

Portfolio

Content

Introduction

Research

Design

Conclusion

Assignment

With the return of conductor Sir Simon Rattle to the London Symphonic Orchestra, the debate about London's concert halls came to life again. London has several concert halls but none of them is of outstanding quality. The current musical venues do not fit the acoustic requirements of an excellent acoustic hall. That is why London is in need of a new concert hall where Rattle and the London Symphonic Orchestra can perform all music pieces. The new concert hall should suit the status of London in the world as a cultural metropolis and the capital of the United Kingdom. For that reason, a committee, led by Sir Simon Rattle, initiated a business case to design a concert hall situated at the corner of the Barbican Estate, now home to the Museum of London. My graduation project loosely follows the brief of the design contest of the new concert hall in London but I was asked to create a personal interpretation of the assignment. Where the design contest deals with investors and political interests, I was asked to emphasise with the wider context of the project.

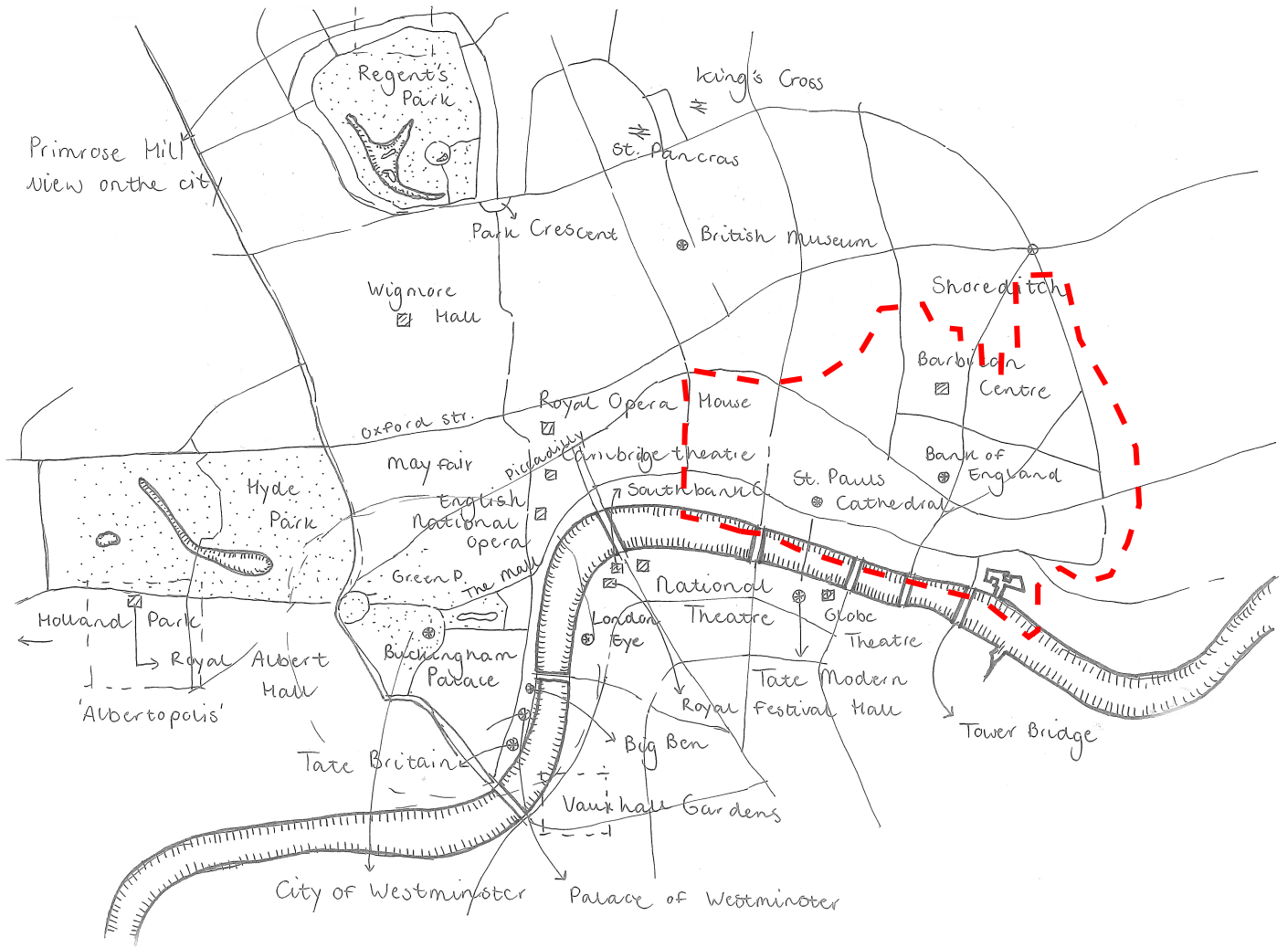
Political and economic context

At first I studied the design contest and the political and economic context of the situation in order to create a critical and personal view on the assignment. I looked into the political background of the design contest and researched the social status of London and The City, the district of the Barbican Estate. I became aware of the fact that the British government drew back its financial support for the concert building in 2016 because the project does not offer value for money for taxpayers. They brought up the argument that society does not benefit enough from such an investment and the support could therefore not be justified and maintained. This is why the design contest turned into a business case financed by investors. The concert hall became a commercial project which had the main goal to satisfy its investors rather than serving the people who will use the building.

Social context

Looking at the social context, we can conclude that London is a city of contradictions: it is home to the richest and poorest people of the United Kingdom. Over the past years, the social inequality grew between the different social groups in the city. Recent studies show that the amount of households which are rich and poor is growing, while the middle class household is disappearing. London is also by far the most culturally diverse part of the country and a melting pot of ethnicities, languages, faiths and traditions, more liberal and tolerant than the rest of Britain. But this does not mean that there is also equal integration: research indicated that there is actually less social mixing by ethnicity, age and class in London than in the rest of the country.

The argument that a concert hall is not profitable for the society triggered me during my graduation because in my opinion education, health care and culture are aspects which have to be provided by the government for the society. Classical music is part of the culture scene and should therefore be stimulated by the state. I see the concert building as an opportunity to minimise the social gaps in London by creating a concert hall which serves as a public living room in the city where everyone is, and more important, feels invited.



Location

The assigned site of the new concert hall is situated in the City, the business district of London. Within this area you find the St. Pauls Cathedral, the Bank of England of John Soane and many famous skyscrapers such as the 'Gherkin' and the 'Cheesegrater'.

Physical context

The physical context of the assignment is an element which had to be studied carefully. The site which is assigned to become the location of the new concert hall is located at the corner of the Barbican Estate, a remarkable piece of modern architectural history. The site currently houses the Museum of London which will move to their new building at the Smithfields Market. The Barbican Estate is designed by Chamberlin, Powell and Bon in the 1970s and opened in the 1980s as one of the few housing blocks in The City. It represents strong ideas about the new modern city developed after the Second World War. The architects introduced the concept of the high walk as a raised pedestrian walkway and a podium level on which the buildings are placed. The rising of the ground floor creates an intimate world which is closed off from the city and focuses inwards on the lake in the centre of the complex and the two residential gardens. The complex ignores the immediate surroundings with the exemption of the Museum of London at the south edge. Here, the complex tries to connect with the surrounding buildings through three bridges to the buildings on the other side of the roundabout.

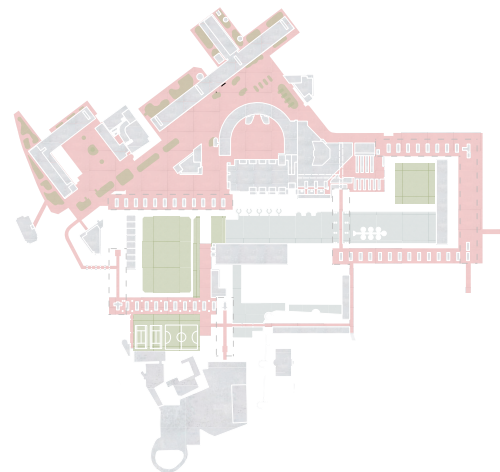
Studying the Barbican made me aware of the historical relevance of the complex and the strong architectural language it has. During the design process I had to develop a certain position towards the complex and an approach in how to connect or disconnect with it. Besides, the location of the site is an opportunity to open up the Barbican and connect the area with the South walk and the St. Paul's in the South and with Old Street in the North.



