



## **MASTERARBEIT**

Modernes Kulturzentrum - Temeswar

**ausgeführt zum Zwecke der Erlangung des akademischen  
Grades eines Diplom-Ingenieurs unter der Leitung von  
Ao.Univ.Prof. Arch. Dipl.-Ing. Dr.techn. Manfred Berthold**

E253/4

Institut für Architektur und Entwerfen  
Abteilung Hochbau und Entwerfen

**eingereicht an der Technischen Universität Wien**  
Fakultät für Architektur und Raumplanung

von

**Delia Buta**

1025013

Landgutgasse 9/2/6, 1100 Wien

Wien, am April 2015



## Acknowledgements

My special thanks and appreciation to my parents for their unconditional love and support. But also to my wonderful husband because he resist to all my mouse clicks so many times, but also for his care during all the projects.





<b>01</b> Introduction	7	<b>05</b> Planning design	53
Abstract	8	Concept diagrams	54
Foreword - a personal approach	10	Room program	62
<b>02</b> Location	13	<b>06</b> Planning	65
Meaning and location - Timisoara	14	Floor plans	66
Historical overview	18	Sections	74
<b>03</b> Planning area	29	Facade	78
Site analysis	30	Details	82
Existing area	40	<b>07</b> Renderings	89
<b>04</b> Concept	45	<b>08</b> Documentation	105
Shape searching and experimentation	46	Literature	106
		References	107





# INTRODUCTION

Foreword - a personal approach  
Finding the topic

## Abstract

Der Grundgedanke dieser These war ein generationsübergreifender Raum zu schaffen. Dieser Ort soll gleichzeitig ein Treffpunkt sein, Kommunikation erleichtern und kulturelle und künstlerische Aktivitäten ermöglichen.

Die Idee, Generationen zusammenzubringen, ist die Folge unterschiedlicher Probleme, welche zu vielen gegenwärtigen Konflikten geführt hat. Eine der Lösungen für diese Generationsunterschiede wäre mehr Zeit miteinander zu verbringen. Diese Idee war der Anfangspunkt des Gestaltungsprozesses.

Die Lage, die ich dafür gewählt habe, ist meine Heimatstadt, Temeswar, die drittgrößte Stadt in Rumänien. Somit konnte ich den Bauplatz und die Umgebung besser verstehen und entsprechend agieren. Der ganze Gestaltungsprozess wurde durch die Analyse bestimmter Parameter entwickelt. Ich wollte durch meinen Entwurf die unterschiedlichen Funktionen der Umgebung optimieren, indem ich verschiedene Raumtypologien plane. Mein Ziel war Verbindungen zu schaffen. Eine Verbindung zwischen der alten Stadt und der modernen Stadt, zwischen einem alten Platz und einem neuen Park. Eine Verbindung zwischen alte Leute und junge Leute.

## Abstract

The purpose of this thesis was to create space where different generation can meet, communicate and at the same time can experience cultural/artistic activities. The idea of bringing the generations together was inspired by a series of contemporary problems which led to many conflicts of our days. One of the solutions for the generation gap is to spend more time together. This idea was a start point for the designing process.

The location that I've chosen for this kind of program was my home town, Timisoara, the third largest city in Romania. This helped me to understand better the situation of the construction area.

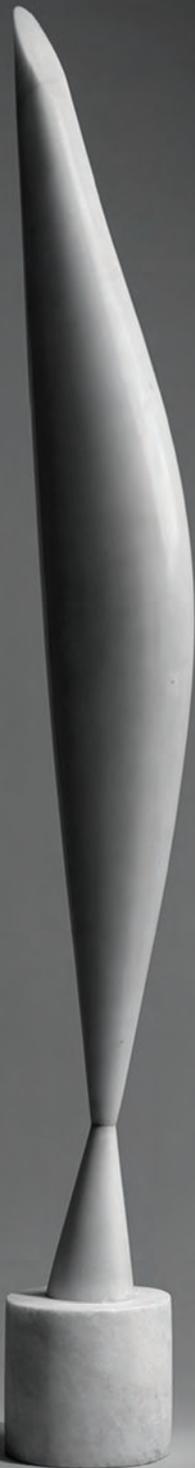
Entire process of designing was developed throughout analysis of special parameters. In the final result I wanted to optimize the functions around the construction area by inserting different kind of spaces. The final target was to make a connection between the old town and the modern town, a connection between an old square and a modern park, a connection between old people and young people.

## Description

The current project was designed as an insertion of a modern building in an old town area. The questions that acquired along the designing process were the guiding lines for the final result.

What should be kept in an old site area? Which are the main baseline data for such insertions? How to make a difference bringing a positive change and not a negative one?

All these questions and many others helped me to understand much better how to deal with this kind of situations.



“What is real is not the external form, but the essence of things... it is impossible for anyone to express anything essentially real by imitating its exterior surface.”

CONSTANTIN BRANCUSI



SN

LOCATION

Meaning and location  
Historical overview



Fig. 2 | Map



Fig. 3 | City plan

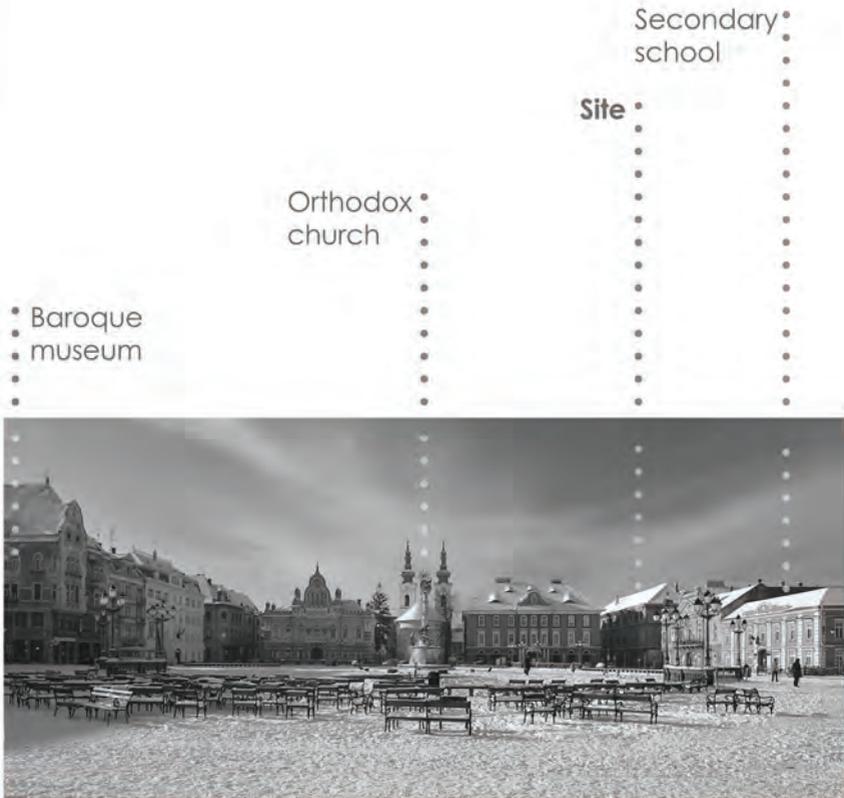


Fig. 4 | Union Square view

## Site meaning

Union Square is the oldest square from the City, and it was built in baroque style. The square is located in the old city which makes the place even more important. The visitors are embracing the history but at the same time the present is breathing in each corner through contemporary atmosphere.



Fig. 5 | Union Square panorama

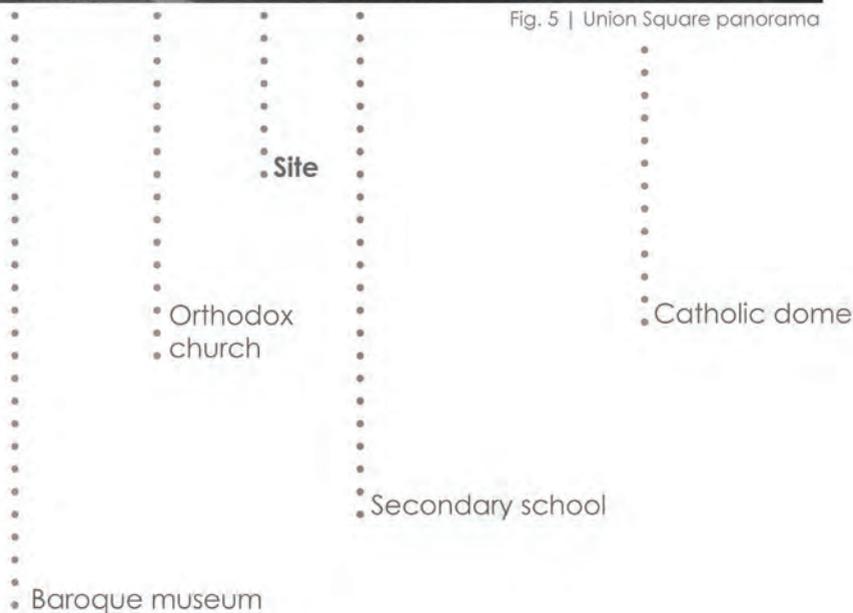


Fig. 5 | Site today

## Current situation

Currently an old barracks from 19th century exists on the site. As can be seen, the barracks is located on the outskirts of the old town. On one side is situated the old Union Square and on the other side there is a large crossroads.



Fig. 7 | Timisoara between 1775 – 1800

## 18th Century

Union square development is related to the history of the Union. In 1716 the imperial troops of General Eugene of Savoy conquered Timisoara from the hands of the ottomans, opening the two centuries with an urban development which made the connection with the Austrian and Austro-Hungarian domination. In 1716 began the redesign of Timisoara, which became a medieval fortress surrounded by swamps, a modern fortress with systematized streets. At the time there was several discussions regarding building size and location of churches. Finally, the Roman Catholic Church was located on the sideways to the axis of the square, while the Orthodox Church was located on the central axis.



Distria Unirea: Monumentul Sfinței Treimi

Fig. 8 | Union Square - old view

## 19th Century

19th Century was also called the modernisation century. The new century brings many changes which made the city the capital from Banat region. Thelegraphy was introduced in 1853 and after that, in 1857 the gas street lightning. The train new train line made posible the connection between Timisoara and other big cities from Romania but also abroad.

At the time there was several discussions regarding building square, its size and location of churches. Finally, the Roman Catholic Church was located sideways to the axis of the square, while the Orthodox Church was located on the central axis.



Fig. 9 | Dome - Union Square

## 20th Century

In 1918 Timisoara was proclaimed the capital of Banat republic and it was established the "Banat National Council" by the political elites at that time. World War I brings new changes and region is devited in two parts, one to the serbian Kingdom and one to the romanian Kingdomn. After World war II, Timisoara enters under Soviet occupation for almost 14 years. During 1948 - 1958 have been implemented Stalinist methods and brutal terrorizing thousands of residents of Timisoara. There were years of humiliation suspicion and fear of enormous tension and tension.



Fig. 10 | Revolution in Timisoara - 1989

## Revolution of 1989

1989 led to the fall of the totalitarian communist system throughout Europe. All started as an attempt to hinder the planned eviction Laszlo Tokes Reformed Church parish and culminated with the declaration of Timisoara as the first city free of communism. In 18 December Timisoara look like in war. From a city of flowers, Timisoara became a city of terror. On this day, the silence is shattered all over the country. The Romanians find out about the events from Timisoara through newspapers. In 25 December the communist president, Ceausescu was convicted and the whole country was free of communist system.

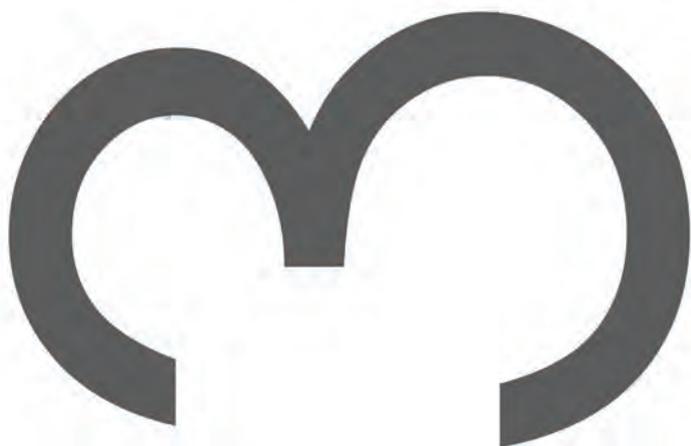


Fig. 11 | Union Square today

## Timisoara today

In our days the city is the capital of Timis County and it is one of the largest cities from Romania. The population is growing each year and currently Timisoara has 319,279 inhabitants, which placed the city in the thirty place from Romania. Which makes Timisoara the main city in western part of Romania. Recently the Union square was restored and the city candidate for European Capital of Culture in 2021.





