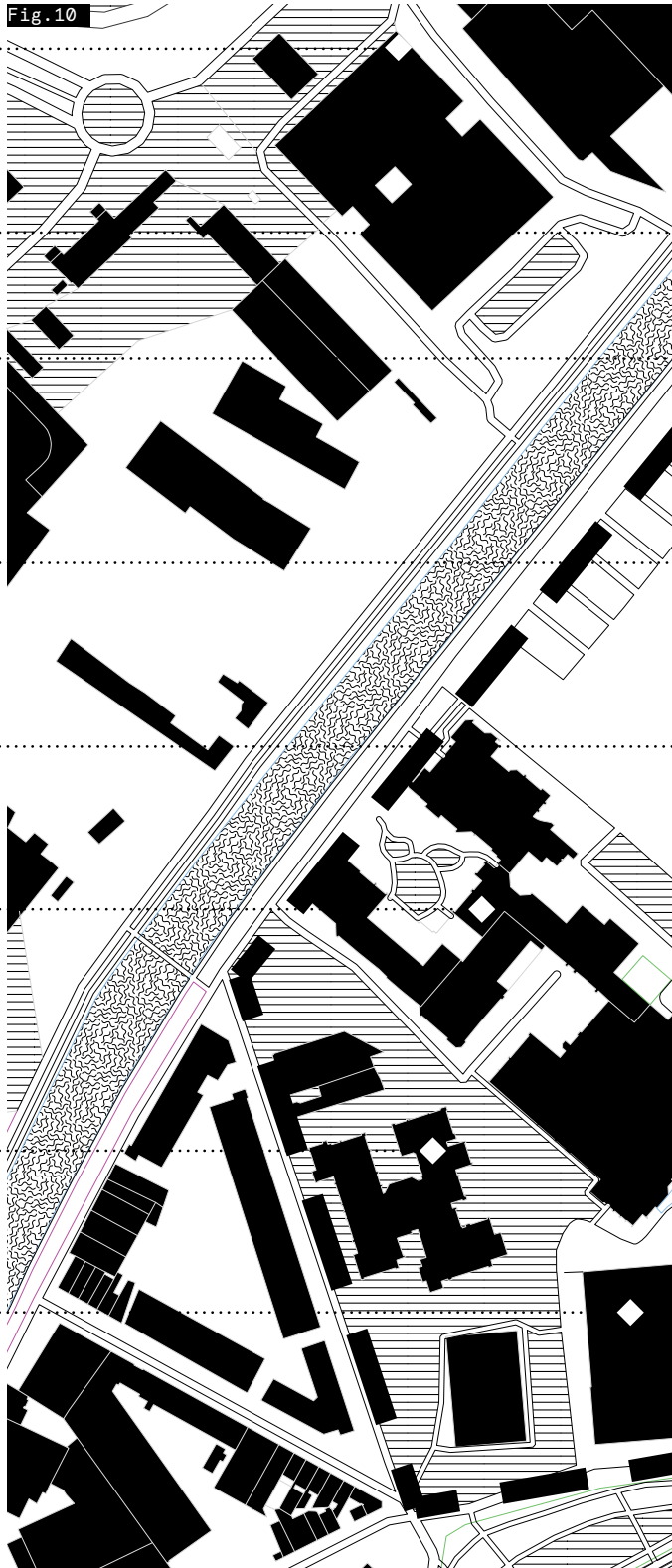
**Steel Cast Slaughterhouse** :: Used by the open-air market, and after-work parties.

**Urban Slaughterhouse Activities** :: Set off add-on buildings that serves for the Abattoir.

**Erasmushooge School**  
:: Private Business School. Most of the students comes with car.

**Educational Area** :: School for old people.

**Renault Yard** :: Momentarily used as a Showroom area.





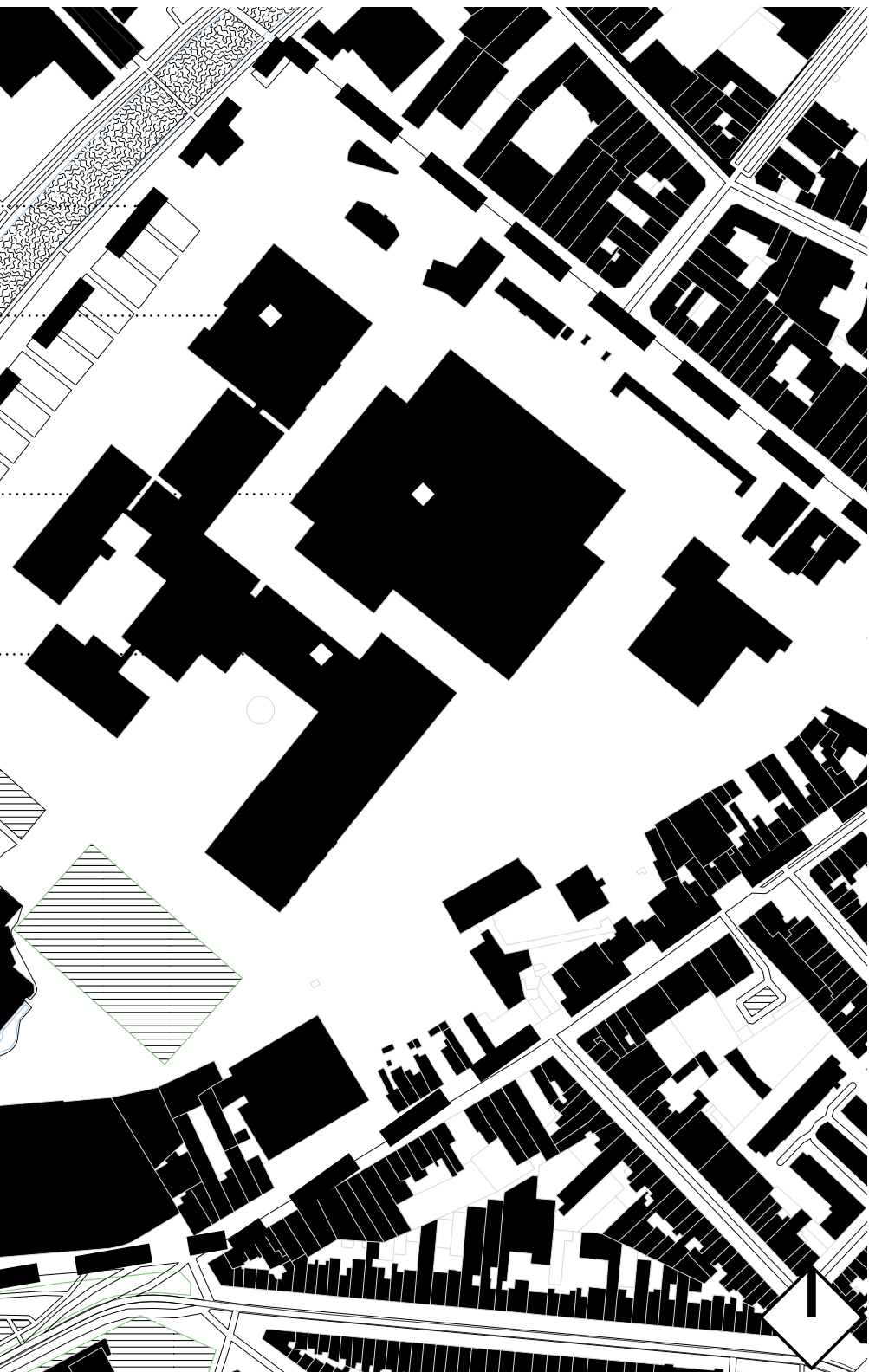


Fig.11





**Slaughterhouse  
Steel Cast Building.**

Photo taken during the preparations for the after-work party. The Steel-cast building will be fully renovated and a research project will be started in order to understand how to maintain the microclimate in the building.

Fig.12



Entrance zone  
(aka. Market Space)

It is allowed to enter and use the public space but mainly used for car parking during the non-market days.





# DE- SIGNED FUTURE

"The Master-plan "Abatan 2020" develops an urban and architectural scenario for the gradual conversion of an industrial site hosting a slaughterhouse towards a mixed urban environment. Reinforcing an existing monumental market shed, the plan proposes a large central urban square that can host regional cultural events as well as a popular local market. The new plan identifies its borders as a tissue of urban warehouses hosting economic activities. The Master-plan anchors the large strategic lines of the overall plan but restricts itself to the description of a set of principles for each of the architectural elements in the plan; the large square, the urban warehouses, the compact slaughterhouse and the circulation."

<http://www.orgpermod.com/node/17>

15.02.2017

The Abattoirs site has been an industrial area since the 19th century. The industrial activities such as the slaughterhouse and the market will be preserved in the present as well as in the future. The goal is to generate a progressive densification around the slaughterhouse, while maintaining the industrial and urban functions. Overall the plan consists of different kinds of principles and guidelines without any defined architectural bodies.

Additional to the development plan two different research projects will start in parallel: one looks at how to use the public space during the week-days and the other at how to maintain a micro climate in the iron-cast old slaughterhouse building especially in winter days.

This chapter is a summary of the following pdf file  
([http://www.abattoir.be/sites/files/content/page/fields/downloads/ABATTOIR\\_update%20Juni%202013\\_NL\\_small.pdf](http://www.abattoir.be/sites/files/content/page/fields/downloads/ABATTOIR_update%20Juni%202013_NL_small.pdf))  
10.01.2017

## 2.1 FIVE PRINCIPLES

A total of five principles will outline the project of the site;

### 1st Principle// Breakthroughs and Continuities.

This is the most important principle and the first one to be done. The area is hard to reach as it has only one entrance from the North-East directly from the Heyvaertstraat (Heyvaert Street). Other than that various obstacles block the way to the Abattoir. Only during the market days a second entrance from the South, through the Erasmushogeschool is provided. This entrance is mainly used by vendors and their vehicles, which create an unattractive walkway. Not only the physical obstacles are the problem, but the area is as well visually concealed. It is only visible above from the metro station Delacroix. From the docks it is completely hidden by the parking lot and the view is obstructed by the two bands of commercial units from the Rue Ropsy Chaudron. The access ways are not defined and the area doesn't have a mental map in Brussels. Therefore, the first principle concentrates on opening the area to its environment and connecting itself to the actors around it. Creating physical and visual breakthroughs in the existing fabric will link the Slaughterhouse site with the surrounding city in many ways.

With the first principle these following breakthroughs are foreseen:

//creating a large square in front of the market by opening the Rue Ropsy Chaudron and Rue Sergent De Bruyne.

//opening through the Renault site, towards to Chaussée of Mons, which will create a second entrance to the site with a new facade.

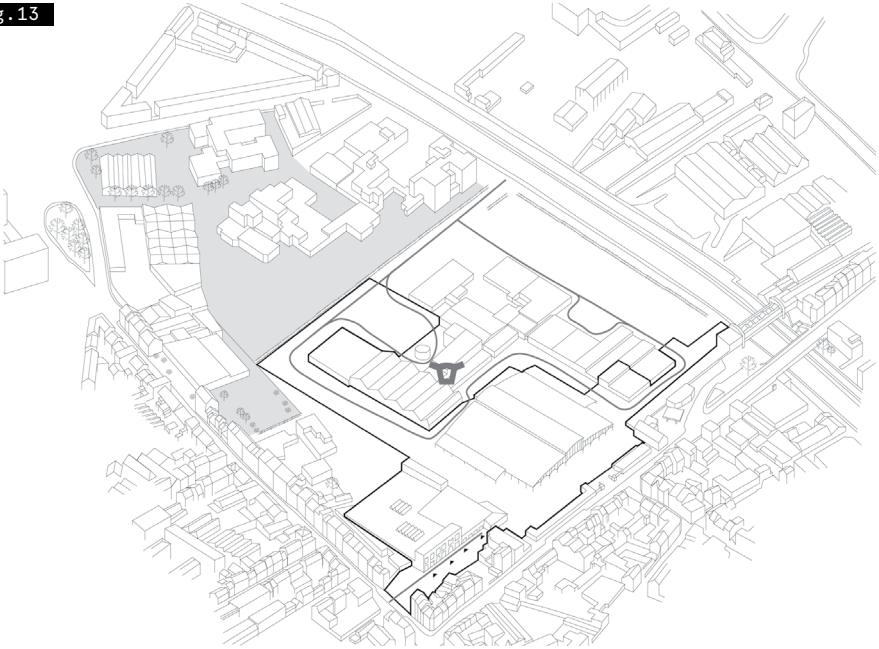
//evolving a new axis for the pedestrians and cyclists, which will breakthrough from Rue Heyvaert to the direction of Chaussée.

//establishing the cross-link from Place du Conseil that crosses the Rue Raphael, which will connect the new pedestrian bridge along the Erasmushogeschool.

//opening the Erasmushogeschool campus, harmonizing its public space with Abattoirs Site.

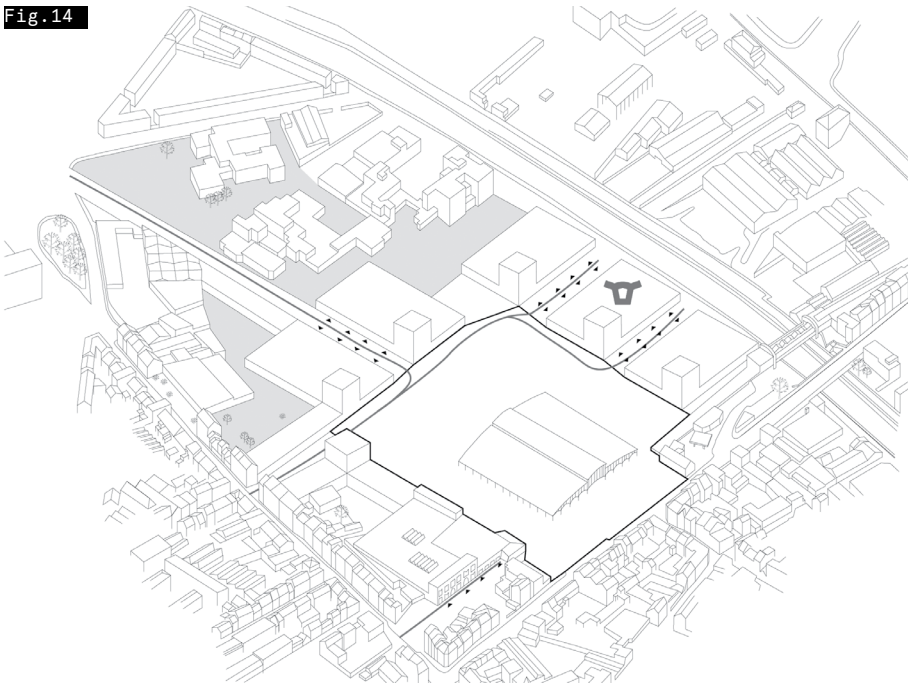


Fig.13



Set of buildings creating defensive walls against the community. Having just one entrance isolates the area from its surroundings.

Fig.14



Patch work buildings sum up in one warehouse, space tides up and connects it self with every possible directions. Public space become on-line for the habitants.

//the warehouses at the canal side will have a fabric of porosity which will establish connection between the site and canal.

//improving the existing pedestrian crossing to the Clémenceau as well as to the Delacroix metro station.

With these breakthroughs Abattoir will be connected from all four sides and will not turn its back to the city anymore.

## **2nd Principle// Urban Space**

The masterplan proposes the realization of a big urban terrain of 60.000 m<sup>2</sup>, which will connect the functions in the open space and support the communication of the informal exchanges in the multicultural life of Brussels. At the moment this area is divided by different architectural bodies, some have functions for the slaughterhouse and some are used as parking lots. A green space is not foreseen at the site, as the market requires a hard surface. The total open space of the slaughterhouse will be unchanged (60.000 m<sup>2</sup>). Because of its fragmented character, it is not possible hold other events other than a market. Therefore, the space should be purified and united. With that it will be suitable for other socio-cultural activities as well (concert, circus, volleyball tournament, etc).

The following breakthroughs are foreseen for this principle:

//a simple open space with hard coated ground.

//a controlled number of visual obstacles.

//a new entrance to cellars from the open space, proximity to the Blackbox envisaged.

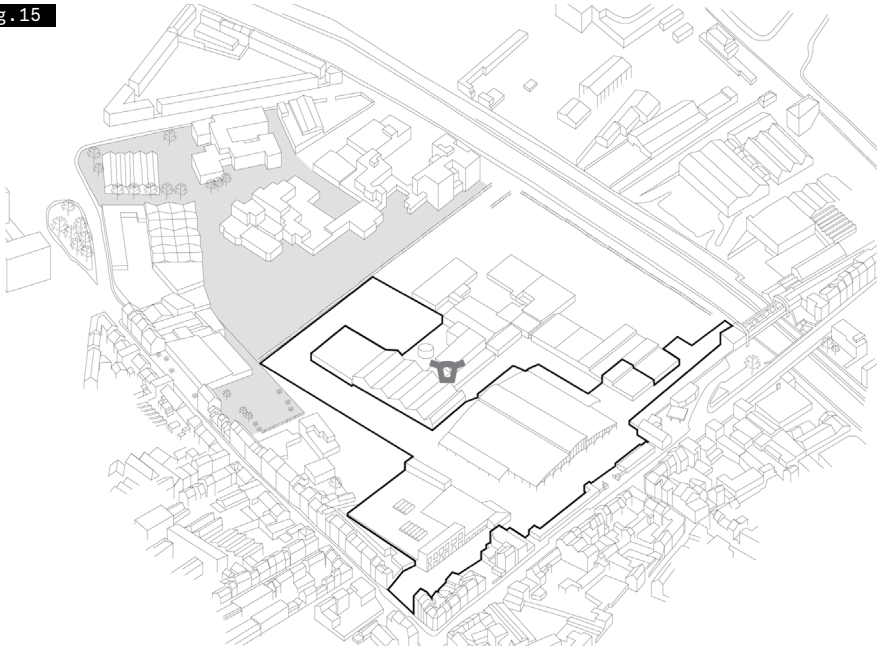
//adapting the shared space concept.

//new research: how to maintain the micro-climate in the iron-cast slaughterhouse.

With these lines, the space will gain flexibility for various events.

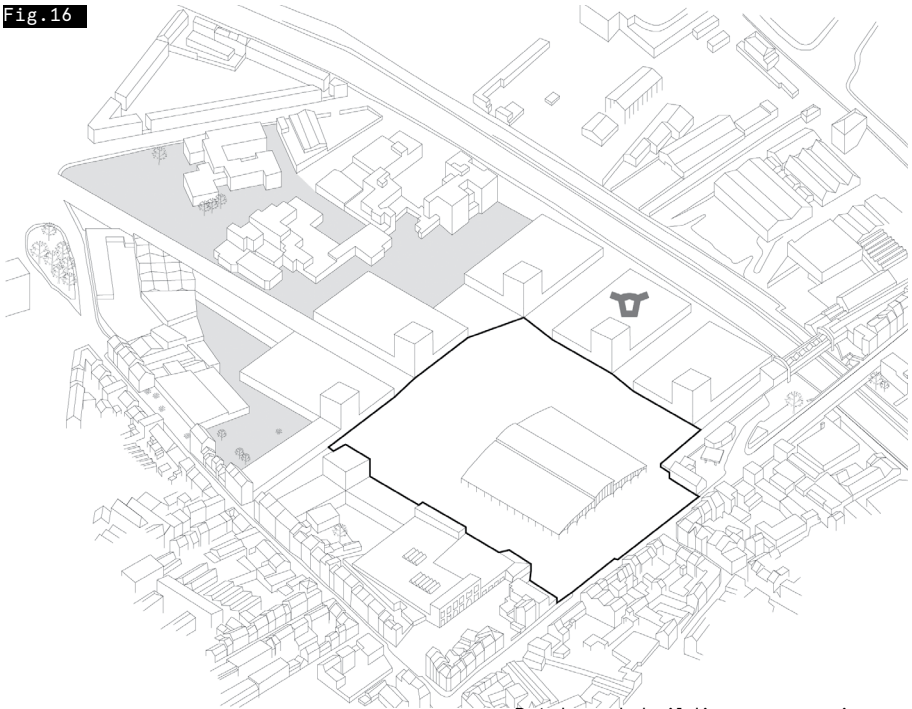
**In chapter\_4 you will experience my approach to solve the public space problems of the Abattoir. It is regrettable, that this big area full of opportunities is not used or designed to fulfill its potential.**

Fig.15



Current situation of the area is quite complex. Its public space morphed with the functions of the Abattoir. Which leads to inefficient usage of the space.

Fig.16



Patch work buildings sum up in one warehouse, space tides up. Public space keeps its size and gets a compact character.

### **3rd Principle// Urban Warehouses as Open Forms**

The various unplanned architectural bodies will be wrapped up in the warehouses with clear defined lines in the urban terrain: to create urban industrial life. These warehouses will have defined heights, grids and patios. The concept on sustainable architecture lies in building an edifice with a very long service life. This is only possible if the architectural form is relatively independent from any function or program which will allow them to be used many times in different context.

Some general principles for warehouse development includes;

//grid\_ an underground parking that connects all the warehouses will make sense, but this might cause people to go their own way without interacting with public space. A form of segregation in the area will occur and this should be avoided by any means. Therefore, a warehouse which is dedicated as a parking house is seen as a solution. A grid system (columns and beams) with the size of 8,2x8,2 m will be used. The survey shows that this measurement is the first choice for the car parking as well as, the accommodation, the offices and the business and commercial establishments.

//entrance zones\_ the first floor of the warehouses should enhance the public life. It is desired to have small businesses, horeca establishments (bars, restaurants, cafes etc) and infrastructures like a post office or a bank.

//height of floors\_ the total height of the warehouses will be 15m (4,5m =ground floor and 3 floors each = 3m). Additional 0,3m construction for each floor will give us the height of total 15m.

//patios\_ in order to create high quality warehouses a series of patios will be installed to draw light down to the ground floors especially where the activities requires it. Even in the car park warehouse two large patios can provide natural light.

//total surface\_ according to the plan with these five warehouses a total of 83.829 m<sup>2</sup> on the Abattoirs Site, 9,450 m<sup>2</sup> on the Erasmushogeschool campus, and 16,670 m<sup>2</sup> on Renaults Site will be created (patios included).



Every single Warehouse will be designed trough a competition process. At the end the visual aspects of the warehouses will be different from each other, while at the functionality level they will be similar.

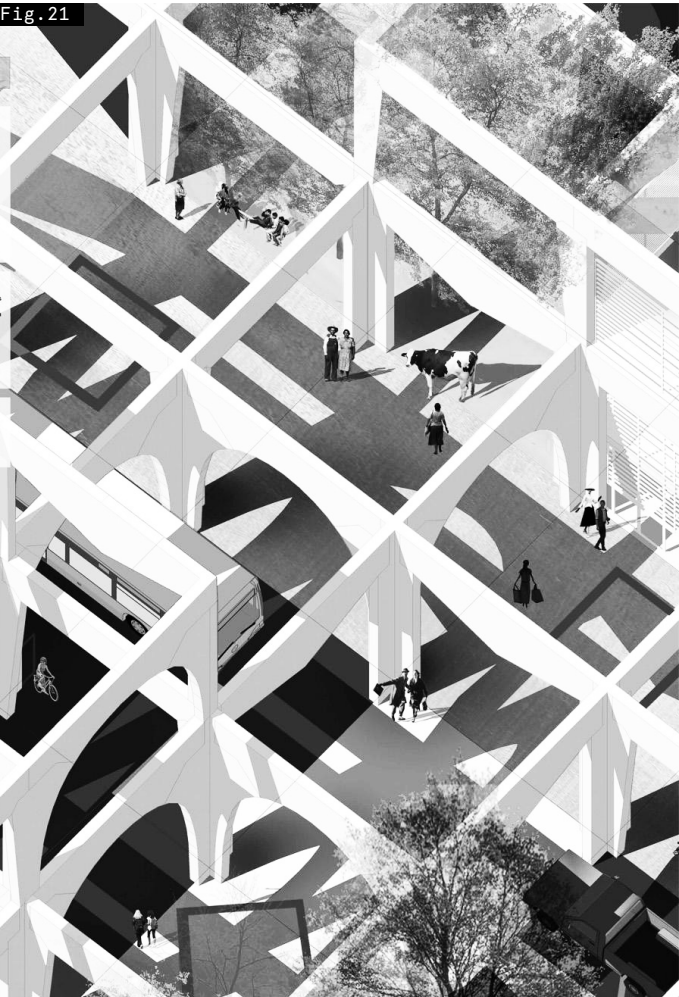
Fig. 20





#### 4th Principle// Accents

Along the canal there are some projects of high-rise buildings (underdevelopment or planned) Some of them are the Atenor Tower in Quai de Willebroek, another one at the Place Saintelette, a semi high building at the Porte de Ninove and another high construction at the Qai Biestebroek. In every warehouse there will be a semi high building (about 6 floors). These will have a facade to the great plain and measure for 20x20m. Each floor will accommodate two apartments with 140 m2 of floor plan. The towers will be seen from a great distance and will be an orientation point for the area.



## 5th Principle// Functions

Abattoirs site has always been a place of industrial activity. Abattoir SA wants to keep this industrial character in the future and place additional urban programs in the area. This said, mainly all the functions related to manufacturing, sale and purchase of food are welcomed here. The aim is to strengthen the link between the urban slaughterhouse and the culinary culture. The wish is to preserve and to reinforce the already existing and present functions on the site, a compact slaughterhouse (10,000 m<sup>2</sup>), the food hall (12,000 m<sup>2</sup>) and the black box as a multipurpose hall (500 m<sup>2</sup>) will be added.

In addition to the present functions as mentioned above the following functions will be supported;

//enterprises whose activity correspond with the industrial character.

//functions related to Erasmushogeschool or other educational institutes in the surroundings. These can be, accommodation for students, classrooms, auditoriums, university restaurants and cafes (canteens).

//businesses like, restaurants, cafes, bars, winery's, roasters, brewery's as well as bookshops, showrooms, shopping possibilities will be welcomed at the great plain.

//parking possibility for visitors, future employees and vendors will be preserved in a different form. Probably concentrated in one warehouse.

//companies and dwellings will be located at the ground floor, houses and offices will be located on the upper floors.

//the artistic and cultural sector will be welcomed at the canal side.

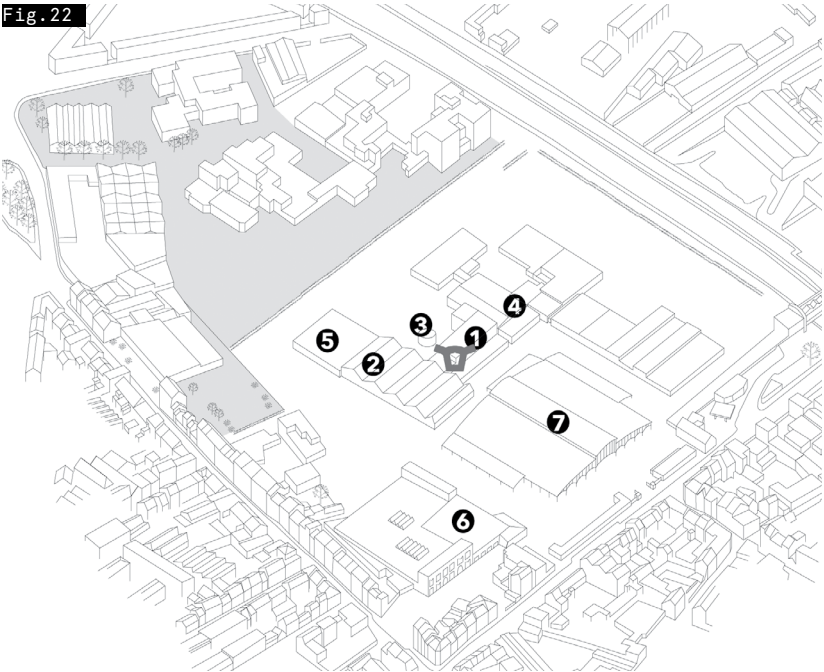
//attention to the companies which are linked to the technical school will be also given. (Wood or metal processing etc.)

//in general the space intensive activities will be more interesting for the Abattoir.

As you can see in the next drawing, all the functions needed for the slaughterhouse are embedded in warehouse number 02. Additional functions can be added without sacrificing public space.

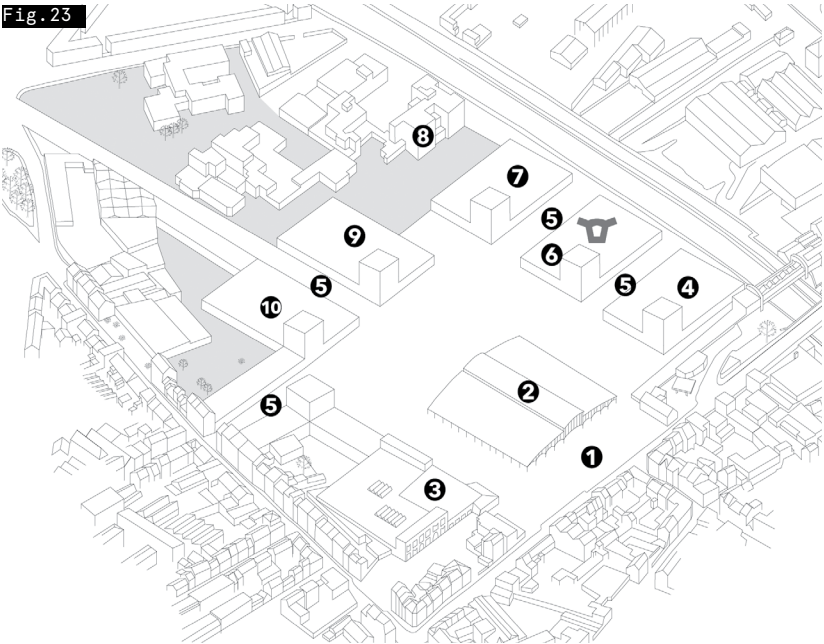


Fig. 22



- |                   |                 |
|-------------------|-----------------|
| 1_Slaughterhouse  | 6_FoodMet       |
| 2_Waste Sorting   | 7_Covent Market |
| 3_Water Collector |                 |
| 4_Cutting Meat    |                 |
| 5_Tanner          |                 |

Fig. 23



- |                              |                        |
|------------------------------|------------------------|
| 1_Grande Plaine de Bruxelles | 6_Urban Slaughterhouse |
| 2_Convent Market             | 7_Depository 03        |
| 3_South Market-FoodMet       | 8_Erasmus Yard         |
| 4_North Market               | 9_Depository 04        |
| 5_Logistics Areas            | 10_Depository 05       |

## 2.2 SIX PARTIAL PROJECTS

There will be total of six partial projects at the site. These projects are seen as public indicators and are independent from each other. Overall these redevelopment plans are based on the following starting points:

- maximizing the economic development of the site through the extension and the maintenance of commercial functions.
- improving the conditions of the neighborhoods, leveling their attractiveness (Erasmushogeschool, Renault and others).
- strengthening the markets attraction; using it as a migration tool from the other districts to the Abattoir.