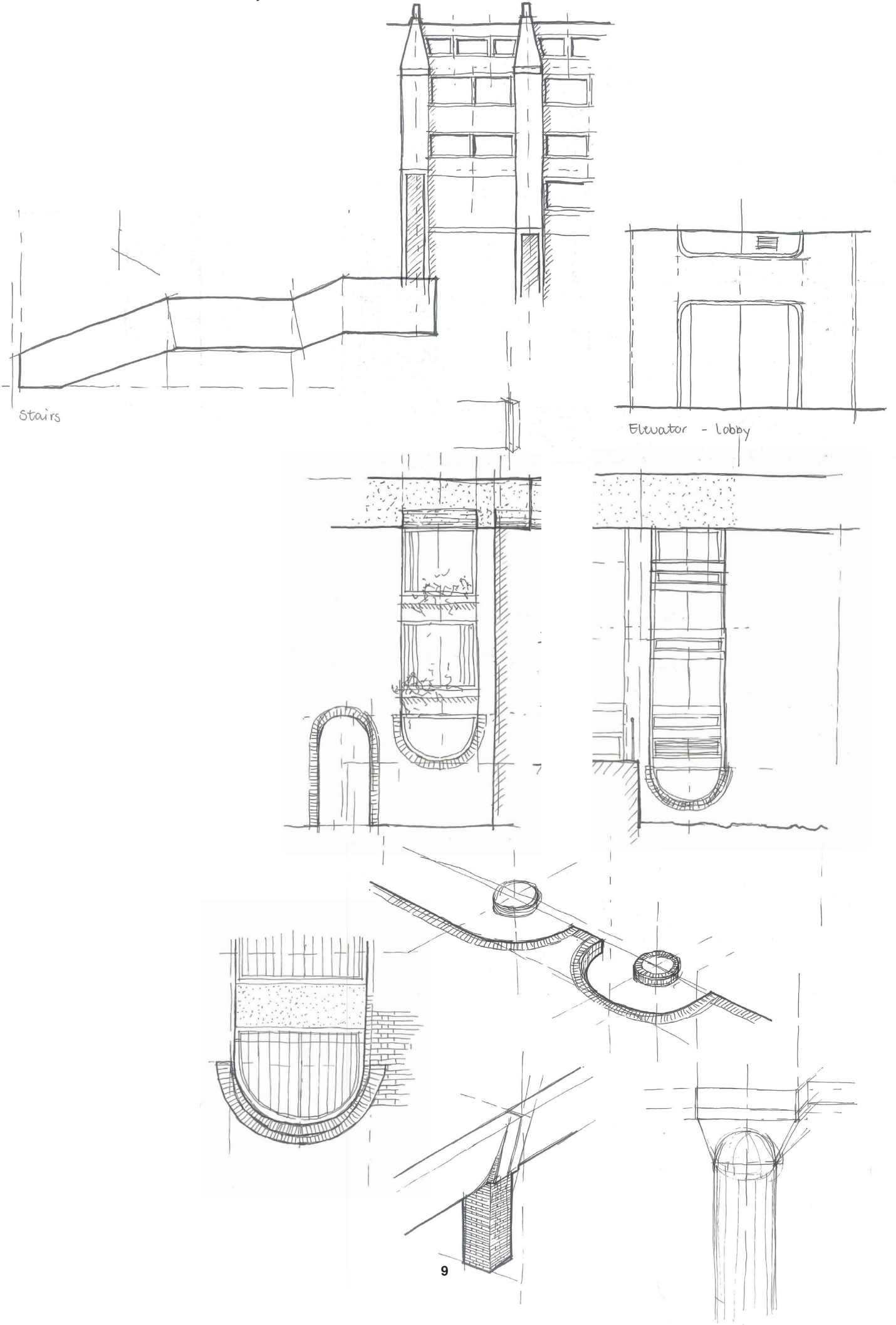
Function within the Barbican complex

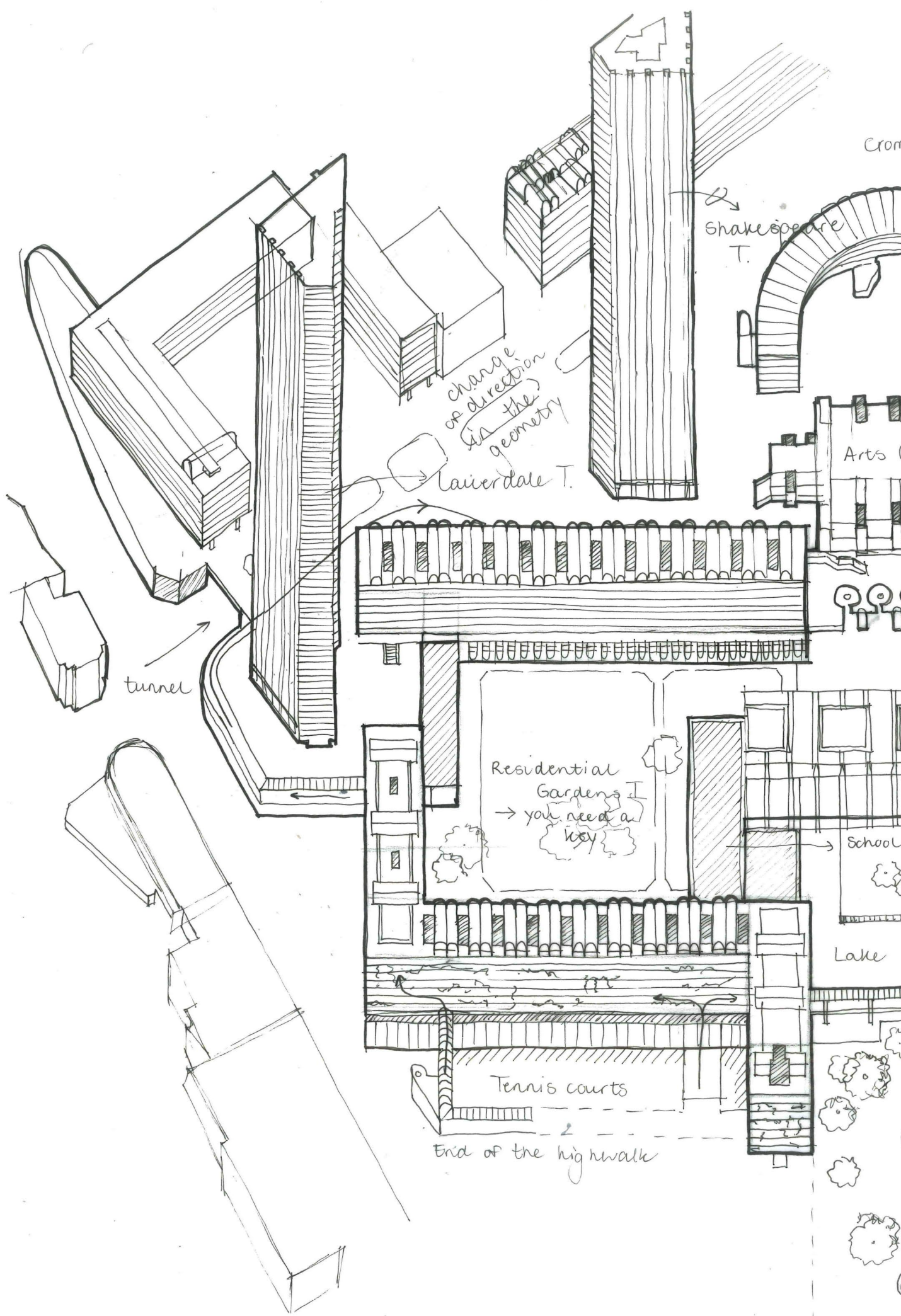


Gardens and lake



The high walk





Crom

Shakespeare T.

Arts

change of direction in the geometry
Lairdendale T.

tunnel

Residential Gardens T.
→ you need a key

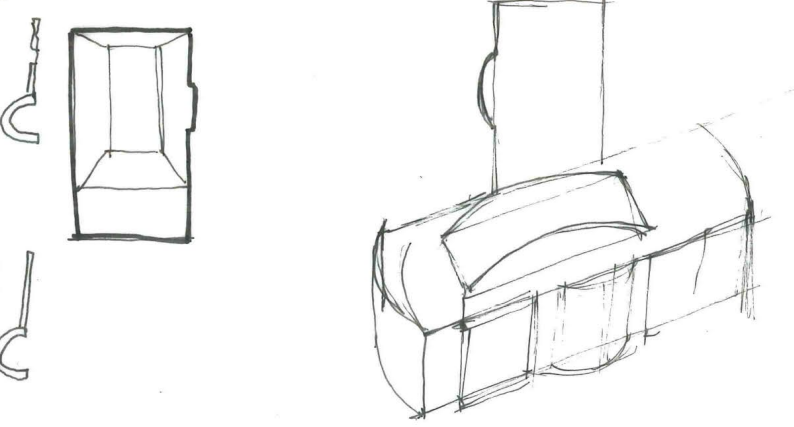
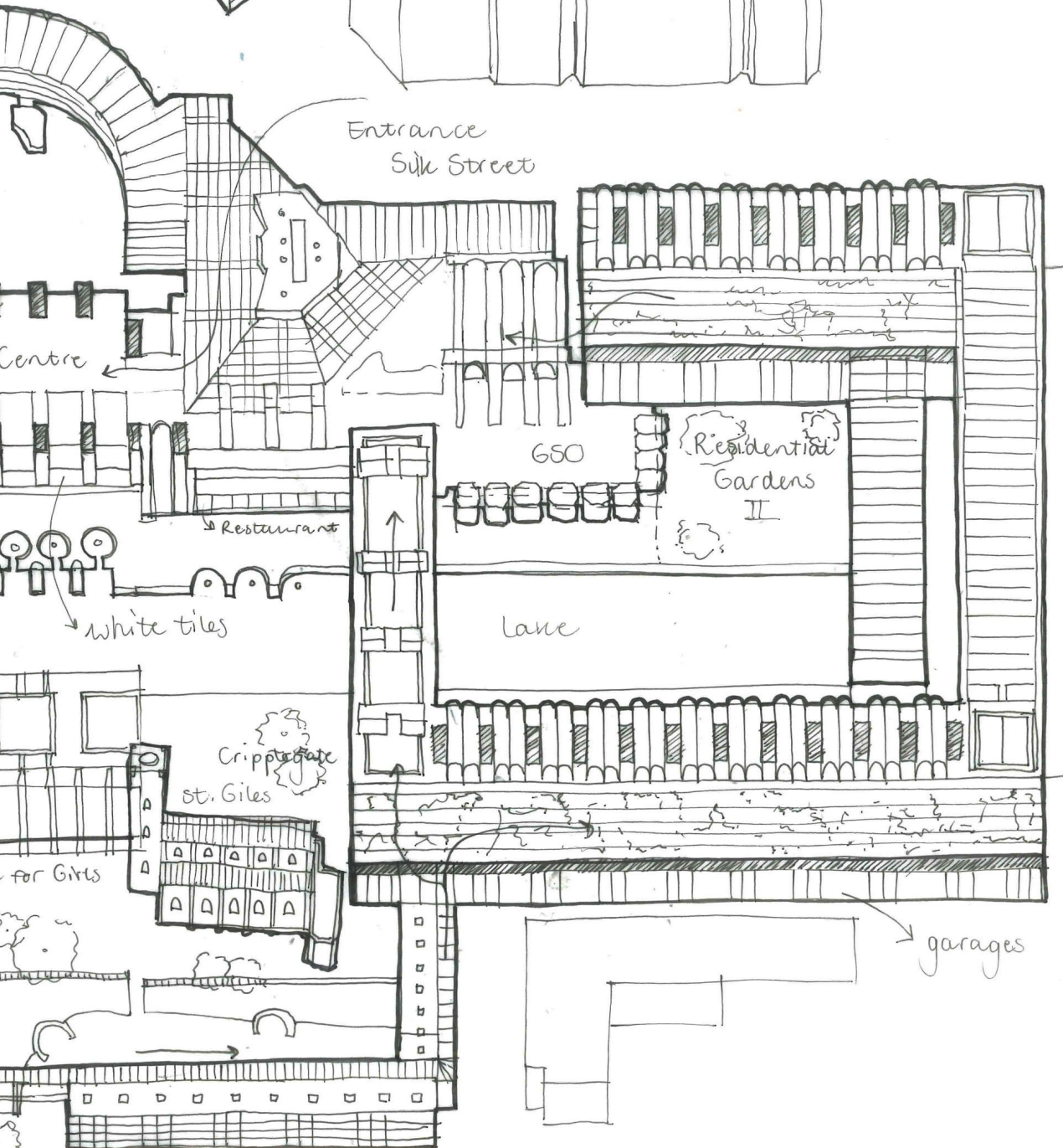
School

Lake

Tennis courts

End of the highwalk

well T.



Royal Festival Hall and National Theatre

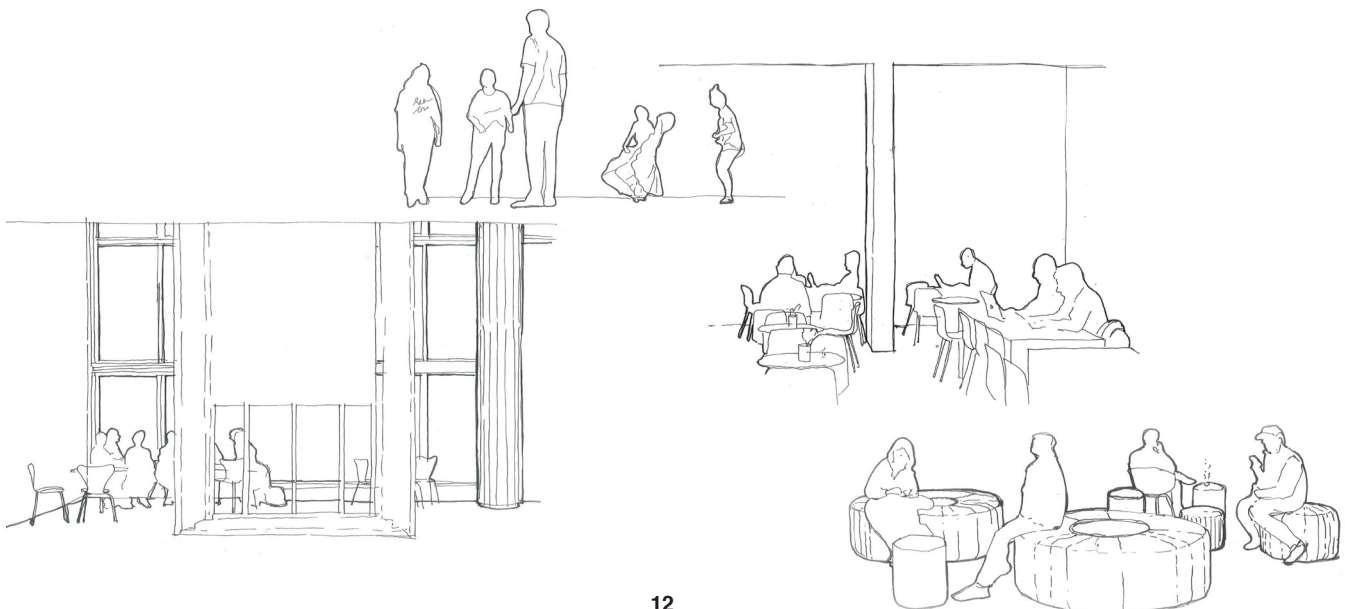
During our excursion to London, we visited the Royal Festival Hall. Looking like "an egg in a box" from the outside, I had never expected such an elegant and attractive building from the inside. The high quality of the interior spaces and the various users of the building inspired me and triggered me to study the type of the culture centre, with the Royal Festival Hall and National Theatre as a result, more profoundly.

The culture centre

The type of the cultural centre had its hey days during the 60s and 70s and arose during the period after the Second World War as a product of the Welfare State. The government had the responsibility to educate their people and the idea was to do this through offering cultural accessibility. Therefore, a new building type had to be invented because the monumental architecture of the Kulturtemples of the 19th century were a presentation of the bourgeoisie cultural institutions. The new type should be highly accessible for a broad audience and challenge people to participate.