# PLANNING AREA

---

Site analysis  
Existing area





### Cultural

- Baroque museum
- Cultural center Maria Theresia Festung
- Popas center caricature exhibitions
- Military house
- Revolution memorial association



### Educational

- Art University
- Secondary school
- Stomatology University
- High school "Ion Mincu"



### Religious

- Orthodox church
- Catholic church
- Muslim mosque



### Health

- Hospital for Children
- Hospital "Dr. Victor Popescu"
- Privat nursing home
- Privat clinic
- Stomatology hospital



### Cafes & Clubs

- Cafes
- Clubs
- Restaurants
- Hotels
- Others



### Shopping

- Clothes
- Shoes
- Libraries
- Cosmetics
- Tea/Coffee shops
- Art shops
- Handicrafts
- Others



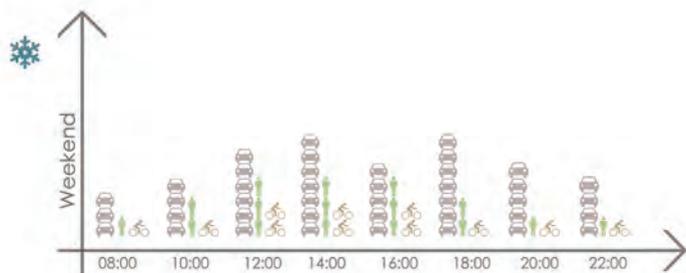
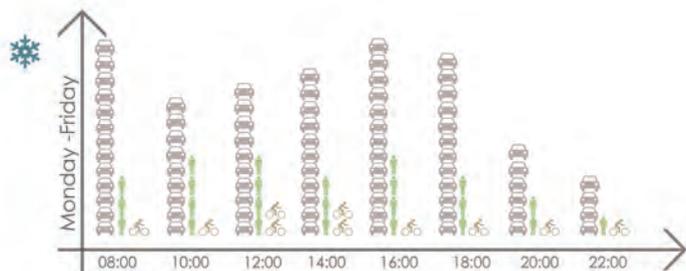
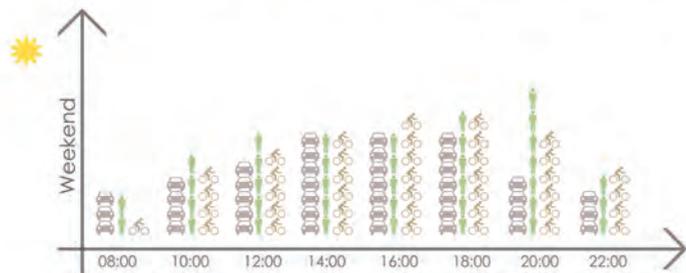
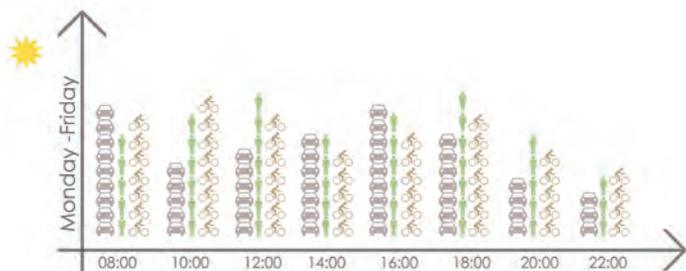
### Others

- Banks
- Courthouse
- Prison
- Others



## Building heights

When it comes to building heights there is a big variation between the old city part and the modern area. Old fortress preserves the original heights which are usually buildings with 2 levels high. In contrast with this harmony are the buildings from 20th Century, which have wide variety heights, most of them buildings with 4 levels high.



## Traffic statistics - Summer

The site is located in the center of the city, which makes the traffic intensity an important part from the project. During the summer the pedestrians and the bikers have a higher frequency. And that leads to the importance of the summer activities in the area. At the same time it can be notice that in the weekends the activities are much higher than during the week.

## Traffic statistics - Winter

During the winter the auto traffic increase which indicates that the indoor activities are more important that the ones that are outdoor. What is similar with the summer period is the fact that in weekends the activities are much higher than during the week.

# Auto traffic



## Morning

One of the site problems is the traffic intensity during the day. There is a significant increase in the morning rush hour, which leads to a big noise pollution.

## Afternoon

In the afternoon the traffic intensity decrease and the old city atmosphere is brought back.

## Evening

The evening rush hour brings back the urban noise, fact that is unwanted in this area.





Railway line



Bicycle path



Bicycle path



Street car



Public transport

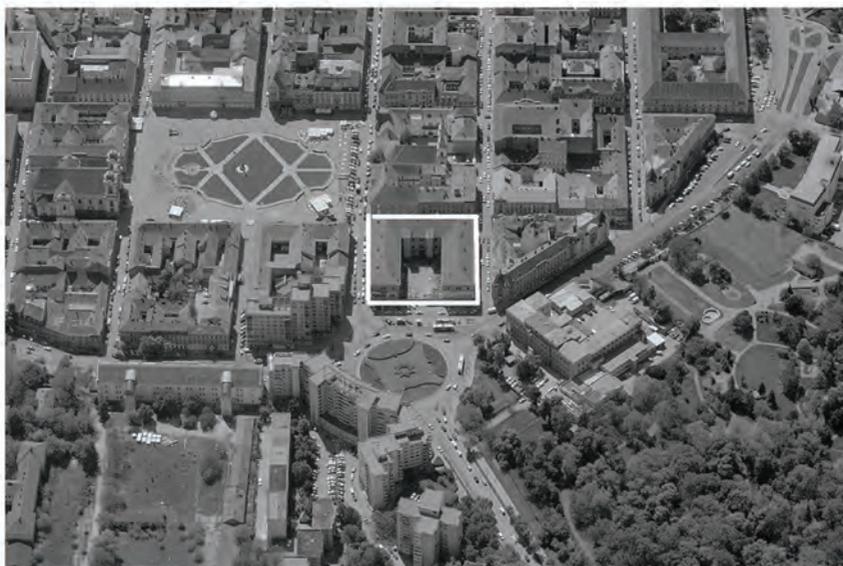


Fig. 12 | Existing building



Fig. 13 | Existing building - uper view



Fig. 14 | Existing building - side view



Fig. 15 | Existing building - front view

## Strengths:

- + Botanic park - large green zone
- + Union Square - public activities
- + Open space to the crossroads
- + At the border between old city and modern city
- + Connection to the center of the city
- + The area provides various public services

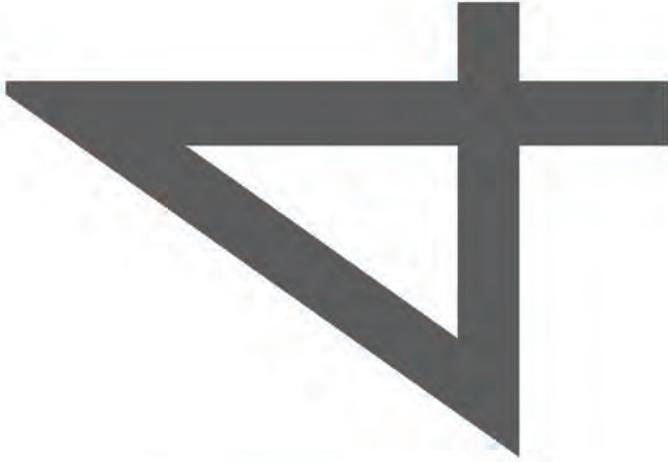
## Weaknesses:

- Heavy traffic
- Noisy area
- Catastrophic condition of the existing building
- Nonexistence of the activities during the whole year
- Few cultural activities
- Variation of the building heights

## Objectives:

- Combining the cultural activities with space for relaxing
- Public study spaces
- Connection between Botanic park and Union square
- Outdoor + indoor activities
- Bringing together the people of different generations
- Harmonious framing of the old buildings with the new building
- Using the underground space for heated spaces





## CONCEPT

Shape searching and experimentation  
The open space concept  
The proposed design



Addition



Changing the form



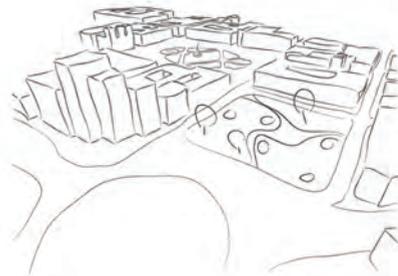
Landscape



New interpretation



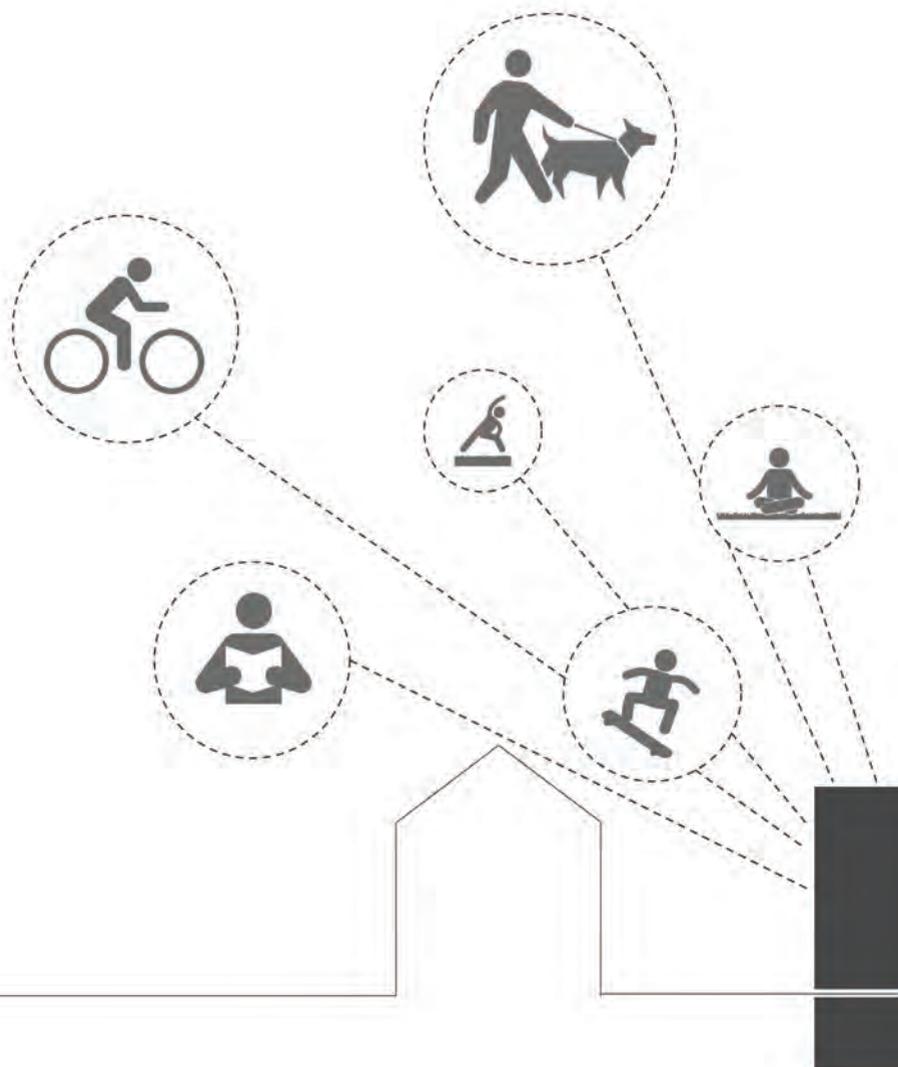
Preserve the exterior

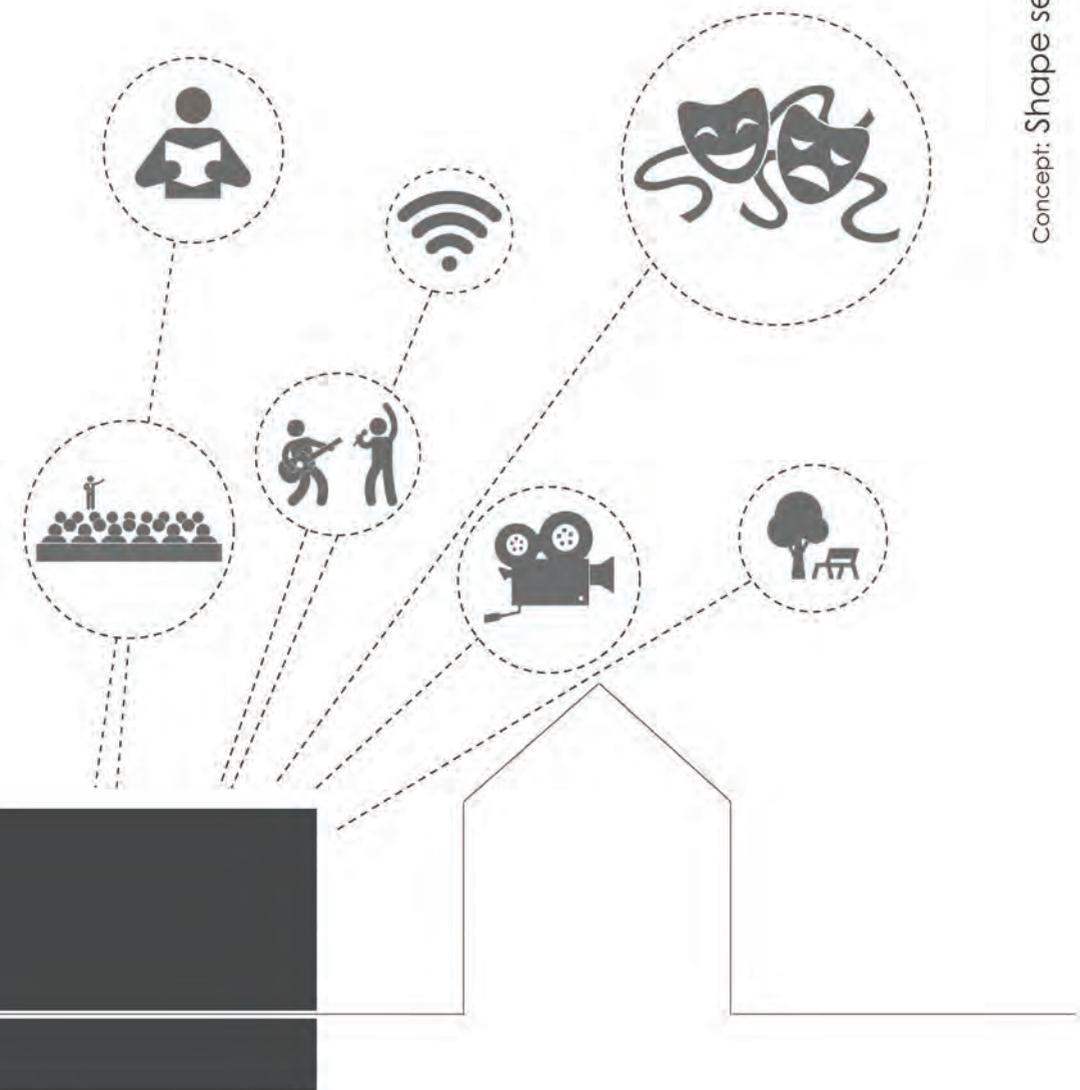


Tabula rasa

What could it be?