1//Food Hall :: an exemplary model of the Warehouse.  
12.500 m<sup>2</sup>

2//Compact Abattoir :: a new urban Slaughter House in compact form. 10.000 m<sup>2</sup>

3//The NOMA :: an event space which is connected with the cellars.

4//Erasmushogeschool Campus :: redevelopment and reorientation of the relationship with its open space.

5//Renault Site :: redevelopment in open form.

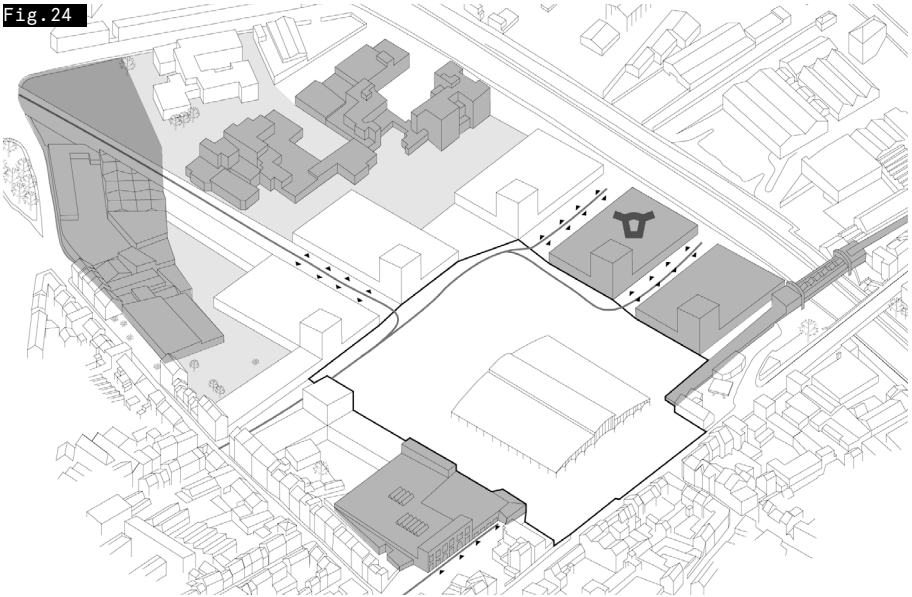
6//Delacroix Subway Station :: redesigning the entrance zone.

The function of the existing slaughterhouse must remain operational at all times. These partial projects are focused on the areas that are obsolete or have immense problems. Below you will find detailed information about the projects.

### 1// Food Hall (FoodMet)

The Food Hall will be an exemplary model for future warehouses. These warehouses will be built for a long-term functionality, therefore its structure will be independent from the function or program and will have a clear straight form. The structure will sit on a pre-defined grid of 5,8x5,8 m, this grid system will allow the warehouse to adopt multiple functions. In this case the Food Hall will include the food market, the commercial spaces, 20 apartments and a public space.

Fig. 24



- 1//Food Hall
- 2//Compact Abattoir
- 3//The NOMA
- 4//Erasmushogeschool Campus
- 5//Renault Site
- 6//Delacroix Subway Station

## 2// Compact Abattoir

The new Compact Abattoir will occupy an area of 10,000 m<sup>2</sup>. This is a nearly 50% decrease of the current slaughterhouse. For the functions there will be a two-floor plan; the entire slaughter line, stables, waste rooms and cooling systems will be placed on the ground floor, while the cutting rooms, logistics and social spaces will be organized upstairs. Two internal slopes will be installed in order to smooth out the internal organization between the floors, one for slaughter (ground) and cut-out (upper) relationship and the second one for carrying the end-products to the ground floor. The place for the compact slaughterhouse is in warehouse nr.2. which is planned to be built in 2020.

## 3// The NOMA

The warehouse nr.1 which overlooks the Delacroix metro station will be the most distinct one.. This warehouse will most likely accommodate the "Black Box" (500 sitting Auditorium), a reception which will work as an info point for the Abattoir and the Horace.

The subway station Delacroix will have a direct connection to this warehouse, therefore ideally the multi storage car-park should be built here as well. The underground access will desirably be preserved (which currently passes near to metro station) for deliveries and as an additional emergency exit.

#### **4// Erasmushogeschool Campus**

The general redevelopment plan for the Erasmushogeschool is to improve its public space and attractiveness to students and visitors. This will be solved through opening campus borders to the Abattoir site and connecting it with the new exit of the metro station Delacroix with the help of warehouse nr.1. The new open public space will be surrounded by warehouse nr.3 and nr.4, which will create a more intimate space, like a semi-closed public space. The campus can be extended to the neighboring warehouses, which can be used for teaching activities and host spin-offs. The upper floors can also serve as student dorms.

#### **5// Renault Site**

Renault site plays a very important role due to the first principle of the development guidelines. The site is on sale at the moment and its future owner sees this as an important opportunity to improve this area. To create a connection from the south side of the Abattoir, there will be an opening. With this, Abattoir site will be fully connected with the city.

#### **6// Delacroix Subway Station**

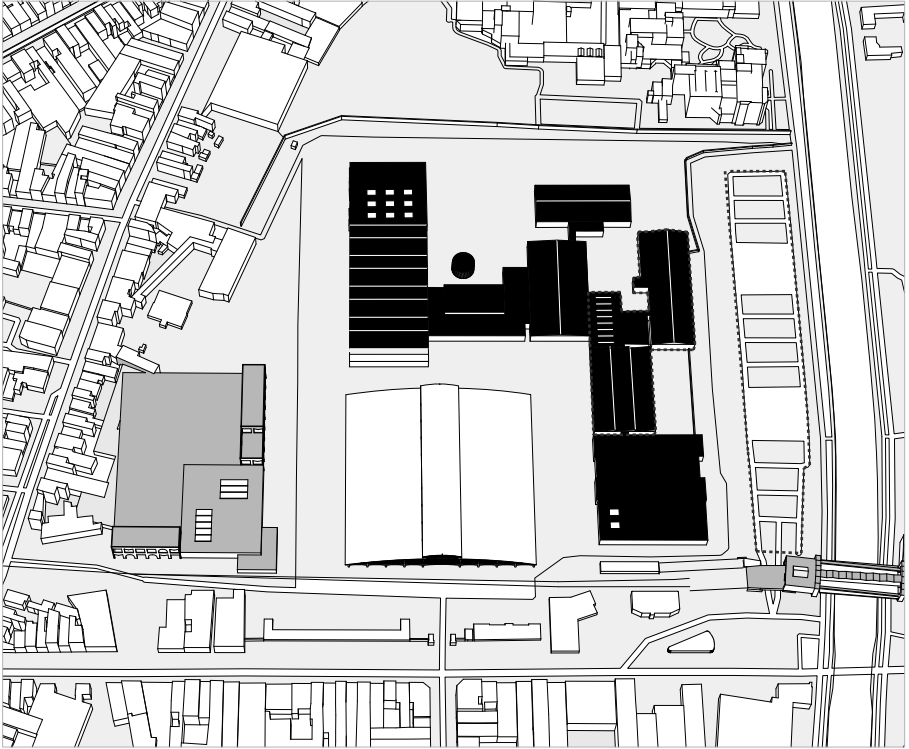
Delacroix Subway station plays an important role as a public transport link to Abattoir. The current situation of the entrance/exit of the station which plunges in to the basement, creates more of an obstacle than a connection to site. The framework of this development plan is to create a direct connection from the station to the public spaces of Abattoir as well as to the cellars, Qual de l'industrie and the parking lots.



Fig.25

**FoodMet** (at back, concrete building) during the market time

## 2.3 PHASES OF DEVELOPMENT



### Current Situation

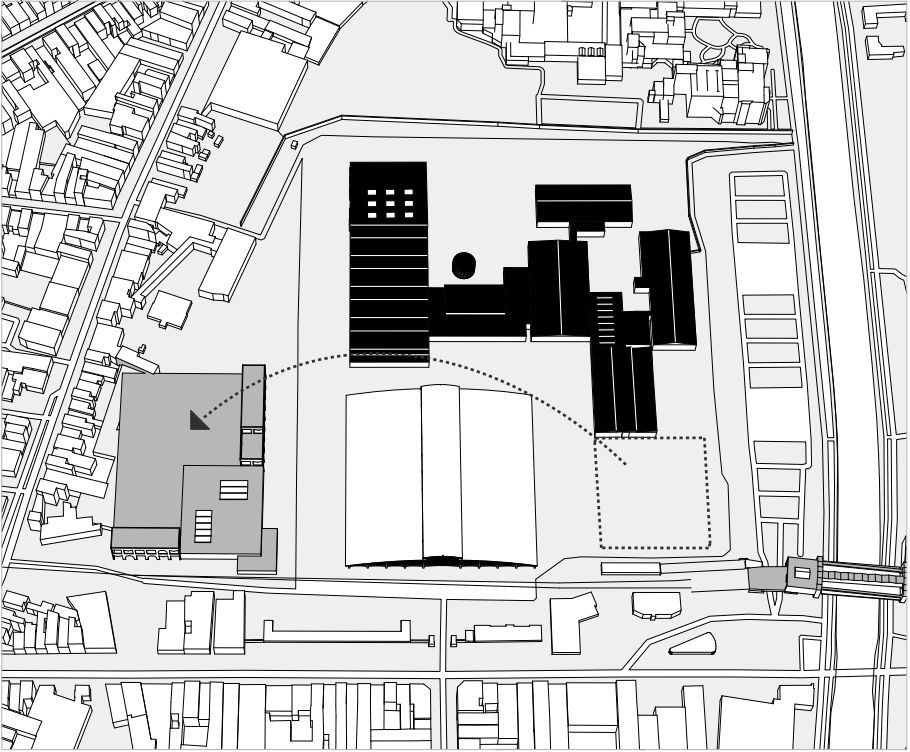
The development phases of Abattoir is a delicate exercise. Some essential conditions should be taken into consideration. These are the following:

// during the development, the function of the current warehouse must be operational at all times. This include the 18 m around the building which are currently used as a loading/unloading area.

// the total number of parking lots can not be down sized during the process.

// the market must stay in function during the development process. 40.000 m2 area needed for the market (parking site excluded).

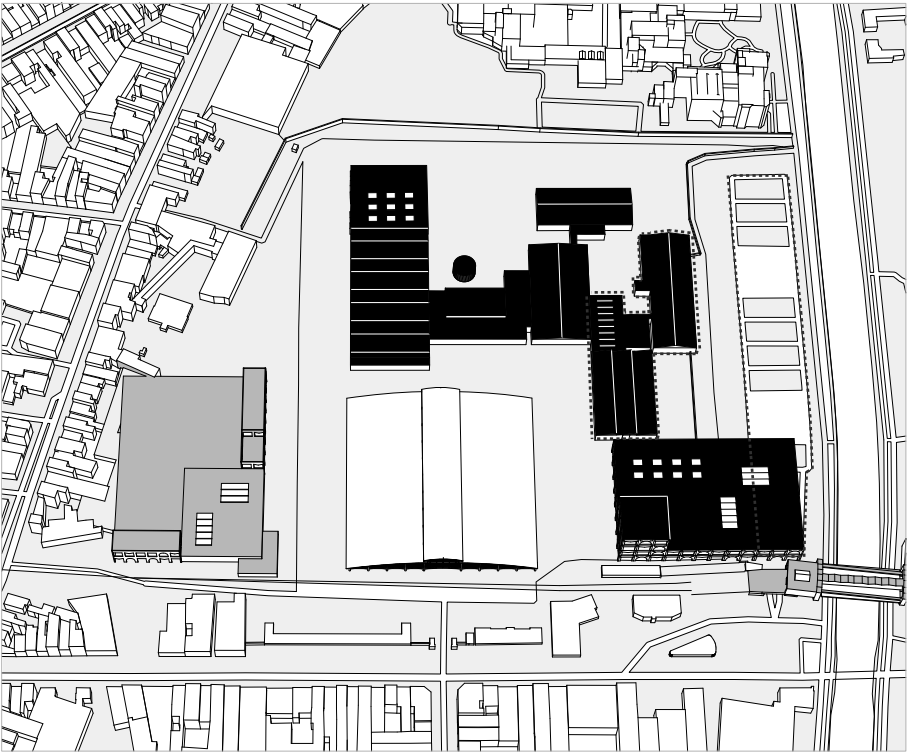
// the domestic outlets must stay operational as well at all time.



### **Phase 1// Development of the Food Hall**

The Food Hall will be an exemplary warehouse in a small scale. It will encompass all the functions of the meat market as well as vegetable and fruit stores. With the building of the Food Hall the 87 parking lots will be realized. A logistic area with docking ability and connection to cellars will be obtained in the Food Hall. After finalizing phase 1 some of the buildings will be demolished in order to start the second phase.





## **Phase 2// Development of the Warehouse 1**

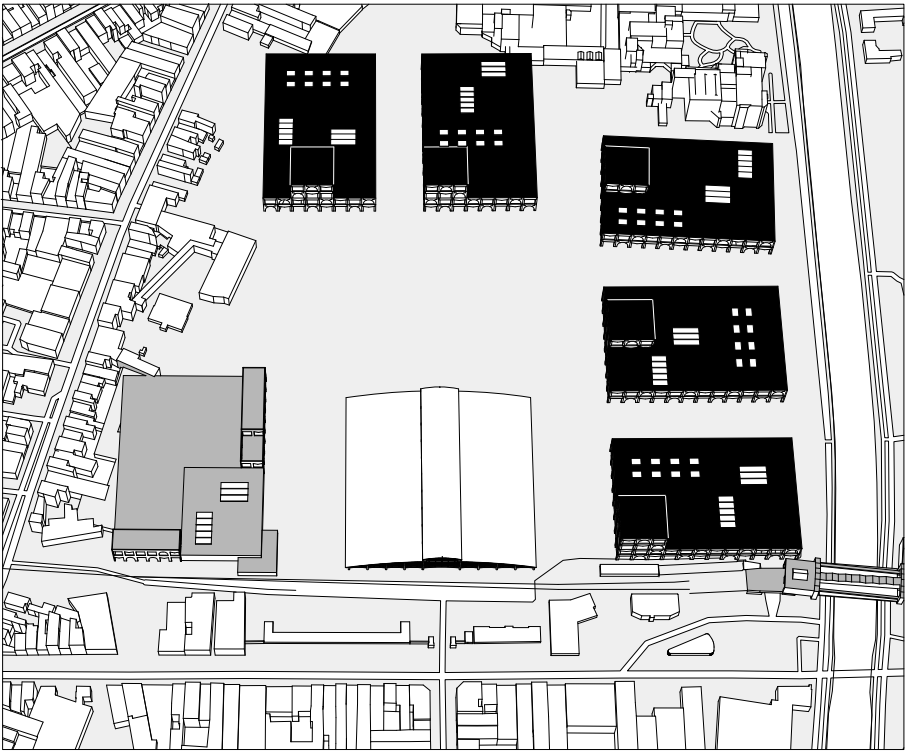
After having an example of a warehouse through the Food Hall, the first full sized Warehouse will be build. The First one will accommodate the Car Parking and the Black Box. Except the urban slaughterhouse all the important functions of the area will be covered with warehouse nr.1. This will allow to demolish the car park.





### Phase 3// Development of the Warehouse 2

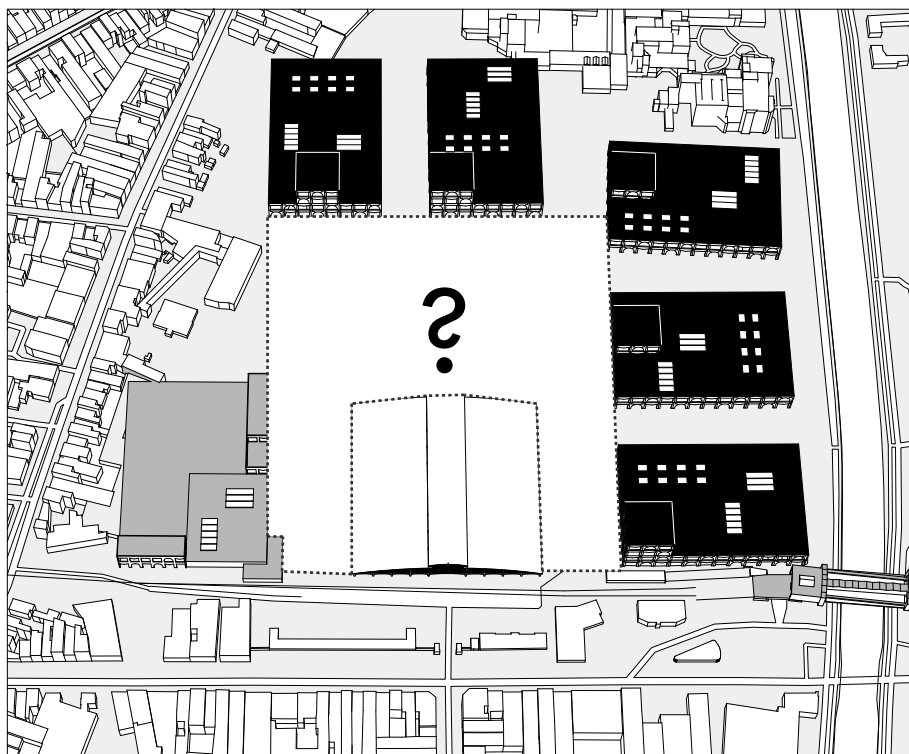
Completing the new car parking through warehouse 1, there will be free space to build the Warehouse 2 and 3 (demolishing the old car park). Warehouse 2 will accommodate the urban slaughter house. Although during the process some parts of the old slaughterhouse might be transported to somewhere else, its realization is possible but some important efforts might have to be made. If necessary, the realization of nr. 2 and 3 can be changed. By the time the nr 2 realized, all the initial functions in the Abattoir transported in their respected new buildings, with that the phase of the other Warehouses can start.



#### **Phase 4// Next Phases**

The realization of the other warehouses and further developments does not necessarily require a phased approach. It will mainly involve creating investment budgets, finding investors and building public private relationships. A consultation body should be formed which includes the private owners; the Abattoir SA, Erasmushogeschool, the future owner of the Renault site and the STIB. These actors are especially important in three structural levels:

- // reconstruction of the Delacroix metro station, rear-ranging the entrance.
- // development of the Clemenceau metro station, and its direct connection to the site
- // development of the large STIB plot at the other side of the canal, as an extension to the Abattoir site.



**WHAT WILL BE THE  
APPROACH FOR THE  
NEW PUBLIC SPACE?  
HOW IS IT POSSIBLE  
TO ACTIVATE THIS  
PLACE ALSO THE OTH-  
ER FOUR DAYS WHILE  
THE MARKET IS NOT  
TAKING PLACE?**



## THE VOID

In this chapter we will investigate three different works and formulate three guidelines for the solution of the public space problem in Abattoir.

As already mentioned in Chapter 02, in the development project they created the public space at Abattoir, but no further plans were introduced to active it. As I was in the area, I felt the need of a working public space for Brussels, especially at the Anderlecht area where all different kind of nationalities come together. These three works will be the inspiration to build the guidelines for the needs of this public space. How to shape a space for the needs of many, how to obtain a sustainable public space, and how can the practical approach look like.

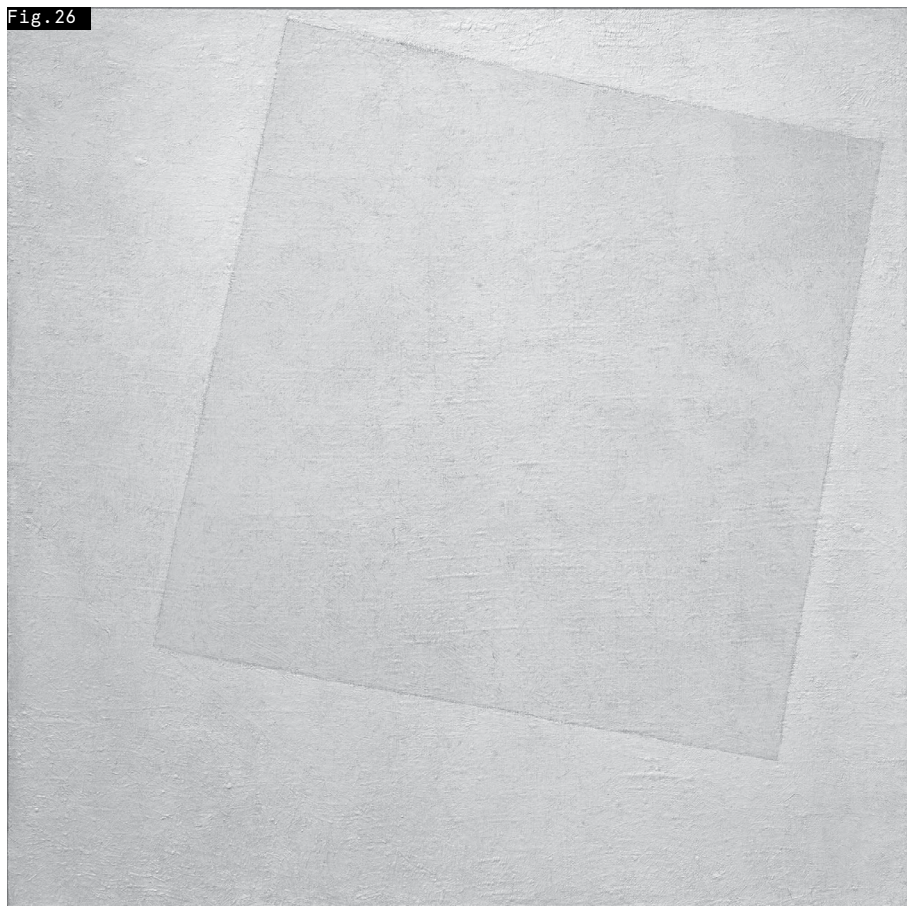
The first project is the white on white painting from the Russian painter Kazimir Malevich; his work will build a fundamental understanding for the primitive function of a public space. A public space has no shape, boundaries or functions which can be shaped by the user.

The second project will sneak peak into the history of a tech leading brand and investigate what the key element was in their leading role in the tech industry.

The third part of the chapter analyses an existing project that had similar needs for the public space.

### 3.1 WHITE ON WHITE

Fig. 26



Kazimir Malevich  
"White on White"

Suprematist Composition  
1918  
Oil on Canvas  
79,4x79,4 cm

Gallery Label  
from 2015

[https://www.  
moma.org/  
collection/  
works/80385](https://www.moma.org/collection/works/80385)

12.04.2017

Malevich described his aesthetic theory, known as Suprematism, as “the supremacy of pure feeling or perception in the pictorial arts.” He viewed the Russian Revolution as having paved the way for a new society in which materialism would eventually lead to spiritual freedom. This austere painting counts among the most radical paintings of its day, yet it is not impersonal; the trace of the artist’s hand is visible in the texture of the paint and the subtle variations of white. The imprecise outlines of the asymmetrical square generate a feeling of **infinite space** rather than **definite borders**.

We will notice some sort of embodiments of different programs in the cities and when these programs are not privately used they are often used as publicly, therefore they take places in the public realm/spaces. These programs can be the embodiment of a Basketball play ground, an open air cinema or a market and because of the specific programs that they want to proceed, they tend to have specific needs in terms of forms. These forms out puts the world that we live in. "Form of things" calls Alexaner D Hooghe in his TED talk about "The Universal Building".

Alexaner D  
Hooghe

TED talk  
"The universal  
Building"

<http://www.tedxbrussels.eu/2012/>

01.04.2017

While some of us enjoy spending time in shadow of these programs, for the others they may not be in the light of existence. For instance; when we design a space with a Basketball play ground, we occupy an amount of space only for this specific function as well as the specific group of people that is going to occupy this space. **For the ones who are not interested in taking any place in this function, this public space is going to be simply non-existence.**

To overcome this issue, Alexaner D Hooghe talks about the three buttons in order to gain success in the public realm (which mostly in the societies where the private capital plays an important role). We don't need to go too far away actually; people like to be in the nature and they like to be in a community with other people together and they like to see the progress around them; so if you hit one of these buttons from Nature, Community or Progress you are very likely to get succeed in your designed public space.

What ever you choose, it will out put a type of form, the form of things that we place on the public space. These form out puts a function which will attract a certain type of people and if you hit another button in your design it will create another form which generates a greater of attraction. But sadly most of the times these things are very likely to exclude each other, like motorways and play grounds or parks etc. When you add one function the form it generates doesn't allow to add another one in the public space.

So what will happen if you want to hit all buttons at the same time, D Hooghe says that it wont have a form anymore, it will be a white square of the Malevich's painting.



**For the ones  
who are not  
interested in  
taking any place  
in this  
function, the  
public space  
is going to be  
simply  
non-existence.**

**“It is a modernist painting, and I adventure to argue with you that perhaps the modernist promise of pure and complete abstractionist in space, the one that has longest time stayed in art as very strong and clear statement but is about to potentially move out of pure art and move in to drum of cities, in to drum of urban design and if that’s the case, we can see the square as a plaza (a large very precisely defined plaza) but completely open completely indeterminate, open for all of you and you and you and you**

and you all to put your imaginations, desires and projects on to that. In another words, a square that is truly democratic, even that it is precise and bounded. More over, the area around the square, which is also white! Which are the buildings of the city lets say, also white, also **open**, also **universally hospitable** to almost any kind of function, program, desire and dream. **Thats the kind of city you might be evolving in to."**

### 3.2 APPLE II

Fig. 27



**Apple II**

1977

First highly successful  
mass-produced micro comput-  
er.

Apple II  
Series

[https://  
en.wikipedia.  
org/wiki/Apple\\_II\\_series](https://en.wikipedia.org/wiki/Apple_II_series)

01.04.2017

Wozniak's open-architecture design and the Apple II's multiple **expansion slots** permit a wide variety of **third-party devices**, including peripheral cards such as serial controllers, display controllers, memory boards, hard disks, networking components, and real-time clocks. There are plug-in expansion cards . Third-party sound cards greatly improve audio capabilities, allowing simple music synthesis and text-to-speech functions. Apple II accelerator cards double or quadruple the computer's speed.

We use computers in daily basis for different tasks, what the computer makes so interesting is its capability to cover diversity of needs with his body which awake the curiosity how to implement the same strategy in the urban planing.

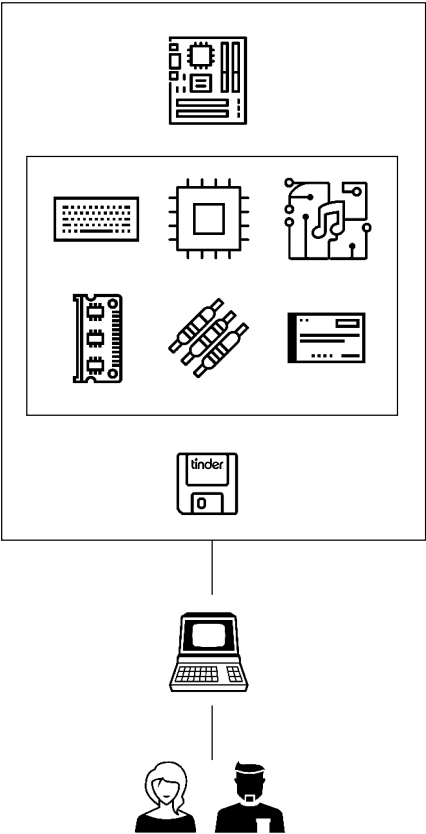
We use computers in daily basis for the endless tasks to handle, there is for sure a program for any kind of need and if there is not, the anatomy of the computer allows us to develop one, like the Apple's 2009 i-phone 3G advertisement campaign said "There is an App. for that".

Lets talk about the anatomy of a computer, the main thing to start with is the motherboard, it is the heart of the computer, all the other hardware components are placed and connected above it, its job is to create a connection between the components and allow them to be upgrade without sacrificing the whole system. Of course the motherboard has its own limitations too, the components that are connected to it should be compatible, there might be the issue with the newer components doesn't support the out dated motherboard, but at least this flexibility allows the computer to sustain a good amount of time to service.

Second part of the computer are the hardwares, these are the brain, lungen, the ears and eyes of the computer. They allow to do different tasks, like; the graphic card, sound card, memory cards, hard disks, battery and so. The physical elements like the screen, keyboard or touch pad/mouse can be seen as component as well. With the combination of motherboard and the hardwares, we have the whole system which allows us to create an out put that complements our senses, like seeing and hearing. But to interact with all these bunch of hardwares we need a translator, where the software plays the role.

Third part of the computer is the software. It is the soul and brain of the computer. It activates the hardware to do certain tasks and reflects it in the form of visual or audio. So as we see it is synergy between different things in order to create an various out put. For example i am writing this text with the program called InDesign which is formed over the software which is connected to hardware components which are assembled over the motherboard that brings all of them together.

I would like to introduce you with the Apple II. The Apple’s second attempt to build micro computer for the personal home use, it was also the first attempt to create an open architecture (a motherboard with many of slots for extension of capabilities which allowed to install extra chips, memory cards, sound cards to double the speed or memory and make it possible to install newer more developed programs). This open design of the Apple II with extension capabilities allowed it to use the Killer App called “VisiCalc Spreadsheet” which came two years later after the release the Apple II. Apple II was the only computer to use the VisiCalc thanks to its expandable memory, the competitors Commodore 64 and Atari 800 didn’t have the open expandable design therefore the Apple II was the only computer to run this new fancy program. Though this ability Apple II stayed in the market for a long time.