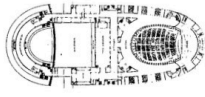
The public sphere

The research on the culture centre inspired me to think about the role of a public building and the public realm in the city. I looked into the terms of public space and the public sphere and came across a definition by Hannah Arendt, one of the most influential writers on the topic, who defined the public space as 'the space of appearance where people reveal themselves as active and communicating citizens'. Jürgen Habermas emphasises the democratic value of the public space by describing it as 'the realm between civil society and the state, which stands for the conditions under which public debate might become a legitimising basis for democratic political action'. Both definitions made me aware of the importance of the public space as a condition for human interaction. Public buildings are the places where citizens meet, encounter and discuss. The public space stimulates the debate, gives the citizens the feeling that they are part of the bigger community and encourages them to interact.

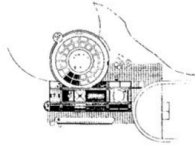




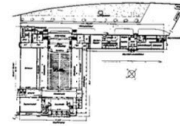
Rusakov Club, Moscow, 1927, Konstantin Melnikov



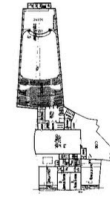
Kongresshalle Berlin,* 1927-28, Hans Poelzig and Martin Wagner



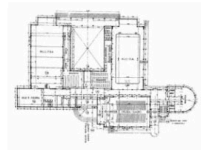
Palace of Culture,* Moscow, 1930, Ivan Leonidov



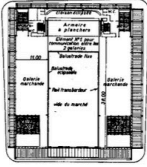
Deutsches Haus, Flensburg, 1932, Ziegler/ Rieve



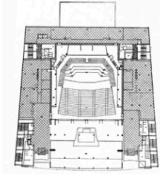
Maison du Peuple,* Herstal, 1933, Joseph Moutschen



Casa del Balilla, Forlì, 1933-35, Cesare Valle



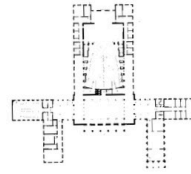
Maison du Peuple, Clichy, 1939, Lods, Beaudouin, Prouvé, Bodianský



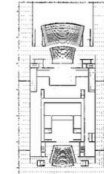
Royal Festival Hall, London, 1948-51, LCC architects



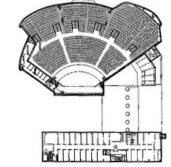
Medborgarhus, Eslöv, 1947-47, Hans Asplund



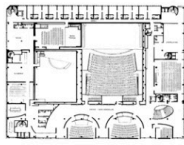
Kulturhaus Maxhütte, Unterwellenborn, 1952-55, Hanns Hopp and Josef Kaiser



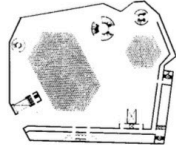
Nationaltheater Mannheim,* 1953, Ludwig Mies van der Rohe



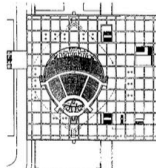
House of Culture, Helsinki, 1955-58, Alvar Aalto



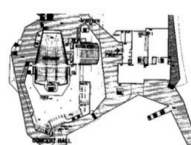
Medborgarhus Örebro, 1957-65, Erik and Tore Ahlsén



Mobiles Theater,* Düsseldorf, 1959-60, Werner Ruhbau



Kongresshalle,* Berlin, 1958, Werner Düttmann



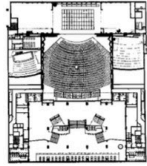
Queen Elizabeth Hall and Hayward Gallery, London, 1959-68, LCC architects



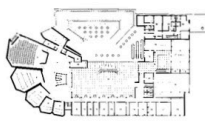
Akademie der Künste, West-Berlin, 1960, Werner Düttmann



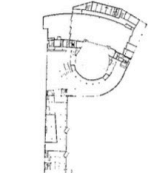
Leverkusen cultural centre,* 1960, Alvar Aalto



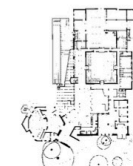
Folkets hus, Stockholm, 1961, Sven Markelius



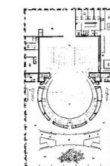
Kulturzentrum Wolfsburg, 1958-62, Alvar Aalto



Schouwburg Tilburg, 1962, Bijvoet and Holt



Midlands Arts Centre, Birmingham, 1962, Jackson, Edmonds



Maison de la Culture, Caen, 1963, A. Bourbonnais



House of Music, London, 2018, Hannah Harmsen

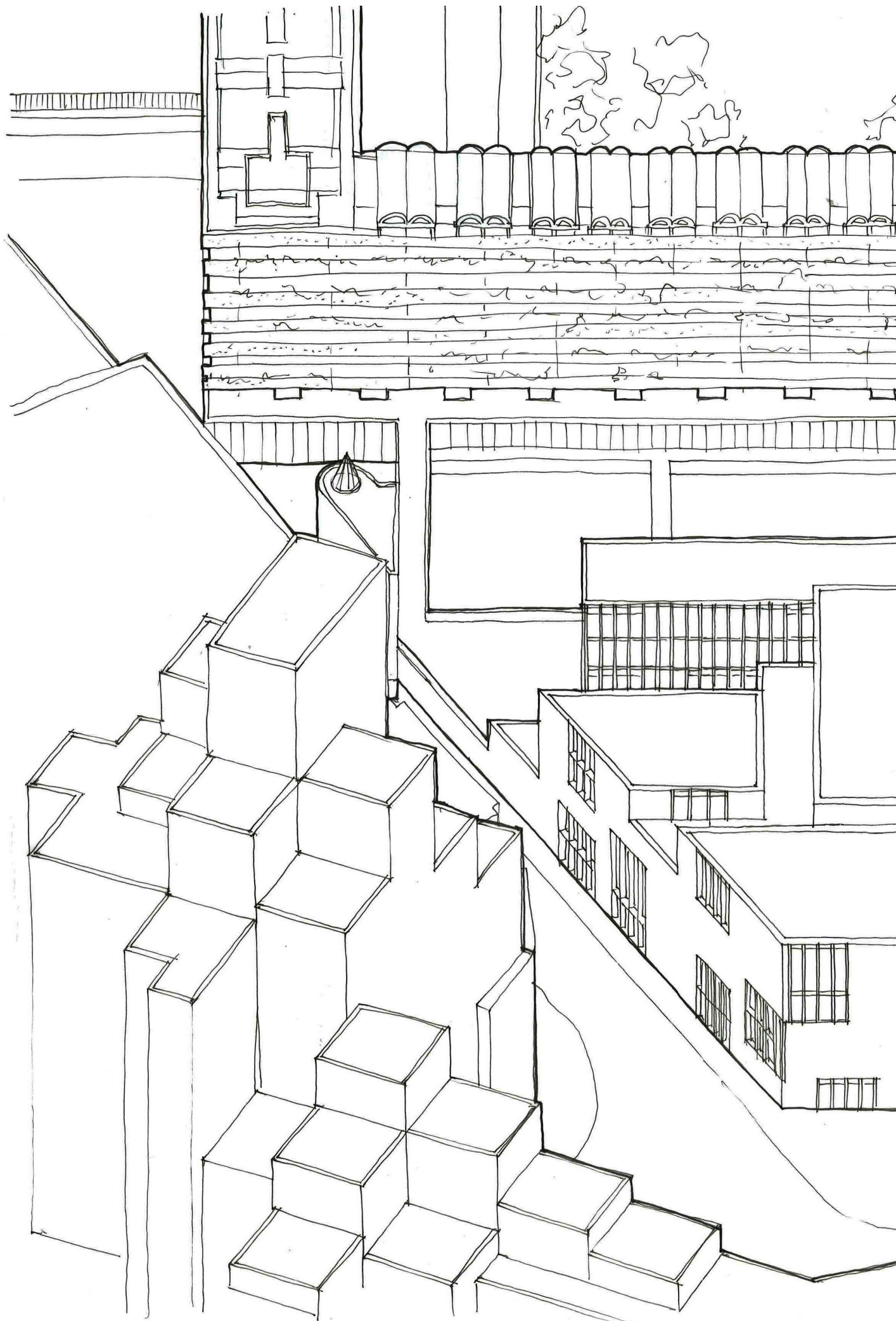
Requirement of a public livingroom

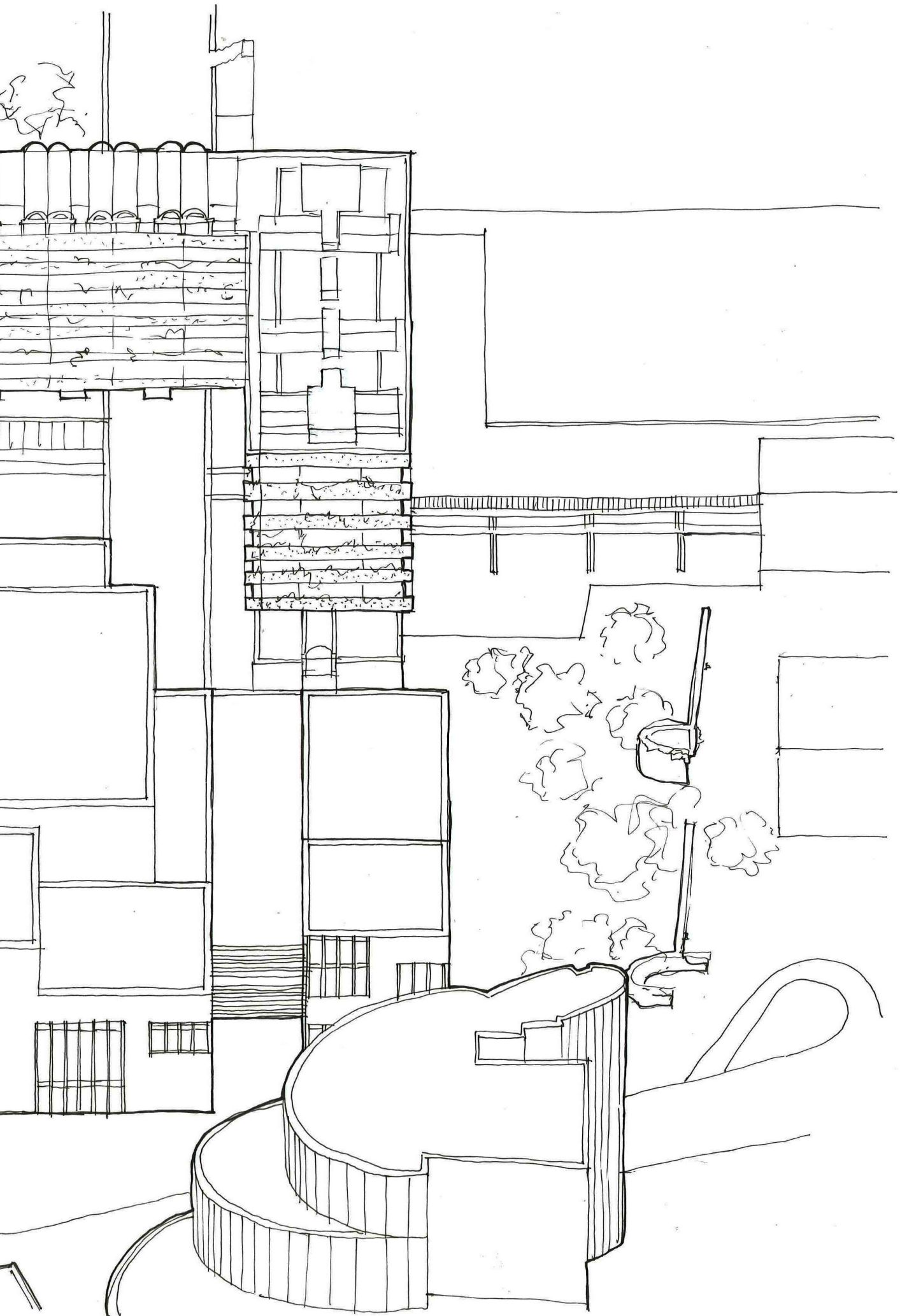
The ideas of the culture centre and the public sphere came up after the Second World War but to my opinion, these ideas did not lose their importance because the idea of constituting common ground for contemporary societies is still valid. The public debate and human encounter is more urgent and necessary than ever because of the increasing social and cultural divisions. Through studying the conditions, programme, design interventions and materialisation of several culture centres, I tried to find out the requirements to create a building where everyone feels invited and had the intention to translate these requirements into my own design. At first, the building should have a various programme and function not solely as a classical music concert hall. It should accommodate places for music performance, education, meetings and art where the visitor is challenged to participate. Entrance to the

building should be possible via different entrances without giving the visitor the feeling to be watched. Thirdly, the public spaces such as the foyer and cafe should be opened to the public during the day instead of only used during a concert.