Concept: Shape searching



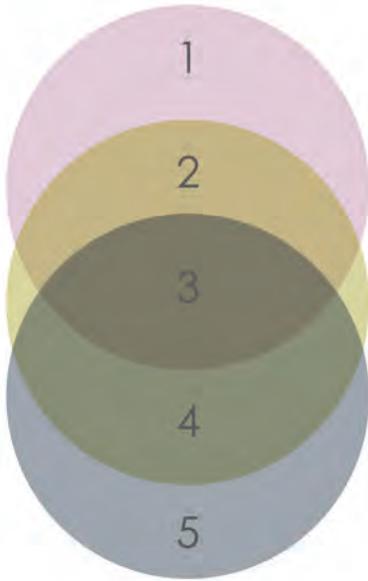
Comunity zone



Green zone



Cultural zone



Space  
For



1. Sun/rain Protected area



2. Communication and meetingpoints



3. Sport and relaxing



4. Working and study spaces



5. Cultural activities



LD

C

# PLANNING DESIGN

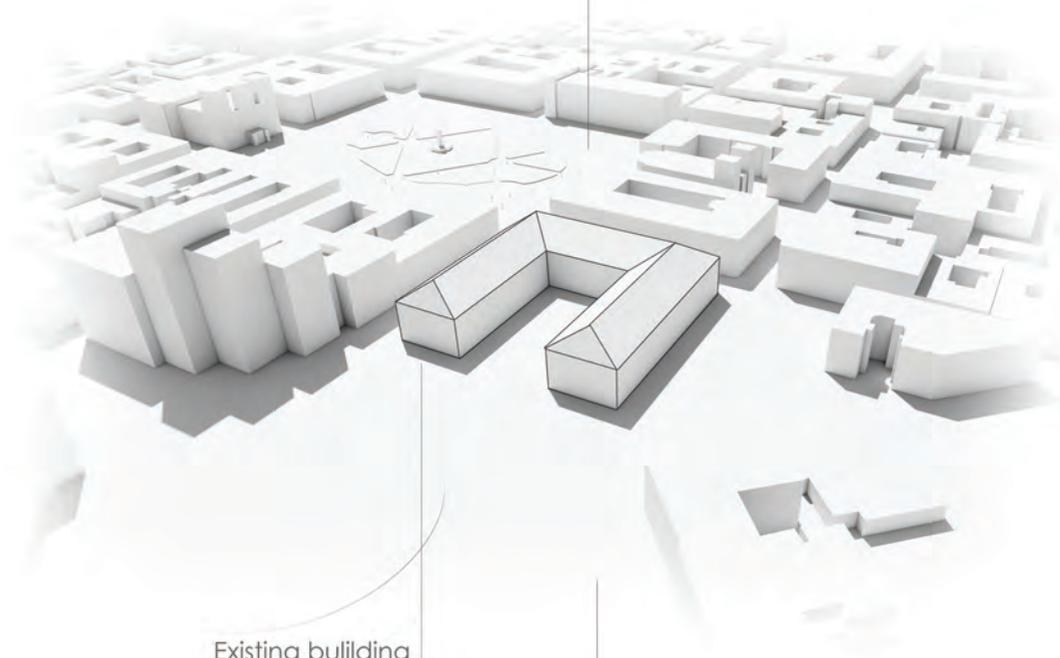
---

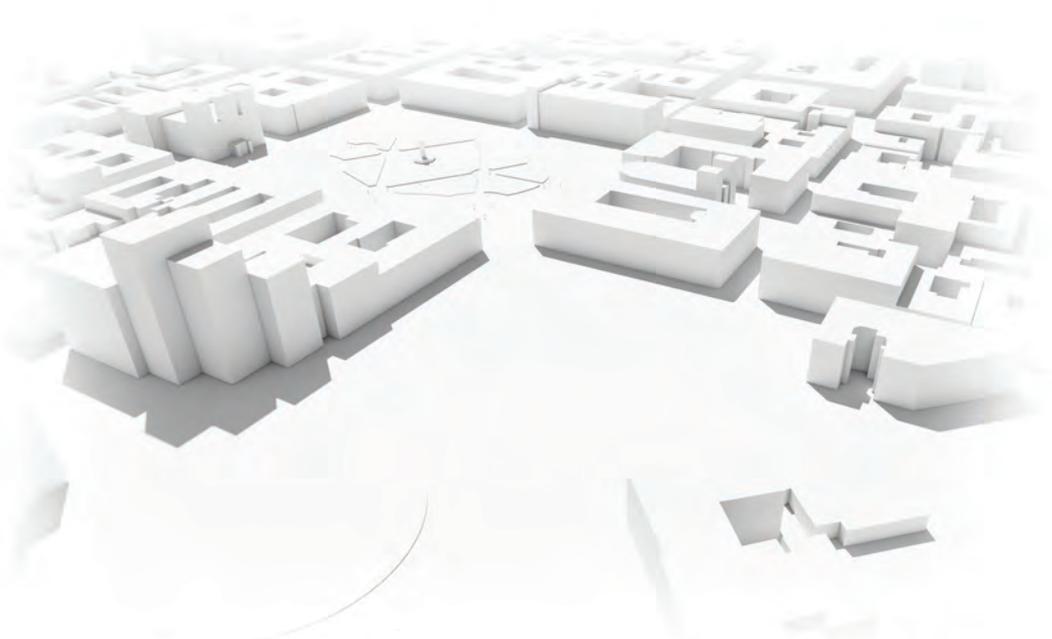
Concept diagrams  
Room program

Union Square

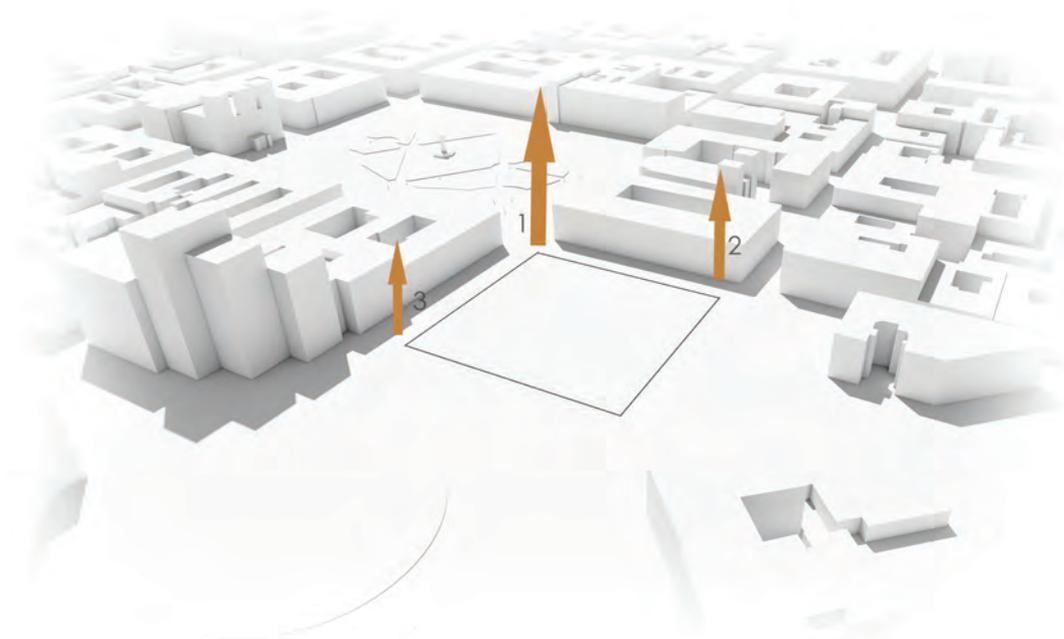
Existing bulilding

Botanic park





What would happen if the old building would disappear?



Heights

1 - 7.30 m

2 - 5.30 m

3 - 4.30 m



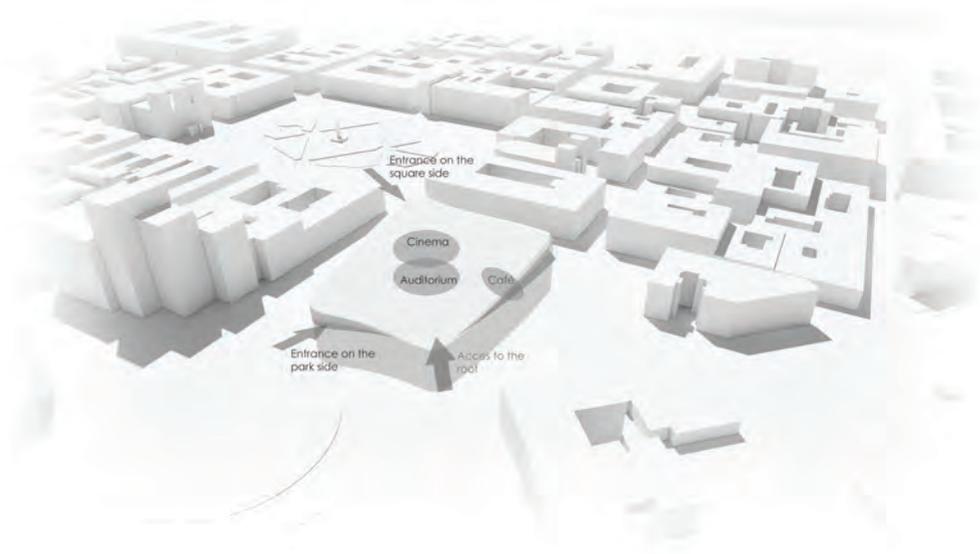
Park & Square connection | Square top view  
Footpath to the park







Pedestrian networks



## Room program

Open air cinema	ca. 500 pers.	500 m <sup>2</sup>
Exhibition		1500 m <sup>2</sup>
Auditorium	ca. 425 pers.	500 m <sup>2</sup>
Library	ca 500 pers.	2000 m <sup>2</sup>
Green zone		1244 m <sup>2</sup>
Café		160 m <sup>2</sup>
Sanitary spaces		330 m <sup>2</sup>
Elevators		
Circulation		