# The home computer that's ready to work, play and grow with you.

Fig. 28

Clear the kitchen table. Bring in the color T.V. Plug in your new Apple II\*, and connect any standard cassette recorder/player. Now you're ready for an evening of discovery in the new world of personal computers.

Only Apple II makes it that easy. It's a complete, ready to use computer—not a kit. At \$1298, it includes features you won't find on other personal computers costing twice as much.



Features such as video graphics in 15 colors. And a built-in memory capacity of 8K bytes

history or math. But the biggest benefit—no matter *how* you use Apple II—is that you and your family increase your familiarity with the computer itself. The more you experiment with it, the more you discover about its potential.

Start by playing PONG. Then invent your own games using the input keyboard, game paddles and built-in speaker. As you experiment you'll acquire new programming skills which will open up new ways to use your Apple II. You'll learn to "paint" dazzling color displays using the unique color graphics commands in Apple BASIC, and write programs to create beautiful kaleidoscopic designs.

As you master Apple BASIC, you'll be able to organize, index and store data on household finances, income tax, recipes, and record collections. You can learn to chart your biorhythms, balance your checking account, even control your home environment. Apple II will go as far as your imagination can take it.

Best of all, Apple II is designed to grow with you. As your skill and experience with computing increase, you may want to add

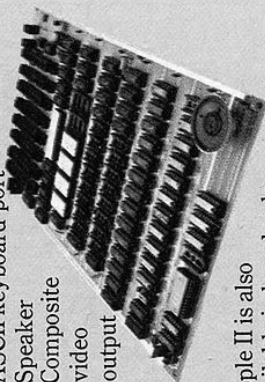
Apple II™ is a completely self-contained computer system with BASIC in ROM, color graphics, ASCII keyboard, lightweight, efficient switching power supply and molded case. It is supplied with BASIC in ROM, up to 48K bytes of RAM, and with cassette tape, video and game I/O interfaces built-in. Also included are two game paddles and a demonstration cassette.

## SPECIFICATIONS

- **Microprocessor:** 6502 (1 MHz).
- **Video Display:** Memory mapped, 5 modes—all Software-selectable:
  - Text—40 characters/line, 24 lines upper case.
  - Color graphics—40h x 48v, 15 colors
  - High-resolution graphics—280h x 192v; black, white, violet, green (16K RAM minimum required)
- Both graphics modes can be selected to include 4 lines of text at the bottom of the display area.
- Completely transparent memory access. All color generation done digitally.
- **Memory:** up to 48K bytes on-board RAM (4K supplied)



- Uses either 4K or new 16K dynamic memory chips
- Up to 12K ROM (8K supplied)
- **Software**
  - Fast extended Integer BASIC in ROM with color graphics commands
  - Extensive monitor in ROM
- **I/O**
  - 1500 bps cassette interface
  - 8-slot motherboard
  - Apple game I/O connector
  - ASCII keyboard port
  - Speaker
  - Composite video output



Apple II is also available in board-only form for the do-it-yourself hobbyist. Has all of the features of the Apple II system, but does not include case, keyboard, power supply or game paddles. \$798.

PONG is a trademark of Atari Inc.

\*Apple II plugs into any standard TV using an inexpensive modulator (not supplied).

detailed brochure. Or write Apple Computer Inc., 20863 Stevens Creek Blvd., Cupertino, California 95014.

Circle 4 on inquiry card.

# apple computer inc.™

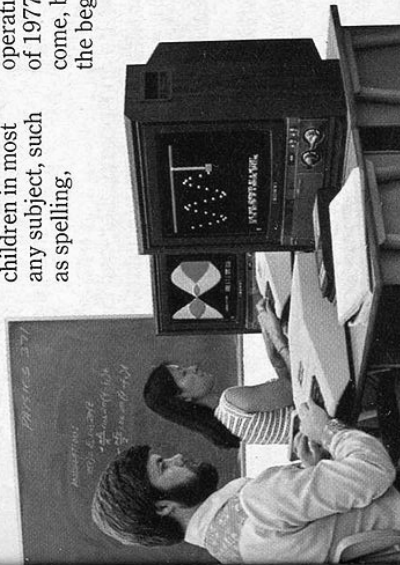
new Apple peripherals. For example, a refined, more sophisticated BASIC language is being developed for advanced scientific and mathematical applications. And in addition to the built-in audio, video and game interfaces, there's room for eight plug-in options such as a prototyping board for experimenting with interfaces to other equipment; a serial board for connecting teletype, printer and other terminals; a parallel interface for communicating with a printer or another computer; an EPROM board for storing programs permanently; and a modem board communications interface. A floppy disk interface with software and complete operating systems will be available at the end of 1977. And there are many more options to come, because Apple II was designed from the beginning to accommodate increased power and capability as your requirements change.

If you'd like to see for yourself how easy it is to use and enjoy Apple II, visit your local dealer for a demonstration and a copy of our

ROM and 4K bytes RAM—with room for lots more. But you don't even need to know a RAM from a ROM to use and enjoy Apple II. It's the first personal computer with a fast version of BASIC—the English-like programming language—permanently built in. That means you can begin running your Apple II the first evening, entering your own instructions and watching them work, even if you've had no previous computer experience.

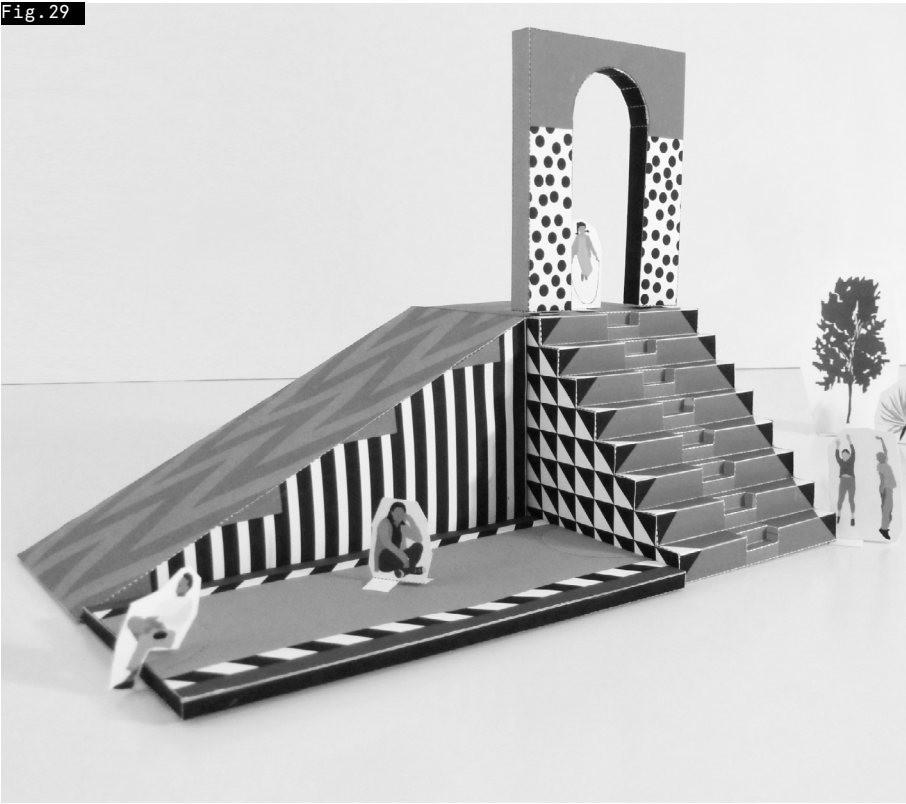
The familiar typewriter-style keyboard makes communication easy. And your programs and data can be stored on (and retrieved from) audio cassettes, using the built-in cassette interface, so you can swap with other Apple II users. This and other peripherals—optional equipment on most personal computers, at hundreds of dollars extra cost—are *built into* Apple II. And it's designed to keep up with changing technology, to expand easily whenever you need it to.

As an educational tool, Apple II is a sound investment. You can program it to tutor your children in most any subject, such as spelling,



**3.3\_ URBAN DEVICES...**

**Fig. 29**



**T SPOON**  
**THE MEXTRÓPOLI PAVILION CUT**  
**OUT SET**  
Urban Device for adaptable  
Public Spaces.

T SPOON  
THE MEXTRÓPOLI  
PAVILION CUT  
OUT SET

[https://divisare.com/projects/316857-the-mex-tropoli-pavilion-cut-out-set?utm\\_con](https://divisare.com/projects/316857-the-mex-tropoli-pavilion-cut-out-set?utm_con)

21.04.2017

## The MEXTRÓPOLI PAVILION

CUT-OUT SET is an urban device, a set of elements that freely arranged in the city creates recognizable places where relations and encounters are favored.

The space generated by the cut-out set is an **always different public space**, defined by how each urban actor interprets the elements and interacts with them. The cut out set designed for this pavilion, refers to the idea of a public space where people are encouraged and invited to interact in a playful and recreational way, as if the elements were hand built paper toys, for a more familiar and social relation with the contemporary city.

In this chapter we will see specific projects that holds the possible solutions for the Abattoirs public space. the analyze of them will create guidelines for us to form a targeted solution.

The cut-out set from the T SPOON architects from Italy is a very constructive idea in the way of how to encourage people to think about their public spaces and move them to get in the process of designing their own dreams, ideas, and reflections in an ease with these foldable cut out paper tools.

*The Mextrópolis Pavilion Cut-Out Set provides five elements of different urban archetypes; **the steps**, to sit on, to climb and look from above for a different perspective; **the gate**, a threshold to cross to enter a different space, a structure to frame a particular view or a backdrop for an activity; **the slide**, to climb, to lie on, to roll on; the porch, a place to enter, **a kiosk** (an exhibition area, bar, shop, entrusted to someone it can generate an income to cover the costs of construction and maintenance); **the podium**, a clearly identified space, a carpet, a play field, base for activities. The objects can be assembled and reorganized in countless configurations, infinite possible landscapes that will generate spaces always new and suitable for different places and needs.*

[https://divisare.com/projects/316857-t-spoon-the-mextrapolis-pavilion-cut-out-set?utm\\_con](https://divisare.com/projects/316857-t-spoon-the-mextrapolis-pavilion-cut-out-set?utm_con)

25.04.2017

This adaptable image of the project corresponds with the idea of ideal public space, especially in the areas like Abattoir where all kind of various functions appears in different phases of the time. You can install this type of project to any where in any public space. It becomes exceptionally a powerful tool by involving different actors during the designing process. This approach empowers particularly the commoning process in the city, by giving the inhabitants a role where they can participate with the shaping their surroundings.

In this sense, the architects become a referee where they sets the rules of the game and organize, collects and connects the informations with the help of players (inhabitants) in order to out put the best result for this specific area.

Fig. 30

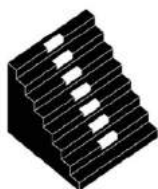
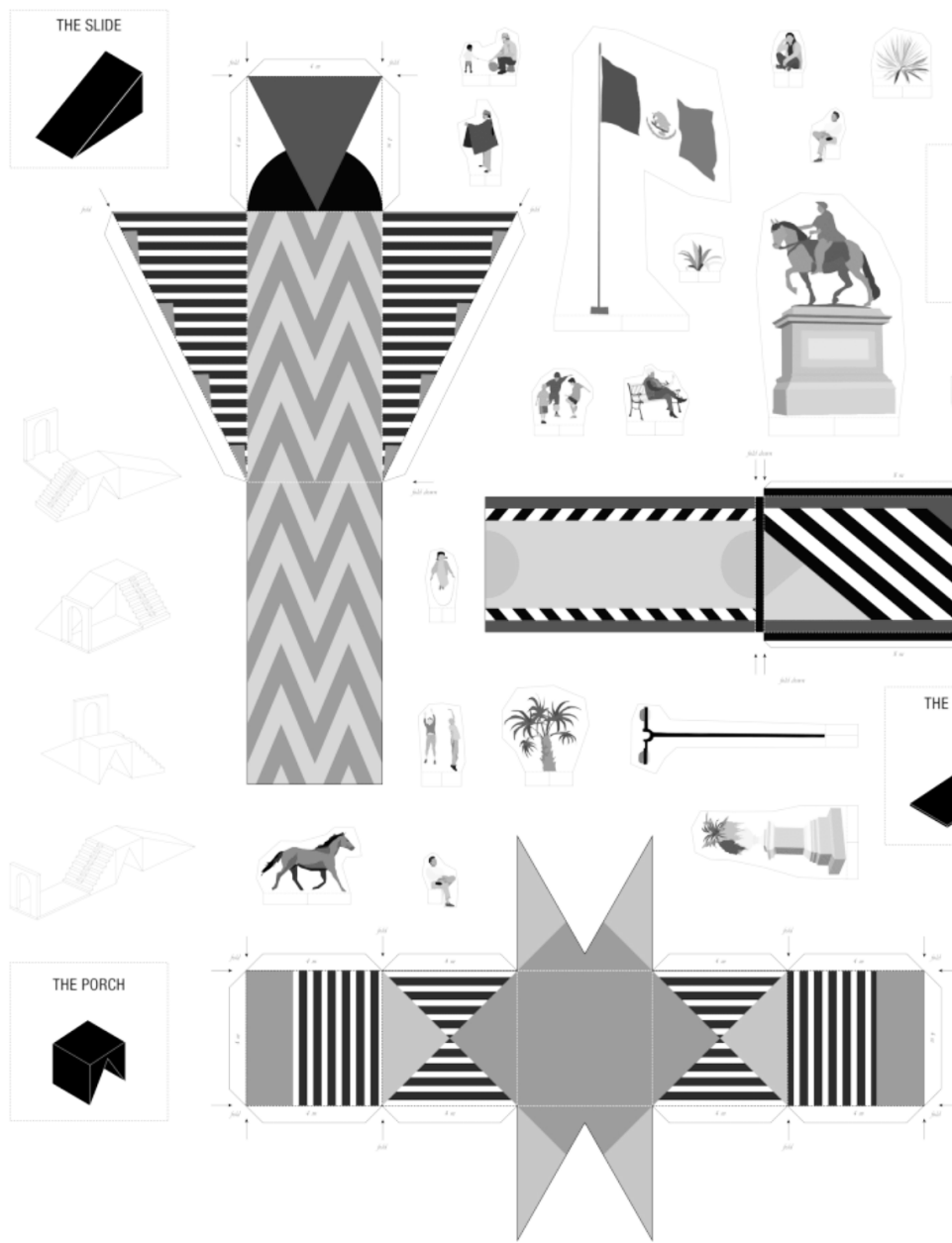


Fig.31



# THE MEXTRÓPOLI PAVILION CUT OUT SET

The MEXTRÓPOLI PAVILION CUT-OUT SET is an urban device, a set of elements that freely arranged in the city creates recognizable places where relations and encounters are favored.

The space generated by the MEXTRÓPOLI PAVILION CUT-OUT SET is an always different public space, defined by how each urban actor interprets the elements and interacts with them. The cut-out set designed for this pavilion, refers to the idea of a public space where people are encouraged and invited to interact in a playful and recreational way, as if the elements were hand built paper toys, for a more familiar and social relation with the contemporary city.

The MEXTRÓPOLI PAVILION CUT-OUT SET provides five simple elements, five archetypes of urban space: the steps, to sit on, to climb and look from above for a different perspective; the gate, a threshold to cross to enter a different space, a structure to frame a particular view or a backdrop for an activity; the slide, to climb, to lie on, to roll on; the porch, a place to enter, a kiosk (an exhibition area, bar, shop, entrusted to someone it can generate an income to cover the costs of construction and maintenance); the podium, a clearly identified space, a carpet, a play field, base for activities. The objects can be assembled and reorganized in countless configurations, infinite possible landscapes that will generate spaces always new and suitable for different places and needs.

This spatial image corresponds to our idea of public space: simple, adaptable and recognizable, theater of the encounter and discussion between the different actors that operate in the urban space.

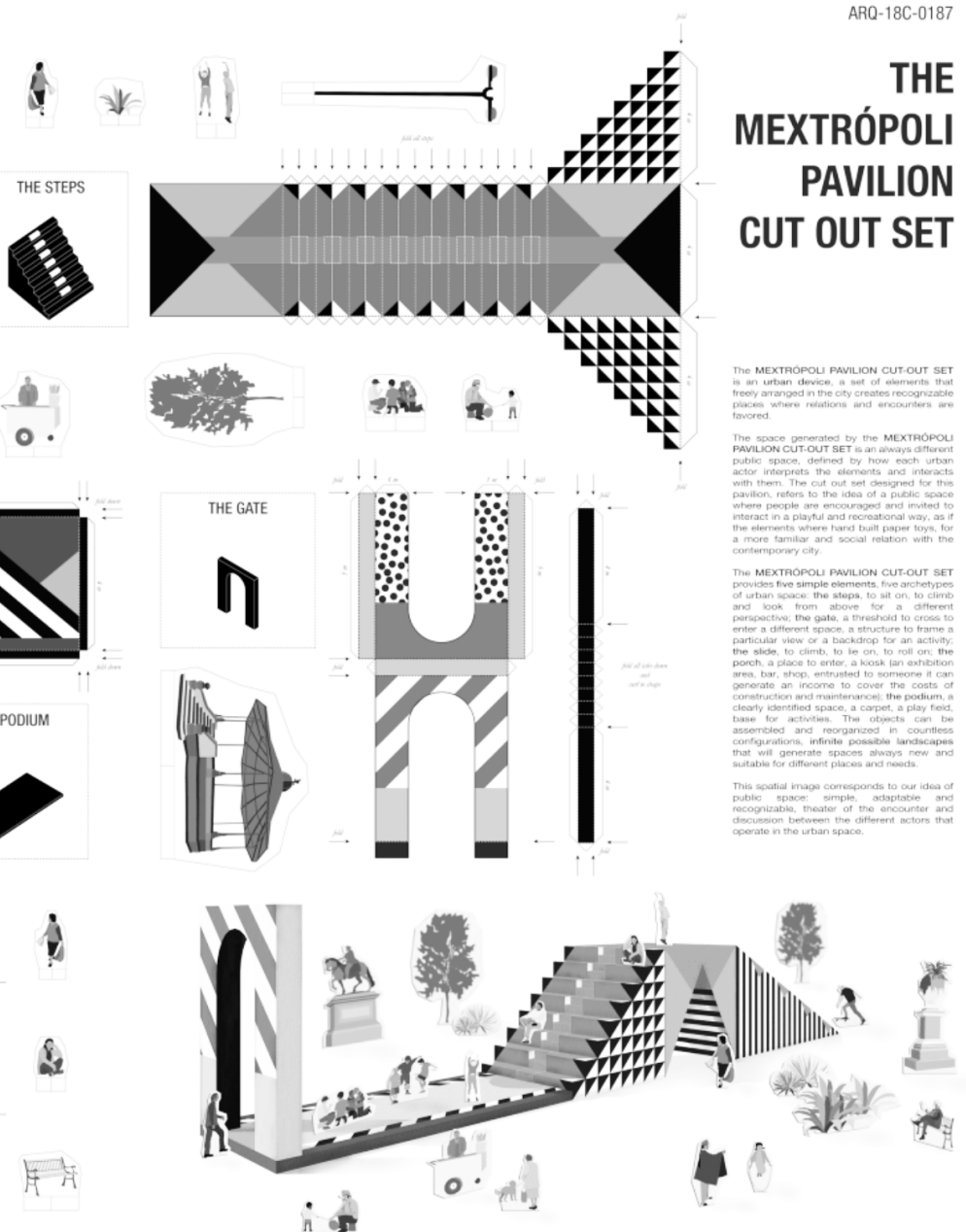
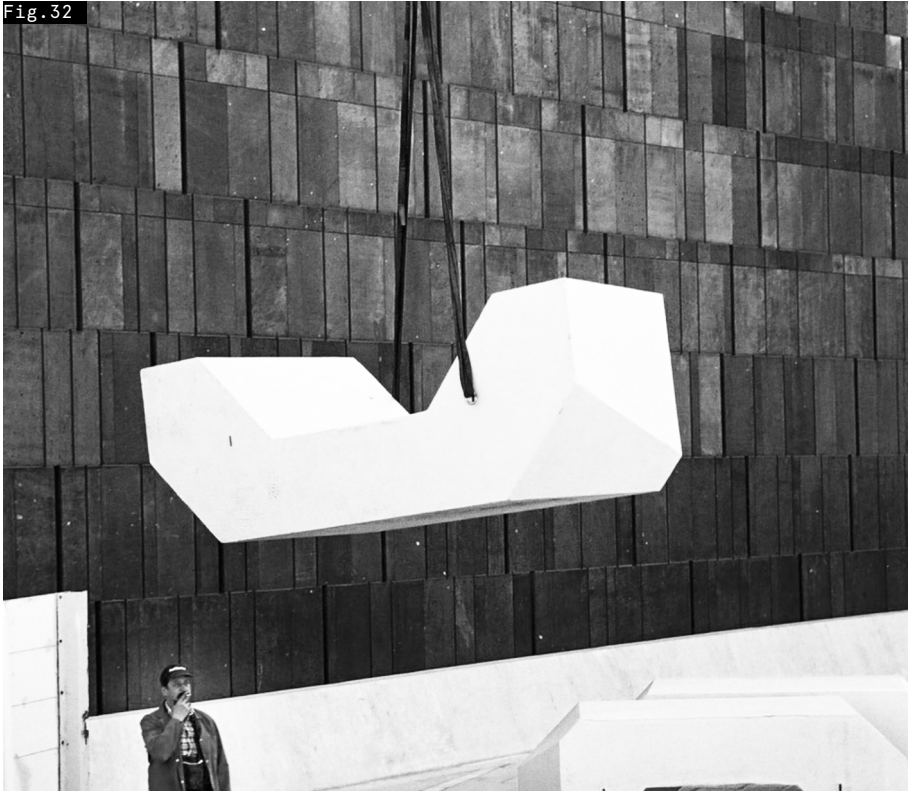


Fig.32

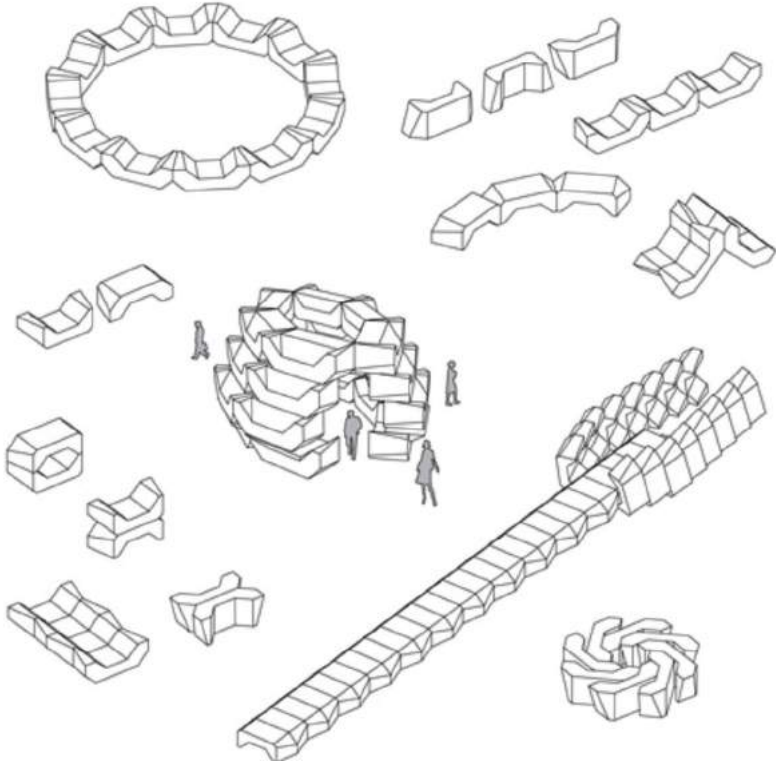


PPAG  
ENZI

During the installation by  
using the cranes in Museums  
Quarter Vienna.



Fig. 33



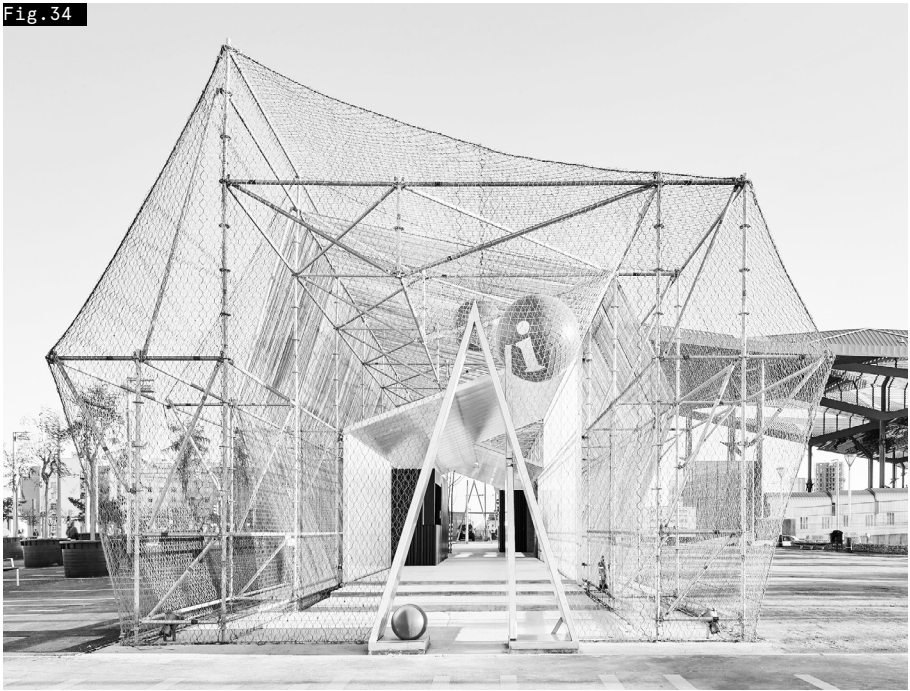
<http://www.enzis.at/en/geschichte/>

12.04.2017

Enzi's from PPAG architects are very well known example for the ones who lives in Vienna. Enzi's are the furniture designed for the courtyard of the Museums Quarter (MQ) with the help of a competition. The origin of the idea comes from the Viennese artist Josef Trattner who designed a foamed-performance at the court yard, the inhabitants responded to this temporary installation (which is a composition of huge foam blocks) in a very positive way and used them as a seating furniture during the summer of 2002. The management of the MQ become very enthusiastic for the idea and created an open call to design a permanent furniture for the yard.

The design language follows the idea of open architecture, where the furniture it self can be seen as a piece of brick which you can build different kind of archetypes with. Compare to the Mextrópolis Pavilion Enzi's bring more flexibility in terms of creating functions/ adapting to the current situation in the same area. Unfortunately most of the time these multi-functional bricks used as seating furniture, max as table in winter time.

Fig.34



**PERIS + TORAL ARQUITECTES**  
Temporary Pavilion Barcelona  
Entrance

REM KOOLHAAS  
2016 AIA  
convention

<https://www.fastcodesign.com/3060135/rem-koolhaas-architecture-has-a-serious-problem-today>

21.04.2017

“Architecture is a profession that takes an enormous amount of time. The least architectural effort takes at least four or five or six years, and that speed is really too slow for the revolutions that are taking place.”

Edward Dodington  
BRACKET  
[goes soft]

<http://www.expandedenvironment.org/scaffolding-city-2/>

12.04.2017

It is too slow to respond to global ecological and economic crisis alike. We need a faster system. One that can **quickly adapt, bend, strategically buckle, and rebuild**. Imagine a new city based on these principles; a city open to local ecology, flexibly planned, easily maintained and self-perpetuating.

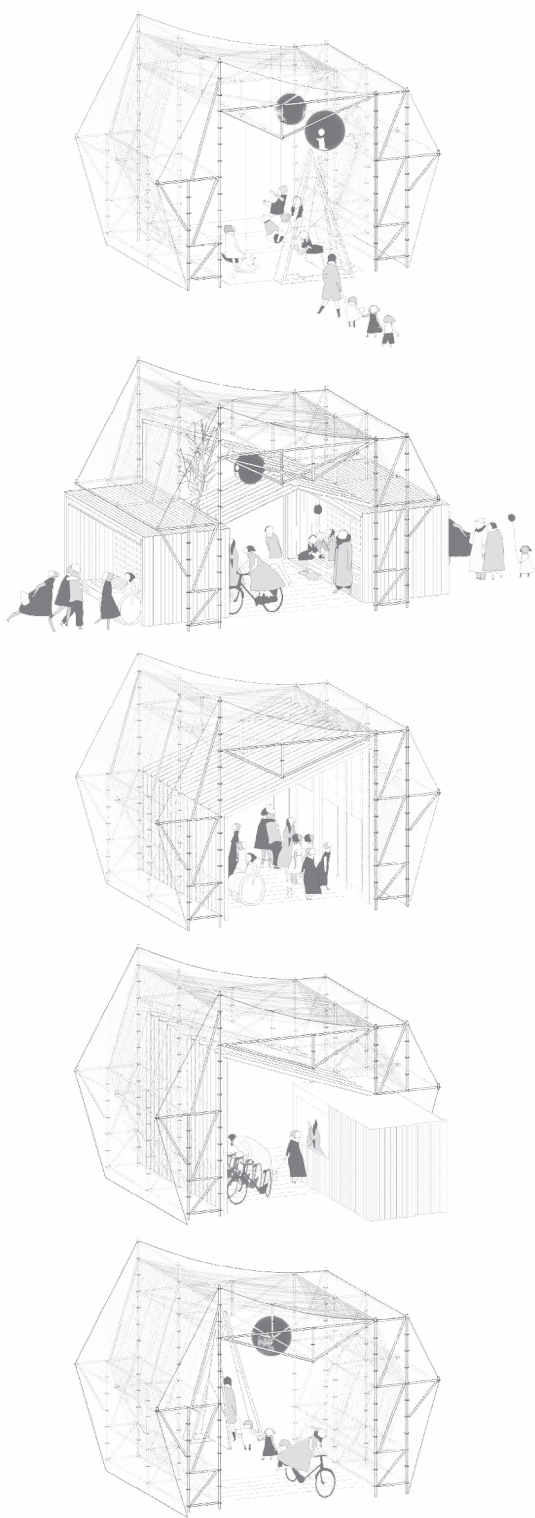
Of course the systems like the Enzis from PPAG or the Mexrópoli Pavilion from the T-SPOON architects are great solutions for the areas that have seasonal changes in long spans. If we look at the Museums Quarter in Vienna (where the Enzis takes place) it has a space with two phases during the year; "Summer im MQ" and "Winter im MQ". During the winter they install the "Iglo's" a small pavilion in amount of five where the private organizations can sell their products (mostly punch) and during the summer they install the Enzis all over the place. The two different urban devices for two different phases that occurs yearly basis works perfectly.