Overview people's palaces

Source: People's Palaces, Christoph Grafe - edited





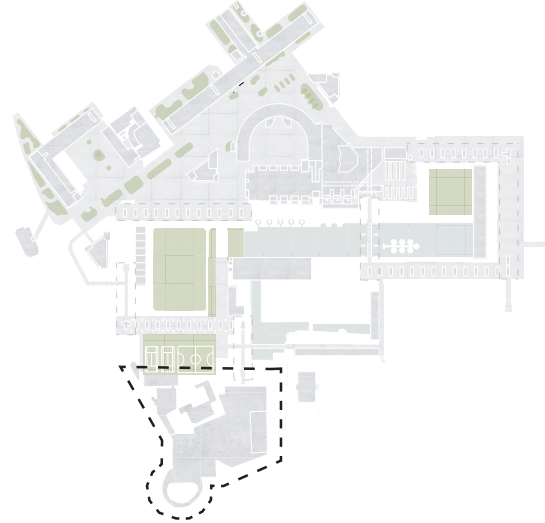
Extension of the high walk

The site of the concert hall is part of the Barbican estate. This brutalistic complex has a strong architectural language and specific ideas of the modern world. During my project I looked into the strong and weak points of the estate in order to improve them.

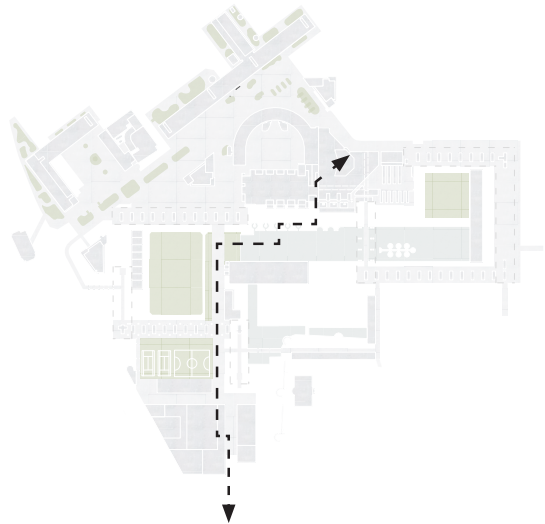
One of the main ideas of the complex is the design of the high walk. Raising up the pedway creates a separate level for all pedestrians. This network was designed as part of a bigger network covering the City. This network was never established and for that reason, the Barbican is not connected with the surrounding. Within my design, I wanted to improve the connections with the surroundings and create a new entrance to the complex. That is why I extended the high walk within the complex and brought it to ground floor level at the front side of the ensemble.

Cloisters

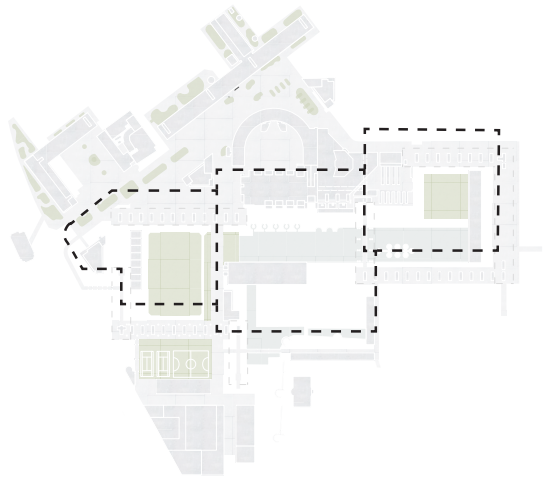
By extending the high walk, the connections within the complex are strengthened. It create two new cloisters next to the existing one. This small interventions creates shorter routes to the functions and creates a quick connection between the new house of music and the Barbican Arts Centre.



Museum of London



New route connecting the Silk Street Entrance and the new entrane of the House of Music



Three cloisters



The building in the city

View from the St. Pauls cathedral towards the House of Music.

Programme

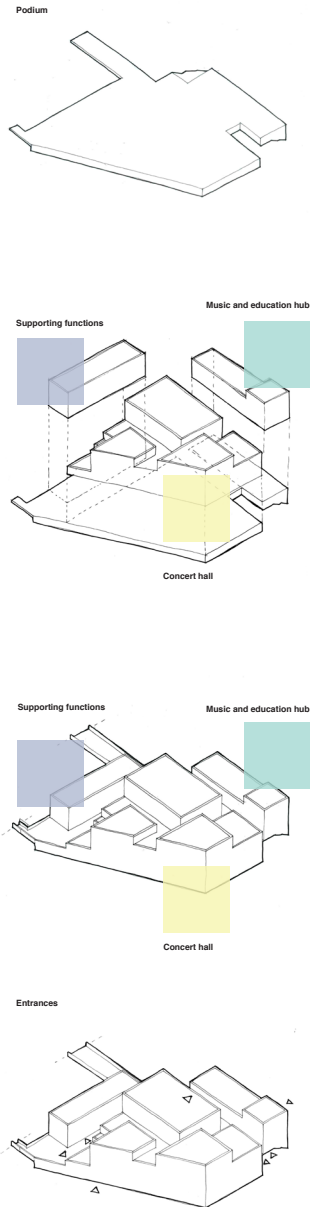
The programme of the house of music contains besides a concert hall also several education spaces, rehearsal rooms and supporting functions. In order to let it function as a cultural centre, the programme should be mixed with other cultural functions. From the research on this building type I derived several other function which could be combined with the function of a concert hall. Therefore, I decided to add an exhibition space, hire boxes, small cafes, a rental space and temporary apartments for musicians to the programme.

I divided the programme into three main functions: the education and music hub, the concert hall and the supporting functions. Each of the functions has its own building volume which is placed on a podium following the height of the high walk. The high walk slides through the volume, dividing the ensemble in three pieces and creates an entrance at the front of the ensemble.

Ensemble

The main volume is the concert hall and foyers, positioned at the south side, whereas the volume at the north side houses the dressing rooms, building maintenance and management functions. The volume at the side of the garden functions as a music hub, exhibition space, cafe and includes all the rehearsal rooms and hiring boxes. The volumes are split by the high walk on the first levels and are connected with the ground floor at the south side. Entrances to the concert hall are situated at first level and at the ground floor and avoid the feeling of a monumental entrance.

The concert hall volumes has three smaller volumes on top. The biggest volume in the middle is the concert hall while the volume at the front houses the chamber music hall. The smallest volume contains a rental space for parties, meetings and receptions.





The high walk

The high walk slides through the three volumes of the ensemble, creating an inbetween space for leisure and transportation.

Studies on the positioning

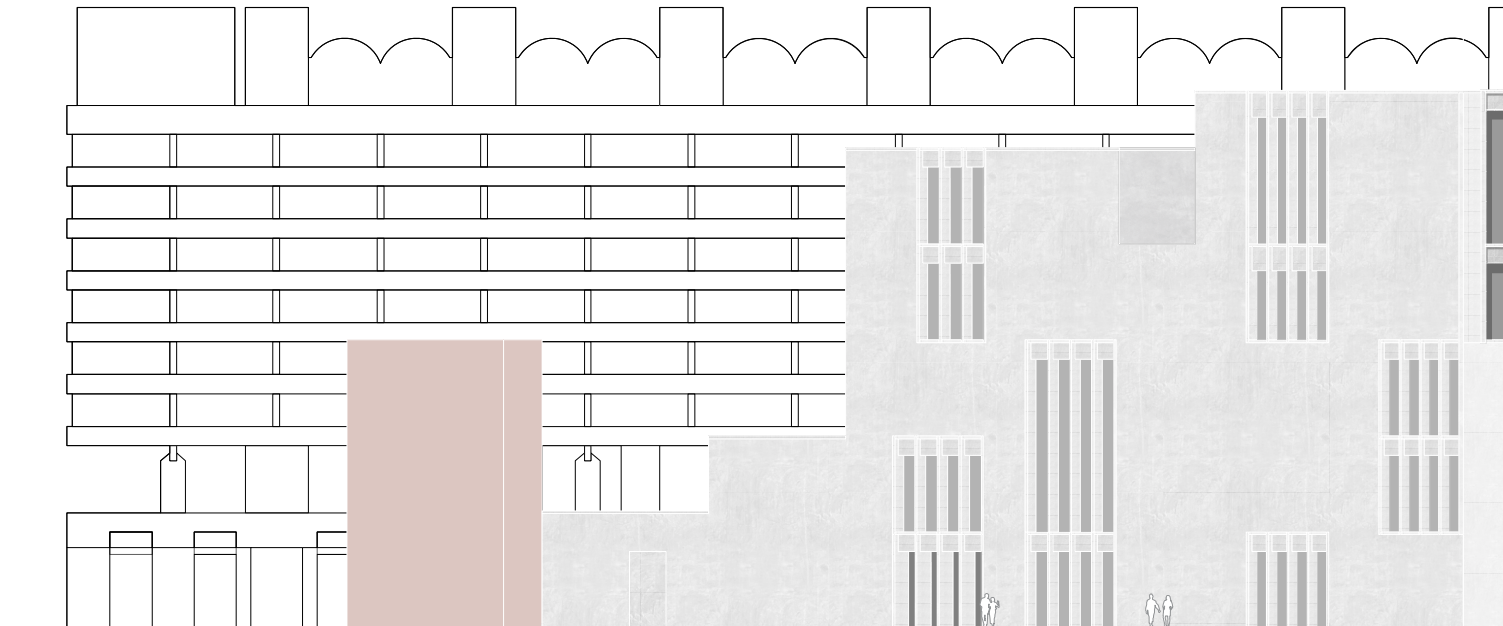
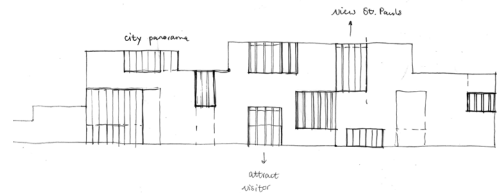
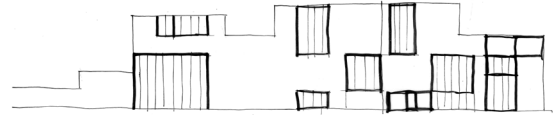
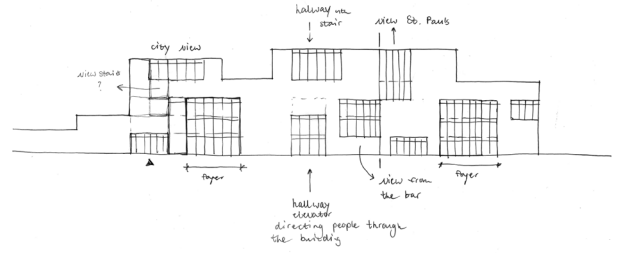
The facade of the ensemble has window openings which look randomly placed. However, they are carefully designed by studying several compositions and options. There are an endless amount of alternatives and therefore I created a set of rules. These rules function as constraints for the endless options and helped creating an elegant composition.