6

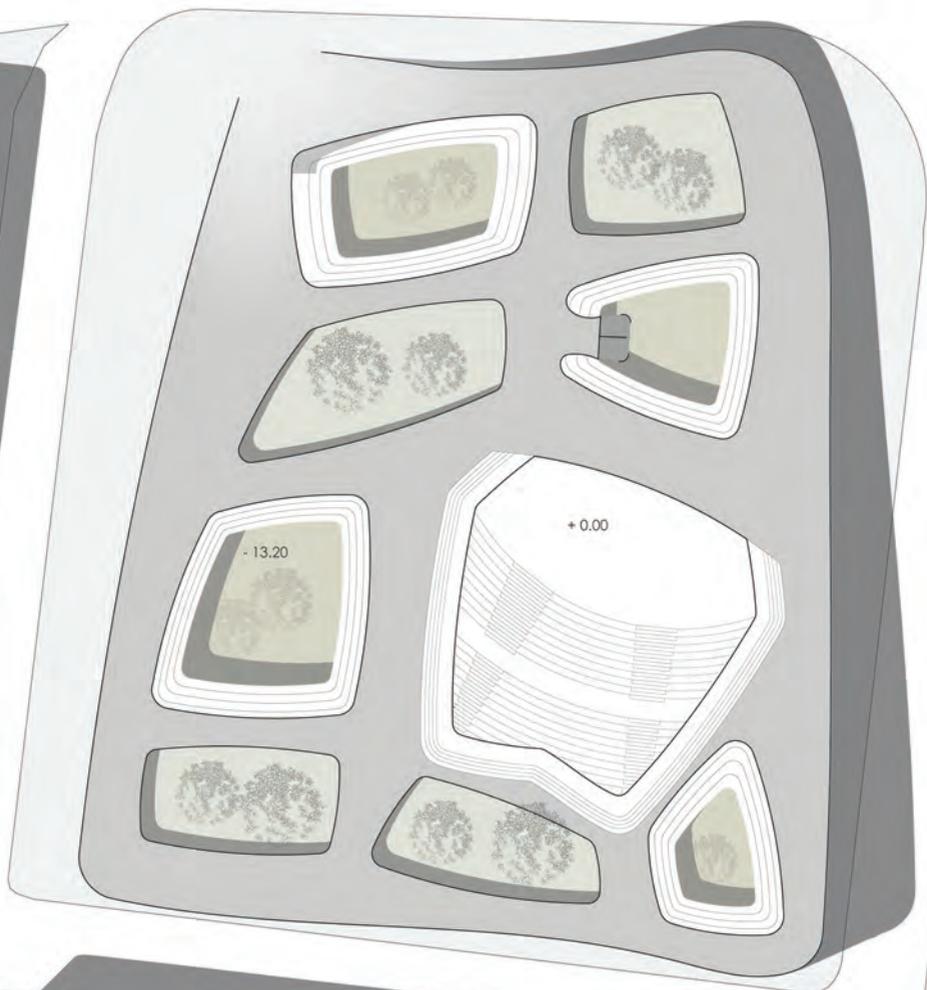
PLANNING

Floor plans  
Sections

Planning: Site plan

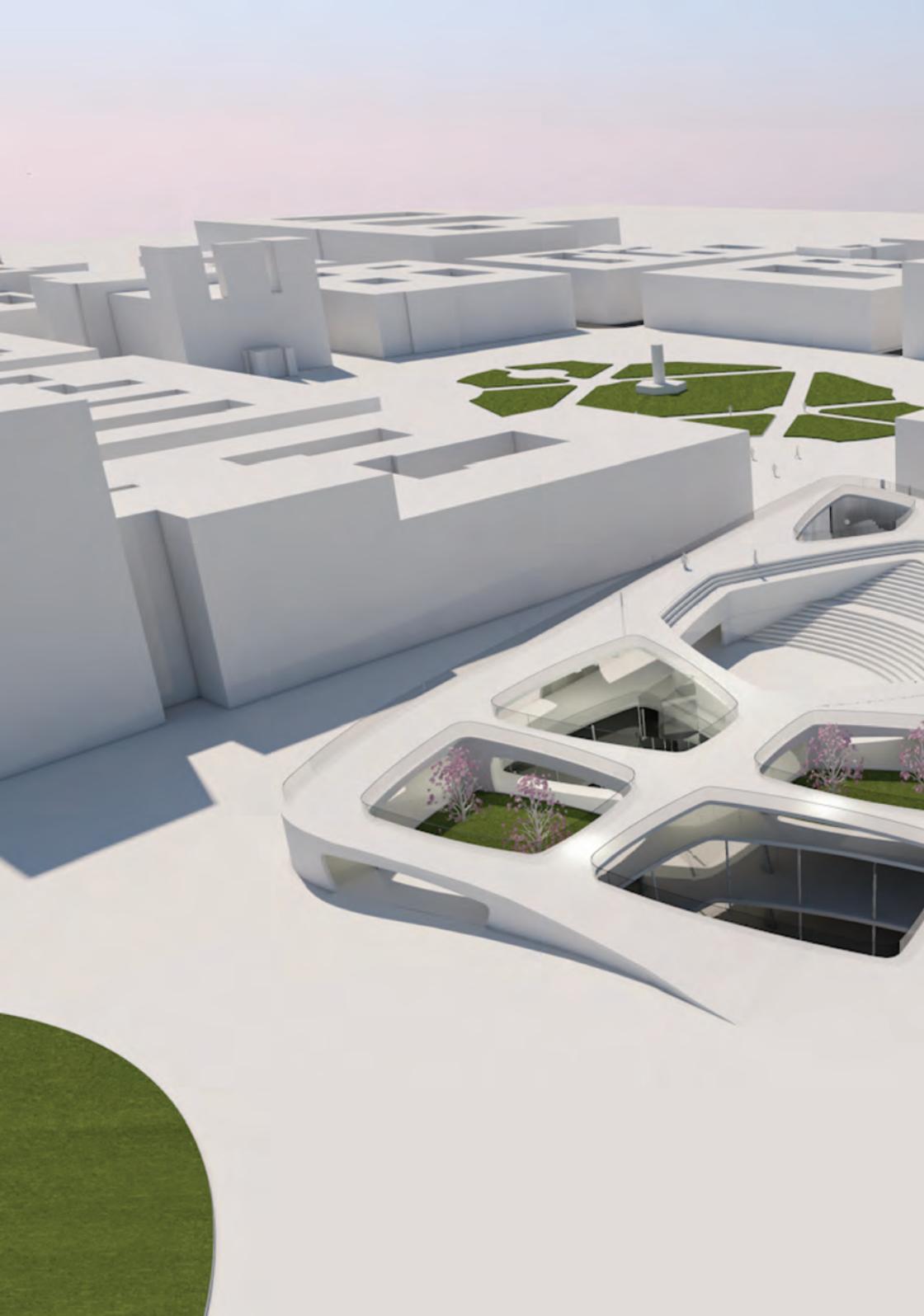






- 1 - Open air cinema
- 2 - Green space
- 3 - Courtyard level -3

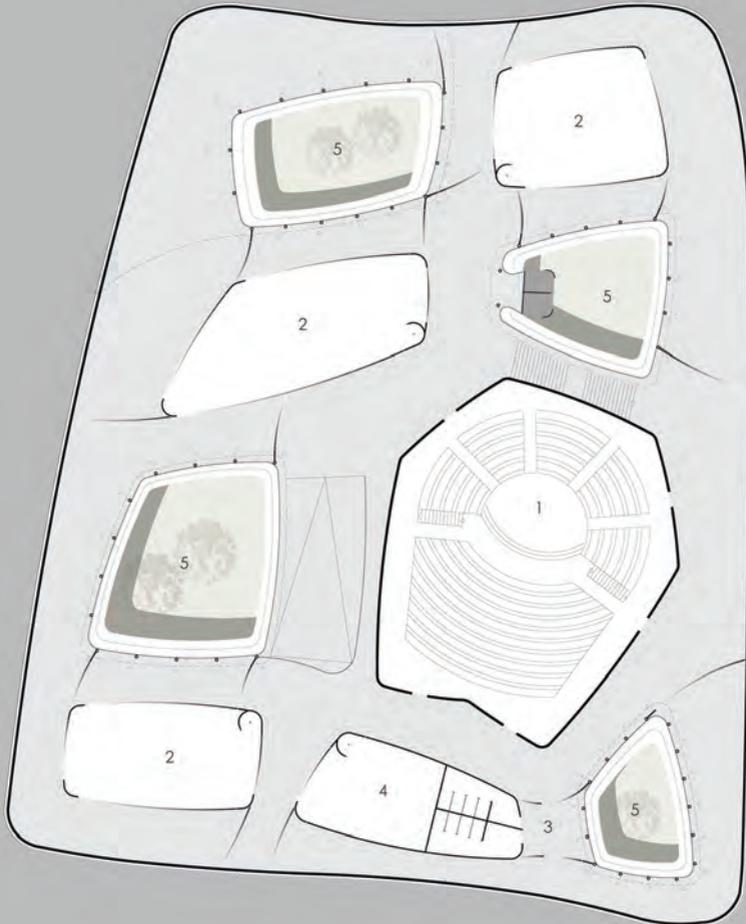








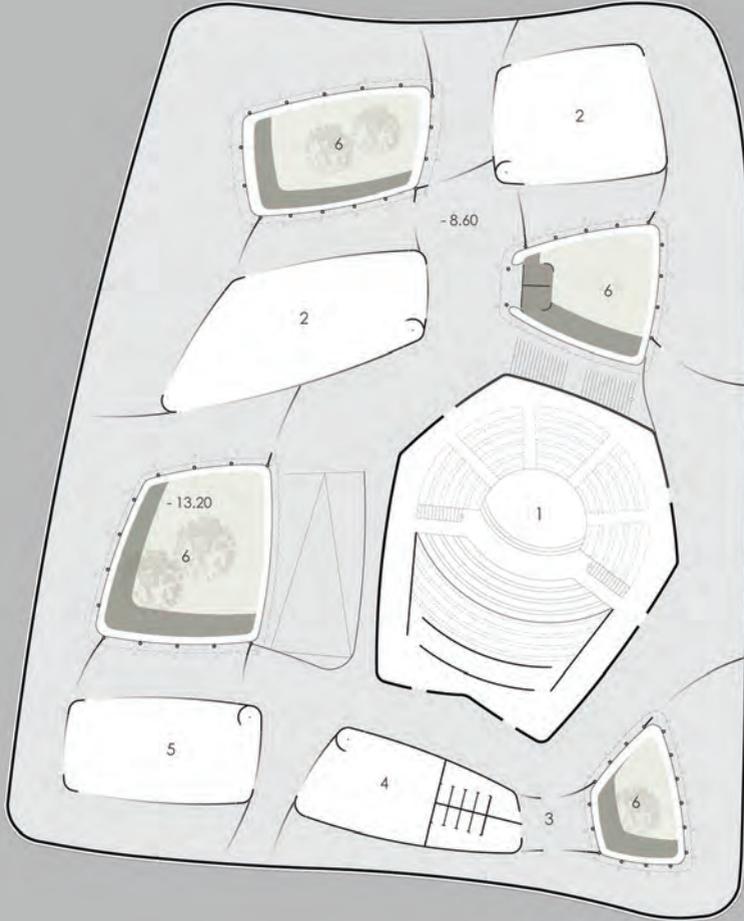
- 1 - Auditorium
- 2 - Exhibition space
- 3 - Toilets
- 4 - Info + Administration
- 5 - Courtyard level -3



Level -1



- 1 - Auditorium
- 2 - Cafe/Restaurant
- 3 - Toilets
- 4 - Info + Administration
- 5 - VIP Room
- 6 - Courtyard level -3



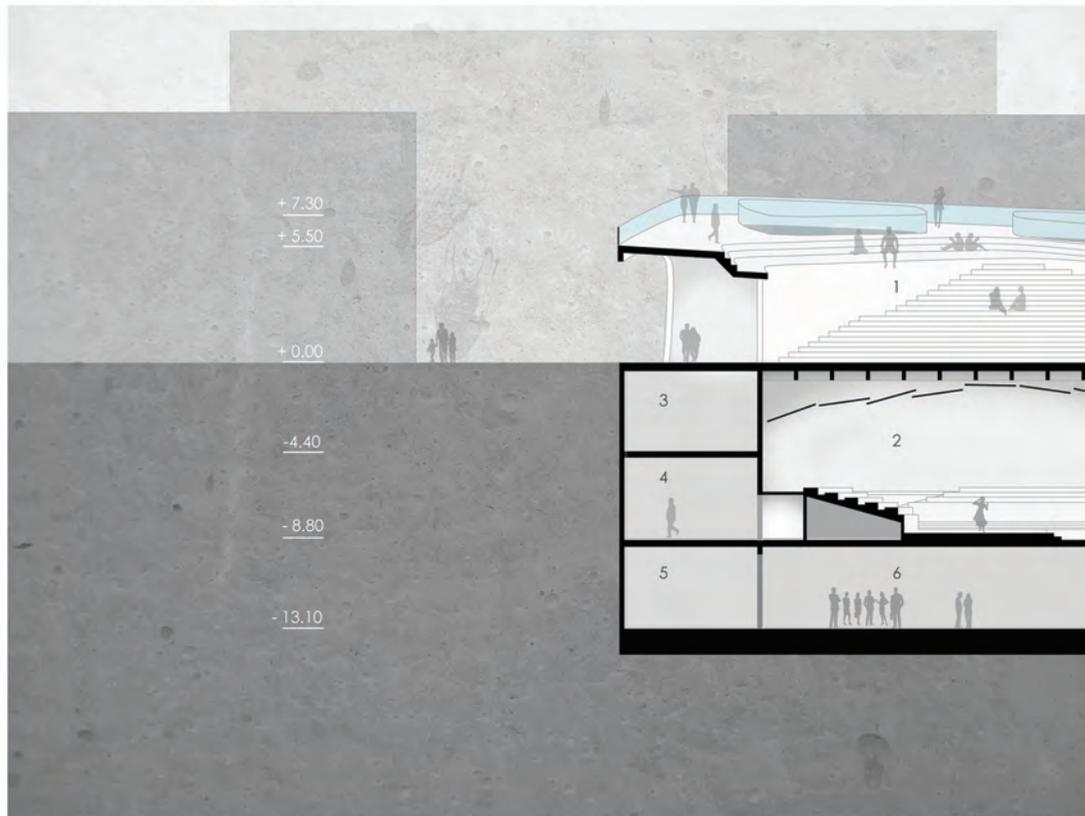
Level -2



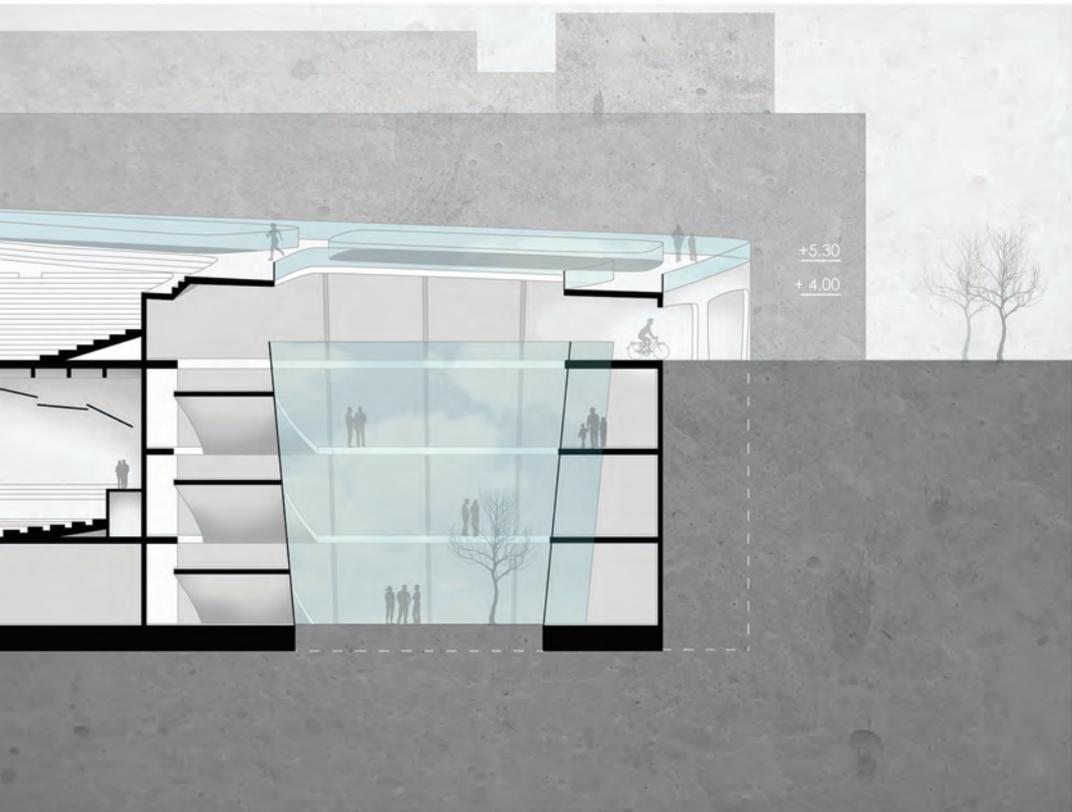




## Section A - A

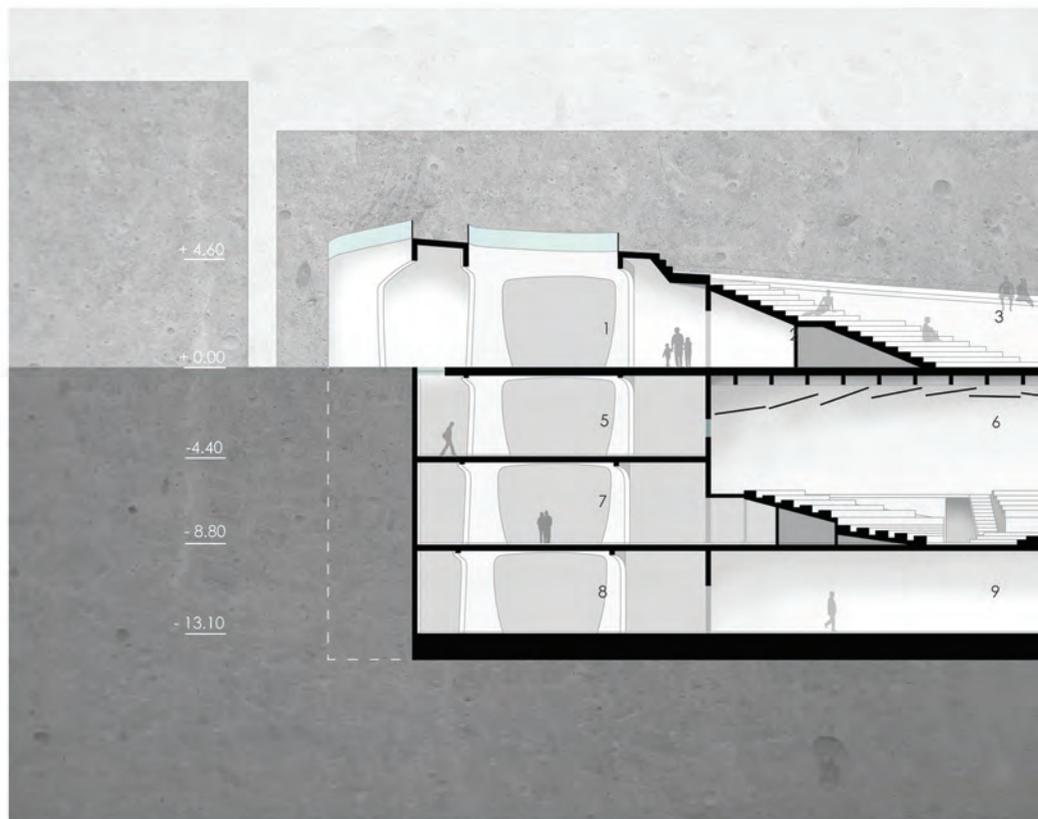


- 1 - Open air cinema
- 2 - Auditorium
- 3 - Exhibition space
- 4 - Lobby
- 5 - Library space
- 6 - Auditorium backstage