With the Mexrópoli Pavilion we see the similar strategy, where it adapts it self to the surrounding that it resembled, but these resembling process takes quite time and energy, which in these cases creates no problem. The time period between the phases are too long that the time and energy needed to install these devices doesn't create any problem.

But what happens if the area has **recharging rate in monthly or even in weekly basis like we see in Abattoir.** **In this case these urban devices simply going to fail.** Therefore a system that allow user to adapt these devices in a rapid way becomes crucial.

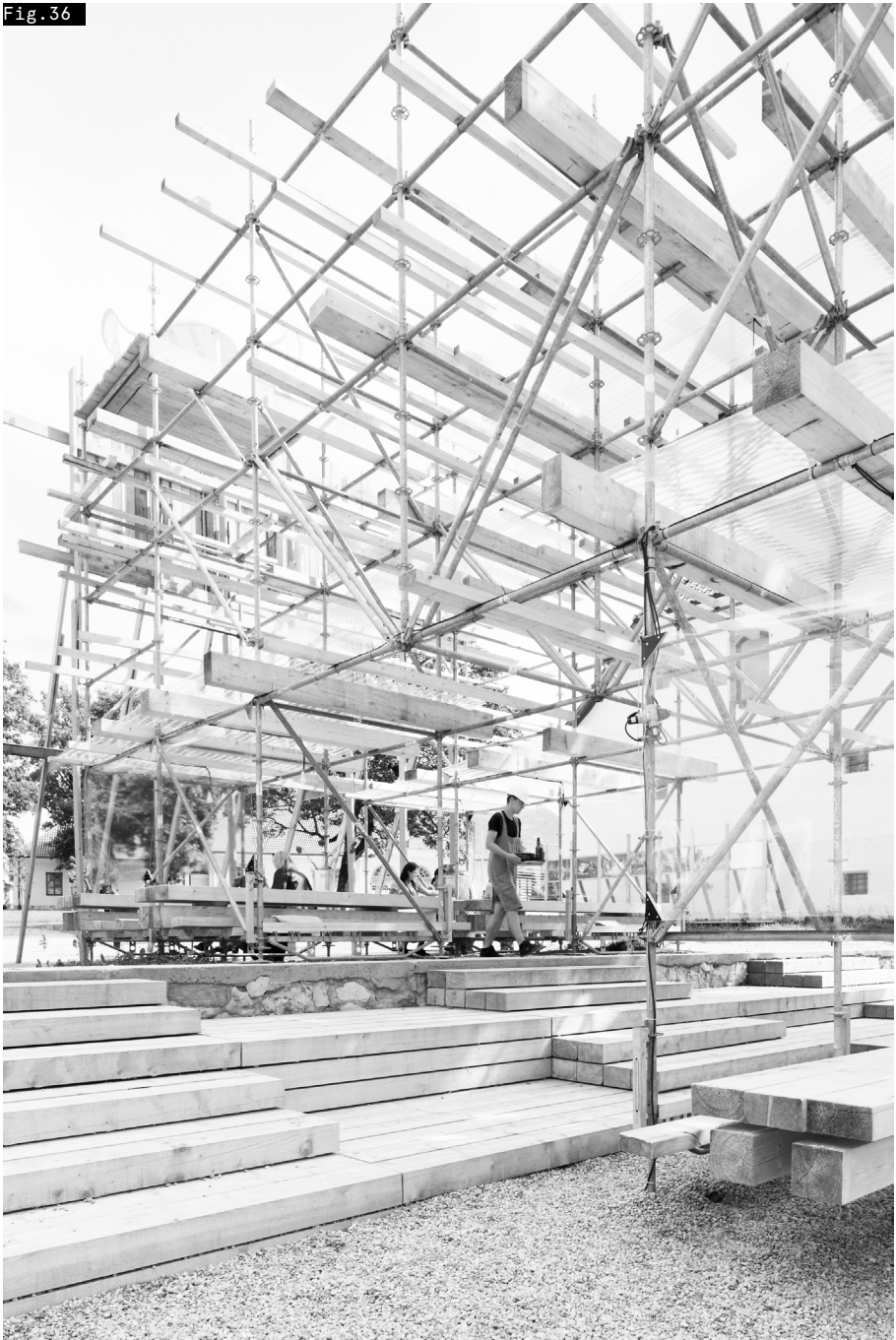
If we look at the Temporary Pavilion in Barcelona from the Peris + Toral Arquitectes where they adapt the basic Scaffolding system and translate their structural advantage to the functions thats needed in the public area. Scaffolding system keeps upper hand by its extreme flexibility and economical/ecological availability. By using additional materials like, fabrics, woods, or perforated plastics is possible to erect a structure of need in just few days. In this case it is more or less a fixed pavilion, but the flexibility of the scaffolding system allows to install different solutions, where the solutions should be arranged and planned before the instillation. This might be one step closer what we are looking at in order to react to rapid chance problem of the Abattoir compare to the other urban devices that talked before.

Fig.35



**PERIS+TORAL**  
**ARQUITECTES**  
Temporary  
Pavilion  
Barcelona

Fig.36

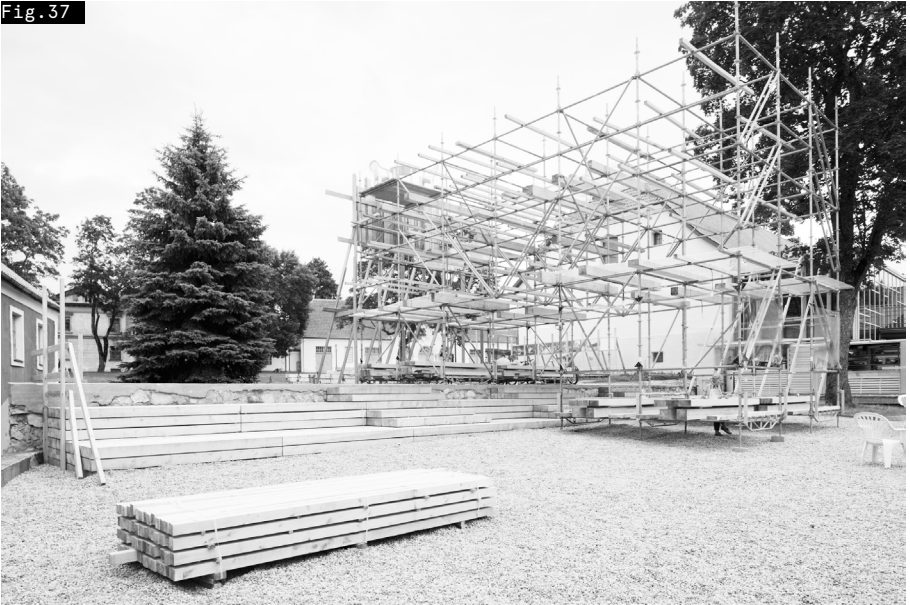


**MAILITIS AIIM**

**Latvian Brewery Pavilion**

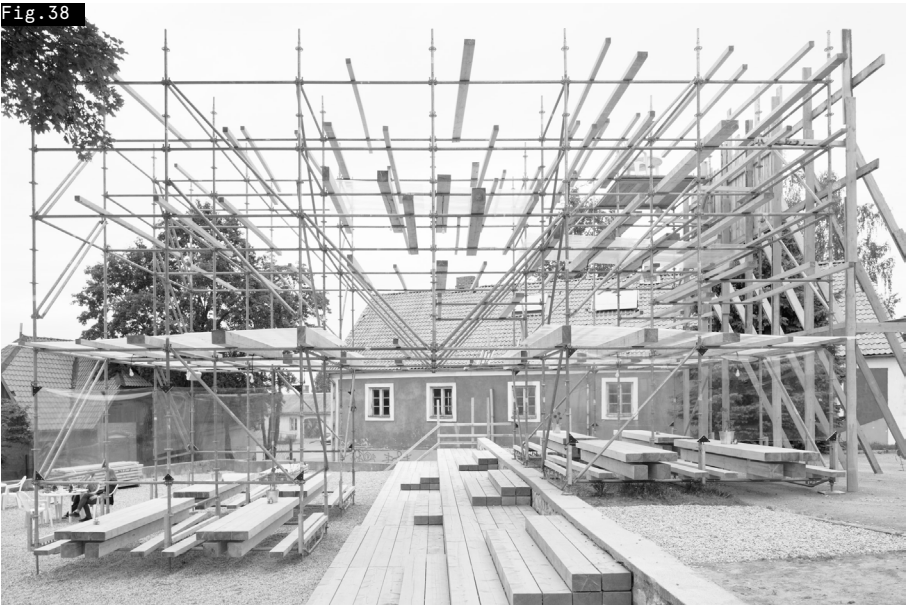
Scaffolding and Timber Construction  
Another example of using off the self systems  
(scaffolding) here the architects created a  
pavilion that is adaptable to the ground lev-  
els or the area.

Fig.37



In this case the structure and the add-ons (wood) stays same during the installation.

Fig.38



In my perspective the functions can be changed by adding some software elements like curtains to adapt the pavilion to winter stage.





# ALTER- NATE FUTURE

This chapter will collect the all the important information that we spoke of in the first three chapters and create a conclusion which will guide us to the solution.

Analyzing the public space of the Abattoir, the difference of needs from a regular public spaces that we know, the reason why standard solutions will not work in the area and the proposal of the possible solution inspired by the tech industry.

Alternate future fills the gap that stayed as huge question mark in the chapter 2 designed future. The development plan fails to questioning the public space and requests an research especially for the area. It is crucial to activate this public space in order to gain success with the whole development idea as well as for the cultural diversities. Otherwise the Abattoir will very likely to stay in its current situation, active during the market days and resting in the other four days of the week.

This conceptional idea which will be presented in this chapter can be implement as any shape to any area as any function. To achieve that we will create the components that creates a computer, which are "the motherboard, hardwares and software"

CREATING  
THE  
MOTHER-  
BOARD



Here will be followed a linear design process parallel to the computers structure. First what need to done is defining the Motherboard, the possible places where can the openings be placed. This will give an overall understanding where the hardware structures needed and allowed to be placed due to Market organization.

**STEP 01 ::** Understanding the functions of each warehouses and predicting the impacts of the Entrance Zones to the Public Space.

Additional to the obvious functions which will implemented from the existing state of the Abattoir, a Wood Working Atelier will be added to the third Warehouse in order to support the Hardware maintenance.

**STEP 02 ::** Creating the Market Raster via guidelines from the "Food and Agriculture Organization of the United Nations"

- Aisle widths min 3,6 meter for pedestrians and small delivery trolleys.
- Aisle widths min 7 meter (one-way) and 12 meter (Two-way) for vehicles.
- Maximum of 12 meters between the cross aisles.
- Minimum vendor stall dim. of 2x2 meter and the table takes 30-50% of it.

NOTE: This step is analyzes just a possible solution to market plan.

**STEP 03 ::** Overlapping the Step 01 and Step 02 to produce a organization plan of the motherboard openings. Tattooing the surface for additional function generation with the combination of hardware and software.

STEP 01

Fig.40

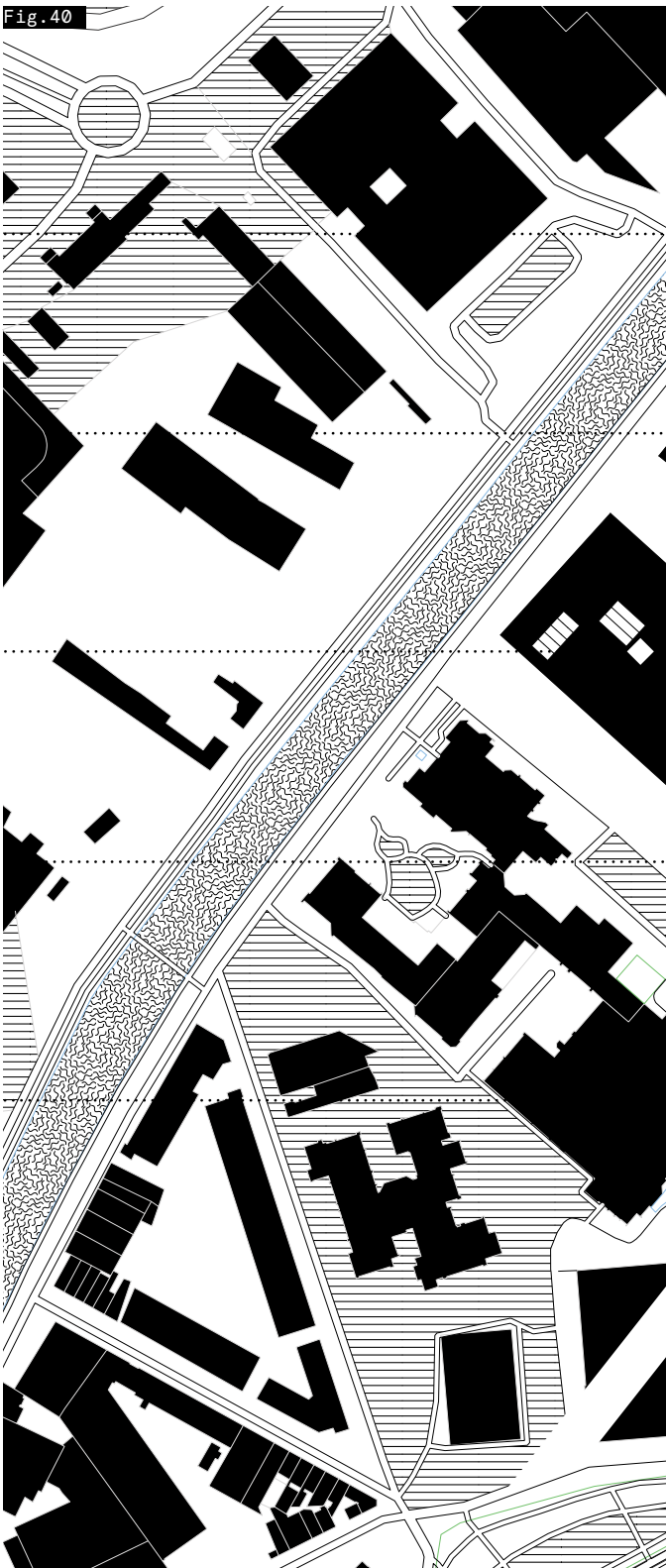
**Warehouse 01** ::  
Parking for Cars  
Entrance to Metro  
Black-Box Theatre  
Apartments

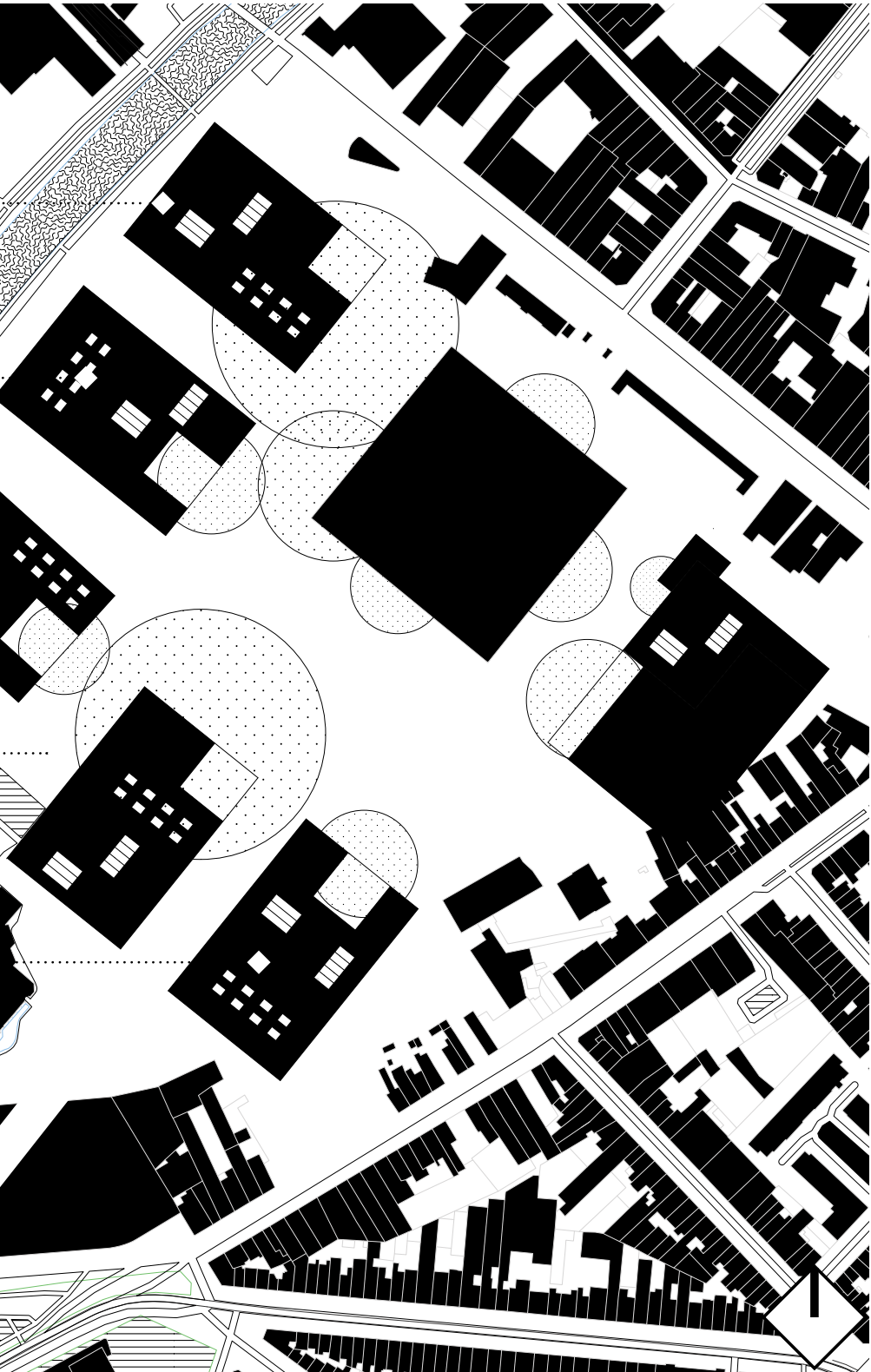
**Warehouse 02** ::  
Compact Urban Slaught-  
erhouse  
Apartments  
Offices

**Warehouse 03** ::  
Wood Working School  
Fabric Recycling  
Apartments  
Offices

**Warehouse 04** ::  
Classes  
Workshop Areas  
Student Dorms

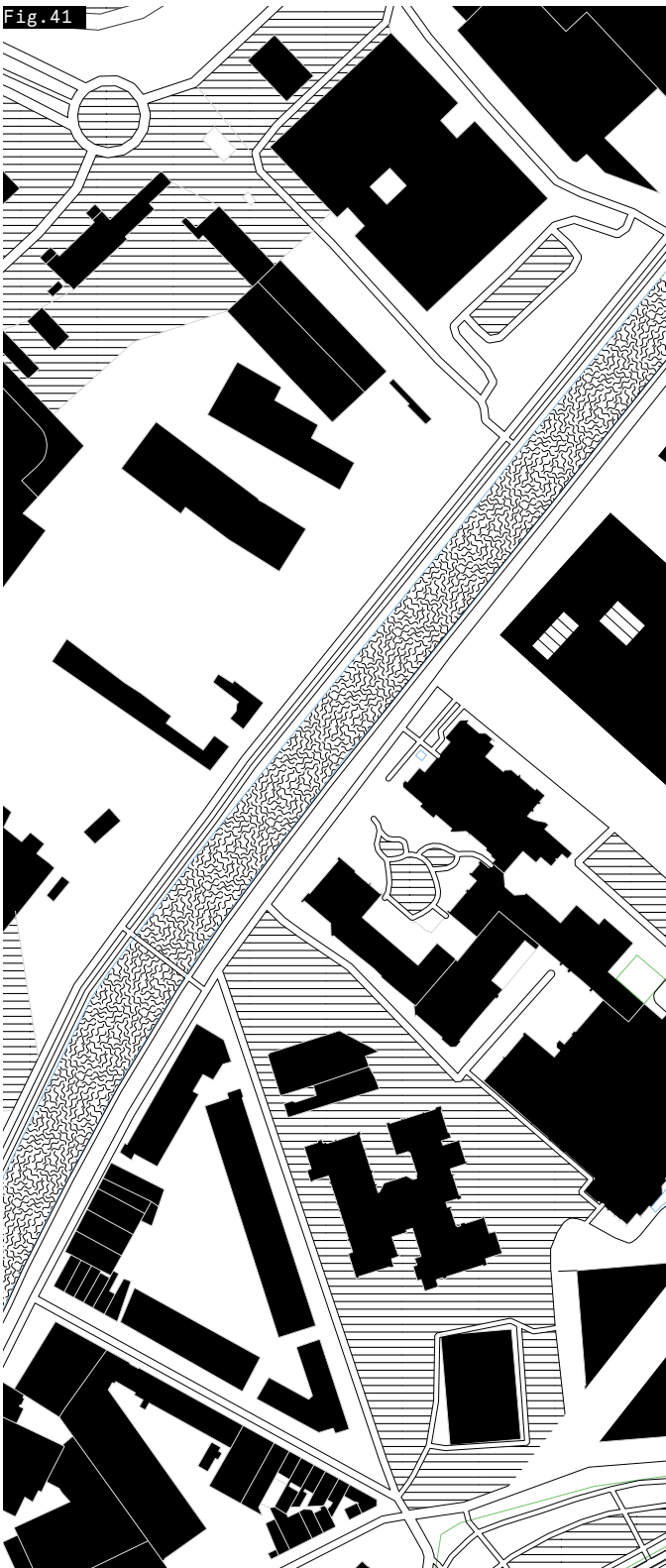
**Warehouse 05** ::  
Showrooms  
Offices  
Apartments



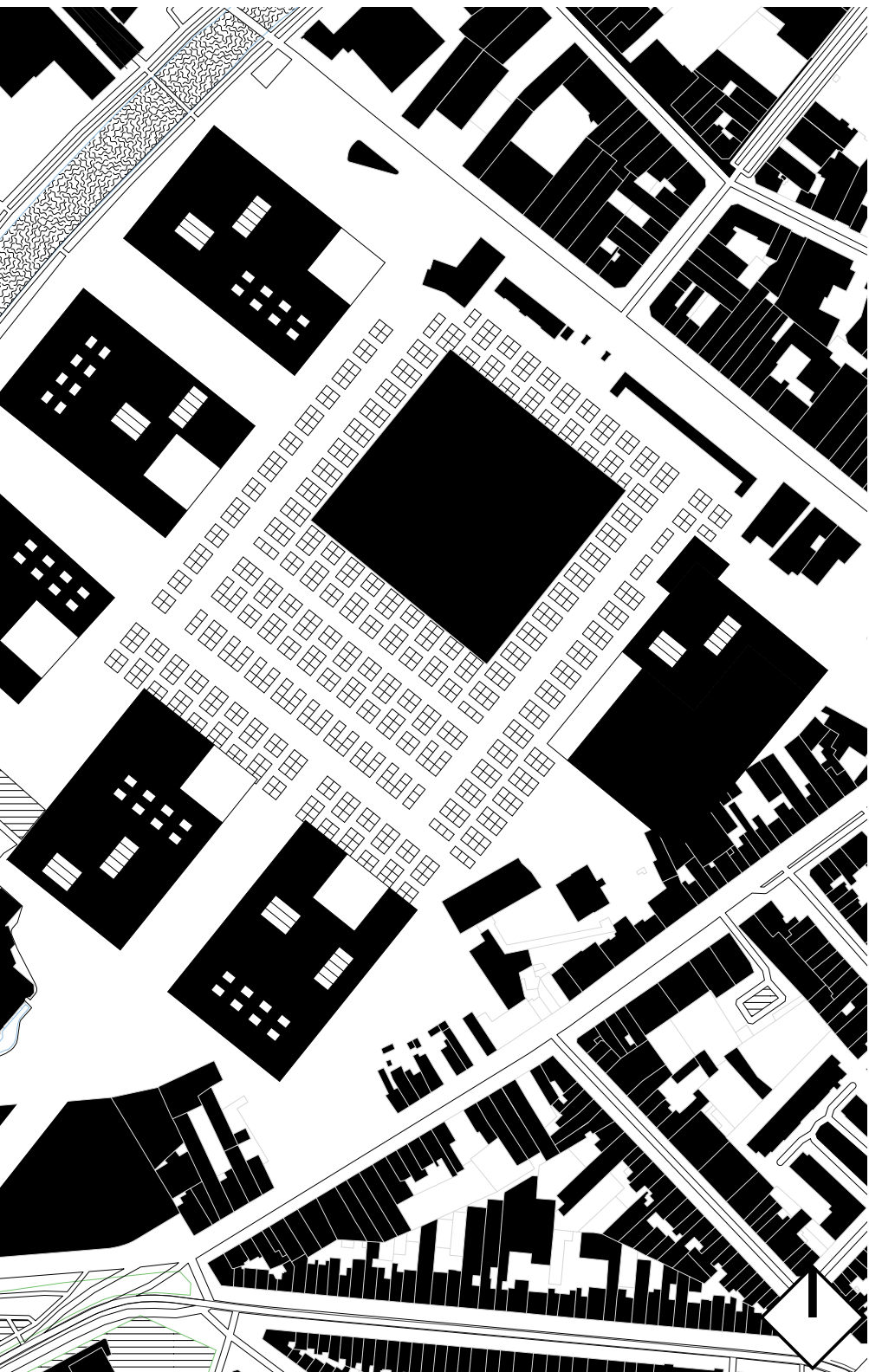


STEP 02

Fig.41

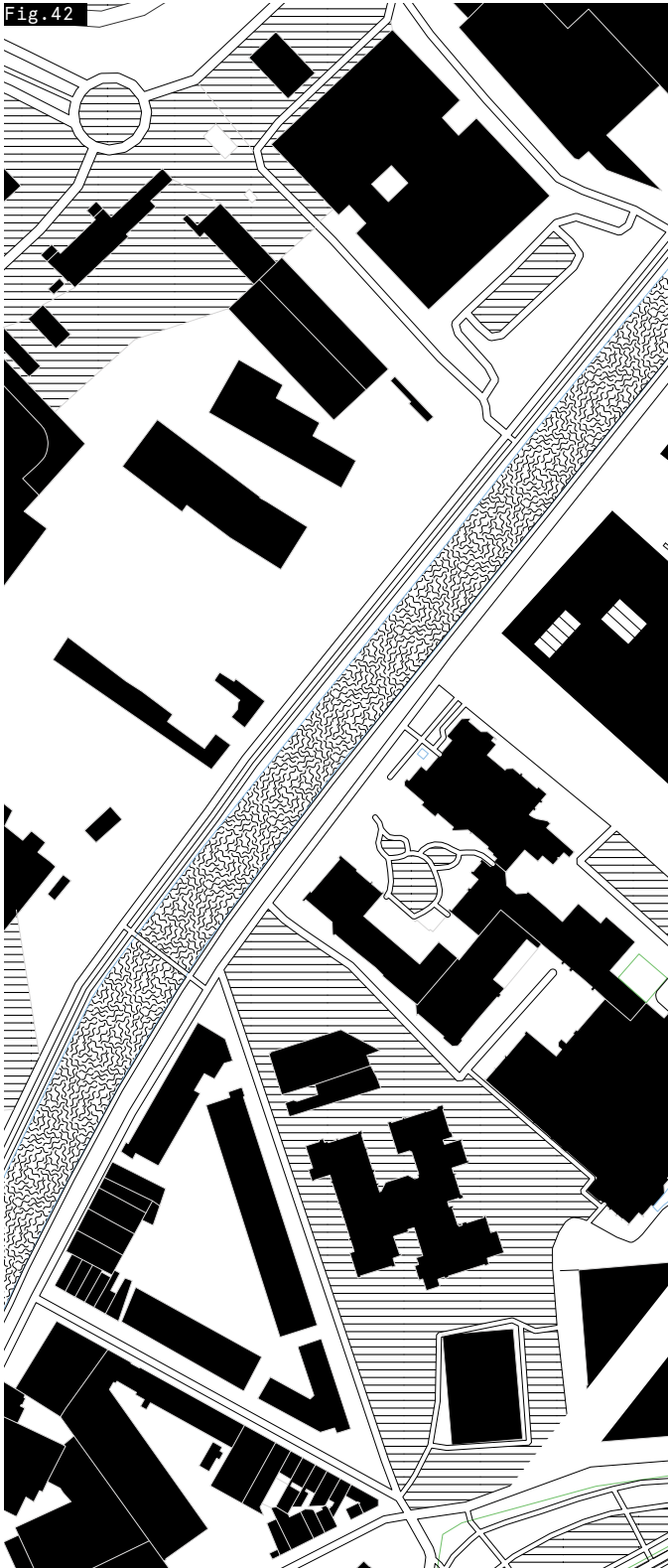


**Market Plan ::**  
Implementation of the  
basic rules from "Food  
and Agriculture Orga-  
nization of United Na-  
tions" as market plan.