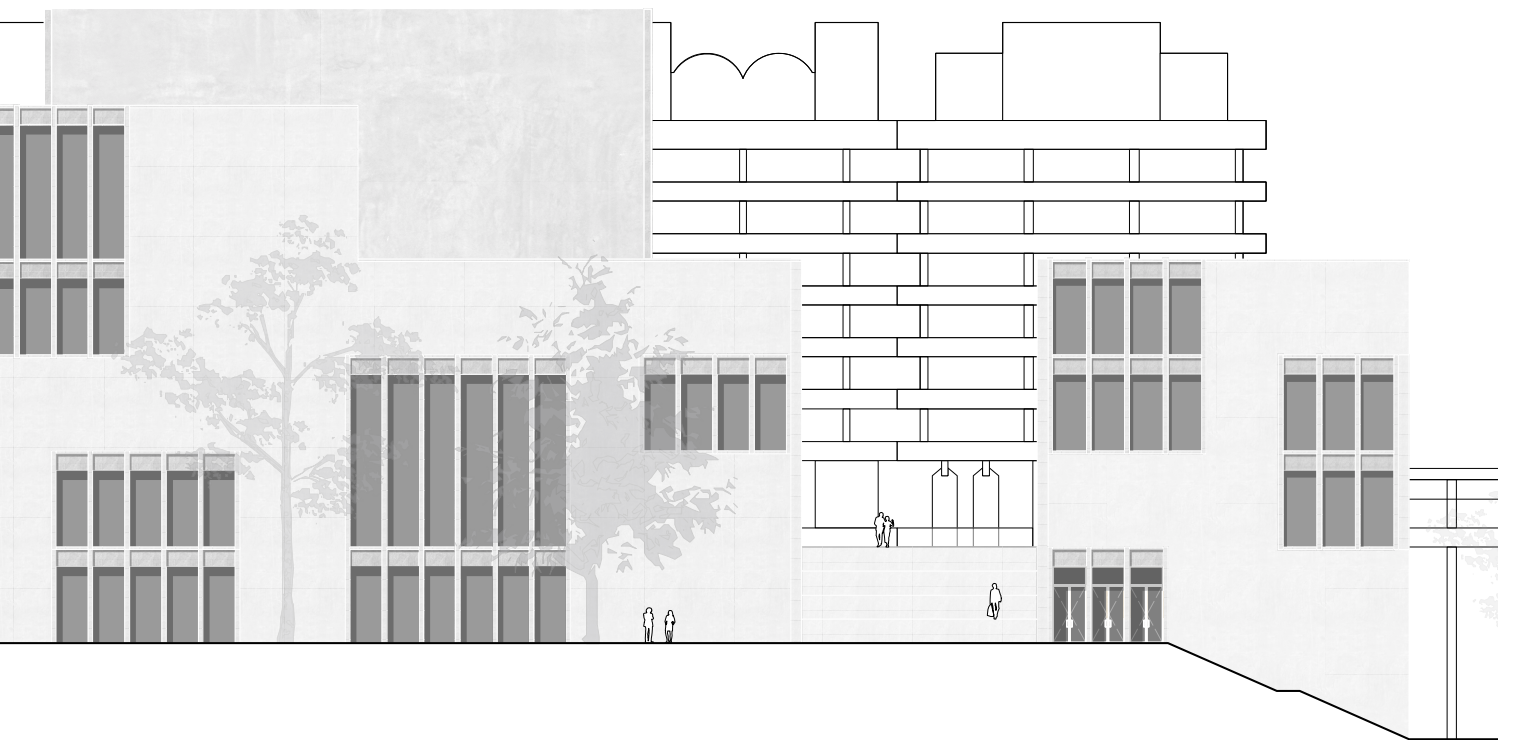
Below three of the several sketches made during the design process.

Rules

I decided to create several rules for the positioning of the openings in the facade.

- 1. The opening should always touch an 'edge'. This can be a roof line, a ground line or an edge of the elevation.
- 2. The opening of the foyers are three elevations high, the small rooms have openings spanning one of two floors.
- 3. The openings are positioned in a certain way to guide the visitor through the building.



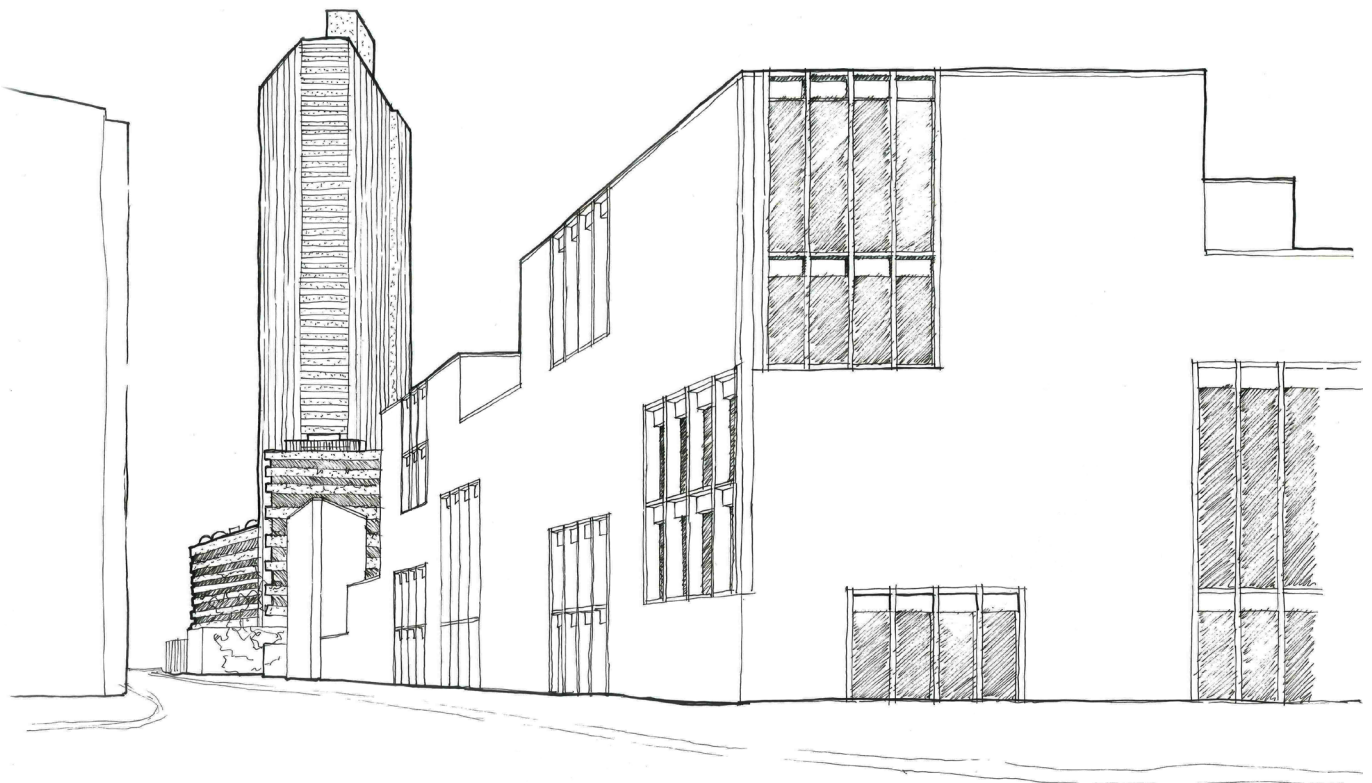


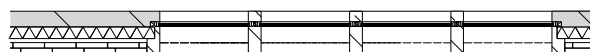
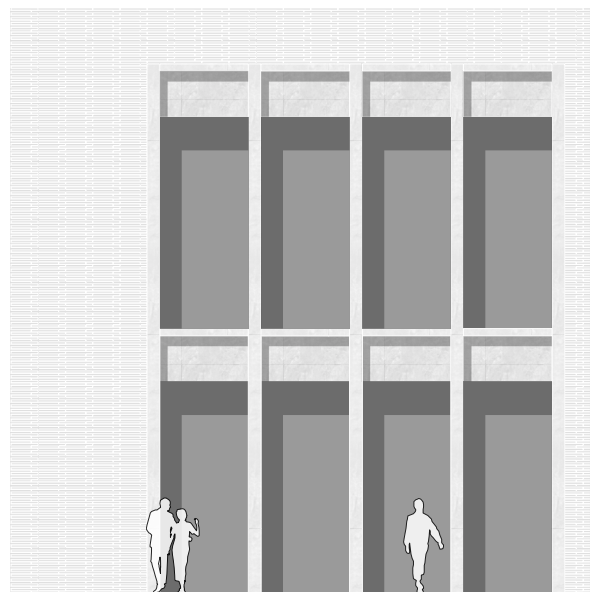
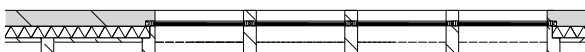
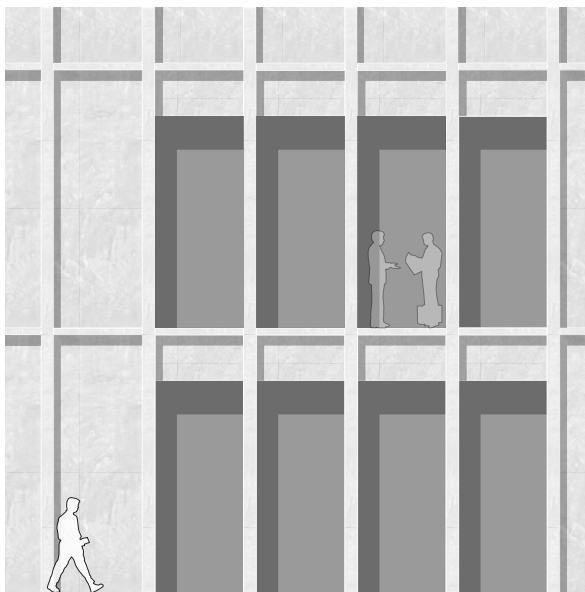
Assemblage

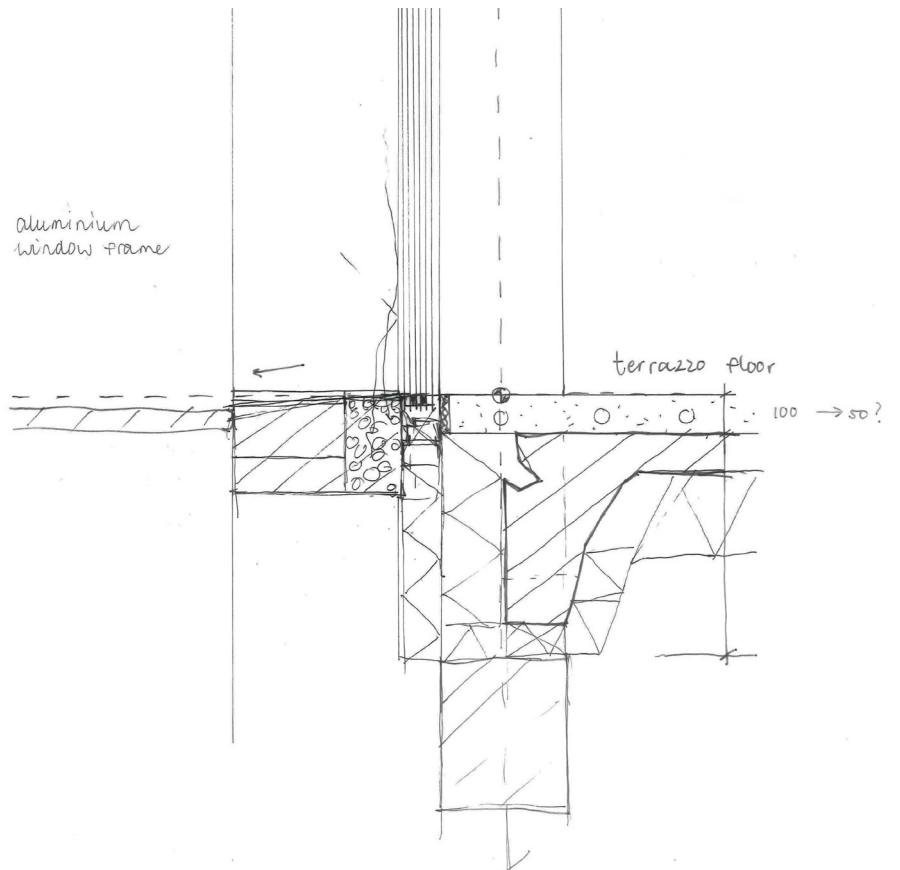
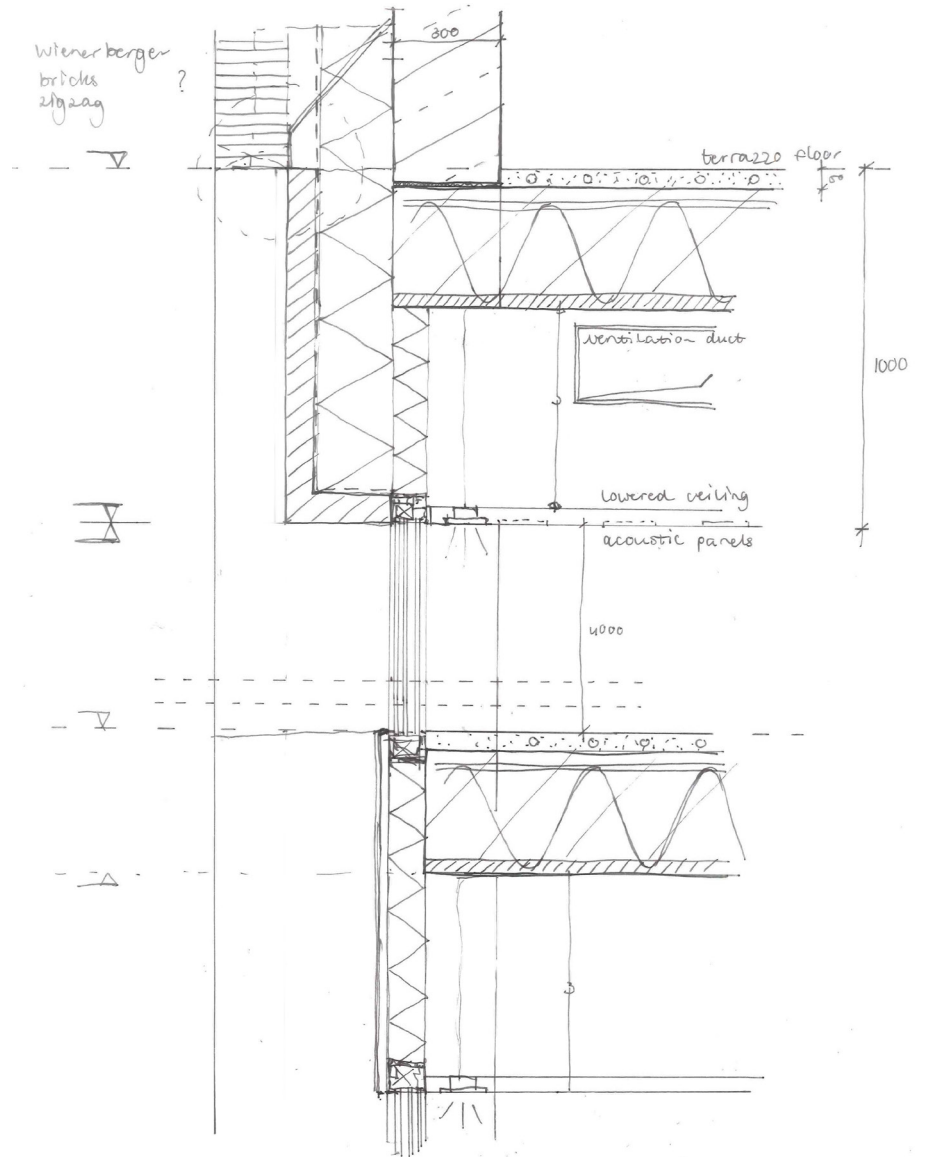
The ensemble consists out of two types of facades: one for the facades facing the surrounding and one for the internal facades at the high walk. The external facades are made from bricks with openings made from prefab concrete element. The internal facades are made from the same prefab concrete elements which together create a frame holding the openings. The two different facades, which are linked in colour, size and material, have both a different appearance and create two atmospheres.