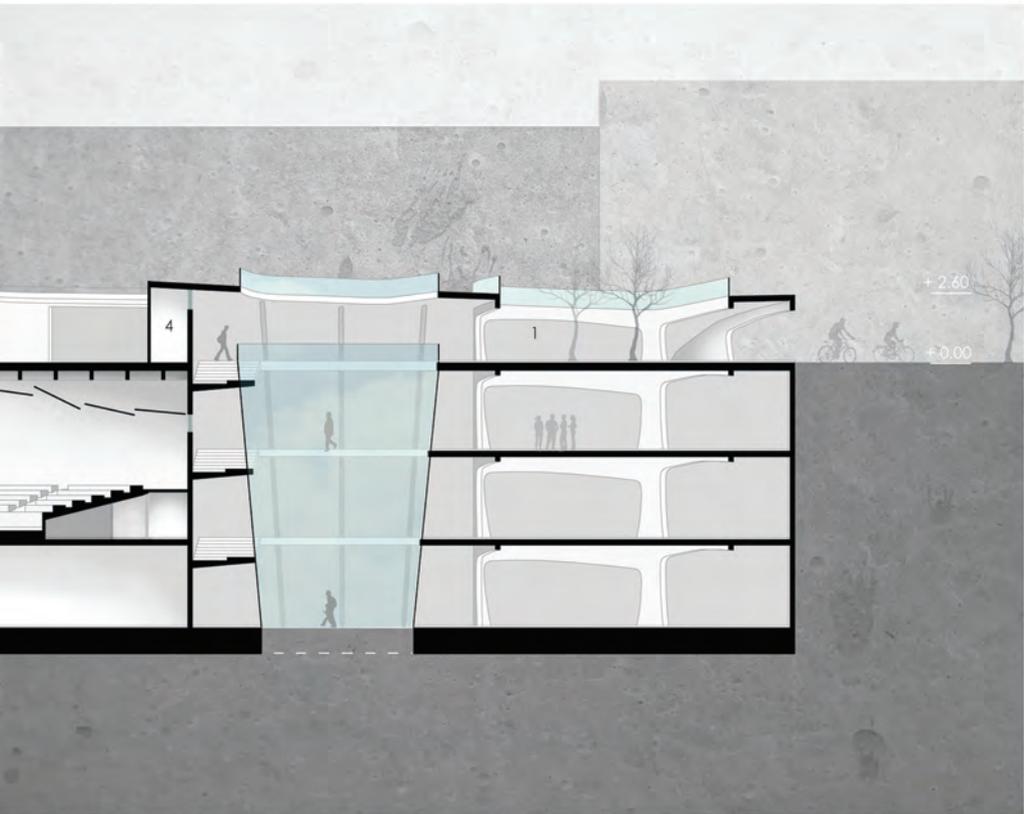




## Section B - B



- 1 - Green space
- 2 - Toilets
- 3 - Open air cinema
- 4 - Cinema storage
- 5 - Exhibition space
- 6 - Auditorium
- 7 - Info + Administration
- 8 - Library space
- 9 - Auditorium backstage





## North Facade





5.30



-4.40

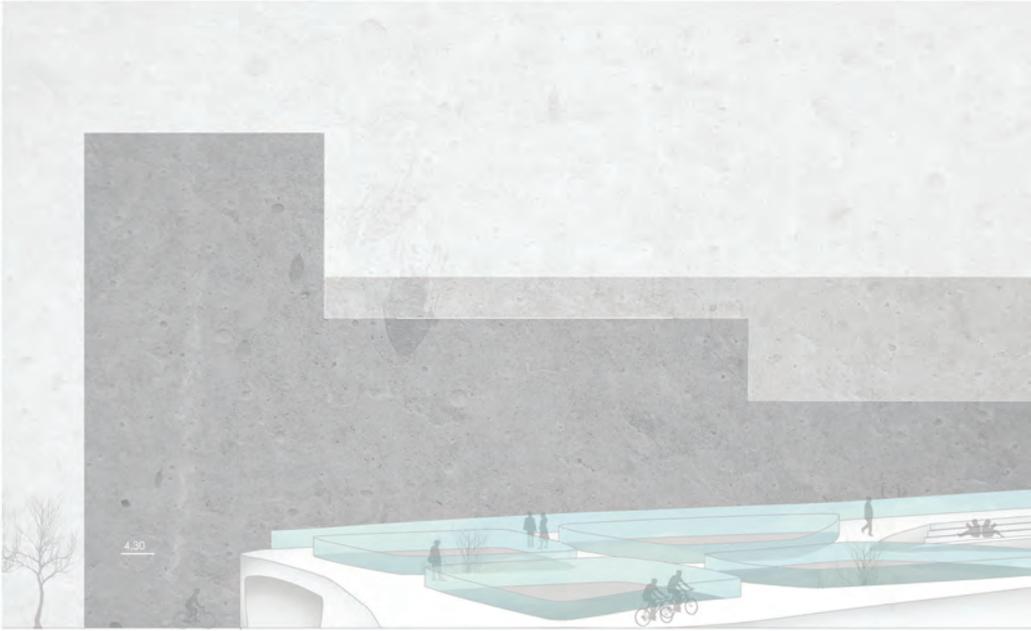
-8.80

-13.10





# Northeast Facade





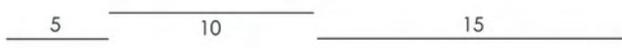
7.30

5.90

-4.40

-8.80

-13.10



### Flachdach

Betonplatten	20 mm
Splitt	30 mm
Abdichtung Bitumen 3x	20 mm
Wärmedämmung	200 mm
Dampfsperre	
Dampfstoff	
Ausgleichschicht	50 mm
Stahlbetondecke	250 mm

### Gründach

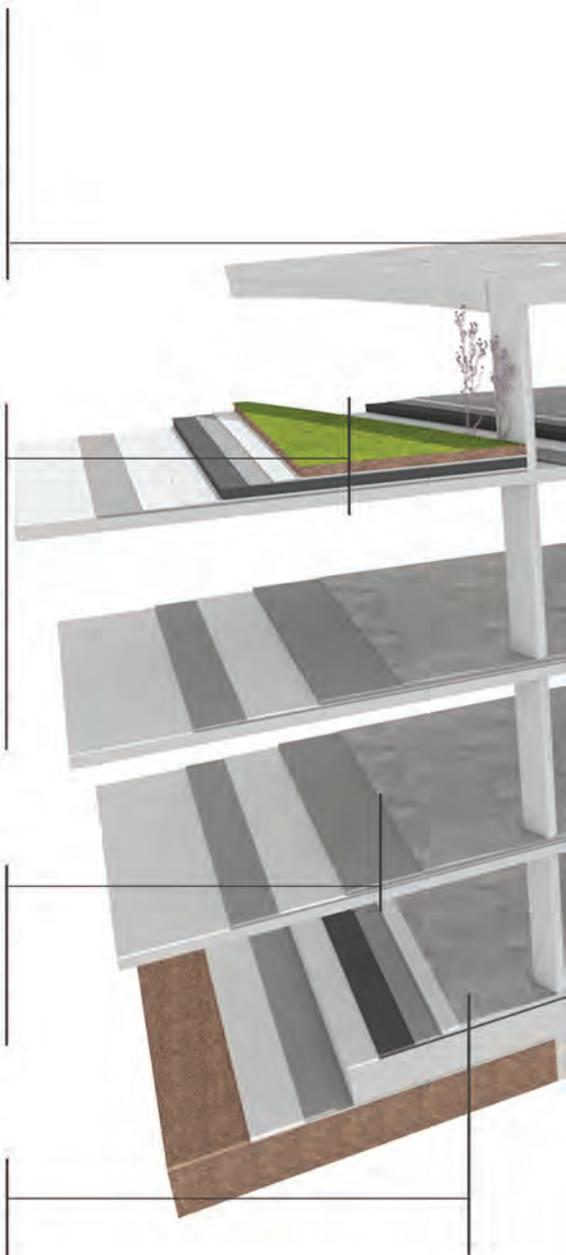
Begrünung	
Substrat	60 mm
Dränschicht	30 mm
Filtervlies	
Wurzelschutz	
Abdichtung Bitumen 3x	20 mm
Wärmedämmung	200 mm
Dampfsperre	
Dampfstoff	
Ausgleichschicht	50 mm
Stahlbetondecke	250 mm

### Fussbodenaufbau

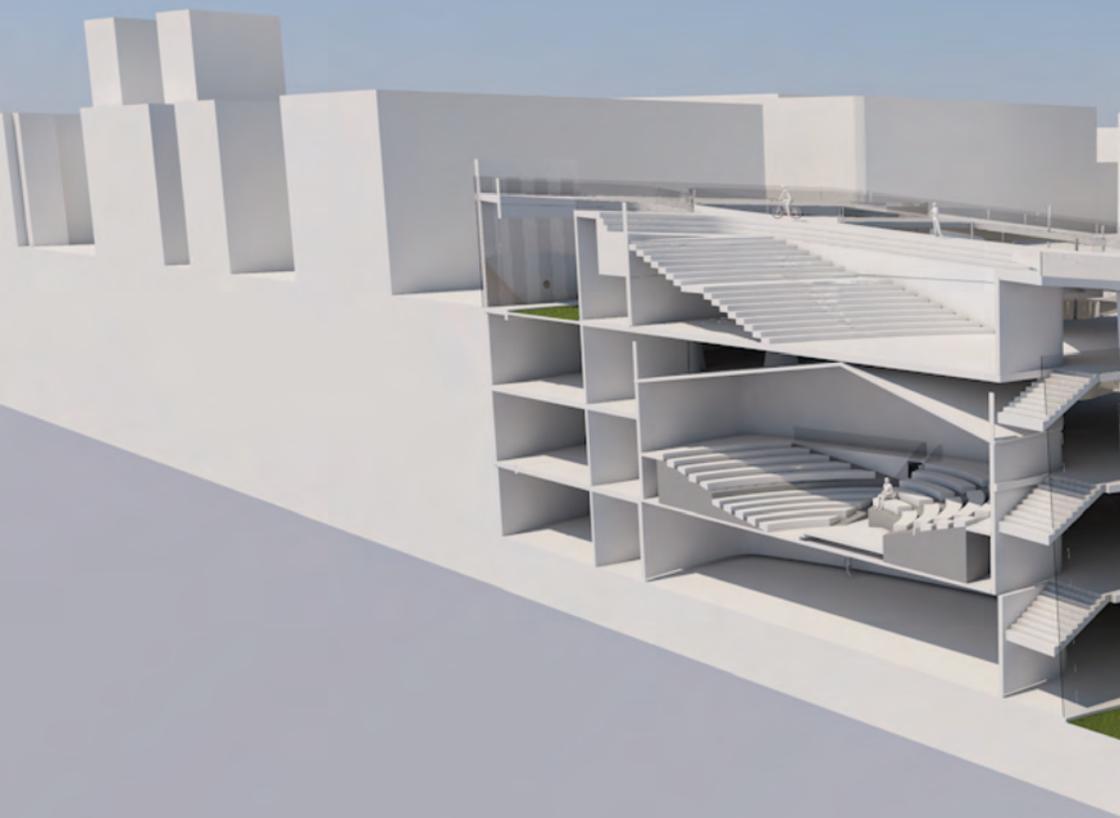
Steinplatten	20 mm
Estrich - Zementestrich	80 mm
Trittschalldämmung EPS	20 mm
Styroporbeton	40 mm
Stahlbetondecke	250 mm

### Bodenaufbau - Fundament

Steinplatten	20 mm
Estrich - Zementestrich	80 mm
Trittschalldämmung EPS	20 mm
Wärmedämmung XPS	60 mm
Abdichtung Bitumen	20 mm
Betonfundament	1000 mm
Betonschicht	50 mm