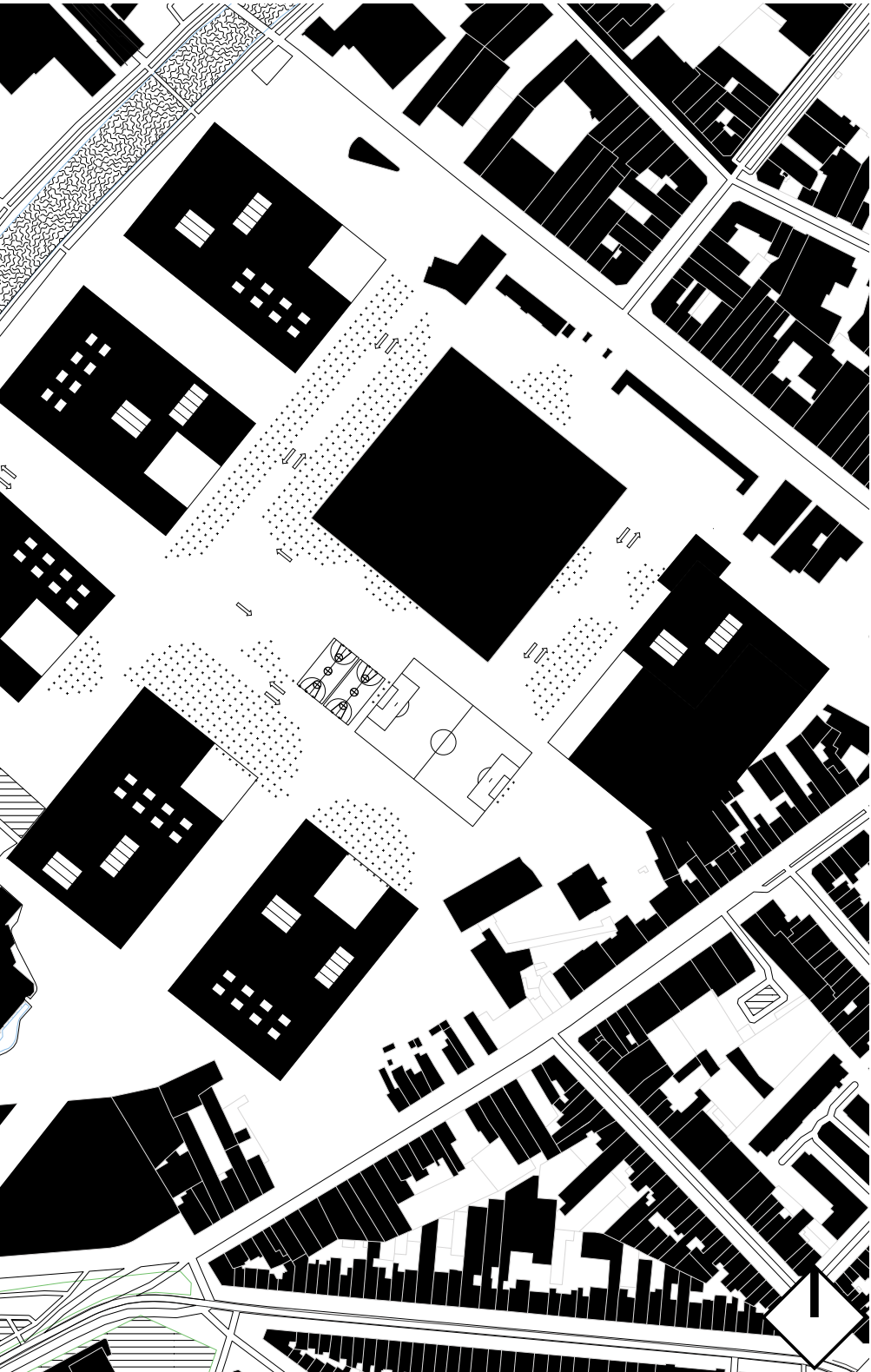
STEP 03  
FINAL

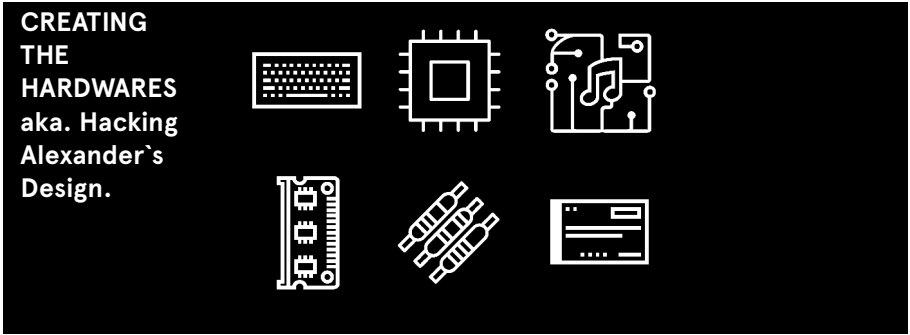
Fig.42



**Generating ::**  
Generating the Motherboard plan by overlapping the informations from Step 01 and Step 02.  
Motherboard gets tattoos on the surface to gain extra functions that can be combine with the hardware and software units.







Next step is to develop our hardware. The hardware will be a little bit on the heavy side, it is not foreseen to change the positions of the hardwares in short term basis but more seasonal. A layout of hardwares that complement to summer and winter is a good starting point. During the seasons with change of the needs in the public space, the position and the number of the hardwares can be change.

Two materials embodies their self in pure form in the abattoir. From one side the Slaughterhouse which is pure iron-cast, and on the other hand the newly designed warehouse concept from Alexander D'Hooge which uses the stylish simplicity of bare Concrete.

The need of bringing a third material to the equation, the lack of using any kind of tree in the area, structural characteristics, the weight and the stability as well as its feel-fullness nature, steer me to decide use Wood for the Hardware that is going to stay in open space.

In this case, the cons and pros of D'Hooges design will be analyzed for the public use and hack it to make it available for the people. Following steps will be taken during the process.

**STEP 01 ::** Take a look to existing architectural solution and analyze the cons and pros.

In this case the focus will be on the Alexander D'Hooge's design for the Warehouses in Abattoir. Because it is highly character giving ability it is not needed to develop another design but try to use as it is or hack/adapt it to the public needs.

**STEP 02 ::** Hacking the existing design for the and shape it for the needs of the public space. The new design should allow to be hacked by the others and bring diversity of use.



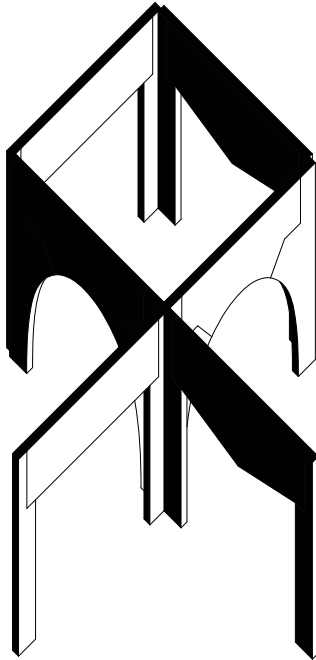


Fig. 43

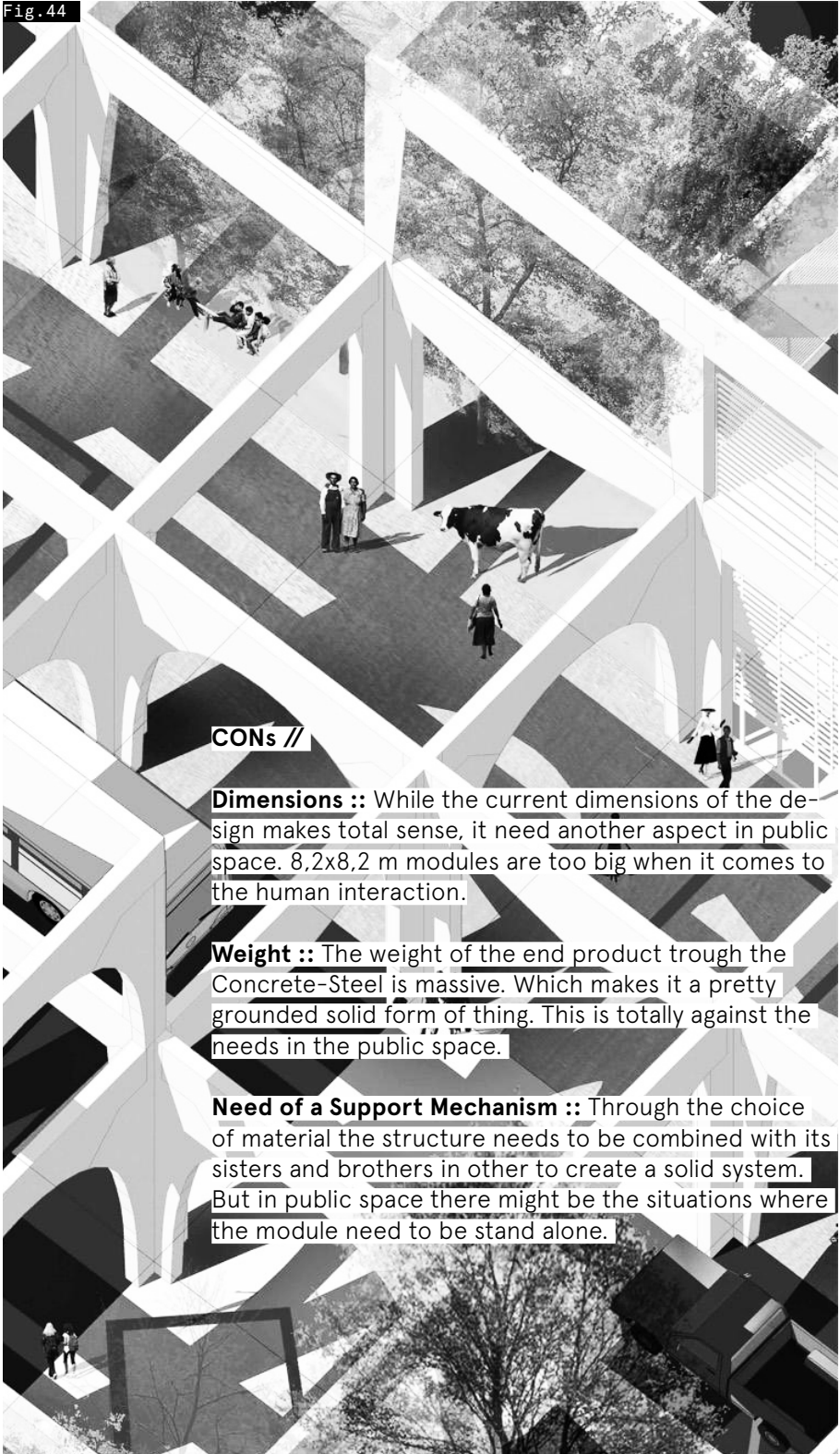
## PROs //

**Character Defining Design ::**One of the most special feature this design is, its character giving architectural language. These sculpture like modules pops in the eye and separates its self from the surroundings. So this is the feature that i would absolutely keep.

**Raster System ::** keeps everything organized while giving the most flexibility in use, where you can install any type of programs in the structure. This reminds me the Le Corbusier's "Pilotis".

**Sustainability ::** The open raster system keeps the building adaptable in changing needs of programs and the choice of material keeps the structure fit with minimum maintenance cost. These ingredients out puts a building that lasts long.

Fig.44



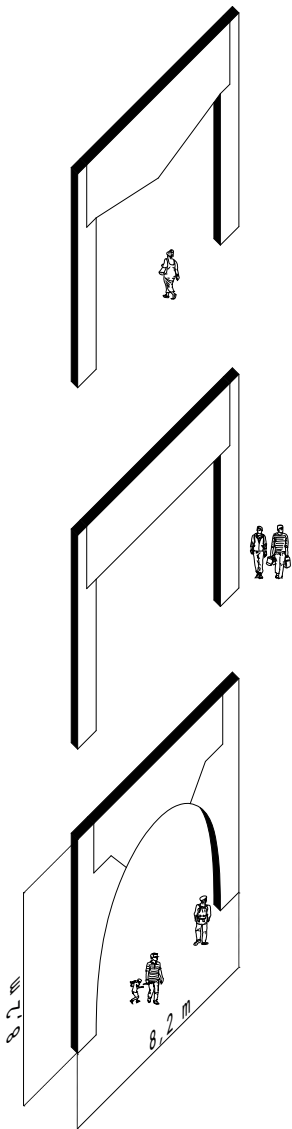
### CONs //

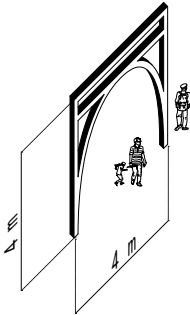
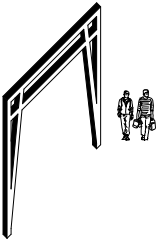
**Dimensions ::** While the current dimensions of the design makes total sense, it need another aspect in public space. 8,2x8,2 m modules are too big when it comes to the human interaction.

**Weight ::** The weight of the end product trough the Concrete-Steel is massive. Which makes it a pretty grounded solid form of thing. This is totally against the needs in the public space.

**Need of a Support Mechanism ::** Through the choice of material the structure needs to be combined with its sisters and brothers in other to create a solid system. But in public space there might be the situations where the module need to be stand alone.

Fig.45





The new design should keep all the PROs and convert all the CONs in term of public use. Several changes will be done;

**Downsizing Dimensions:** The first thing to do was downsizing it more or less to half in order to make it more available and approachable to people, they should understand the hardware as a furniture which they can hack by their self to get the functions they need and not as a sculpture. Therefore a downsized version is needed so the people will be more likely to interact with the hardware.

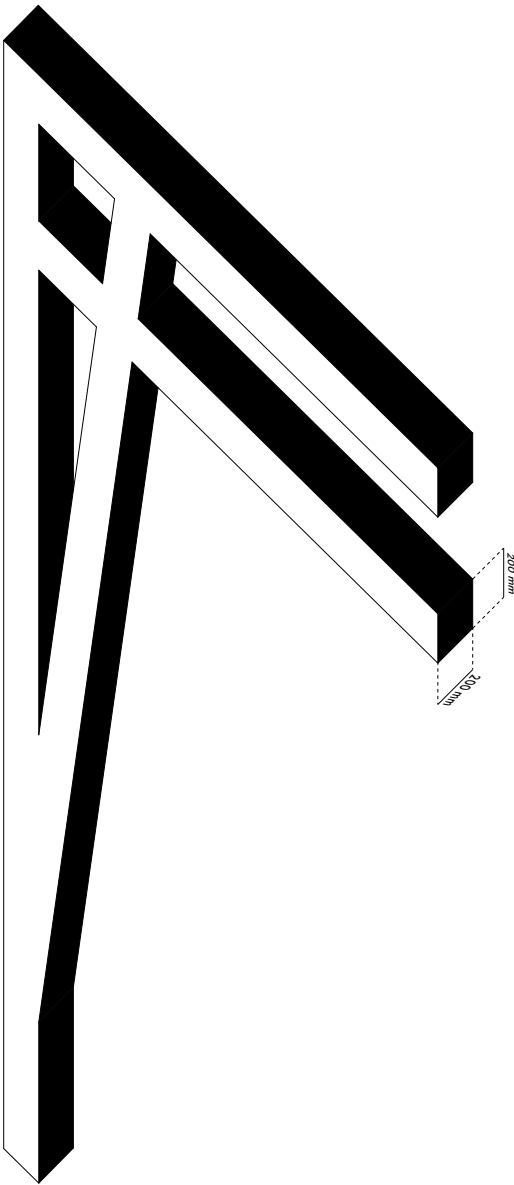
**Re-Materializing:** the design is specially needed. The concrete-steel has lots of advantages but we want to have a “thing” that can be movable in the public space during the season changes, concrete-steel is a very strong combination but it doesn’t take moving very well where it might highly create cracks during the process. Therefore wood has been chosen to avoid the disadvantages that concrete bring as well as adding some warm feeling to the space. If it is considered that it is not allowed to implant trees in the area wood makes a good substance and brings harmony between the Concrete-Steel warehouses and Iron-Cast Slaughterhouse.

**Adapting the Design:** The main characteristics U-M-O shapes are kept as character builder and implemented to the frame construction. This crated more little and unusual openings in the frame where user can attach different functions easily.





Fig.46



These openings will provide opportunity to install any programs selected by the user. Therefore no additional gimmicks needed (aka. hook or else). Hardware slides 50 cm in to the ground stabilizes it without need of an additional structure. Since wood is a very stiff but also very energy absorbing material there wont be any unintentional breakdowns during the adaptations processes between the seasons.

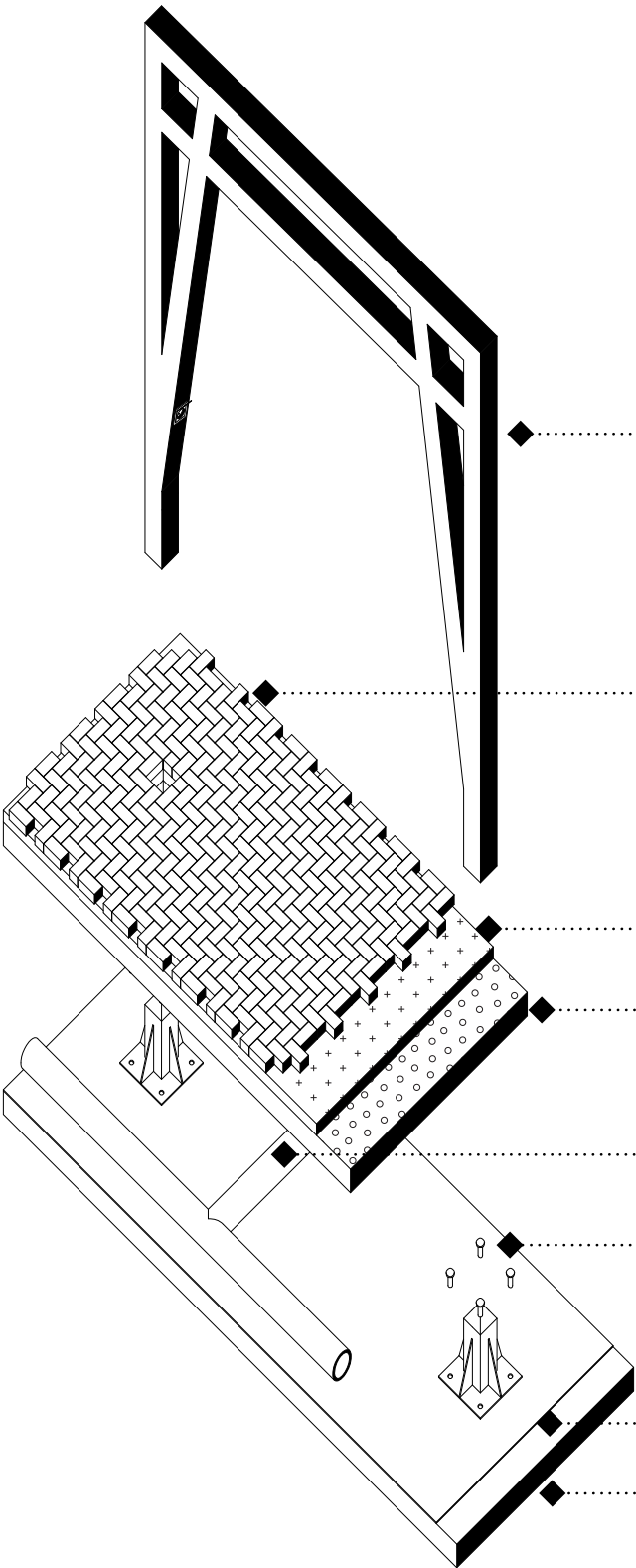


Fig. 47

**ANATHOMY OF THE MOTHER-BOARD/HARDWARE INTEGRATION.**

**HARDWARE::**

Material: Wood  
Dimensions: 4000x4000 mm  
Form: U-Form Frame  
With electric out-put to avoid additional electric generator for the vendors.

**PAVEMENT::**

Material: Red-Brick  
Dimensions: 200x100 mm

**GRITSAND::**

100 mm

**GRANULAR SUB-BASE::**

300 mm

**PIPE LINE/DRAINAGE::**

**FOOTS FOR THE HARDWARE::**

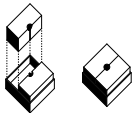


**GEO-TEXTILE/PE-FOLIE::**

2 mm

**CONCRETE::**

200 mm



the cap of the openings will be covered with the same material as the pavement (brick)