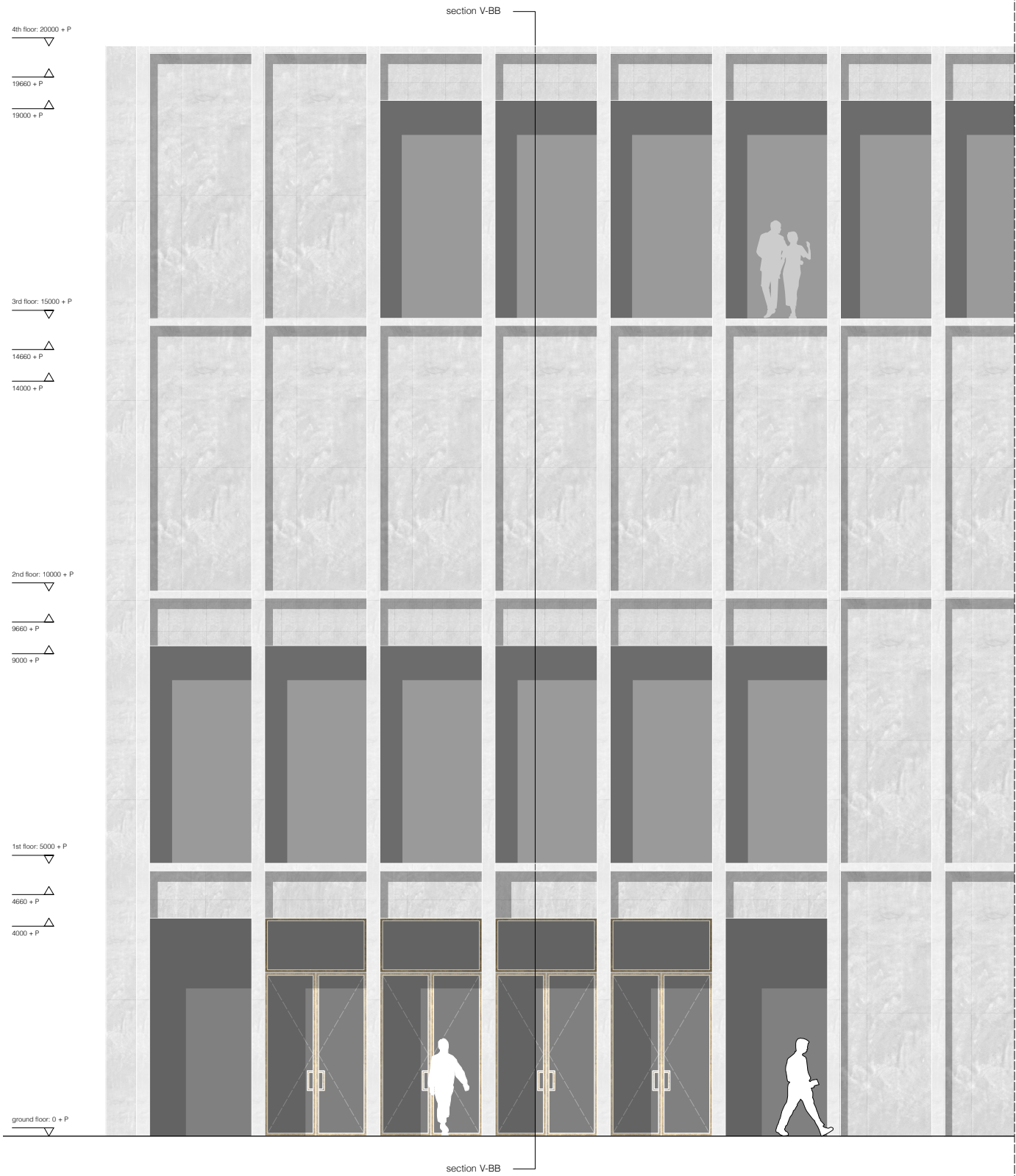
Materialisation

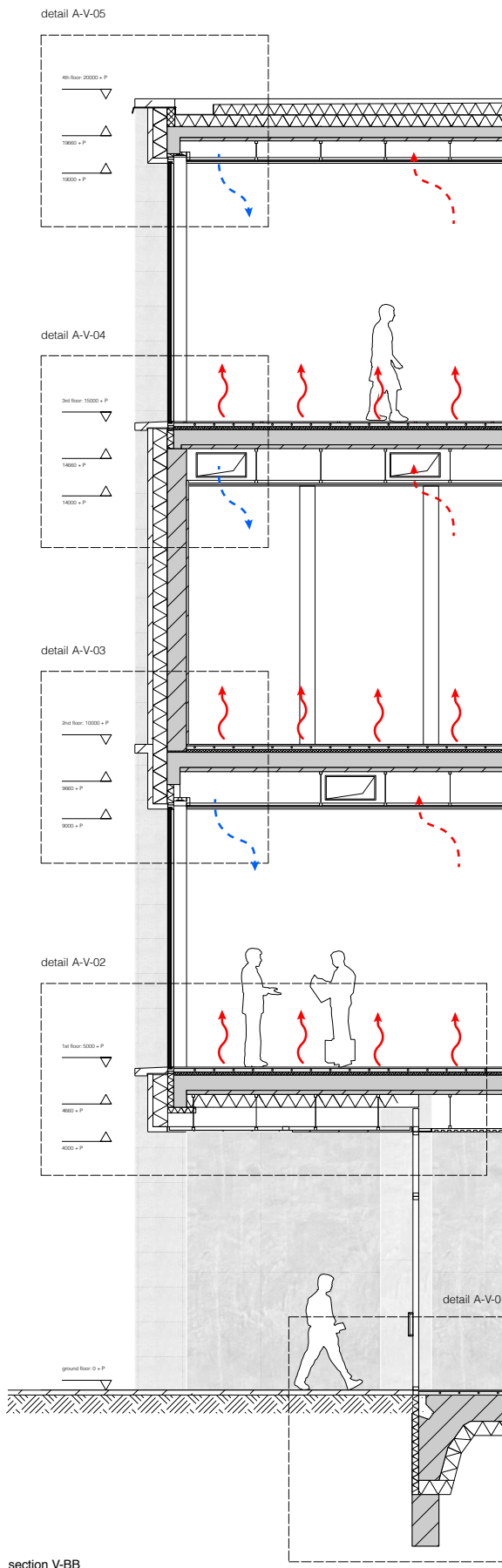
The materials used for the facades are grey Wienerberger brick and prefab concrete element. The grey tones are derived from the grey tones from the surroundings and fit the Barbican complex. The Wienerberger bricks have different sizes compared to the normal bricks. This creates a different grain which fits the size of the building.