Concrete slab

Round steel columns  
&  
Load-bearing walls

Concrete slabs

Glass facade

Round steel columns  
&  
Load-bearing walls

Construction pits









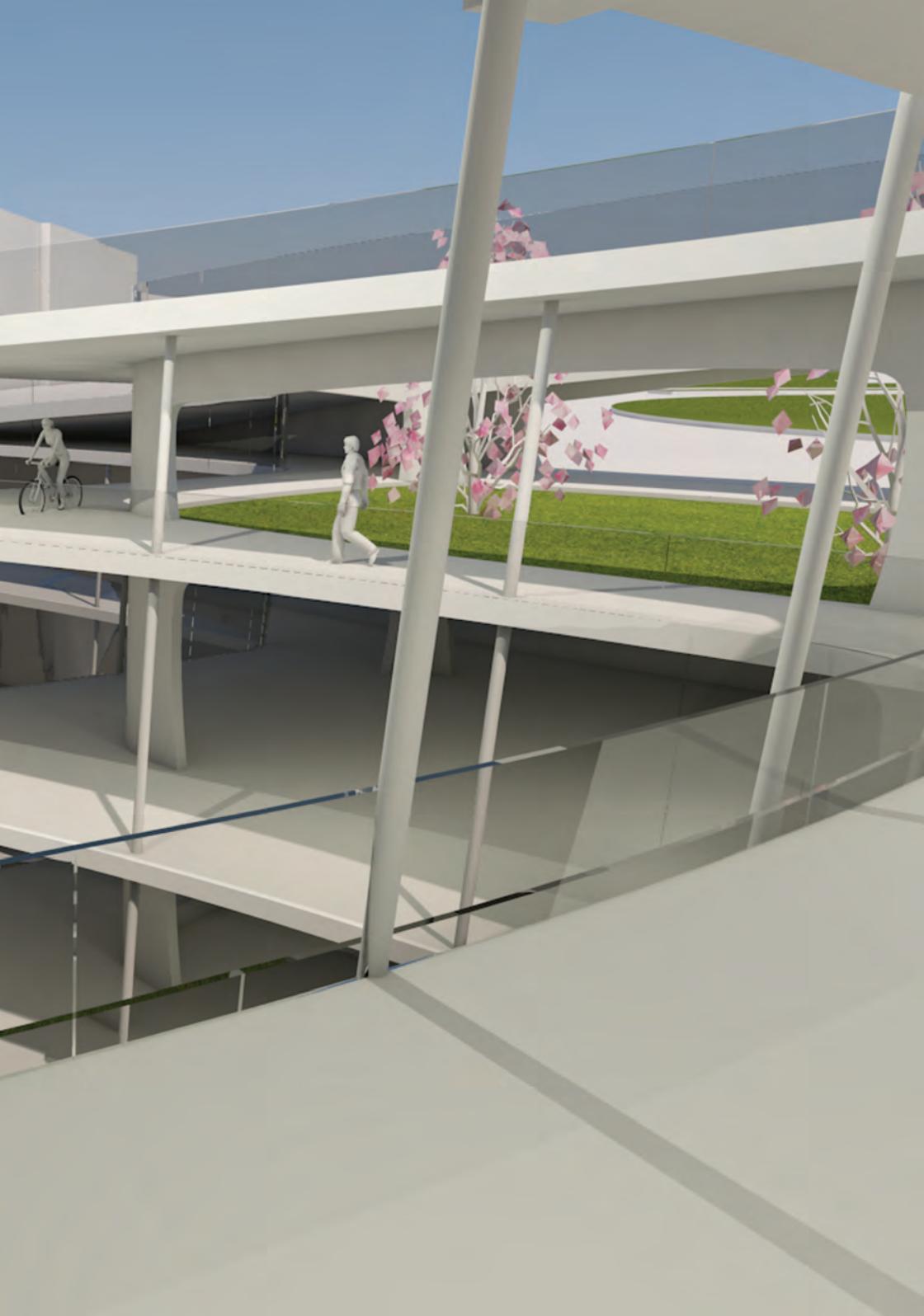
# RENDERINGS

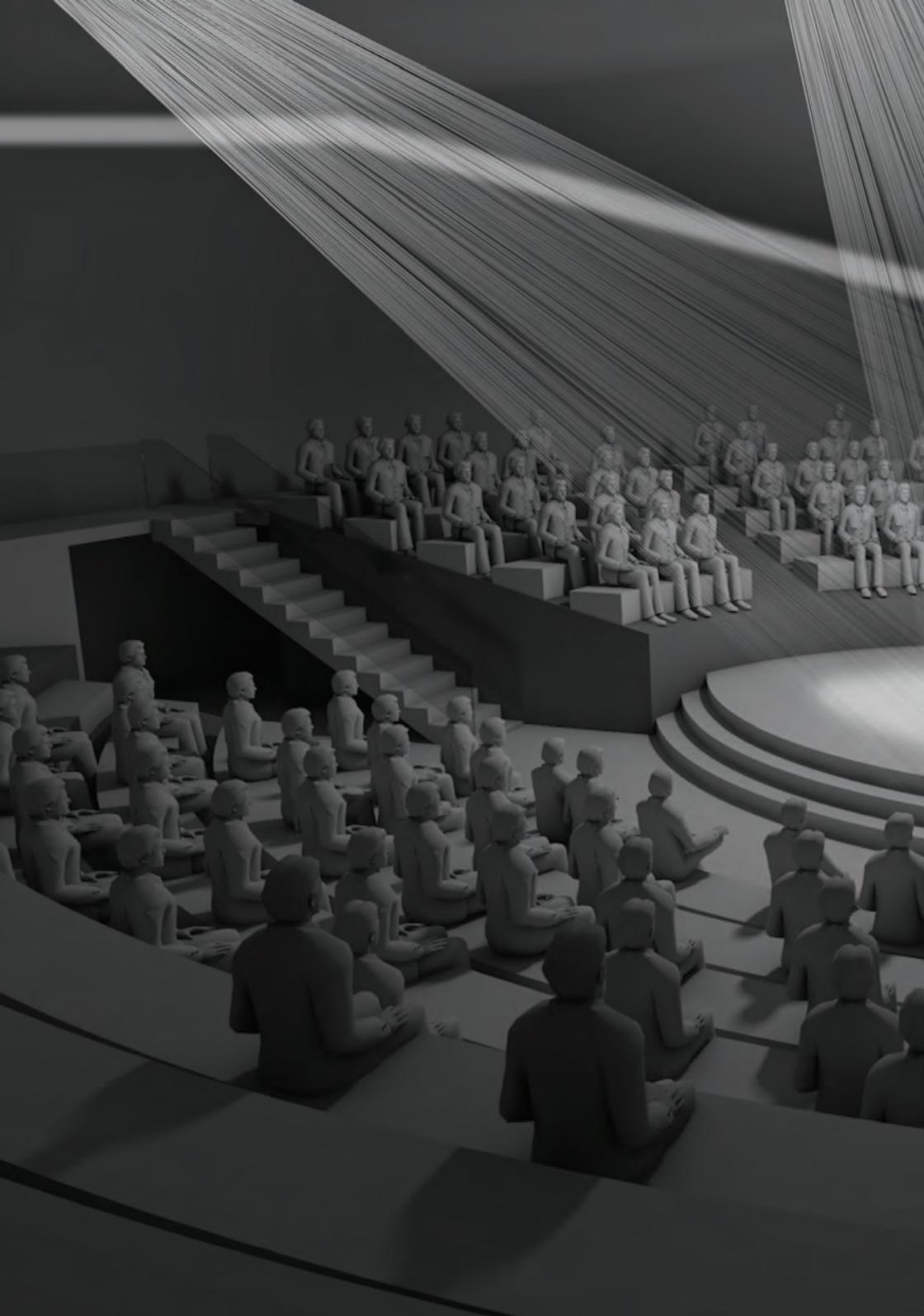
3D views

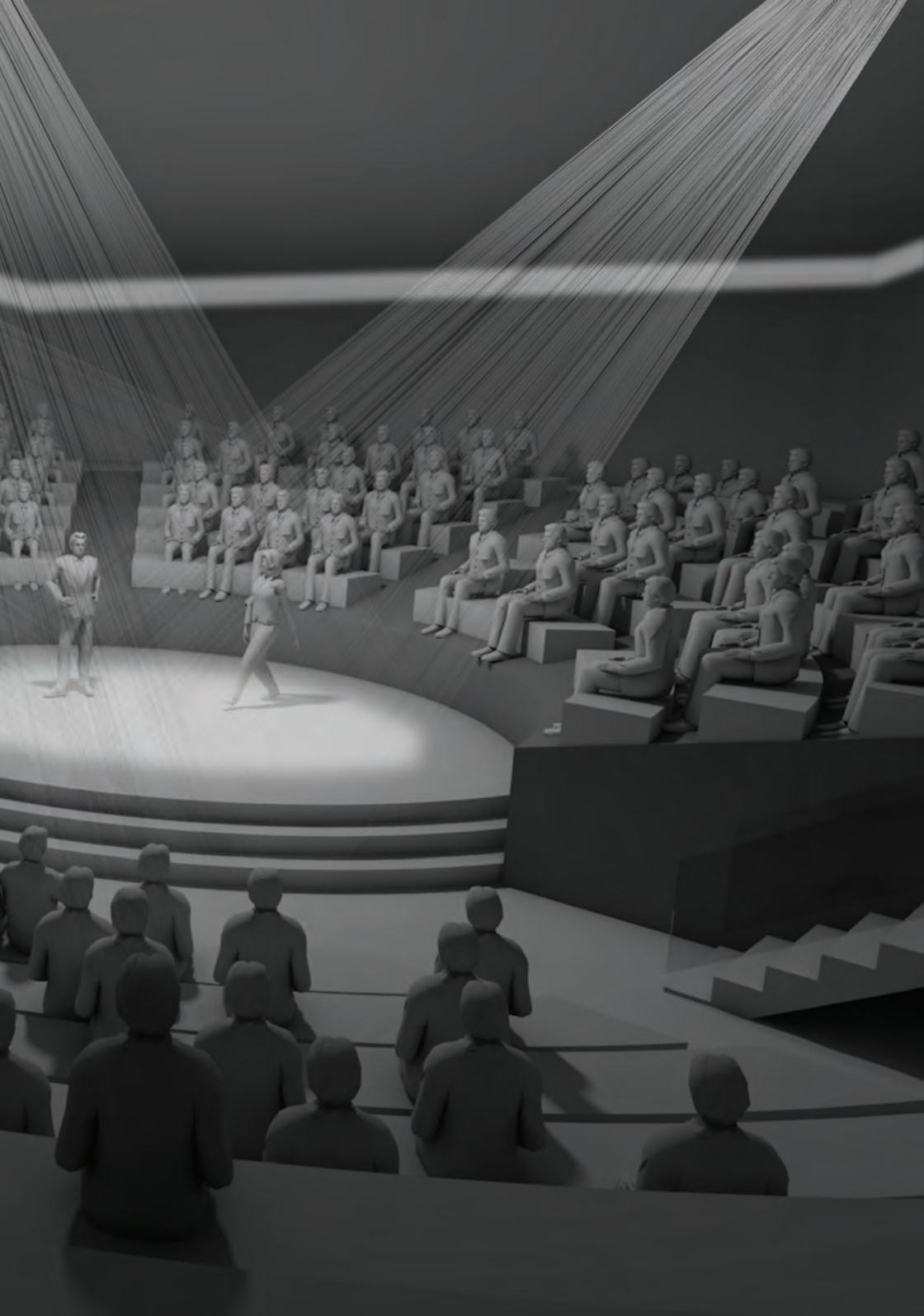