Fig.48

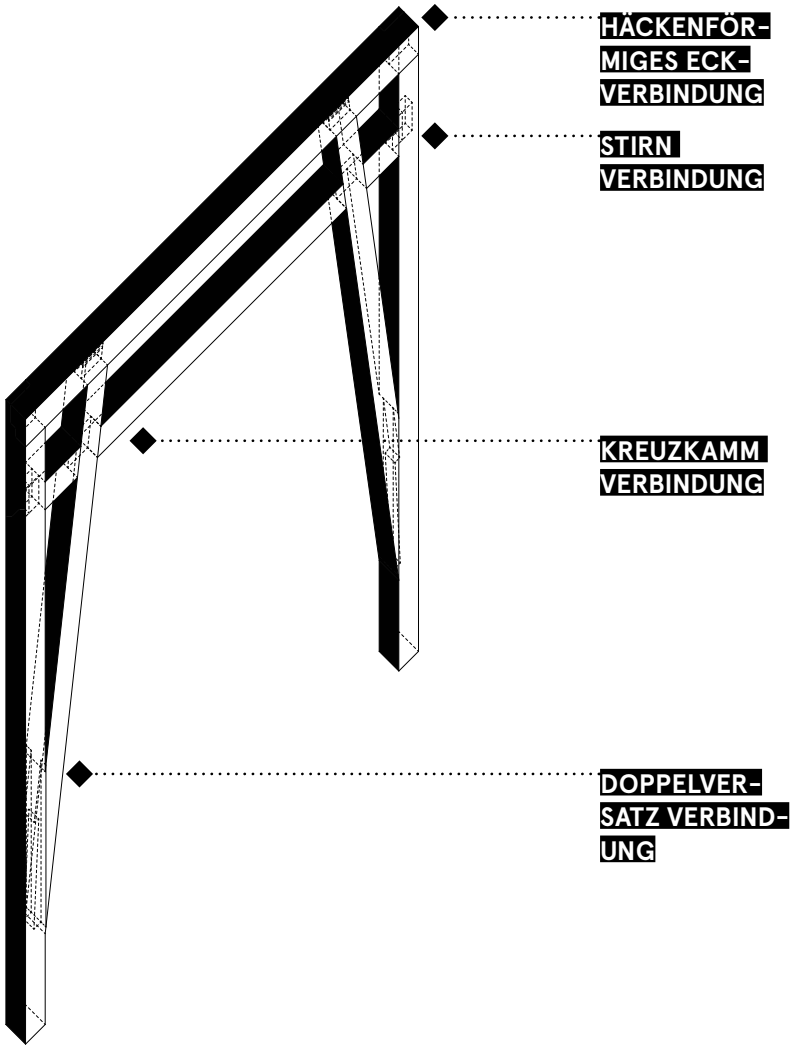


Fig.49

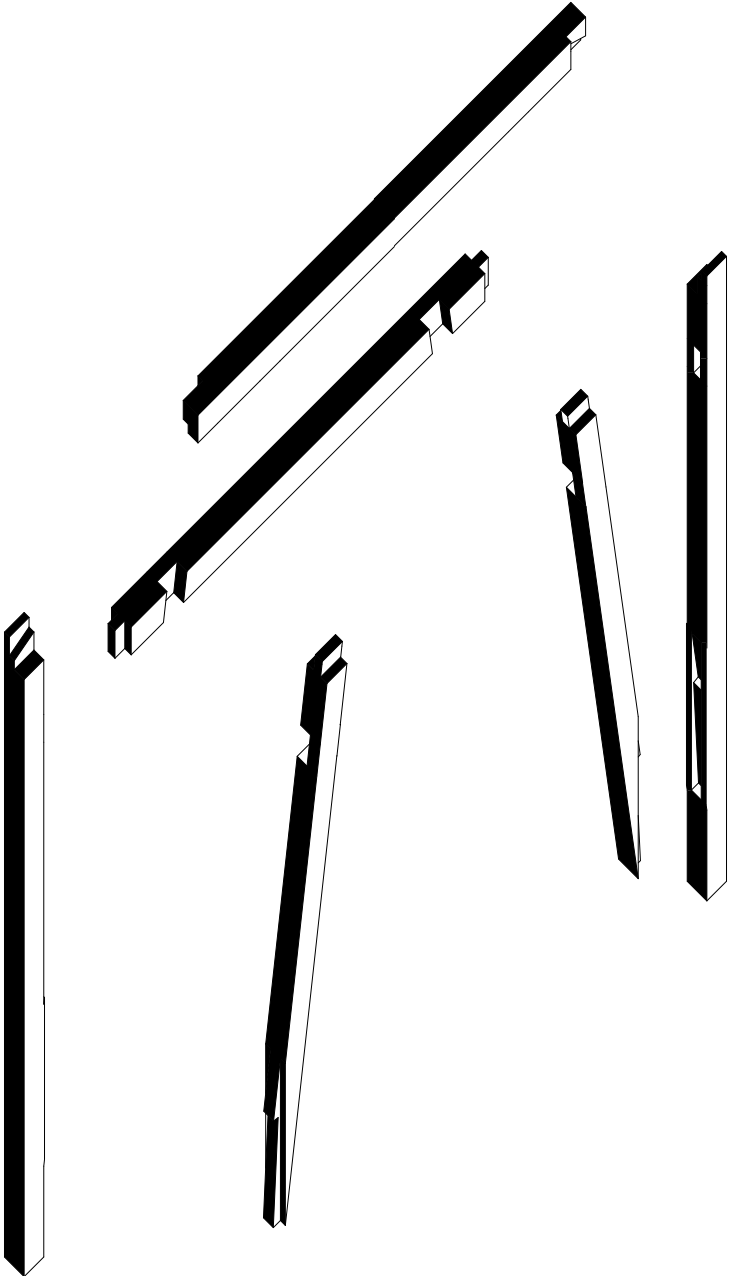


Fig.50

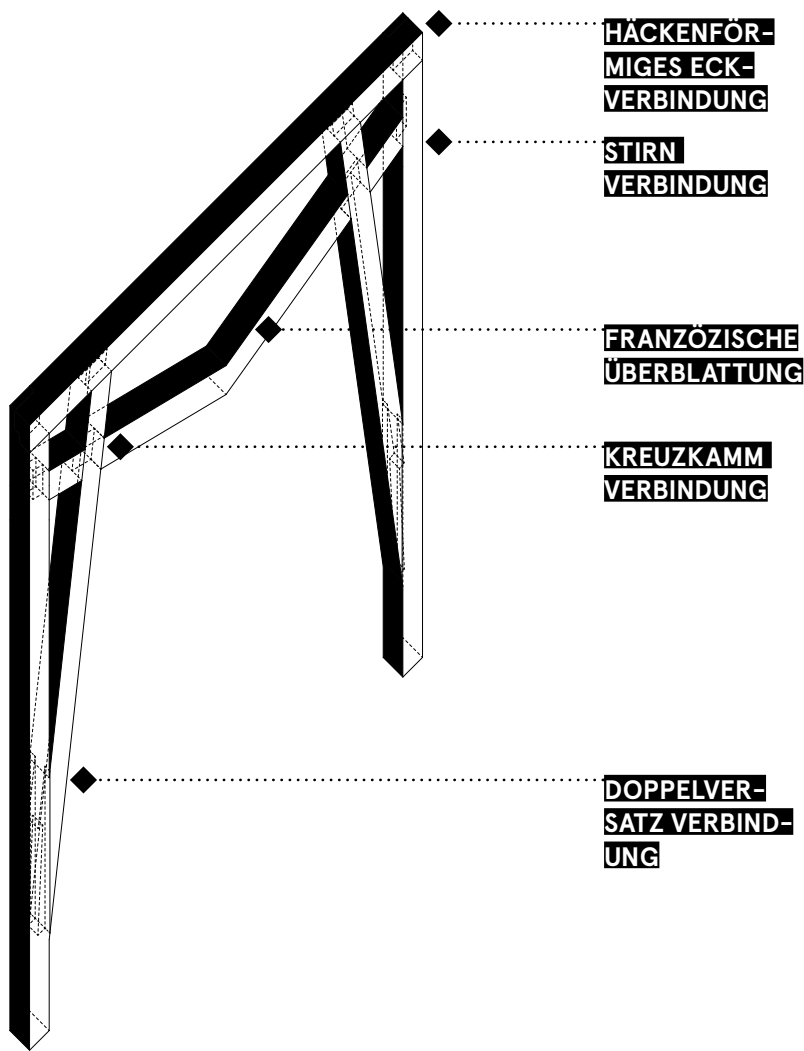


Fig.51

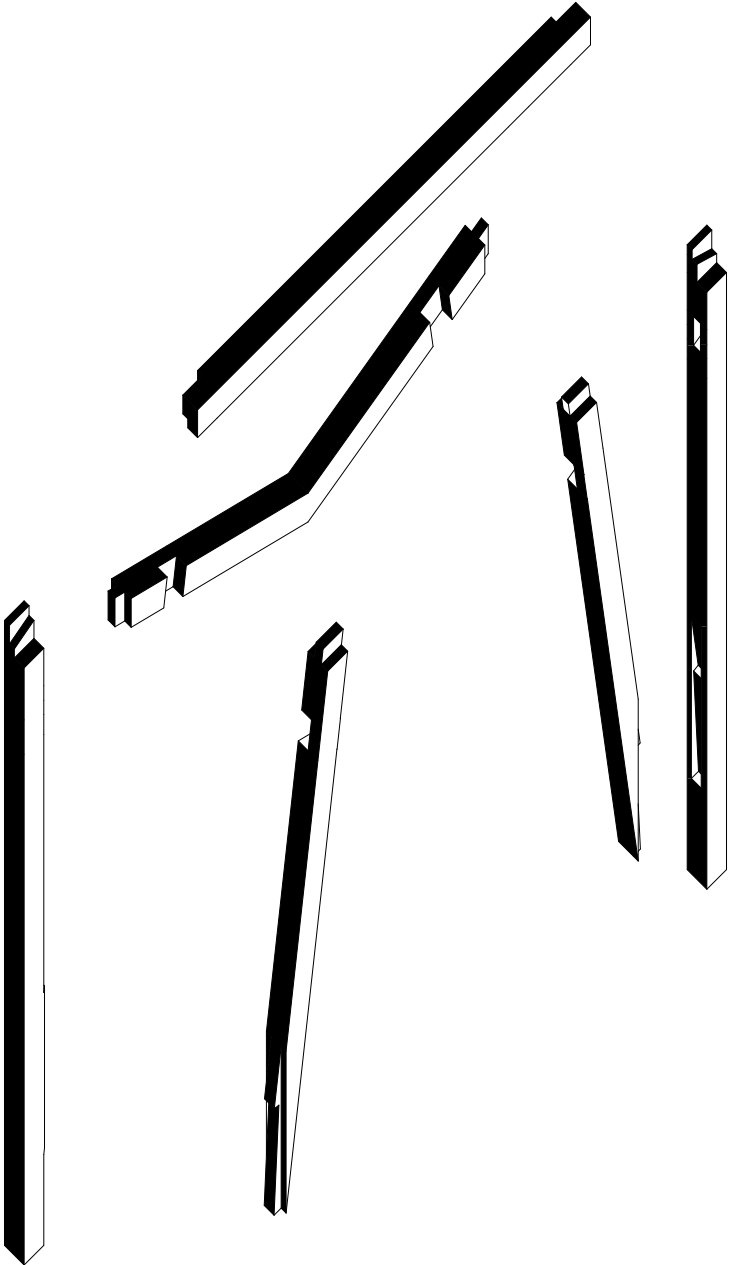


Fig.50

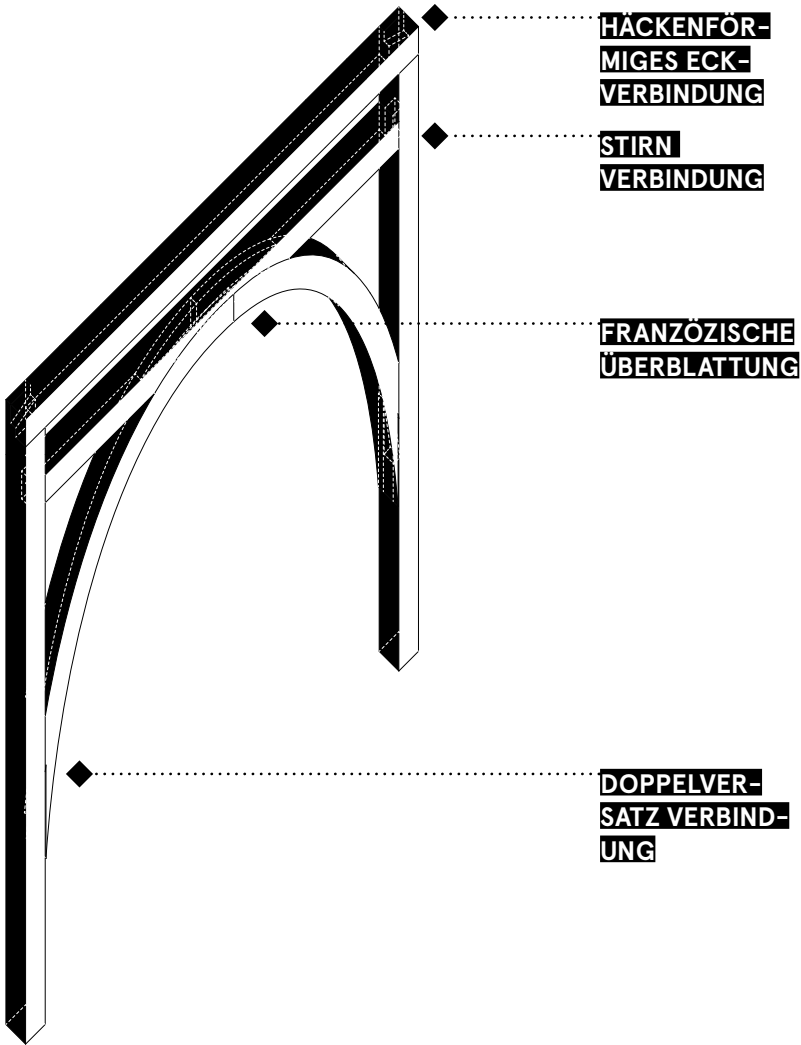
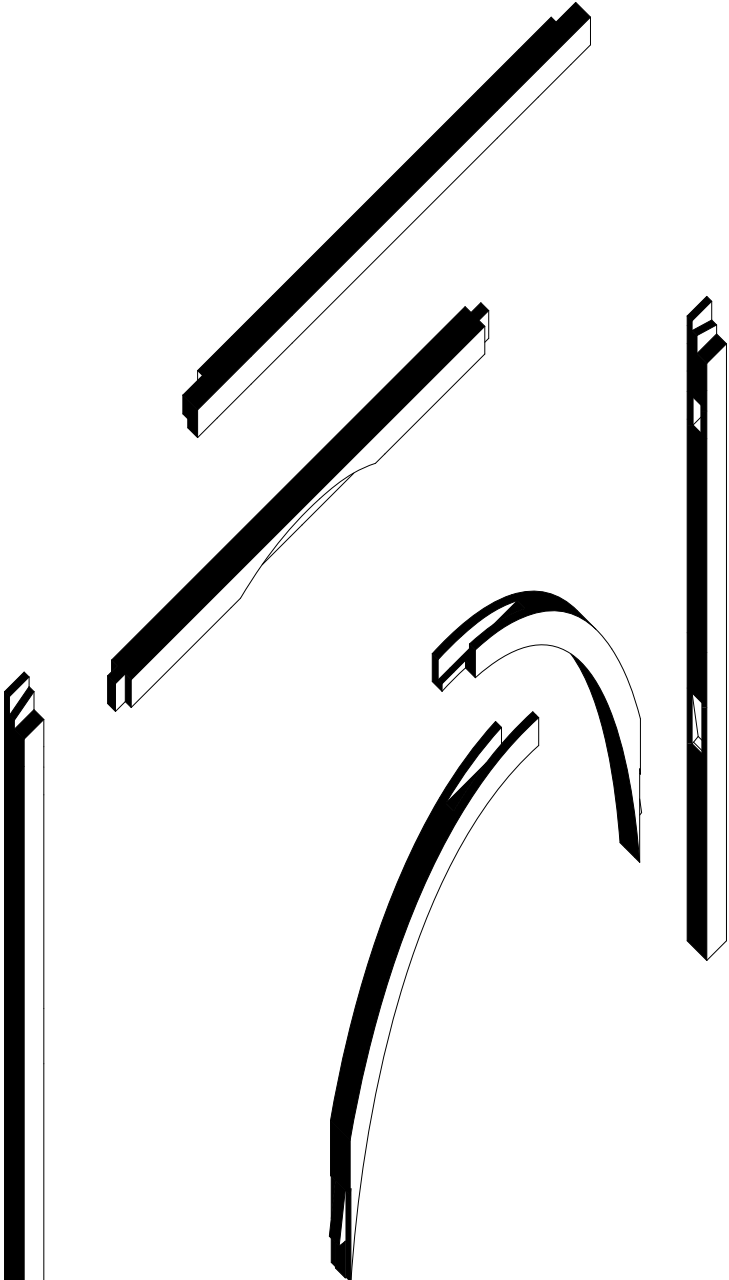





Fig.51



CREATING  
THE  
SOFTWARES



While the Hardwares takes care the seasonal change in the equation there is still need of a solution the second time period which is the weekly change in the area that is caused by the market. Therefore another Variable is needed to activate this time zone.

Because the second time zone is much more shorter, the materiality, weight and the dimensions should be suitable to move that frequently. This Variable should also create translation between the hardware and the user, since hardware doesn't produce any program alone it self.

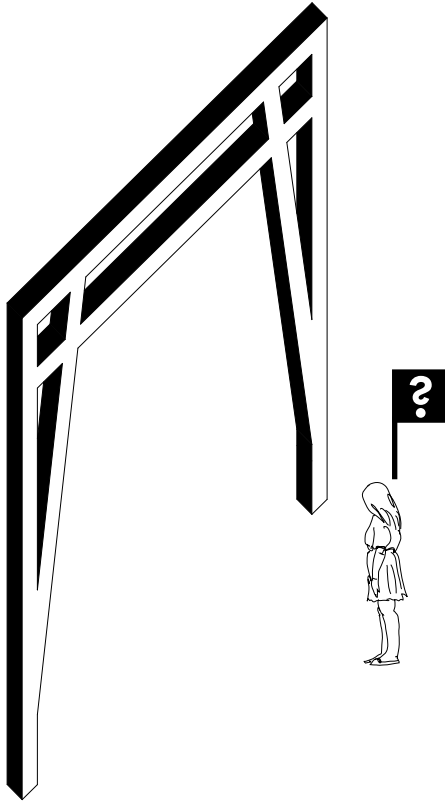
The softwares will be created by different materials, the characteristics of the materials will allow different types of programmatic solutions. The possible functions that may be going to be created by them will be analyzed. Some of the functions are going to be fixed by the Abattoir's private organization but it is also welcome that the public users invent their own softwares in order to achieve the function needed for their self (especially for the vendors).

This system will also allows the Abattoir invent their own softwares to deal with the problems which might be occur in the future.

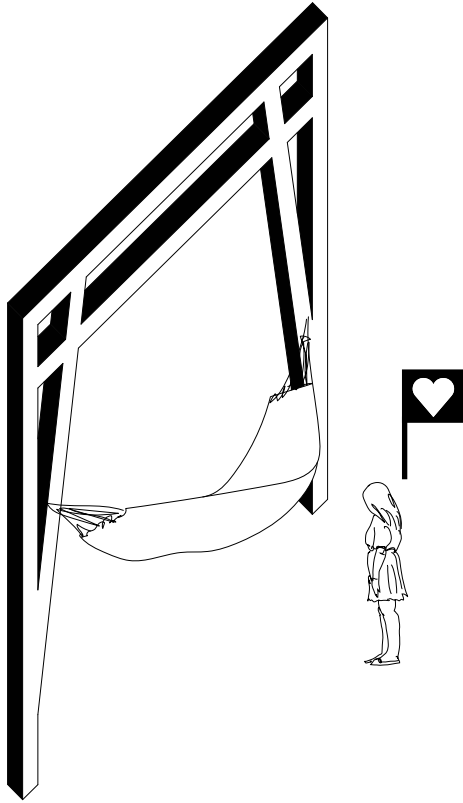
**STEP 01 ::** Choosing the right material for the task.  
Lightweight, Flexible, Replaceable.

**STEP 02 ::** Creating the possible programs that is going to be the translation between the hardware and the user.

Fig.52



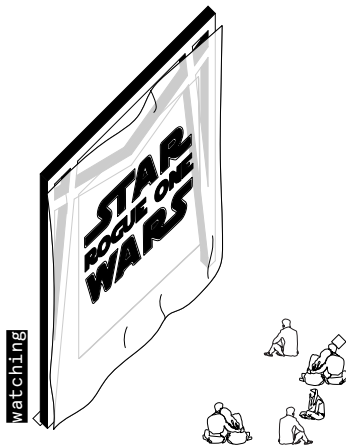
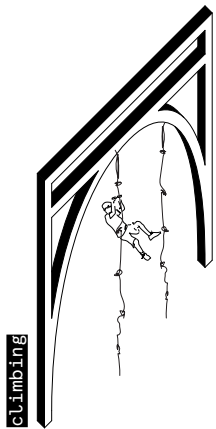
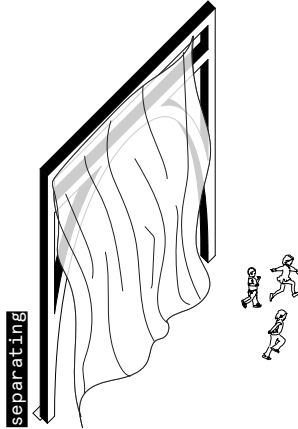
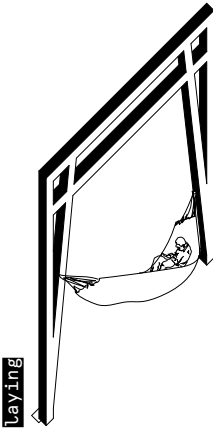
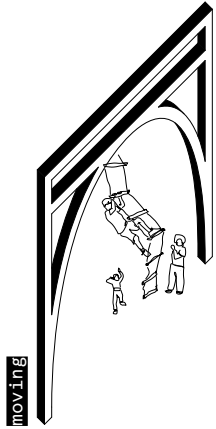
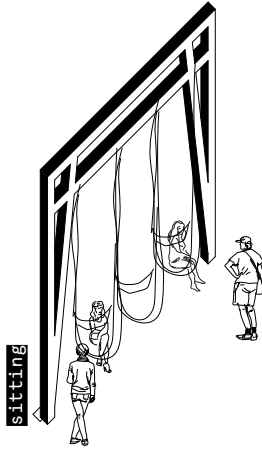
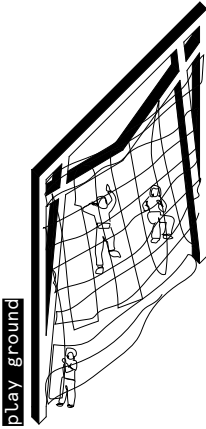
SPECIFIC SOFTWARES ARE NEEDED IN ORDER TO  
WARES. PRIMARY MATERIAL WILL BE THE FABRIC  
**WEIGHT**, **RESHAPE-ABLE** AND **REUSABLE**. THERE  
TANTLY, FABRIC IS AN **APPROACHABLE** MATERIAL  
FABRIC OR EVEN REUSE THE EXISTING ONES THAT  
SOFTWARES THEY NEED.



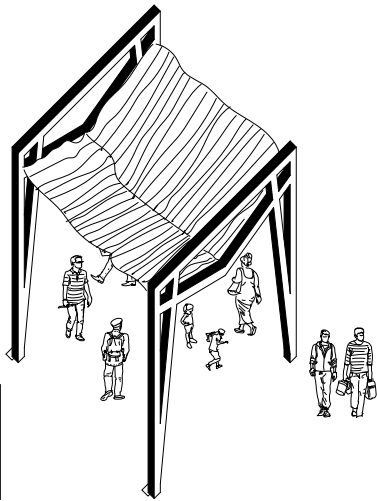
TO BUILD **COMMUNICATION** BETWEEN THE USERS AND HARD-  
 C FOR THE SOFTWARE ELEMENTS. IT IS **FLEXIBLE**, **LIGHT-**  
 BEFORE SUITABLE FOR MANY CIRCUMSTANCES. MOST IMPOR-  
 AL FOR ALL THE USERS, THEY CAN PURCHASE ANY KIND OF  
 AT THEY HAVE ALREADY ON HAND TO CREATE THEIR OWN

**POSSIBLE SOLUTIONS BY  
USING THE SYSTEM**

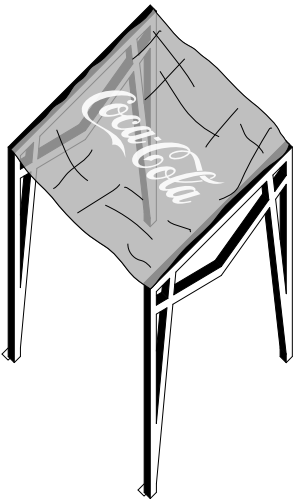
Fig. 54



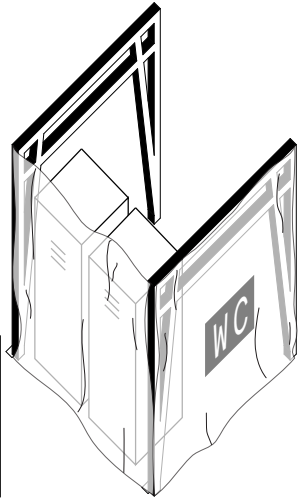
protection



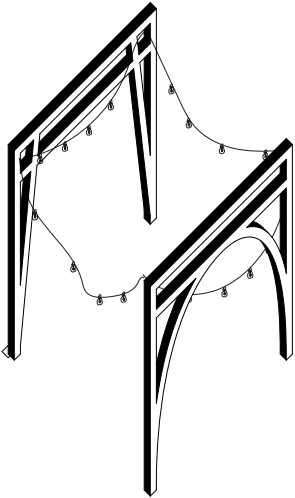
advertisement



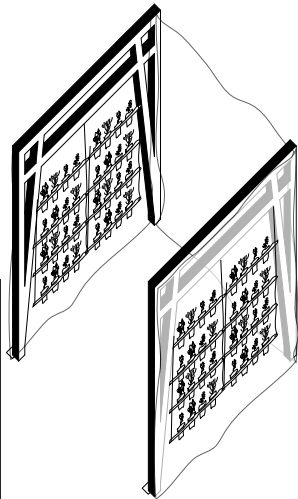
infrastructure



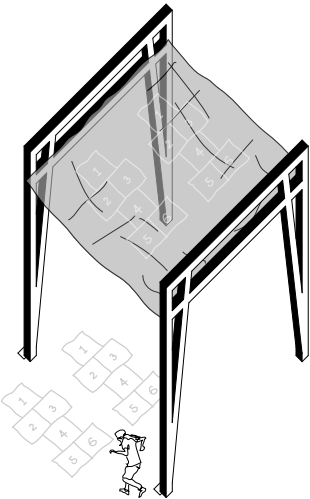
lighting



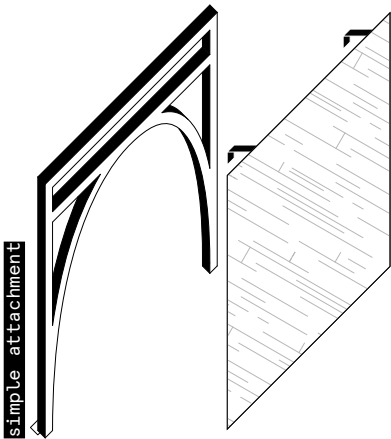
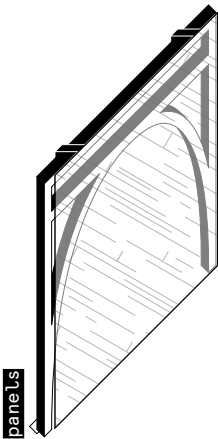
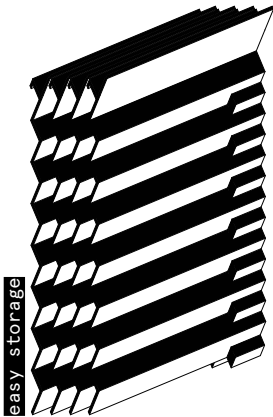
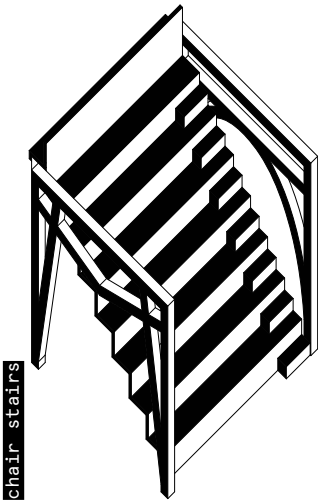
special sales needs

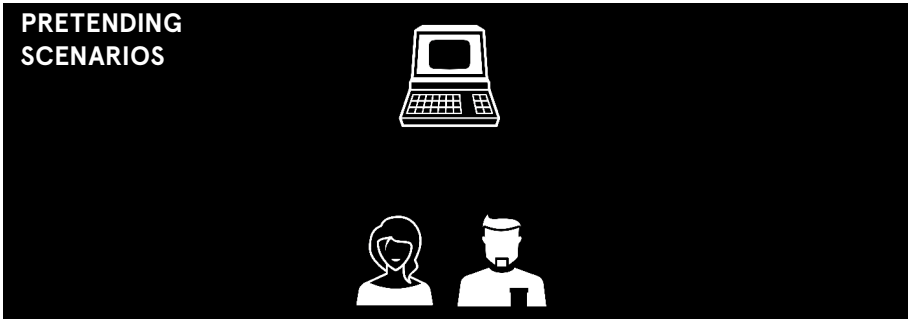


playing









In this chapter it will be analyzed how the hardware and software interaction will work in the constant change of the programs.

These two variables should allow us to adapt certain situations, like winter and summer or market days and off-market days.

The visuals that are going to appear in the next pages, will help to understand how this computer oriented system reflects the white square on to the public space.

**SCENARIO 01 ::** Winter/Summer, Exhibition Renault History.

**SCENARIO 02 ::** Winter time, closed Slaughter House, controlled micro-climate.

**SCENARIO 03 ::** Summer, Performance. Theatre, Concert, Cinema

**SCENARIO 04 ::** Winter/Summer, Playground for Kids

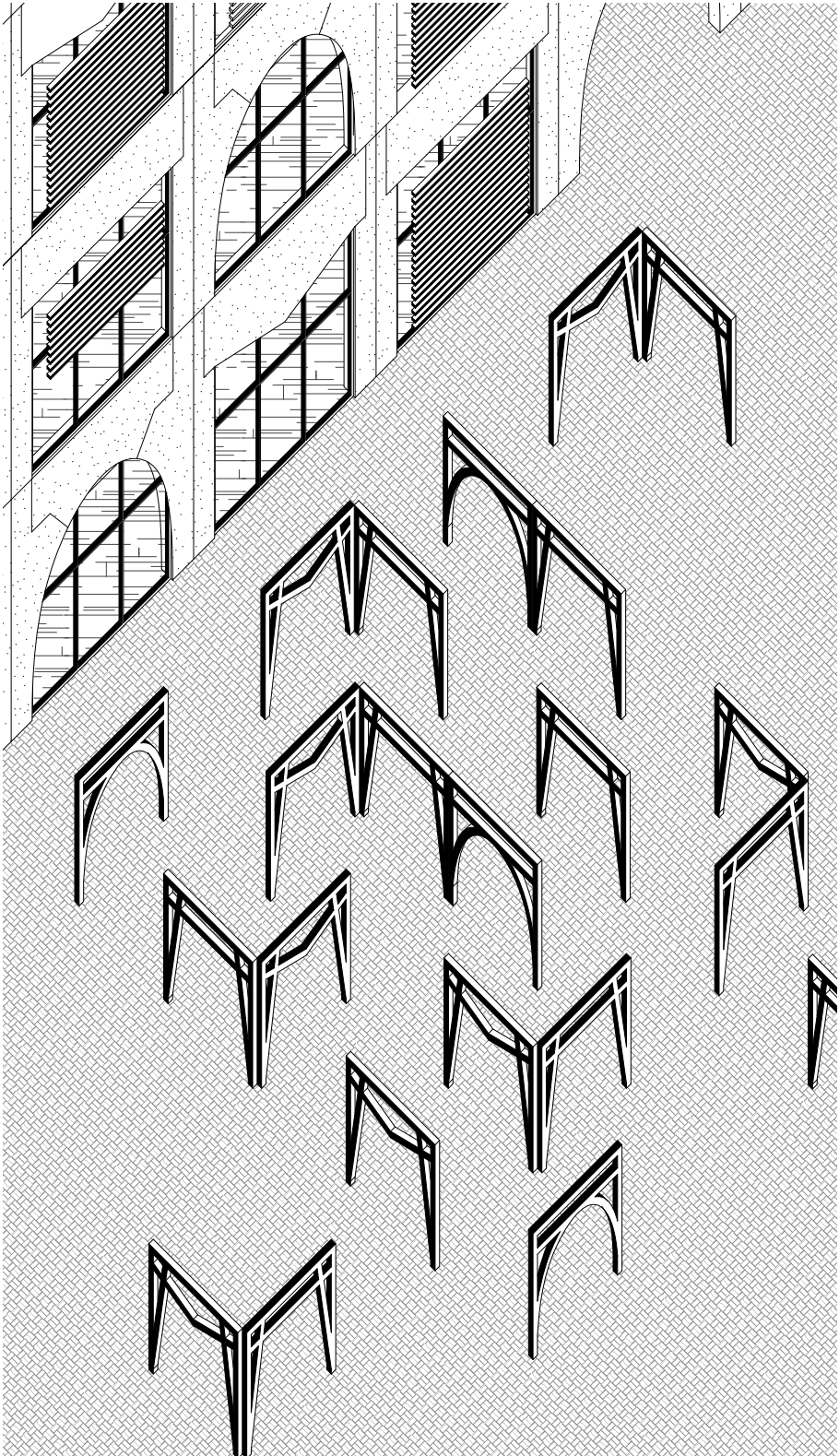
**SCENARIO 01**

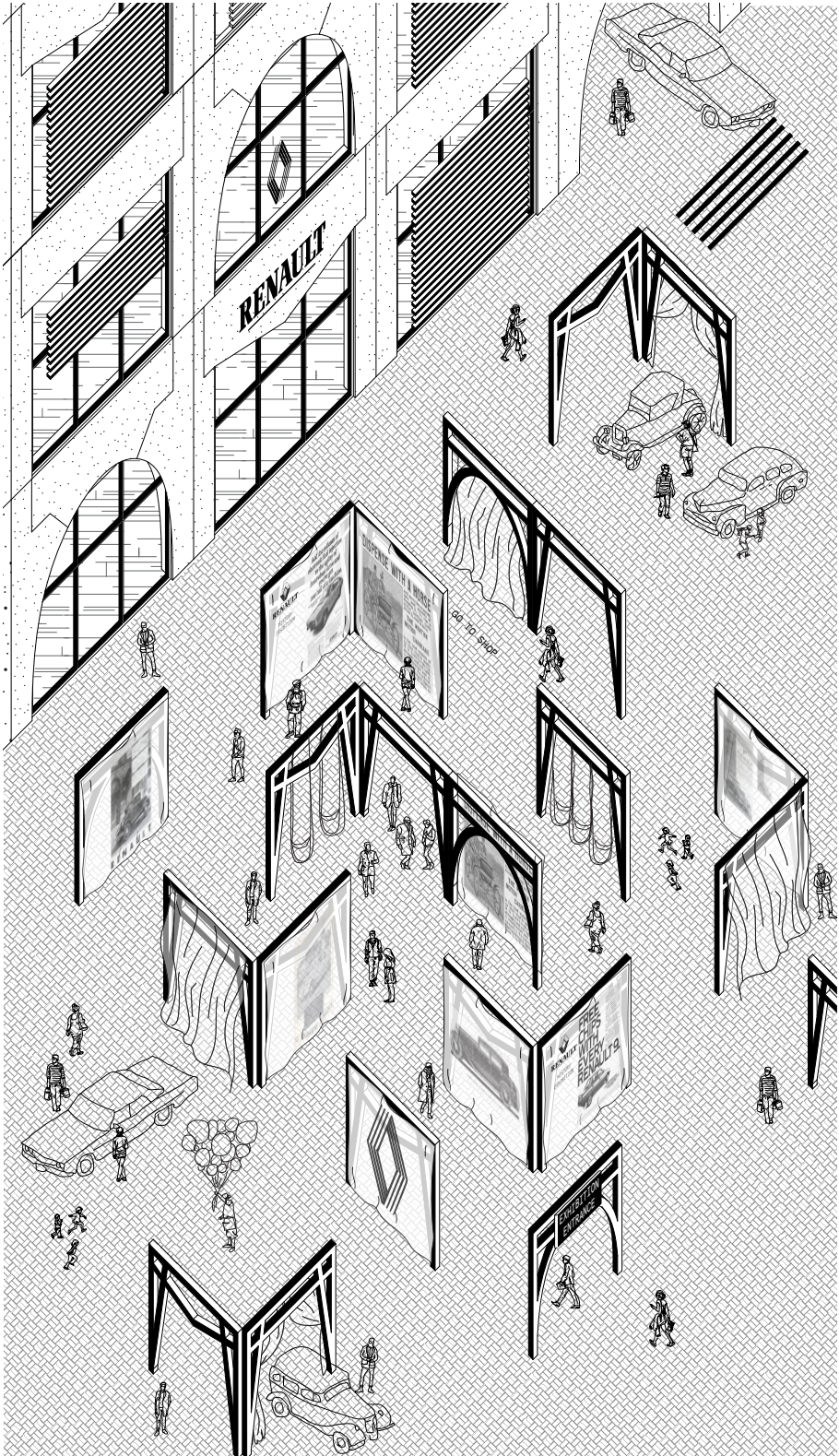
Winter/Summer

Warehouse 05 :: Renault

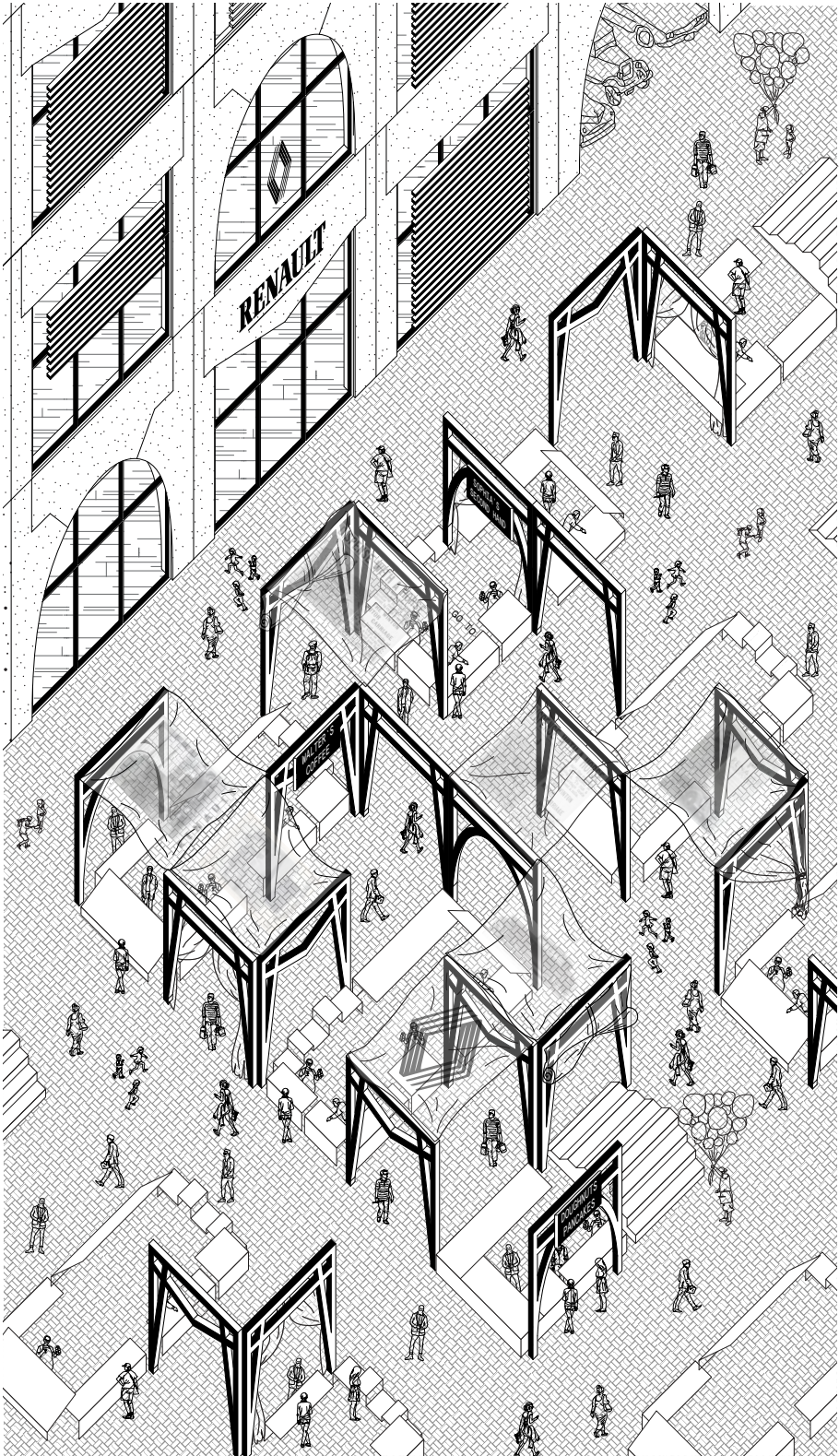
Hardware Combination: Exhibition Labyrinth