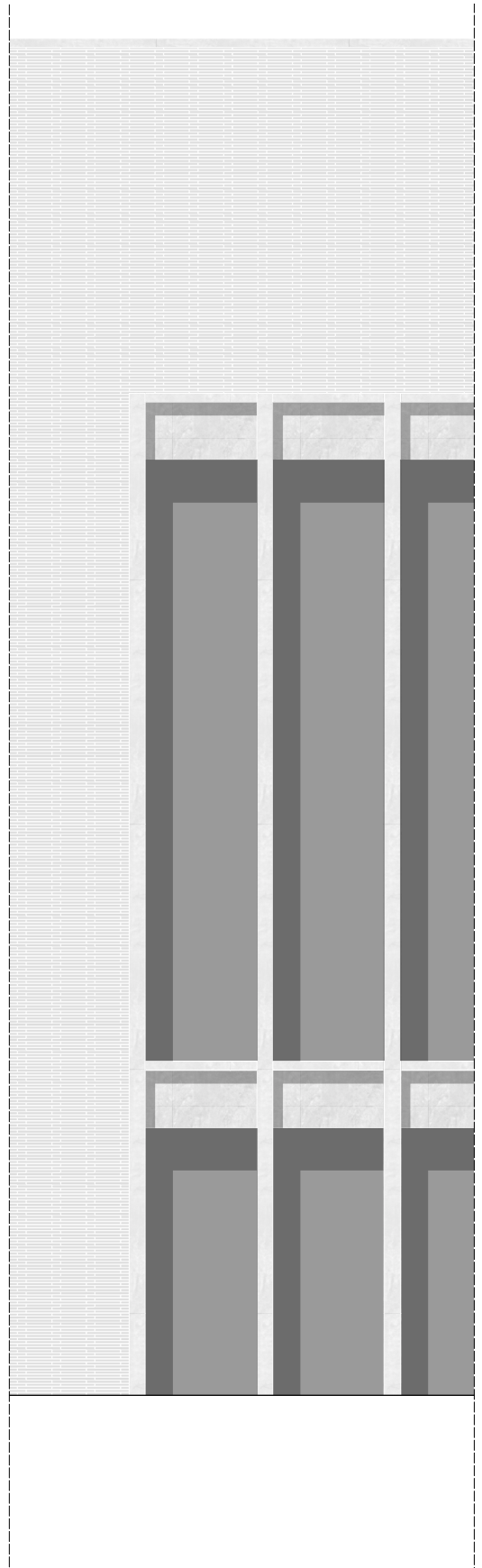


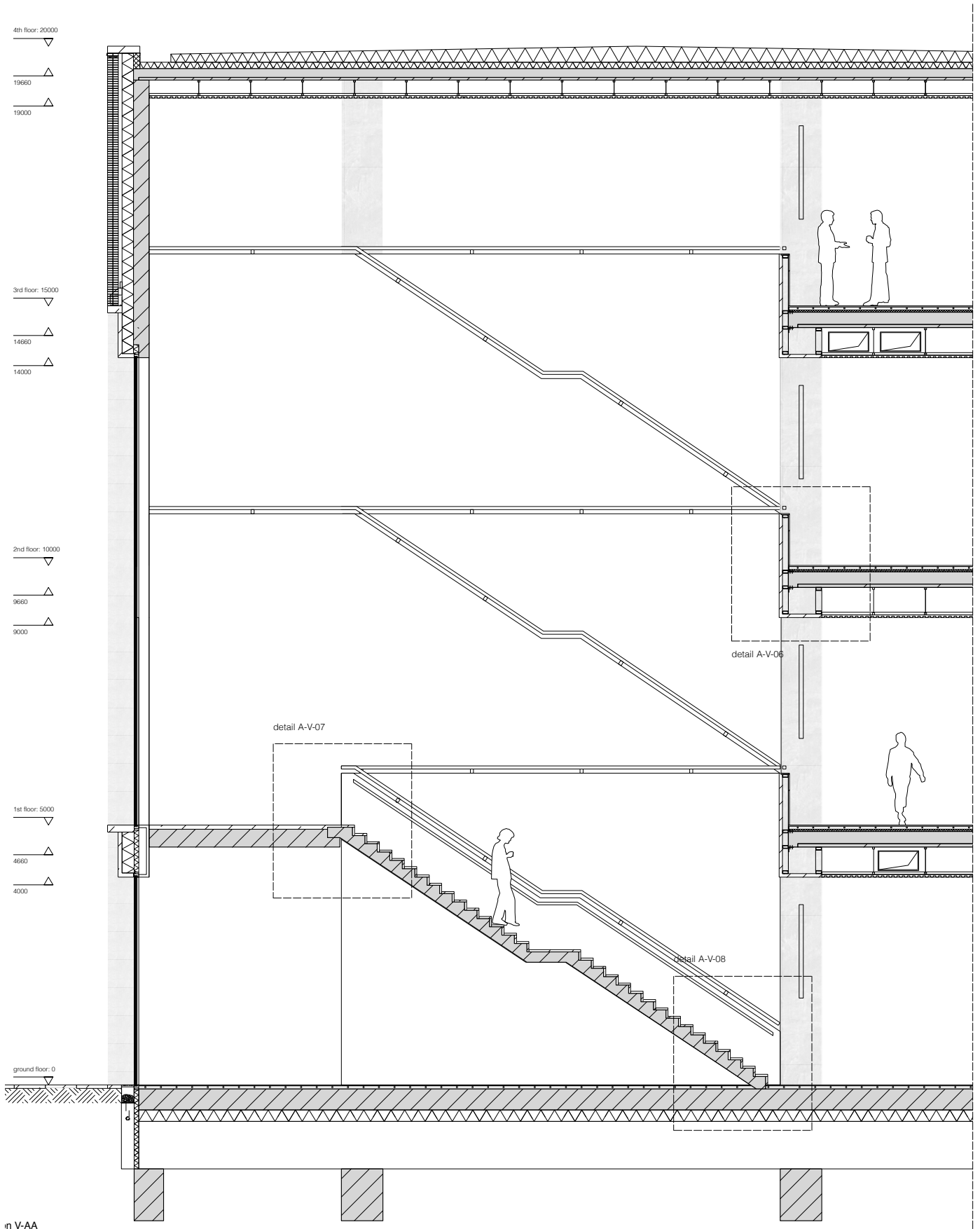


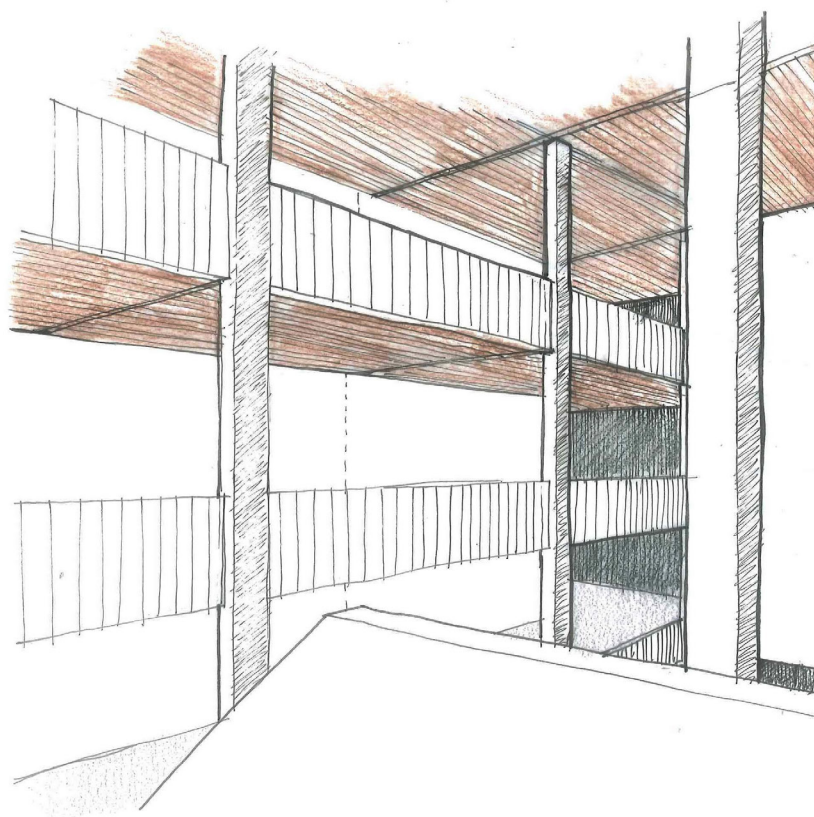
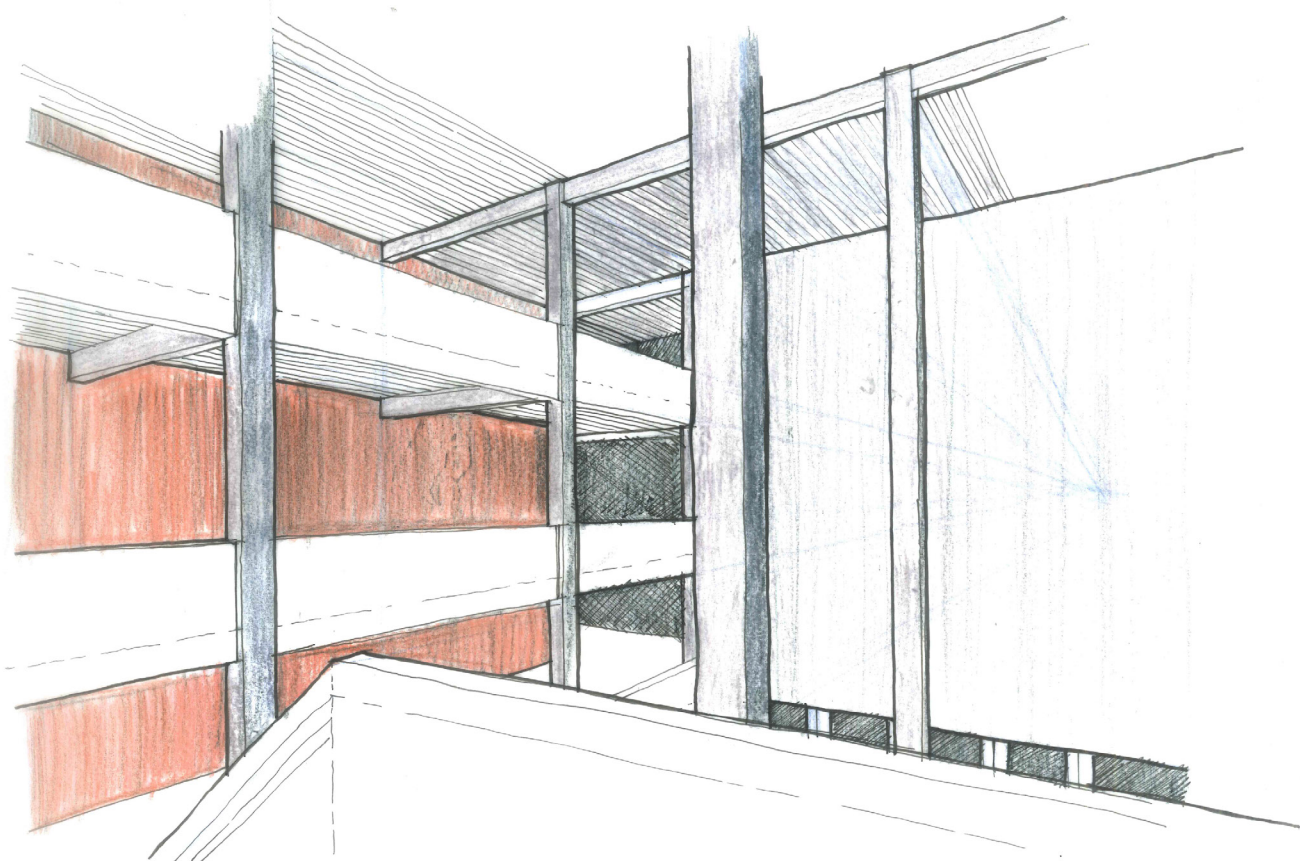


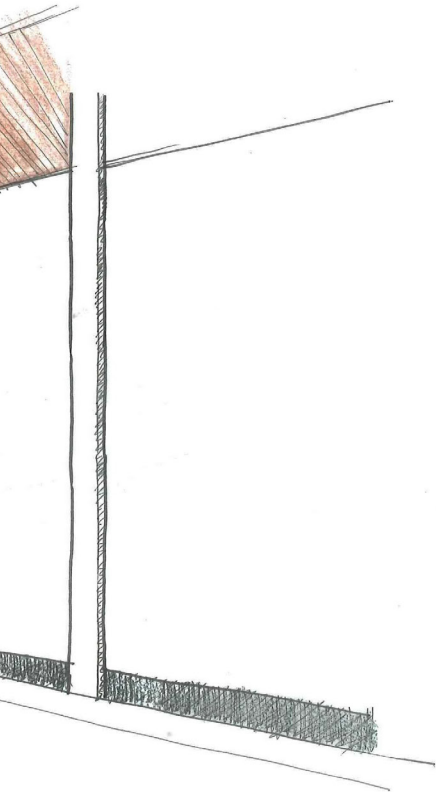
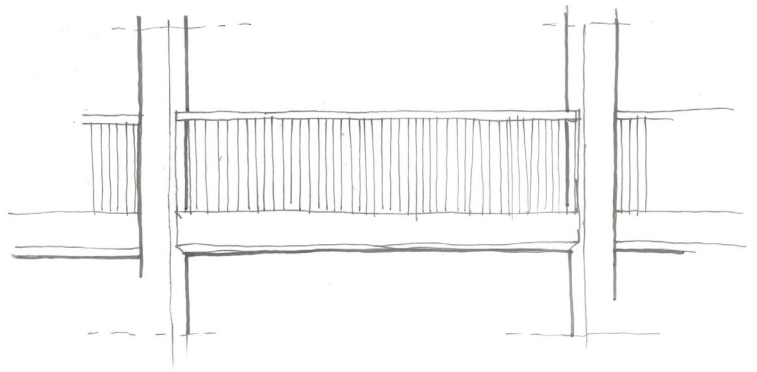
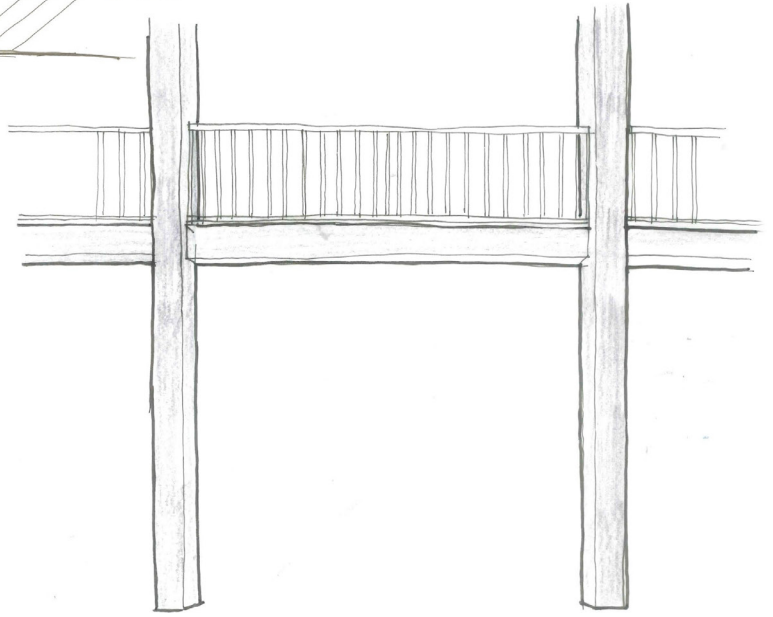
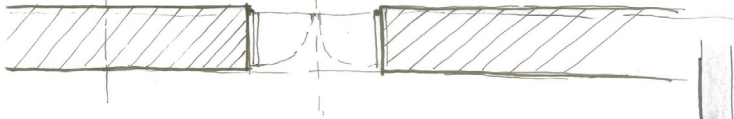
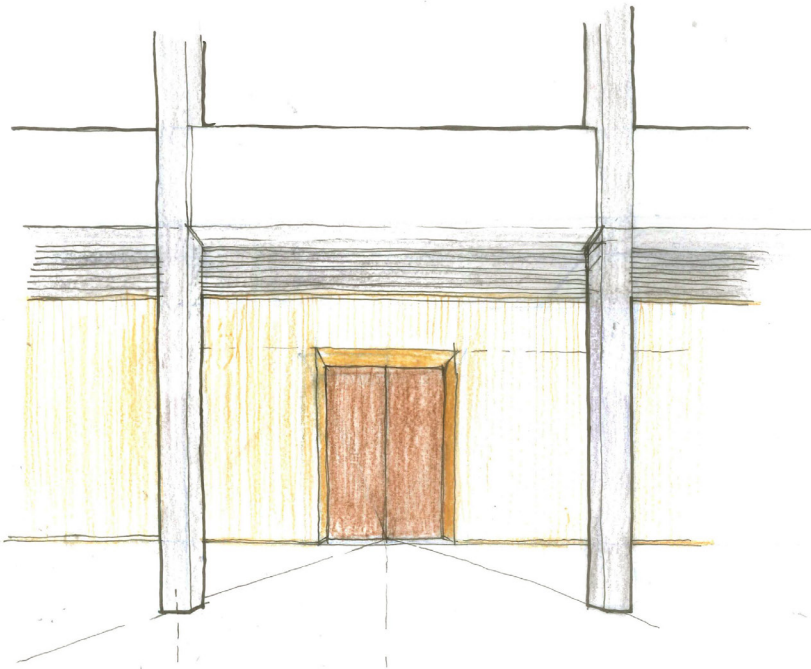