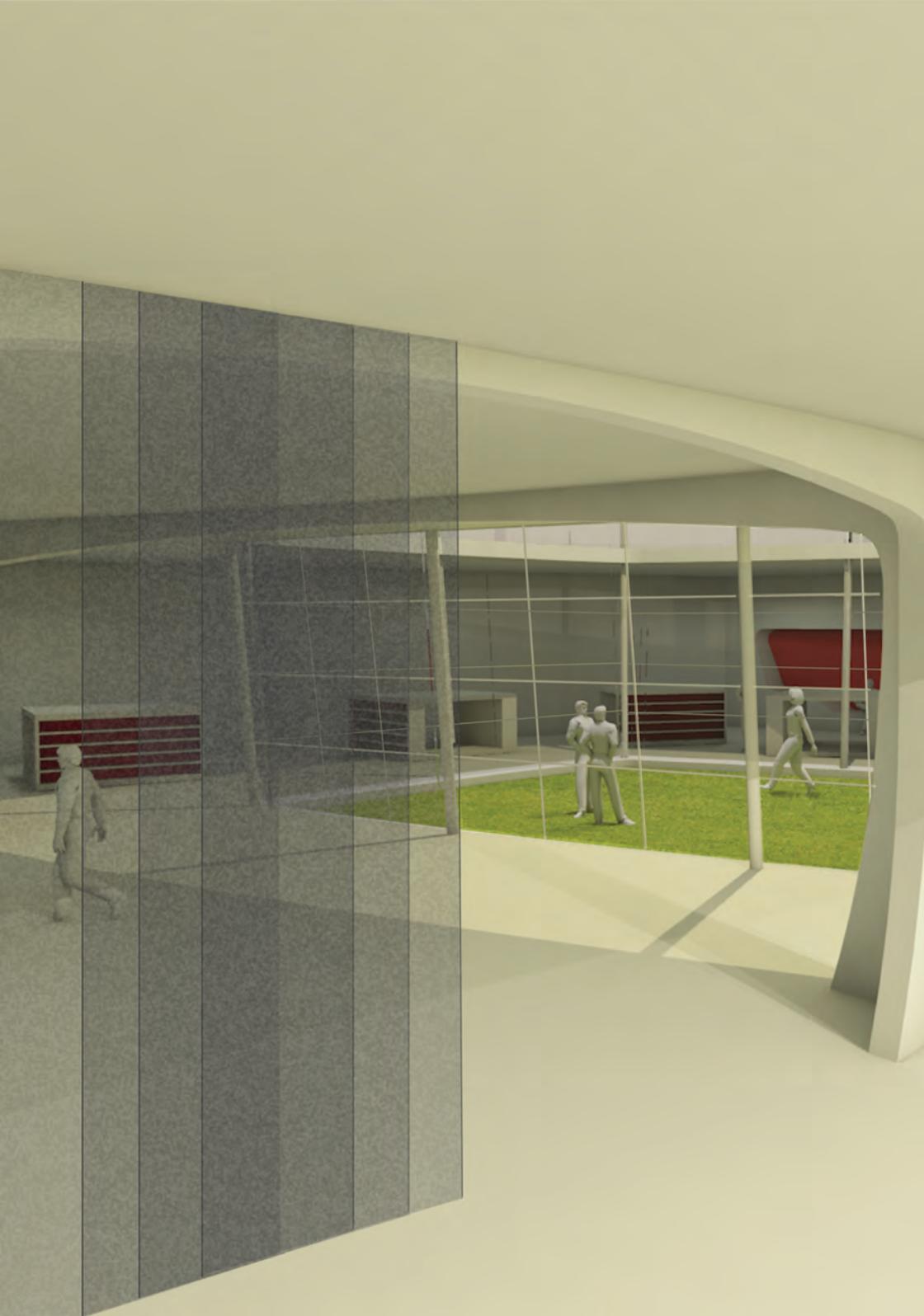


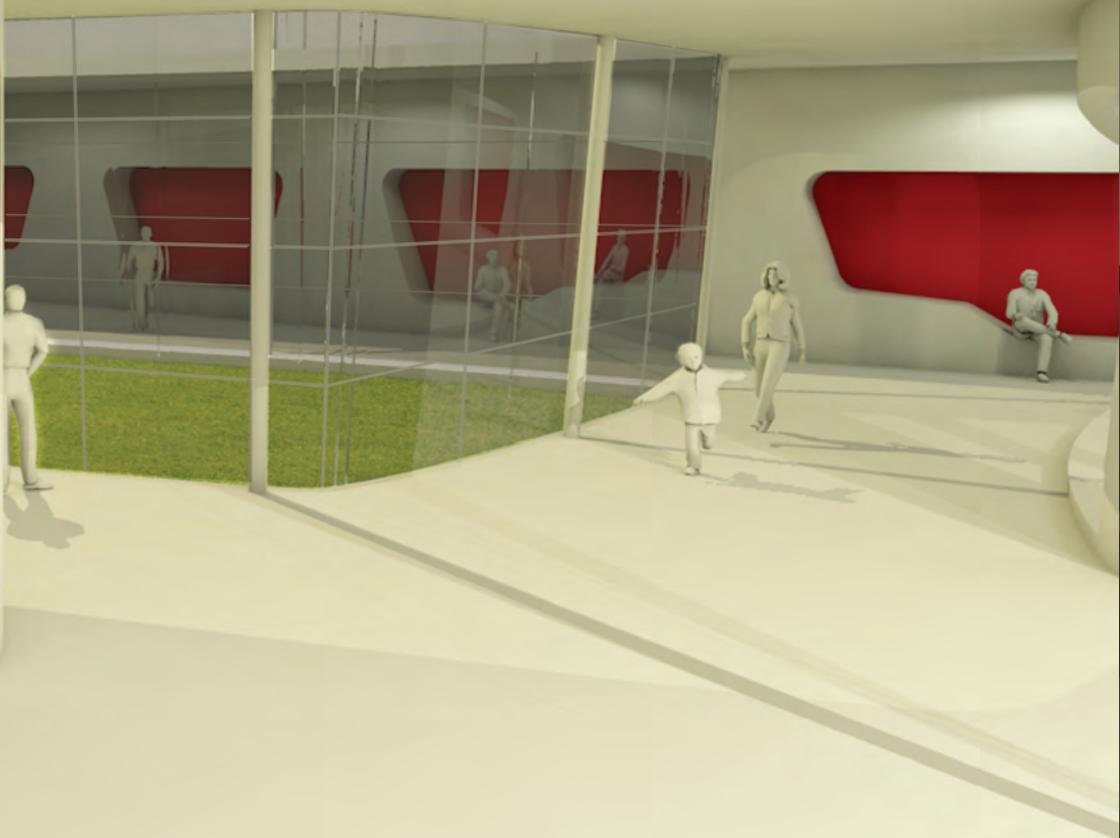




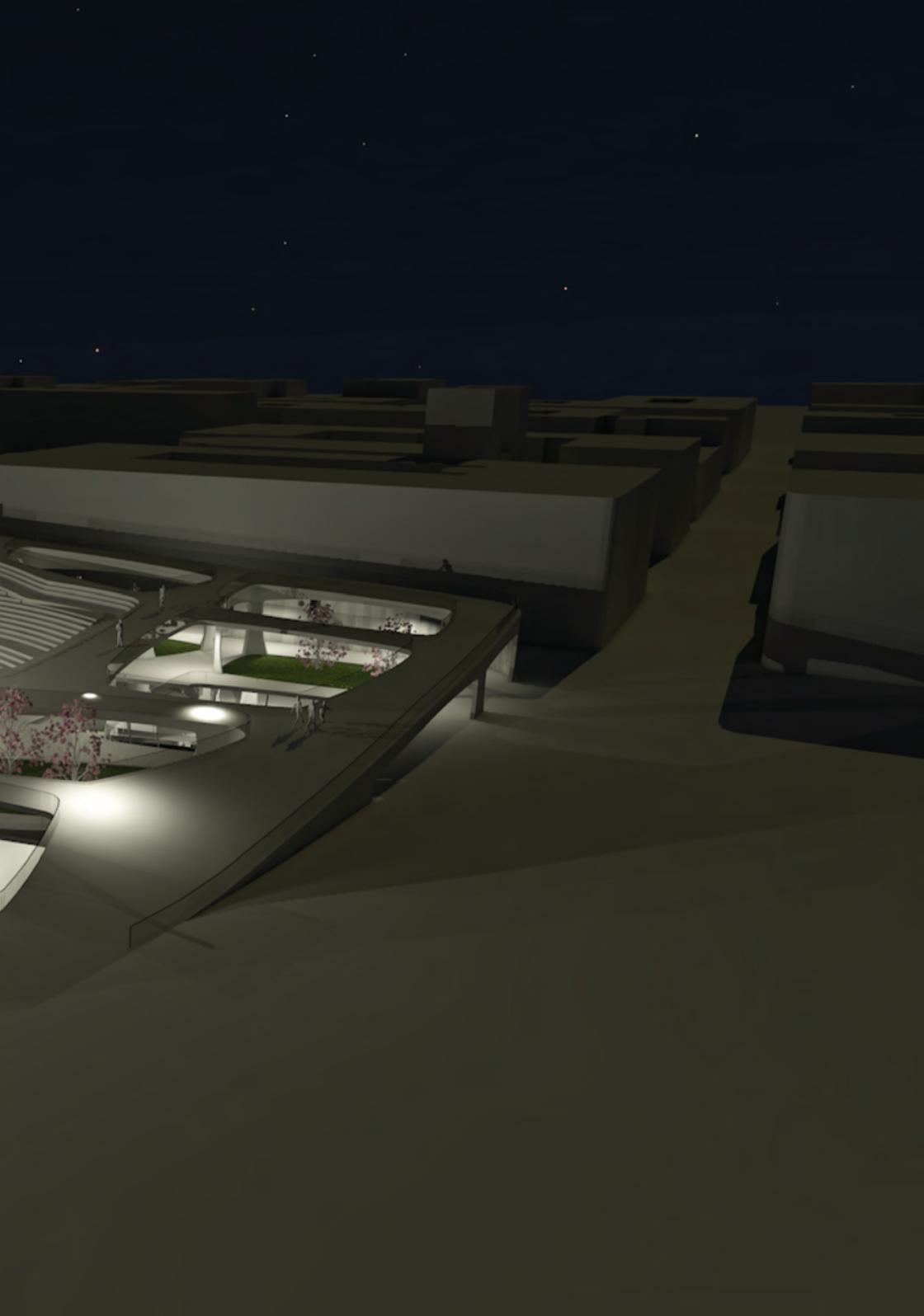


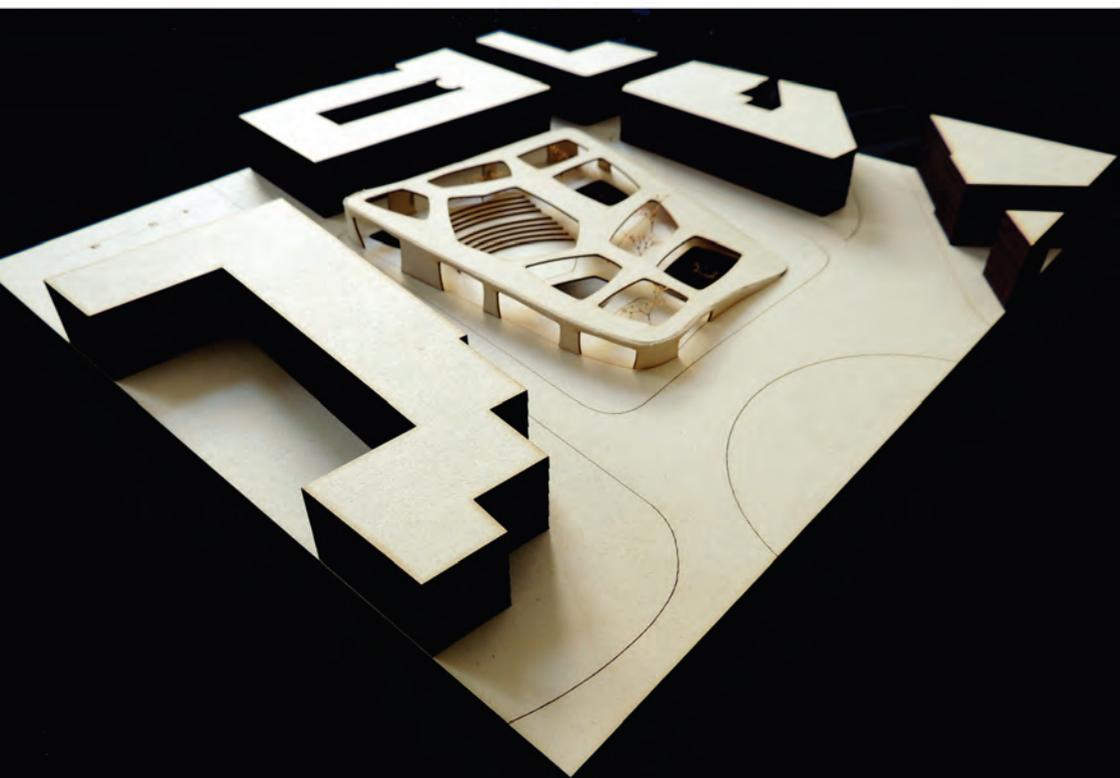
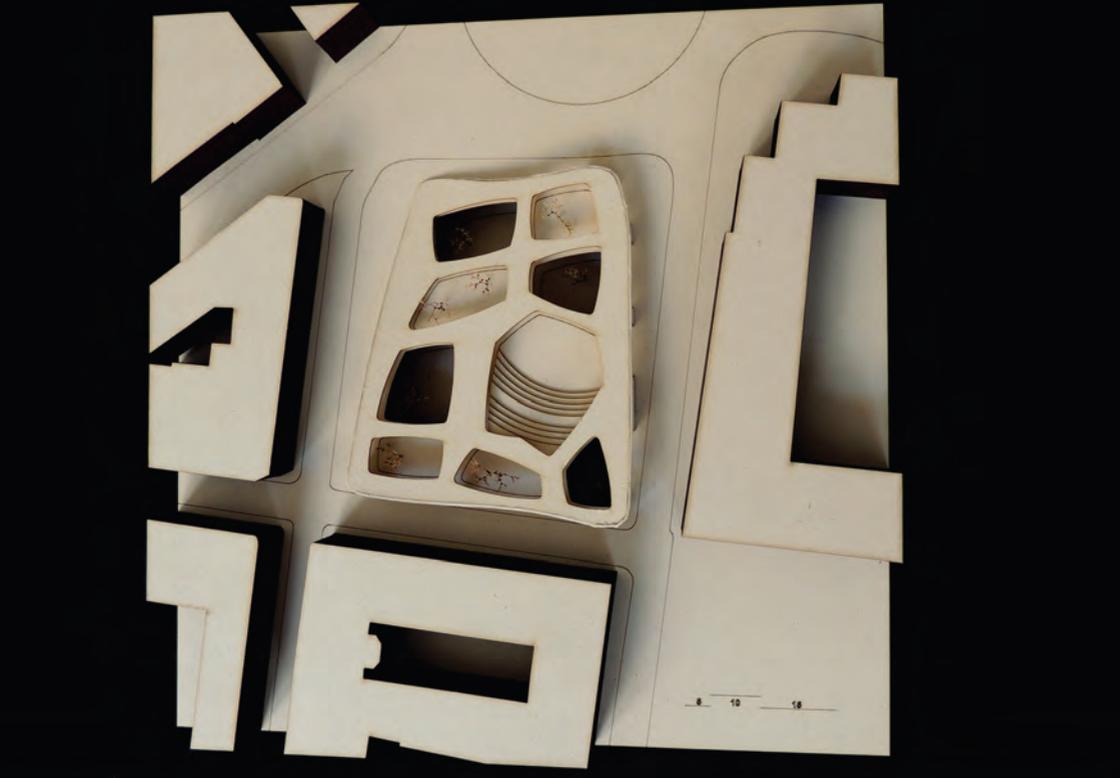


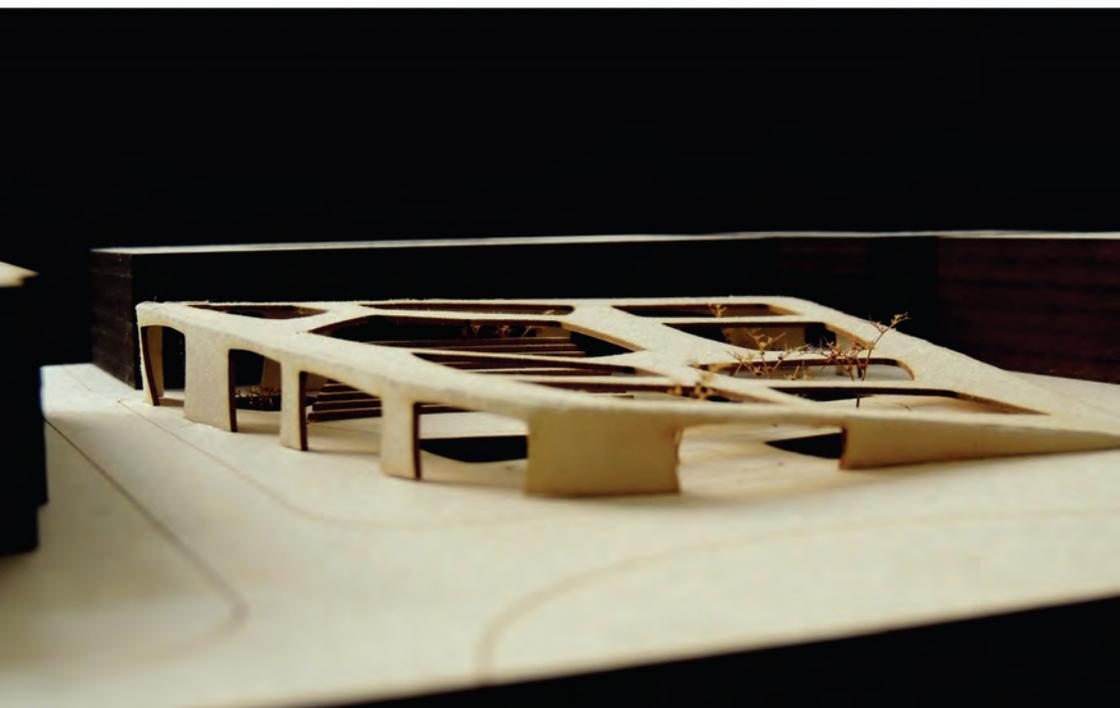
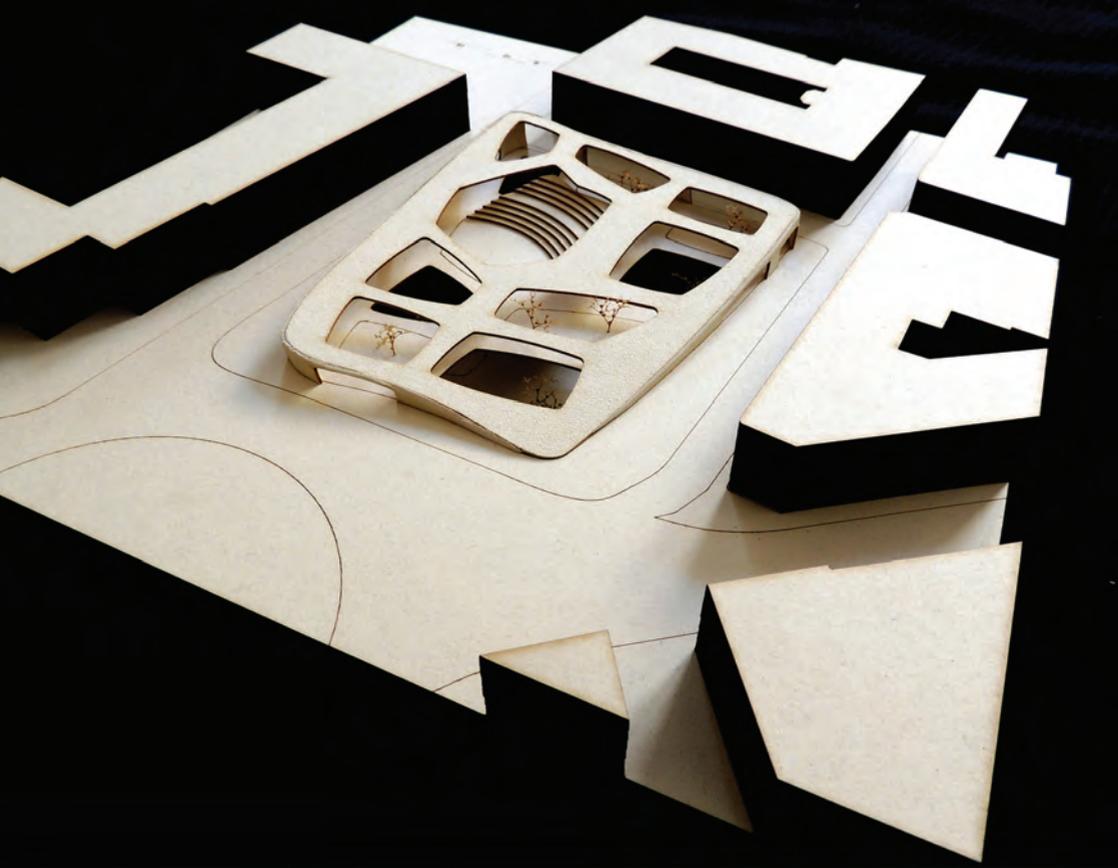