Software: Prints on Fabric

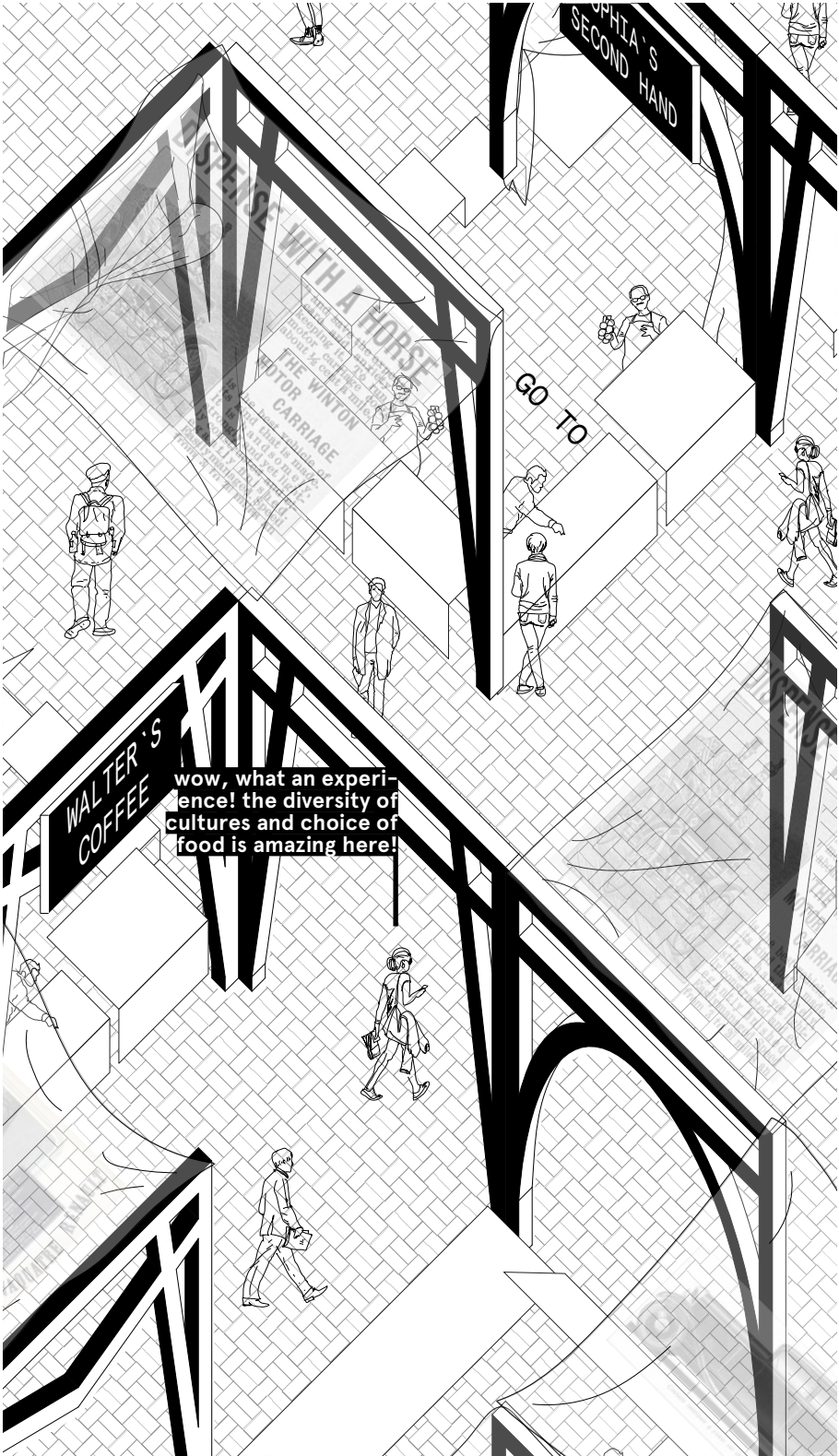












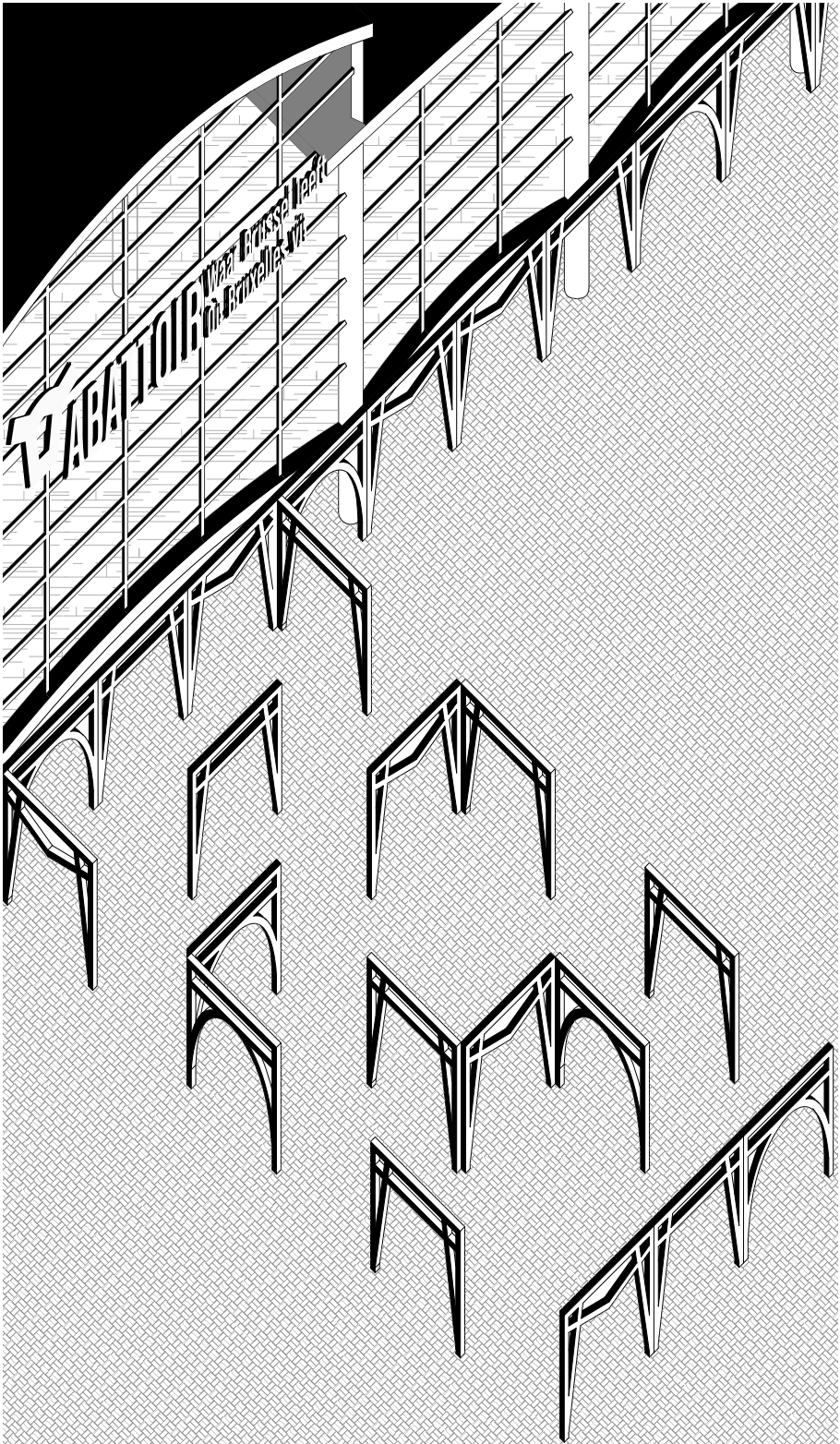
**SCENARIO 02**

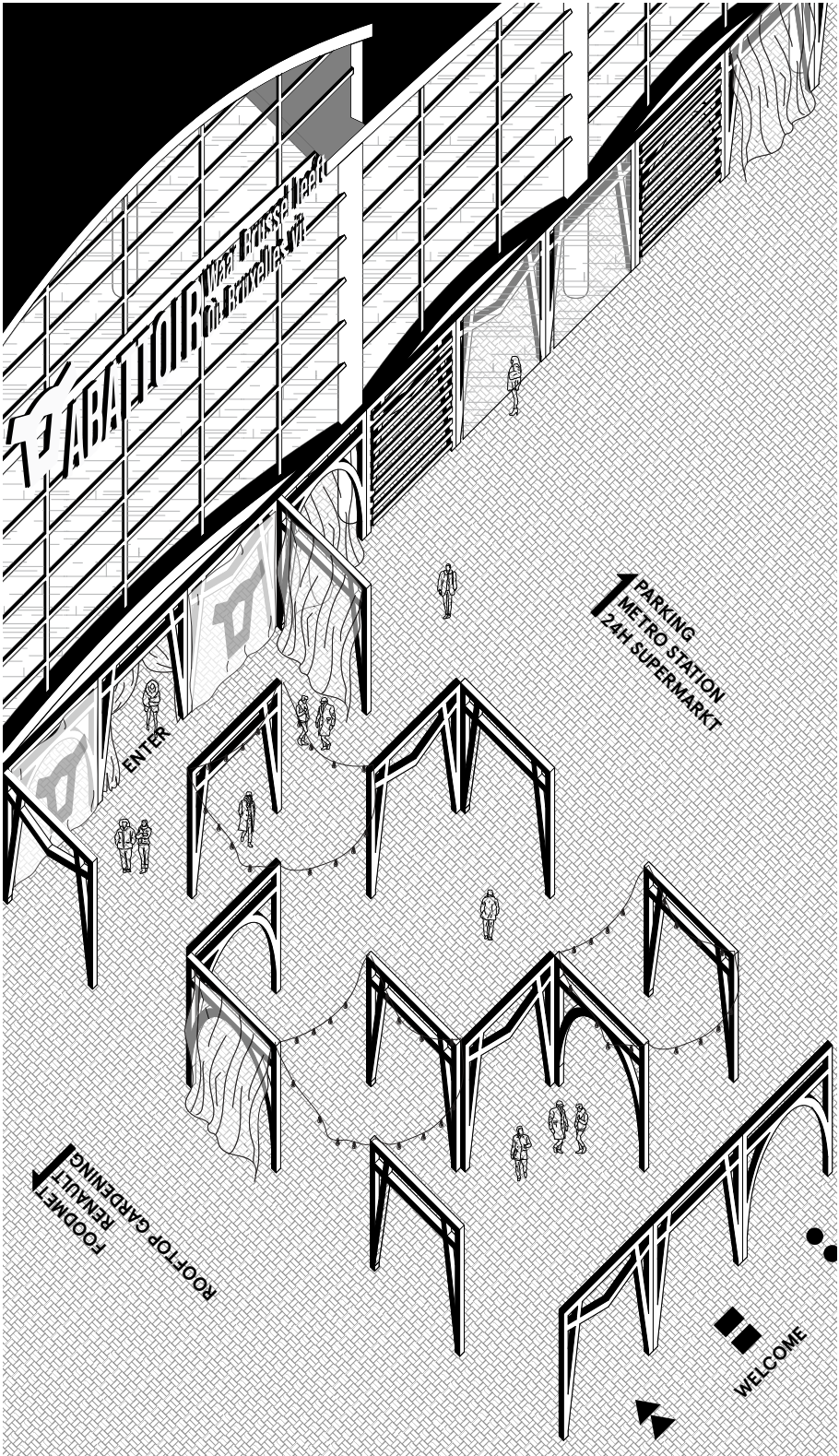
Winter

Entrance of Iron-Cast Slaughterhouse

Hardware Combination: Engaging Micro Climate

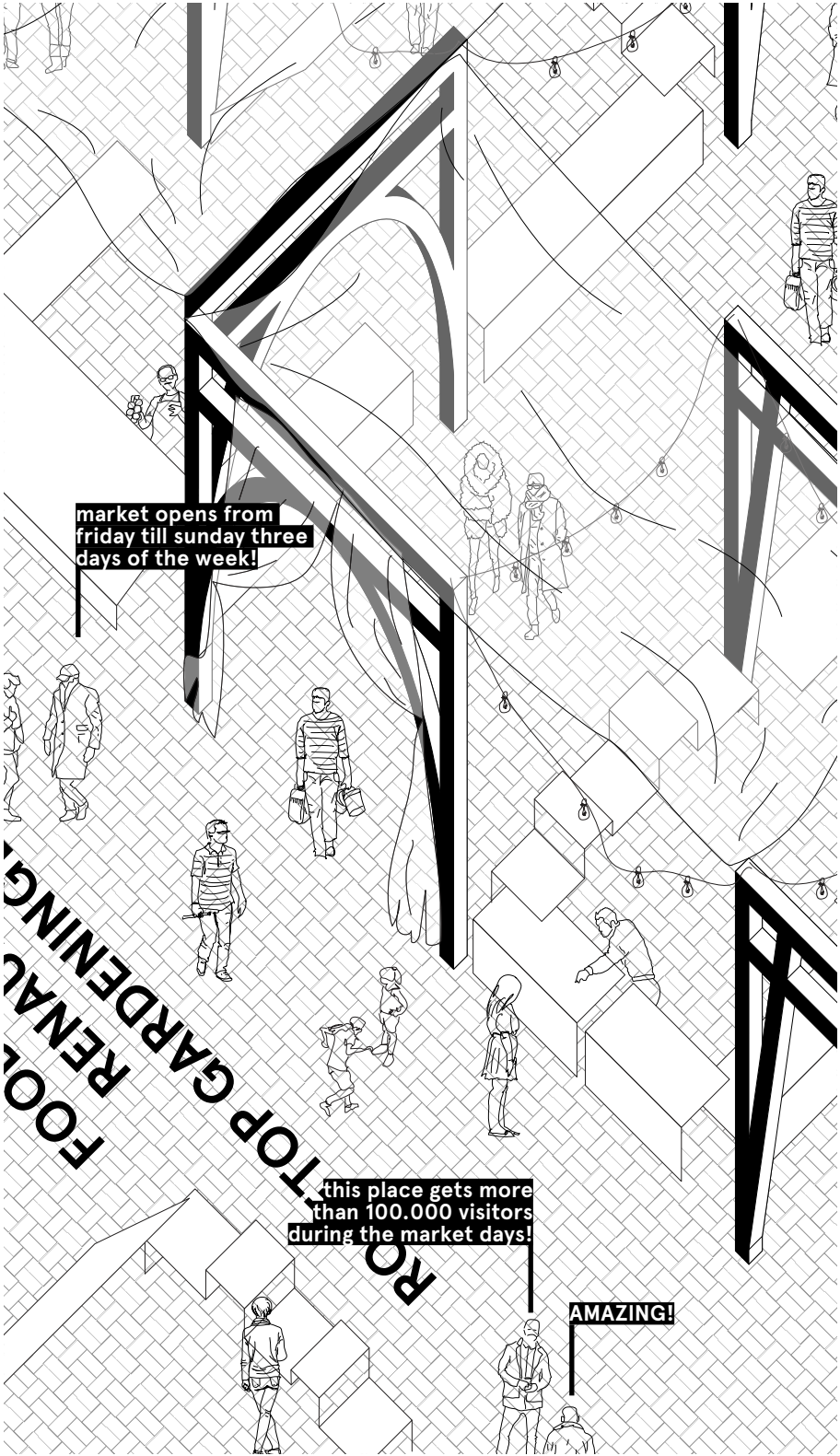
Software: Fabrics, Glass and Sun Blockers











market opens from  
friday till sunday three  
days of the week!

this place gets more  
than 100.000 visitors  
during the market days!

AMAZING!