Scenography

Further on in the design process, we focused on the foyer spaces and the concert hall itself. The foyer spaces are occupied during the day and should accommodate different activities. They should invite citizens to study, read, discuss, meet and relax. Besides, the spaces should also suit the function of a concert hall where the public is part of the performance. That is why I designed three different staircases with each a different experience. The main foyer has three stairs which are placed behind each other. This creates a mountain where visitor climb towards their seat while being watched by other visitors. The second staircase is a spiral stairs: on each floor the stairs turns. The stairs are positioned in a different direction which creates a different view and focus point. The last staircase is designed by placing two stairs behind each other. The staircases are designed with the idea of scenography and procession. Watching and being watched is, to my opinion, part of the experience of visiting a concert and gives the visitor the feeling that they participate in society.

outside is not a pleasant place to stay. For that reason, I choose to clad or layer the surfaces in the interior. The floor is covered with pinkish terrazzo while the vertical surfaces are clad with grey terrazzo and light coloured wood. The light grey suspended ceiling covers the mechanical ventilation, electricity necessities, fire alarms and has integrated acoustic panels and lighting. The stairs and railings is finished with a bar made out of messing which catches the sunlight during day time.

Materialisation

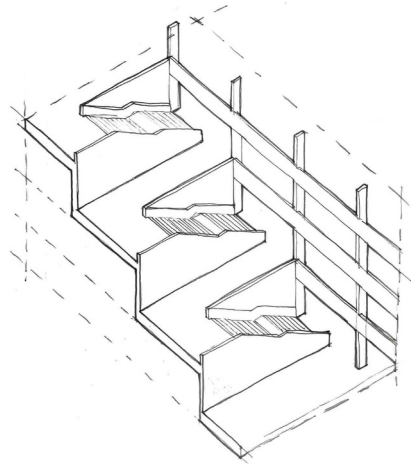
While working on the materialisation of the foyer spaces, I looked into the work of several Scandinavian modernistic architects and especially the work of Alvar Aalto. I have been talking about the concert building as a living room, and was inspired by the Scandinavian interiors because they try to create a domestic feeling. The interiors are built up out of layers to create a feeling of home. This domestic feeling is important in countries where the



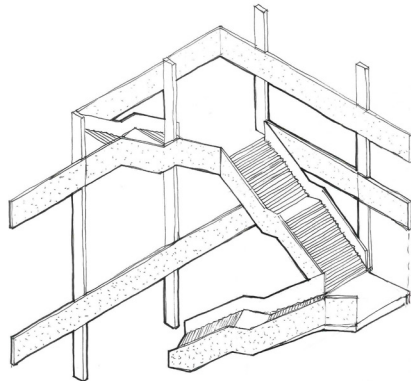
The mountain stairs

The mountain stairs is placed in the main foyer at the front side of the building. The foyer is served by the biggest entrance and covers four floors. After entering the building, the visitor arrives in a big atrium where they climb up the 'mountain' towards their seat. The progression is watched by other visitors at the balconies.

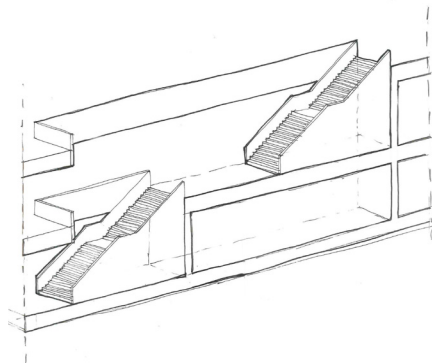
The mountain



The spiral stairs



Two stairs in a row





The spiral stairs

The spiral stairs are placed behind the entrance on the level of the high walk. At every floor, the stairs turn and gives the visitor a different view through the building.

Introduction to classical music

Our graduation year started with an introduction into the world of classical music and music venues. We learned about the differences between an opera hall, a theatre and a concert hall. Moreover, it was an introduction into the world of Bach, Mozart and Philip Glass. Every week we got a new list of composers and there style and after several weeks we could divide the different types of classical music. With the growing interest in classical music in the 17th and 18th century, also place for listening became more important.

We researched the early concert hall such as the Musikverein in Vienna and the Concertgebouw in Amsterdam but also looked into the Elbphilharmonie and the Concertgebouw Bruges. These analysis helped us designing our own concert buildings in terms of circulation, type of the hall, view lines and appearance.

From city to seat

Concert buildings are part of the public life of citizens. It is a place where they act as participating humans and appear in public. The route which the visitor of a concert takes is an important one. Starting from home, arriving by public transport or taxi, entering the building, hanging your coat, collecting your tickets and finding your way through the building all the way to your seat. This route is designed by the architect, through the use of design, signage, light and materials, and is part of the experience of attending a concert.

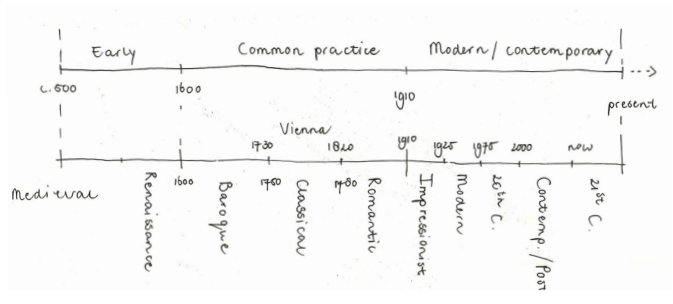
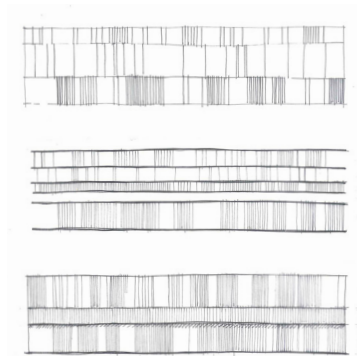
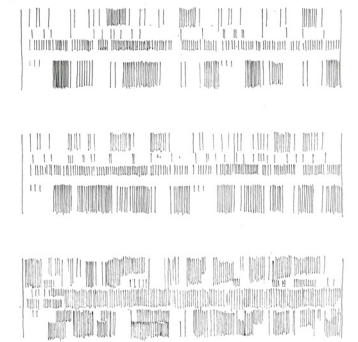
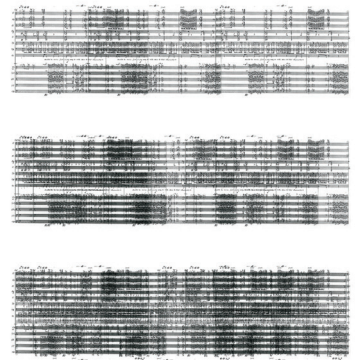
Acoustics

The most discussed element of a concert hall are its acoustics. The acoustics of a hall are hard to predict or measure but several rules help to design a hall. The proportions of the length, depth and height of my hall are derived from the Concertgebouw. These proportions are 44: 28 :17. Other elements to take into consideration are the reverberation time, absorption and reflection.

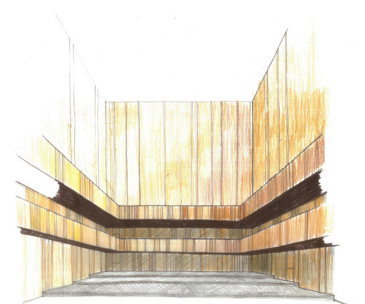
Acoustic element

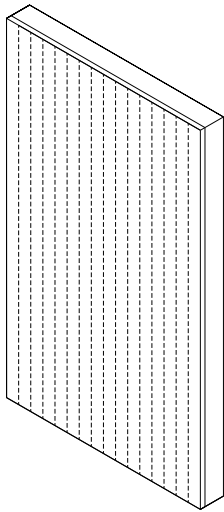
The elements are influenced by the acoustic element of the hall. With acoustic element I mean the surfaces of the walls, the ceiling and the balconies. These surfaces reflect, absorb or scatter the sound waves and bounce them back to the audience. These surfaces should be designed in order to create the right reverberation time and architectural appearance of the hall.

During the first quarter of the year, I started to design this acoustic element by diving into the way how music is written. Although I could not read the music scores, I tried to find a way to interpret them. I analysed the repetition, melody and rhythm by annotation. Inspired by the artist Idris Khan, who overlaid music notes of Bach, I started to overlay music notes myself. Through abstracting the results and translating them into architecture, I found a pattern for the acoustic surfaces of my hall. The patterns are created by wooden sticks attached on a wooden surfaces. The sticks have different width and lengths, representing the different tones and melodies of the music. The grain of the pattern is higher at the bottom and lower at the top, creating an optimal acoustic effect.

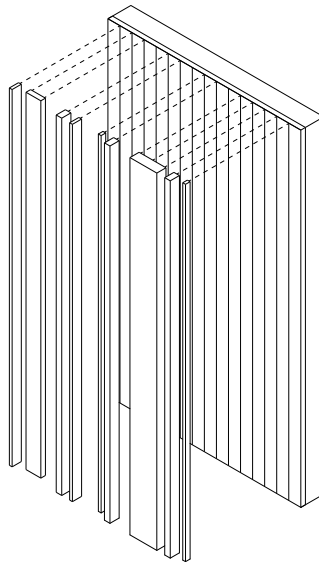


The development of classical music

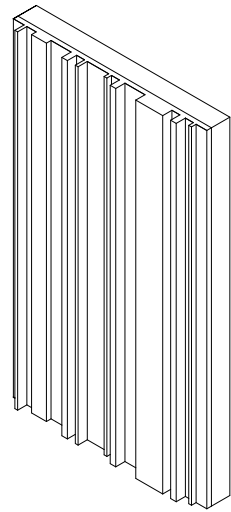




Wooden panel



Wooden sticks attached



Acoustic element

image model