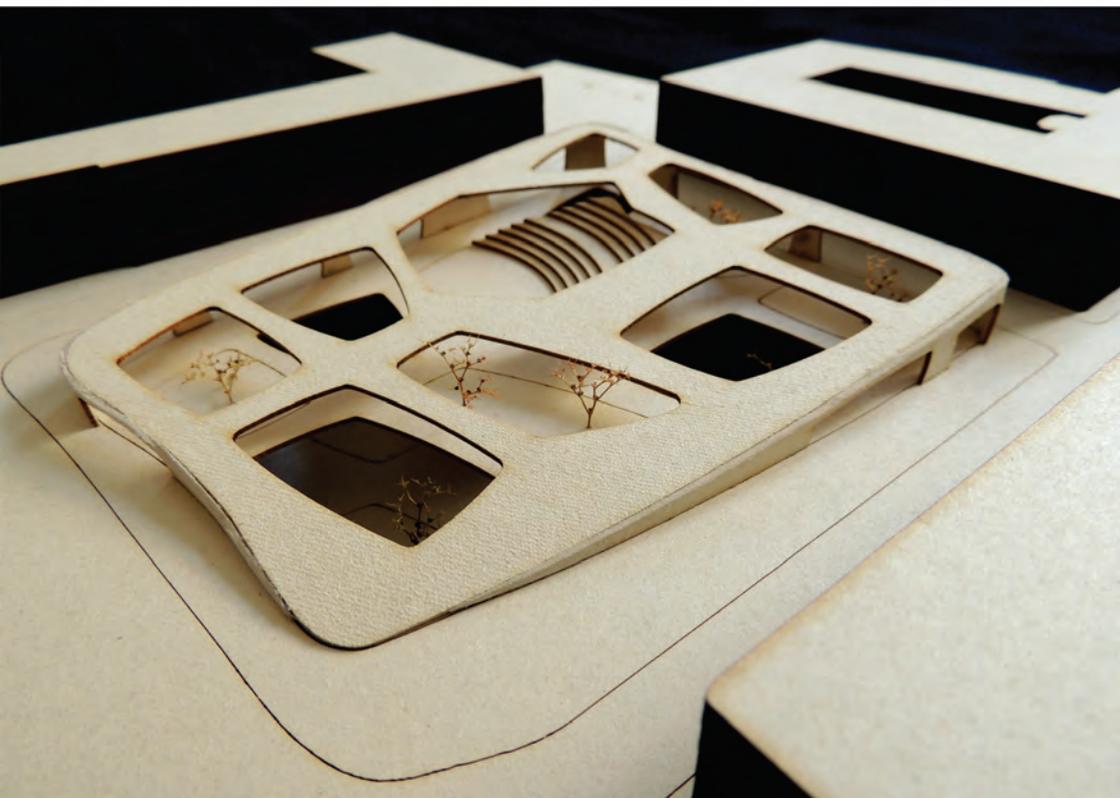


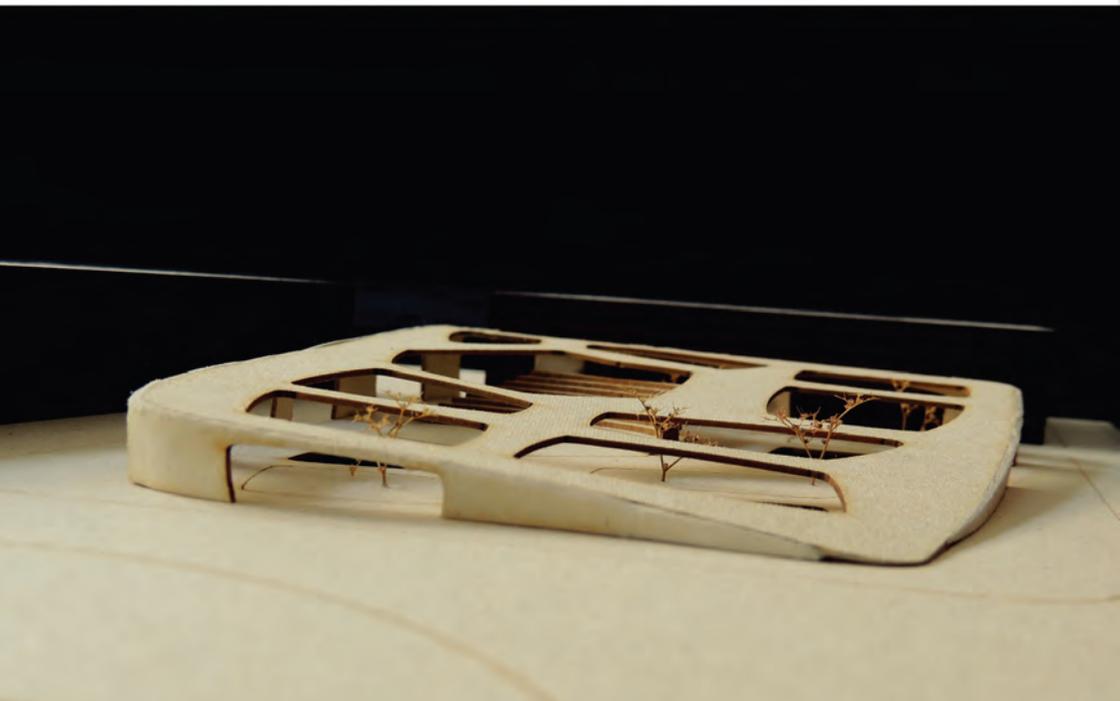
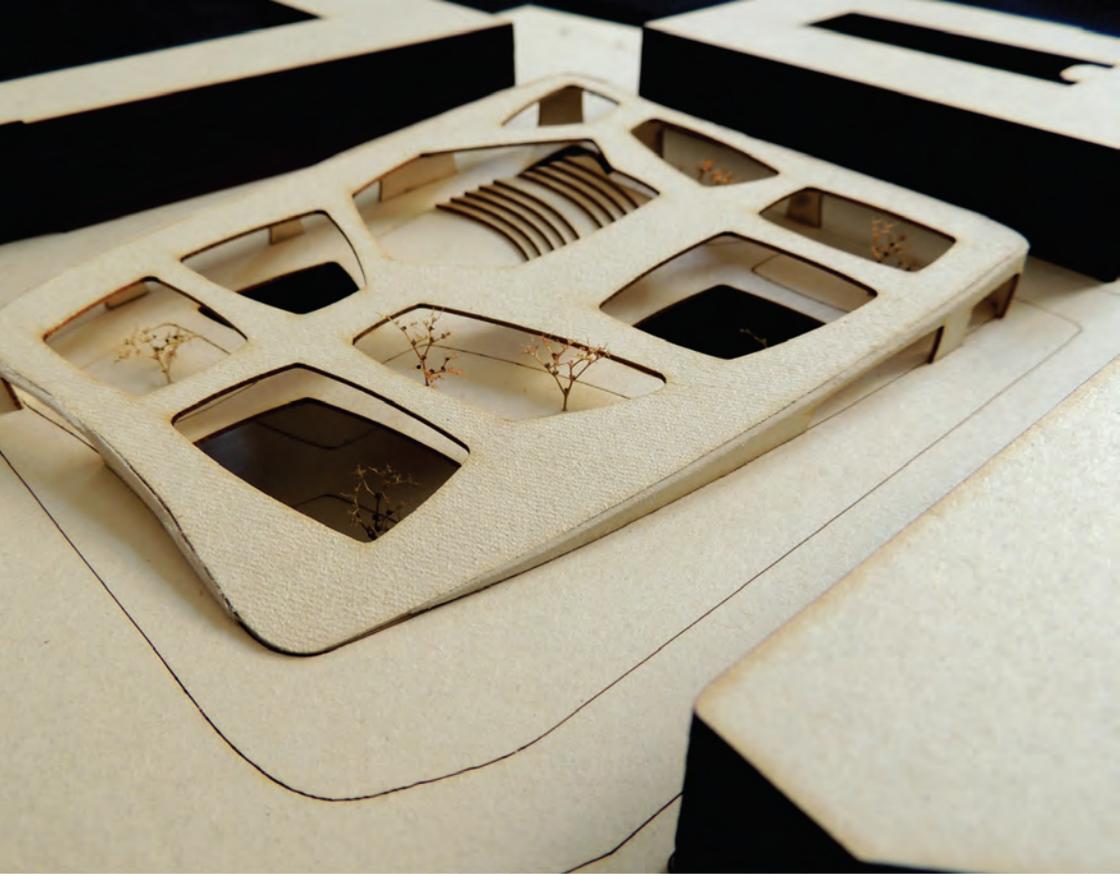




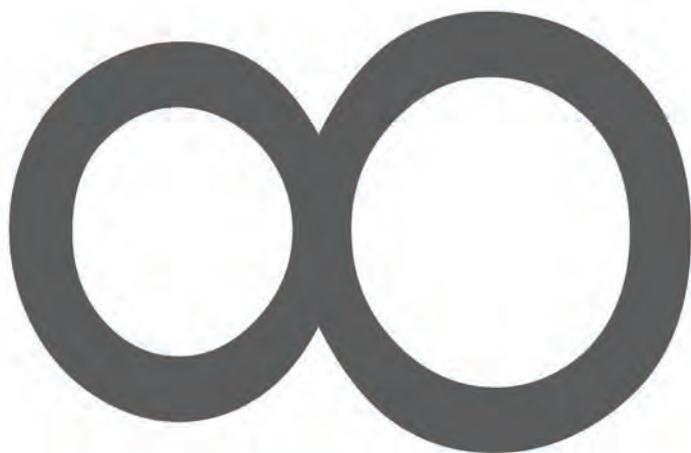












# DOCUMENTATION

---

Bibliography  
Literature

## Literature

*The university in an urban environment*, Nicholas Abercrombie, Peter Cowan, London 1974

*A new theory of urban design*, Christopher Alexander, New York, 1987

*Das Neue Museum Berlin*, Oliver Hamm, Leipzig, 2009

*Tourism and recreation development*, Manuel Baud-Bovy, Fred Lawson, London, 1977

*Teatri e auditori*, Roberto Aloï, Milano, 1972

*Hörsaalplanung*, Volker Aschoff, Essen, 1971

## Internet references

[http://enciclopediaromaniei.ro/wiki/Istoria\\_Timi%C5%9Foarei](http://enciclopediaromaniei.ro/wiki/Istoria_Timi%C5%9Foarei)

[http://www.brainyquote.com/quotes/authors/c/constantin\\_brancusi.html](http://www.brainyquote.com/quotes/authors/c/constantin_brancusi.html)

<http://www.spatiuconstruit.ro/detalii-CAD>

<http://blog.hughmcewen.co.uk/post/17762659427/120217-hans-scharouns-berliner-philharmonie>

## References

- Fig. 1 Sculpture: <http://bernardperoud.com/2009/04/03/brancusi-allways-evolution-of-the-bird-in-flight/>
- Fig. 2 Map: <http://www.artofanderson.com/europe-at-the-start-of-wwi-map-worksheet/>
- Fig. 3 City plan: <https://www.google.ro/maps/place/Timi%C8%99oara/@45.7506185,21.2234137,6748m/data=!3m1!1e3!4m2!3m1!1s0x4745677dcb0fb5a7:0x537fa6473936749>
- Fig. 4 Union square view: <http://gazetadinvest.ro/ziaa-internationala-a-ghidului/>
- Fig. 5 Union square panorama: <https://www.facebook.com/51496559547/photos/pb.51496559547.-2207520000.1427660137./10150710689114548/?type=3&theater>
- Fig. 6 Site today: <http://wikimapia.org/1071972/ro/Cazarma-U>
- Fig. 7 Timisoara between 1775 - 1800: <http://www.pressalert.ro/category/campanii-pressalert/timisoara-uitata-campanii-pressalert/page/5/>
- Fig. 8 Union square - old view: <http://cartofilie.ro/timisoara-cartii-postale-grafice/>
- Fig. 9 Dome - Union square: <http://www.banaterra.eu/romana/timisoara-piata-unirii-1860>
- Fig. 10 Revolution in Timisoara - 1989: <http://www.descopera.org/revolutia-din-1989-si-ultimele-zile-de-comunism/>
- Fig. 11 Union square today: <http://www.ici-colo.ro/2013/03/Cele-mai-frumoase-piete-din-Romania.html>
- Fig. 12 Existing building: <https://www.bing.com/maps/#Y3A9NDguMjAyNDk5fjE2LjM2ODc5OSZsdm w9NyZzdHk9ciZ3aGVyZTE9dGltXNvYXJh>
- Fig. 13 Existing building - upper view: <https://www.bing.com/maps/#Y3A9NDguMjAyNDk5fjE2LjM2ODc5OSZsdm w9NyZzdHk9ciZ3aGVyZTE9dGltXNvYXJh>
- Fig. 14 Existing building - side view: <http://www.ratt.ro/forum/index.php?showtopic=441&st=80>
- Fig. 15 Existing building - front view: <http://www.ratt.ro/forum/index.php?showtopic=441&st=80>