**SCENARIO 03**

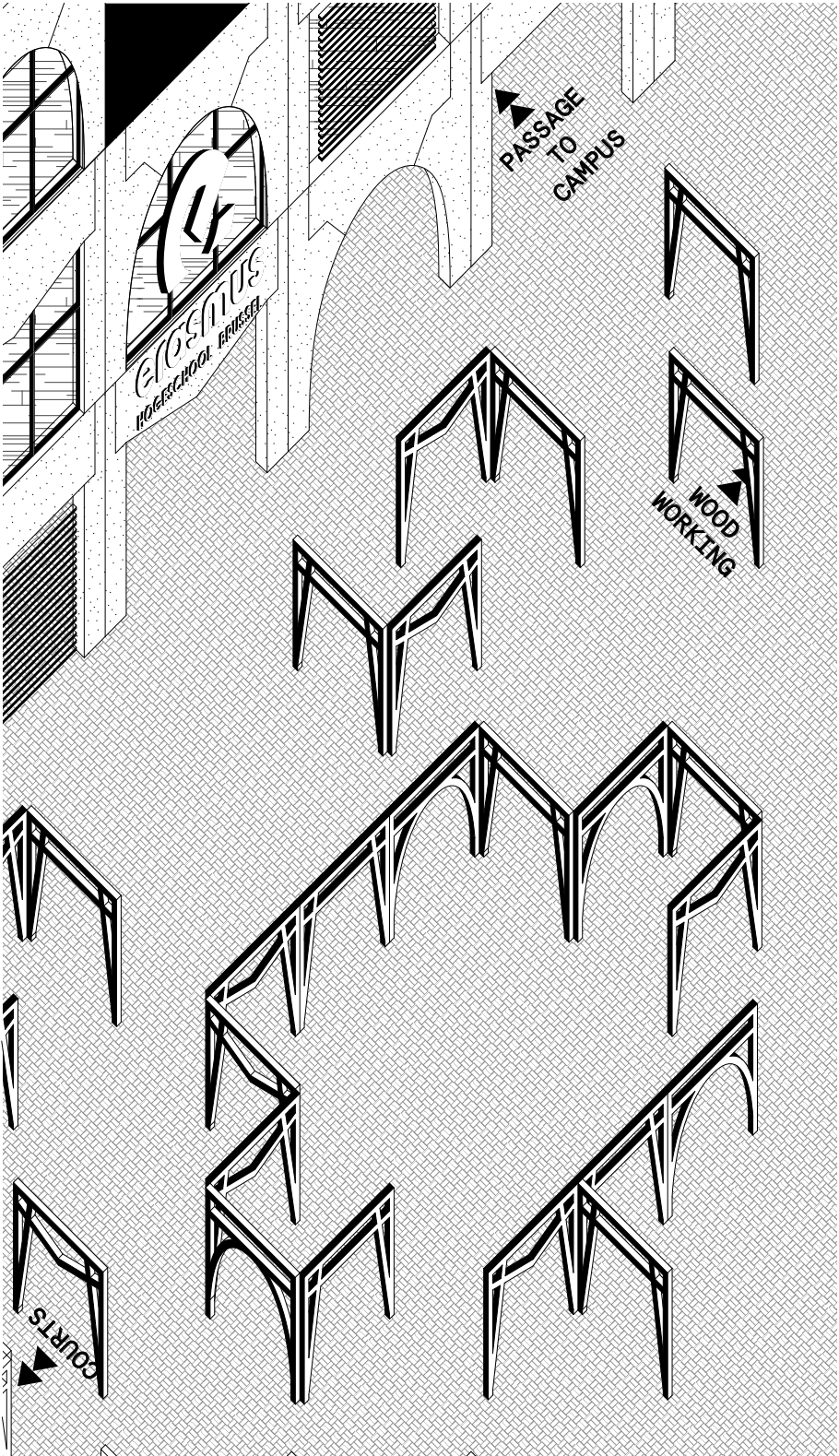
Summer

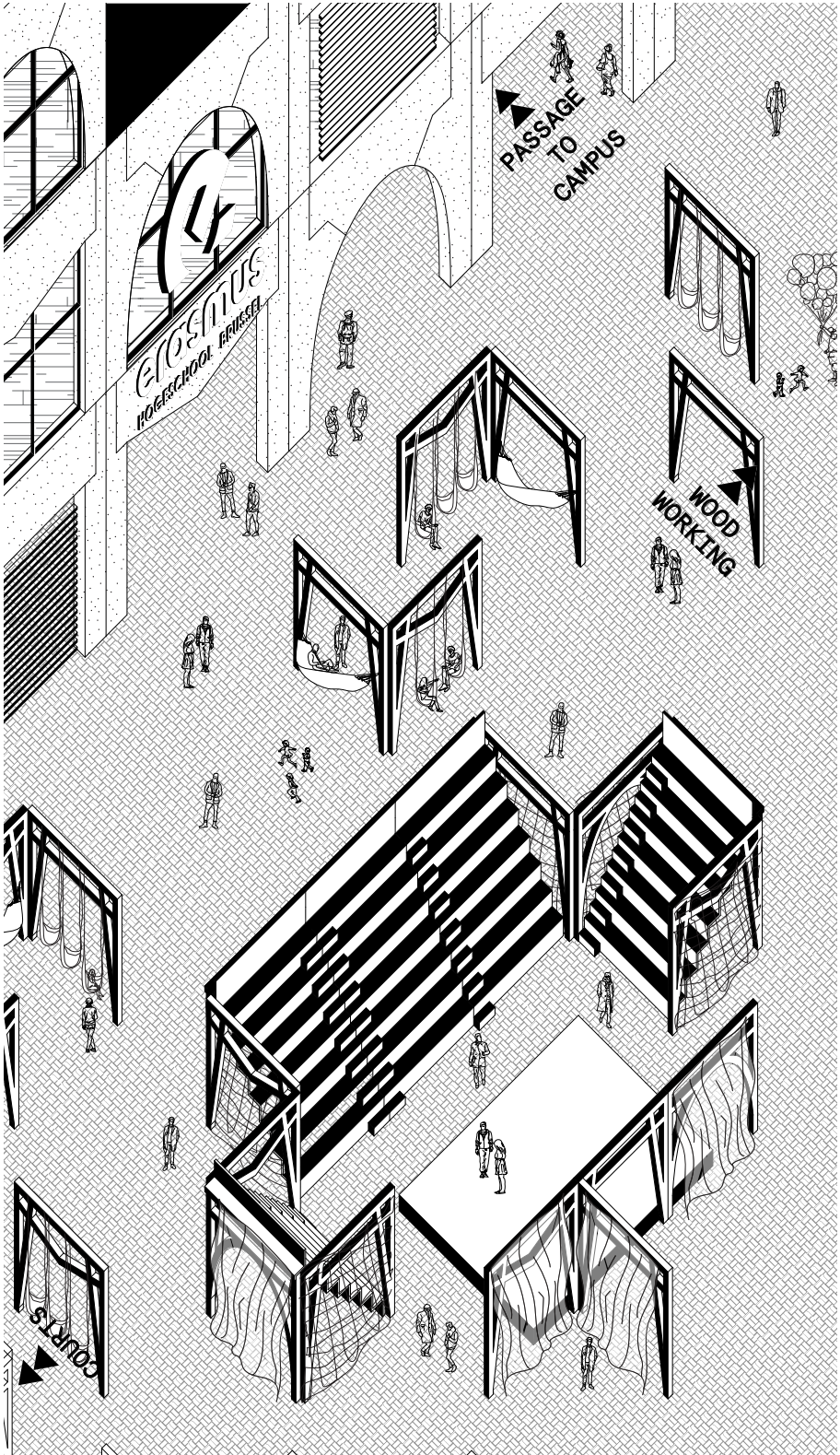
Open Space

Hardware Combination: Performance

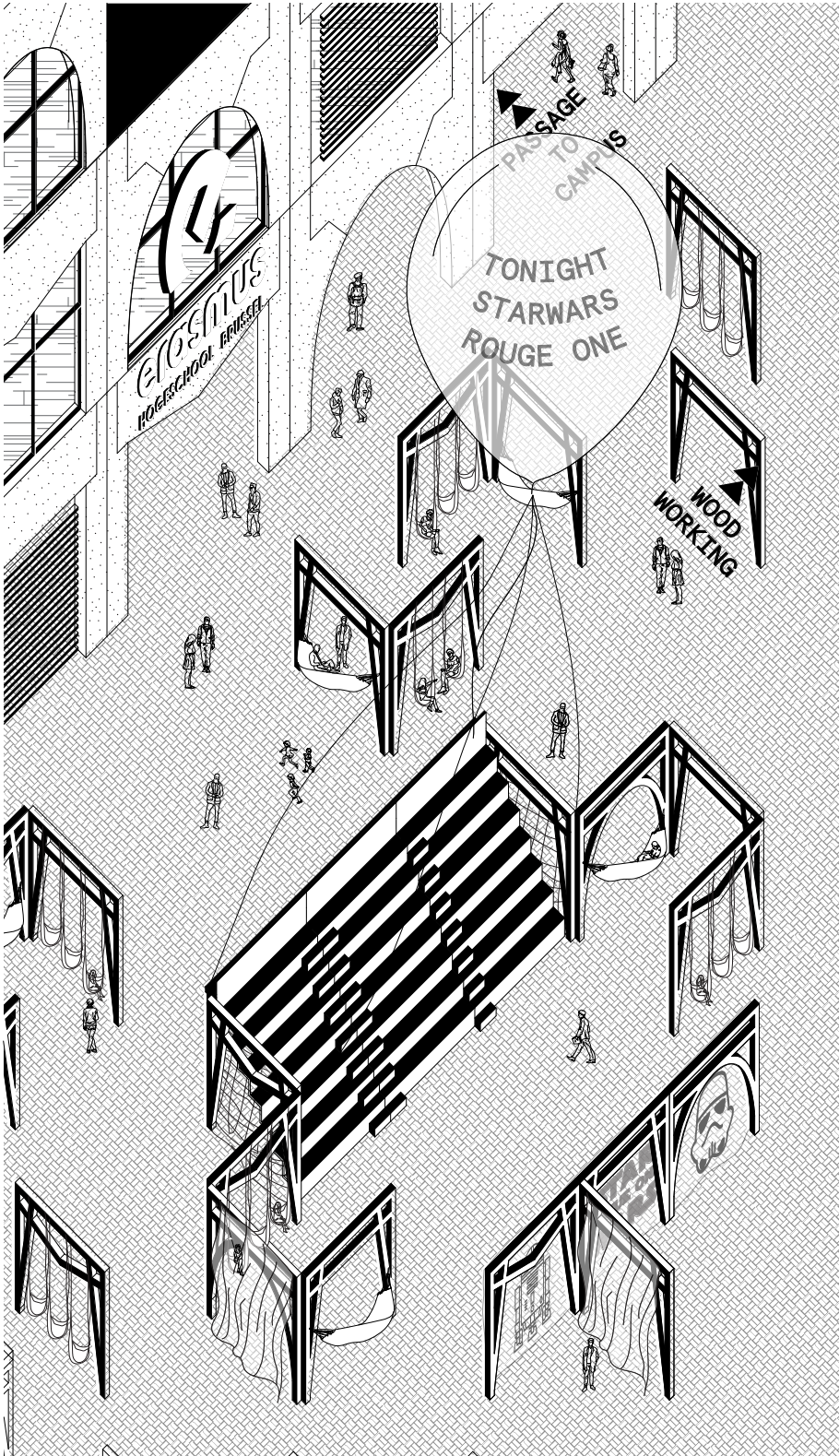
Software: Tailored Step-Seats from Wood

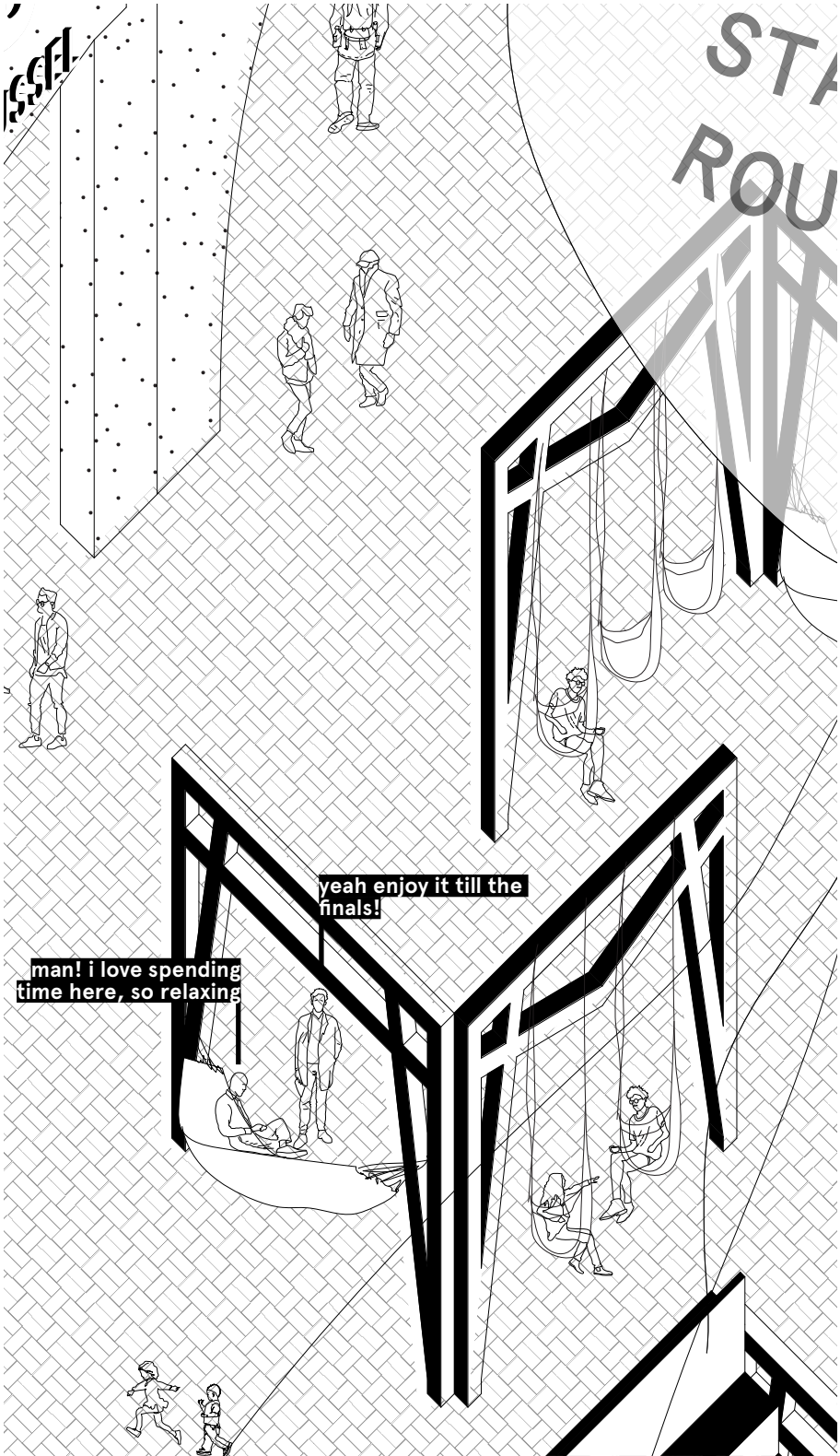












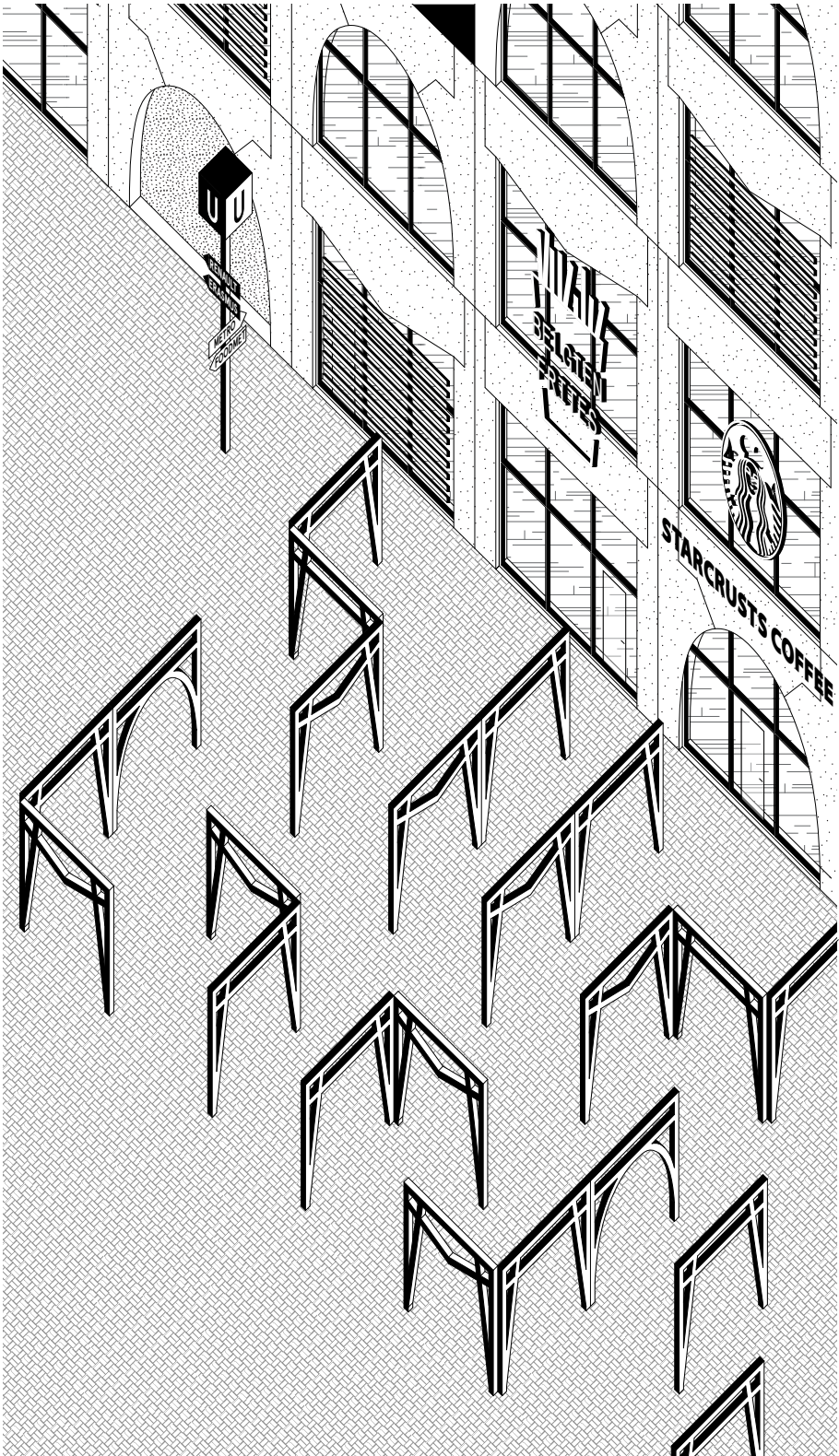
## **SCENARIO 04**

Winter/Summer

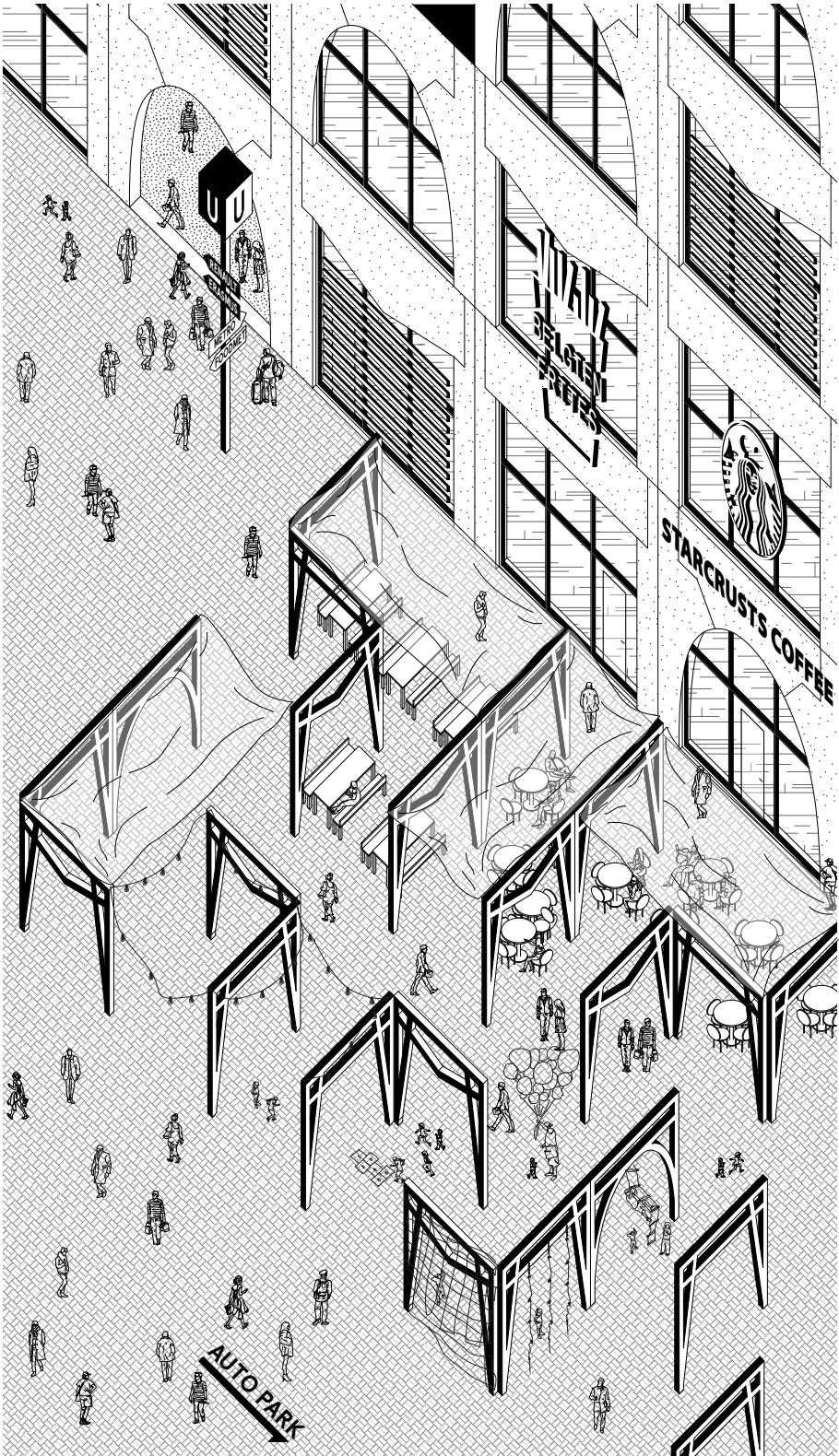
Warehouse 02 :: Hot Spot

Hardware Combination: Cafe Garden/Playground

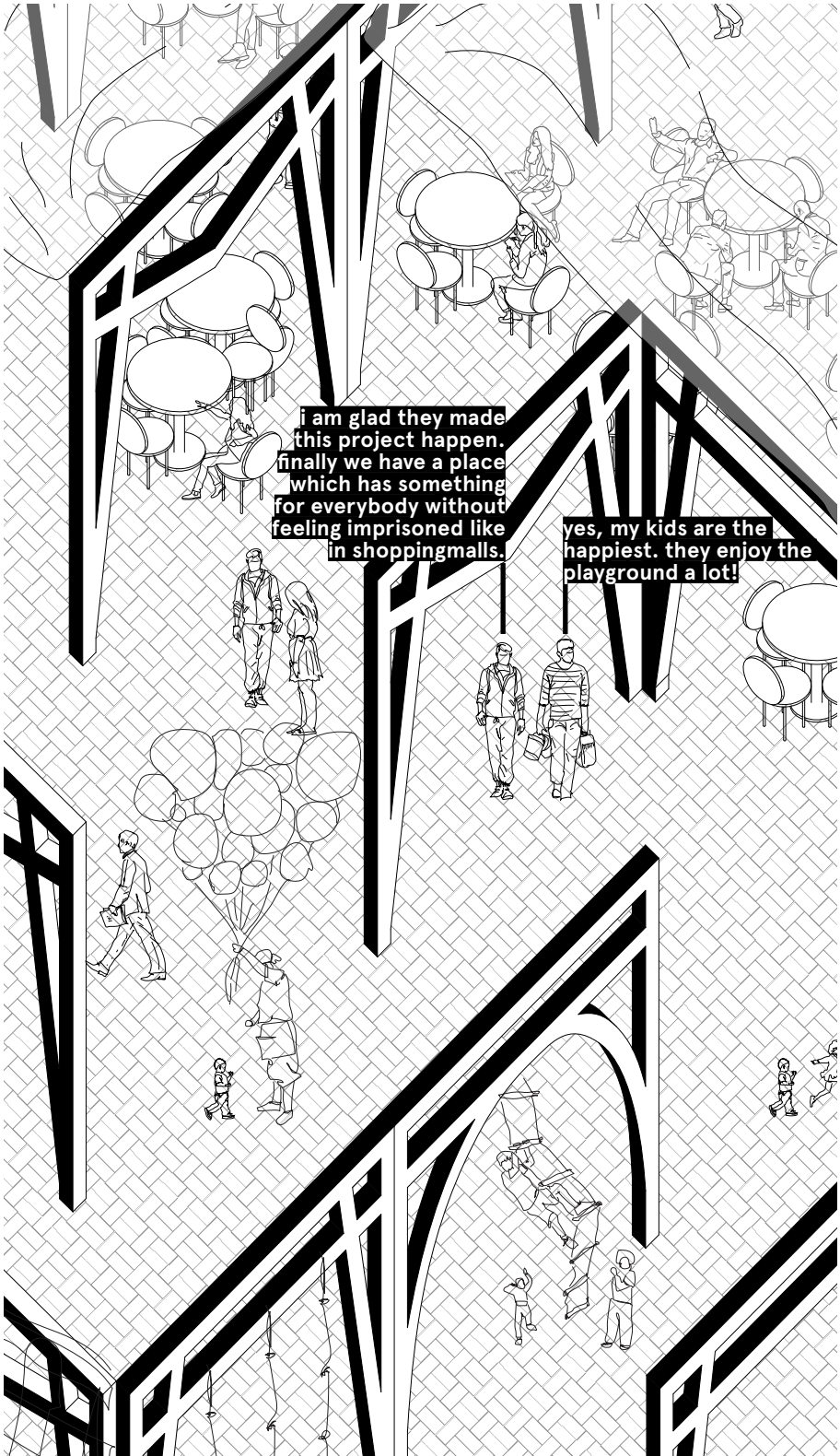
Software: Fabrics and Ropes





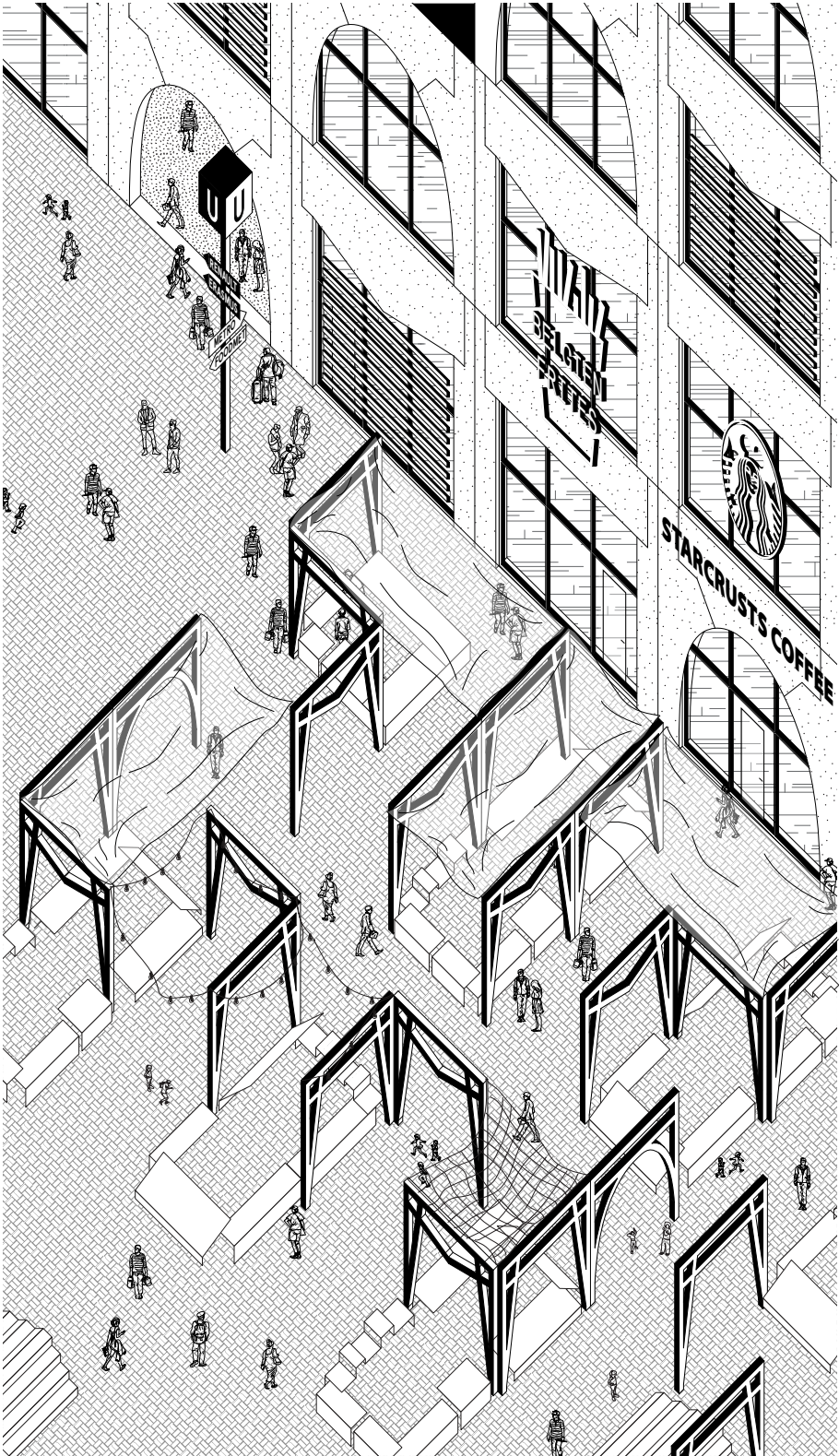


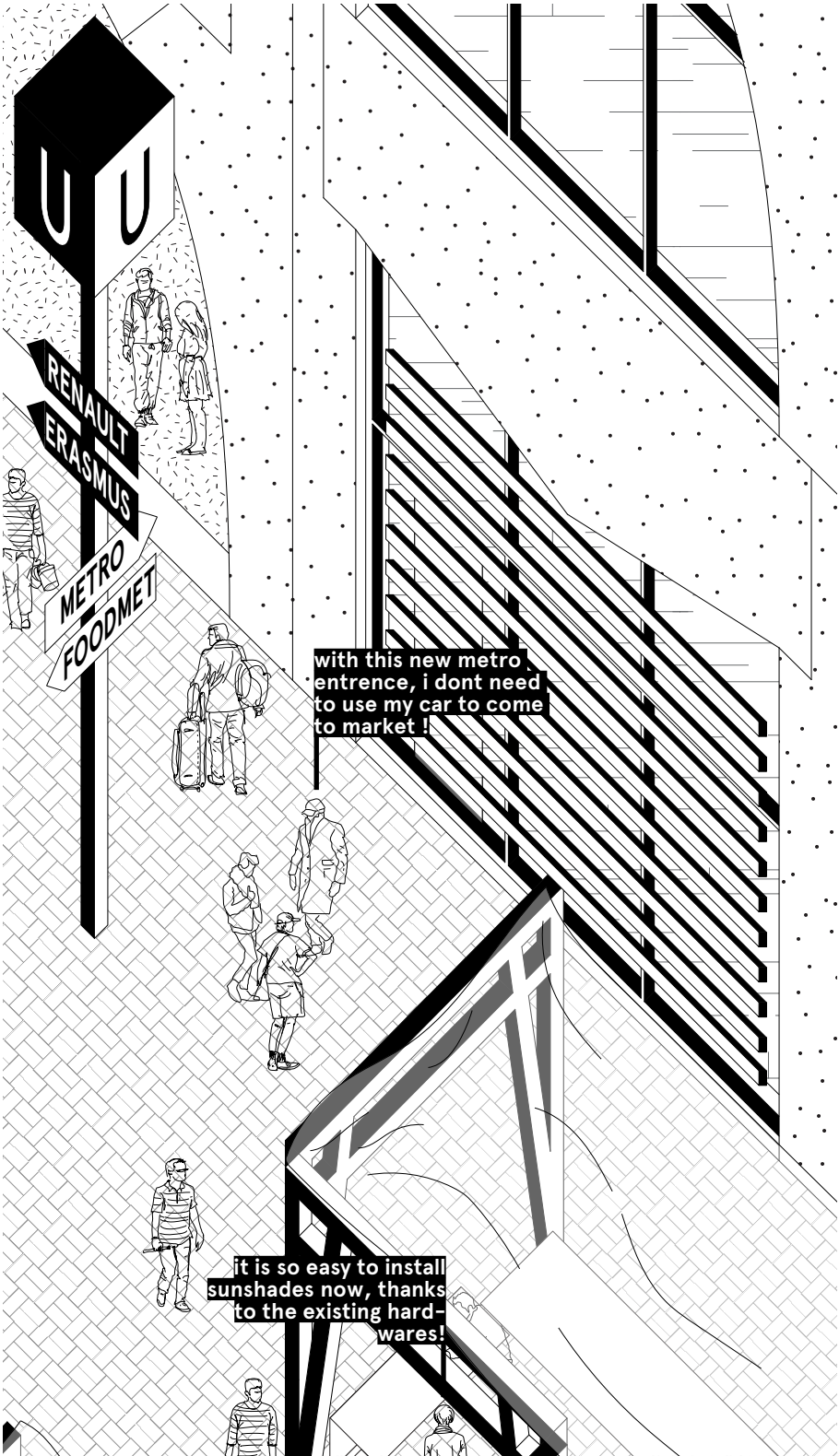


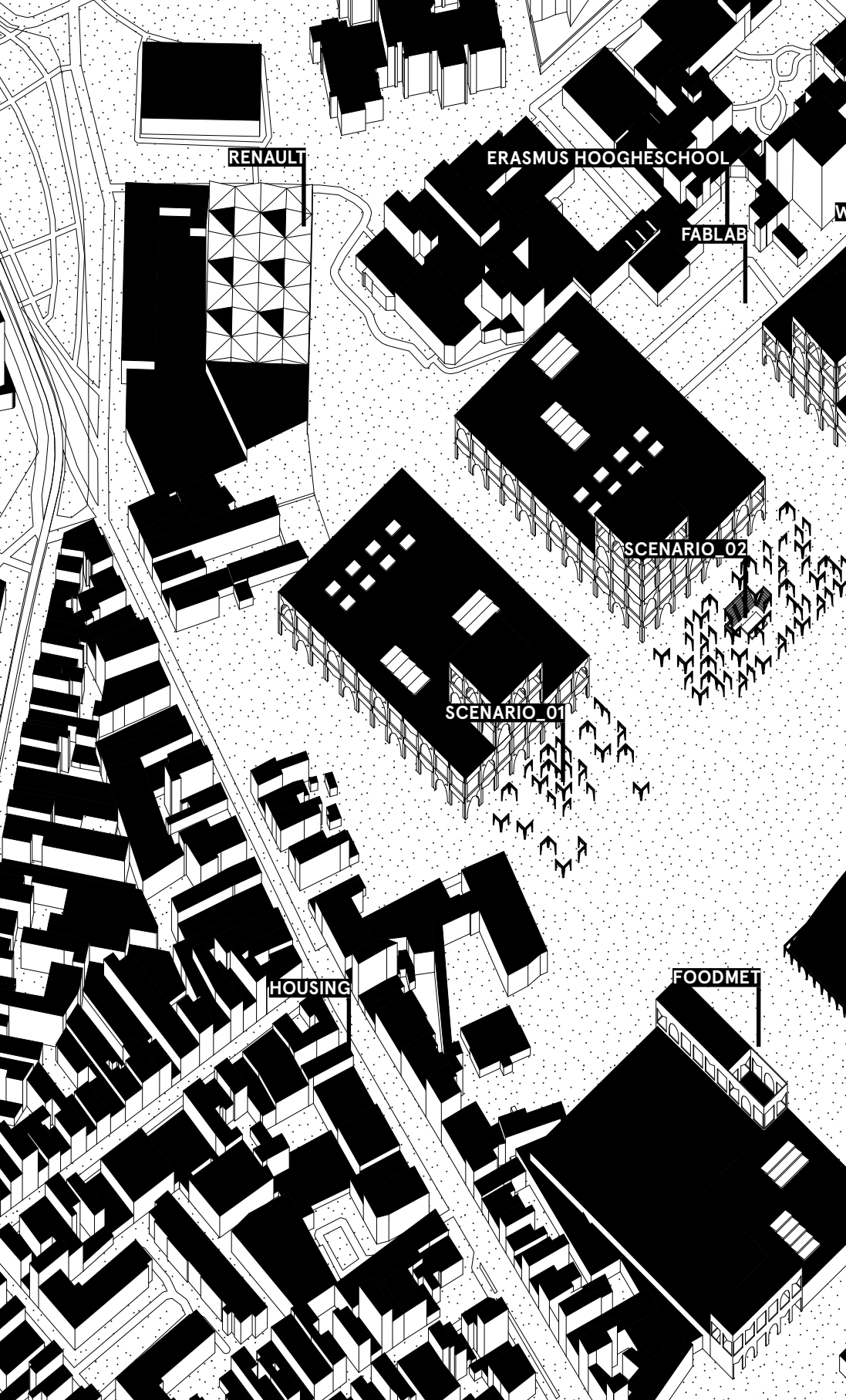


i am glad they made  
this project happen.  
finally we have a place  
which has something  
for everybody without  
feeling imprisoned like  
in shoppingmalls.

yes, my kids are the  
happiest. they enjoy the  
playground a lot!







RENAULT

ERASMUS HOGHESCHOOL

FABLAB

SCENARIO\_02

SCENARIO\_01

HOUSING

FOODMET

TRANSPORTATION INDUSTRY

ENTERTAINMENT CENTRE

WOOD WORKING STUDIO

COMPACT SLAUGHTERHOUSE

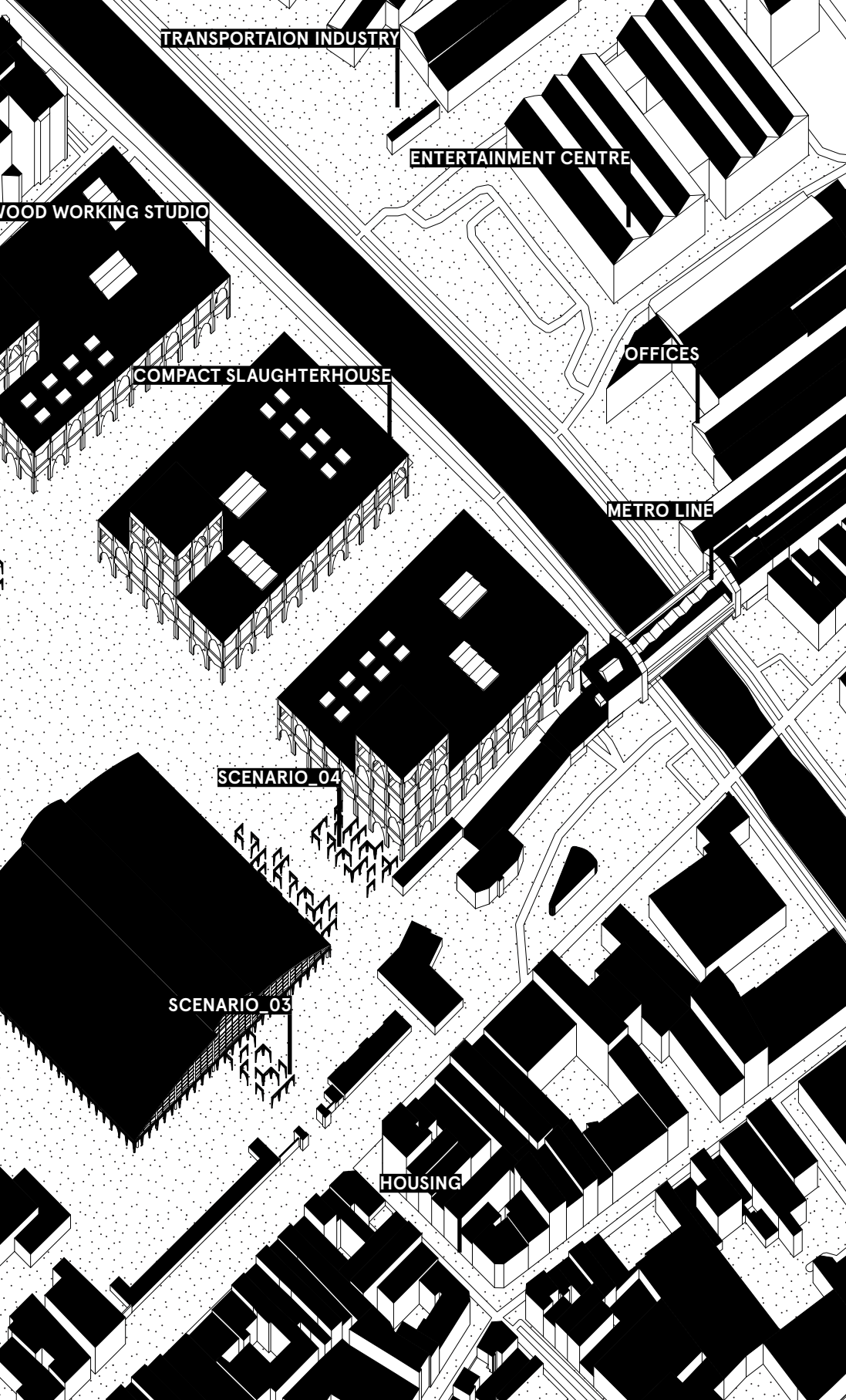
OFFICES

METRO LINE

SCENARIO\_04

SCENARIO\_03

HOUSING



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<b>Fig.02</b>	Illustration by the Author
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<b>Fig.04</b>	<a href="https://ouezab.files.wordpress.com/2009/02/03vds-1840-red.jpg">https://ouezab.files.wordpress.com/2009/02/03vds-1840-red.jpg</a> 05.02.2017
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<b>Fig.06</b>	Illustration by the Author
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<b>Fig.29-31</b>	<a href="http://divisare.com">divisare.com</a> 10.05.2017
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Fig.45-54	Illustrations by the Author
Maps.	All the Maps. and the rest of the illustrations by the Author

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**THANK YOU**

truly amazing people who i had  
to chance to meet on my path and  
stand next to me during my most  
challenging experiences.

my parents  
my guardian angels  
tamara matara  
MILLER  
servitengasse nr.4  
my italian society  
my gym buddies  
E 264  
moritz & co.  
and many more...

thank you  
again.