

MASTER

A contemporary keystone for the Barbarossaplatz a new perspective on the reorganization of the post-war urban fabric of Cologne

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Award date:
2017

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A Contemporary Keystone for the Barbarossaplatz

A new perspective on the reorganization of the post-war urban fabric of Cologne

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Afstudeerverslag

Burak Gül 0778815

Atelier

Love Your City - Kassel & Cologne 2016-2017

Afstudeercommissie

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Preface

This graduation report is the result of my work to complete the Master's program Architecture, Building & Planning at Eindhoven University of Technology. The project, called "A Contemporary Keystone for the Barbarossaplatz" was established as part of the graduation studio "Love your City - Cologne & Kassel" from September 2016 to July 2017.

Prior to the individual design, the architecture students from the studio started joint research about the perception of post-war architecture and the evolution of the urban pattern in Cologne and Kassel. During this academic year, the students visited Cologne, Kassel and Zurich as a group to gain a better insight into the subjects of post-war architecture and the reconstruction of post-war urban fabrics. Cologne and Kassel are two examples of cities that were heavily affected by the war, while Zurich is an example where the war had no influence on the formation of the city's urban fabric. Looking back, I can say that it was a pleasure to work on the graduation project. I am finishing my graduation project with a satisfied feeling, because I have learned a lot about various aspects of architecture and urbanism.

I would like to thank my graduation committee, Jos Bosman, Marcel Musch and Daan Lammers, for their moments of guidance and feedback that contributed to the design process. I also want to thank my fellow studio members Sander van Drooge, Martijn Naus and Jeroen de Winter for their support and cooperation, as well as my friend Murat Arslan for the brainstorm sessions and for sharing his knowledge about Cologne. For all of his contributions in the field of structural engineering issues, I would like to thank Mahdi Al Awadi.

His technical advice was very important for making the design of the Art and Performance Hall possible. Finally, I would like to thank my parents and family for all of their support throughout the Master's course.

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Summary

This project is part of the “Love your City - Cologne and Kassel” graduation studio. “Love your City” is an initiative by the visual artist Merlin Bauer, who in 2005 launched the project in Cologne. The main motivation behind the project was that people in Cologne today cannot appreciate the 1950s post-war architecture. In general, a number of people have particularly negative associations with modernist architecture, not only because of its aging, but also because of the absence of a human aspect and of comfort. The underlying thought or special concept of a project is not accepted or not understood. That while this thought or concept is a measure of the social relevance of modernist heritage. Bauer placed the words “Liebe deine Stadt” on a prominent building of the Nord-Süd Fahrt, in order to attract attention for the acceptance of post-war architecture. Bauer’s drive was “How can design change opinion?” and “How can people like a place instead of disliking it?” Bauer asked Peter Zumthor to defend the values of the Wilhelm Riphahn Opera building after it was considered for demolition by the municipality. In the end 50,000 citizens gave their signature to maintain the Opera building.

In the essay “History of the perception of architecture in Cologne” Sander van Drooge, Martijn Naus and I wrote about the history and perception of Cologne’s architecture. During the research for the course “Research in Urbanism and Architecture II,” we discovered that the perception of modernist architecture was much more positive in the 1950s compared to today. A few fragments of the essay’s findings follow below.

“The Cologne buildings of the 1950s enjoyed a great deal of acceptance during that time, which may also be connected with the general 1950s retro trend in contemporary fashion, design and architecture (Lieb, 2007). Nevertheless, renowned buildings such as the Opera by Wilhelm Riphahn were questioned at the beginning of the new millennium in terms of their architectural quality, and the municipality considered demolishing the building.”

“In the post-war period a major part of the city was rebuilt. Before WWII the major part of the city consisted of a large variety of classical architecture, which gave it a coherent appearance (Wiethasse, 1888). After WWII a major part of Cologne was destroyed and was rebuilt in a largely modernist style. So what were the qualities that made those post-war buildings attractive during the fifties and what makes the same architecture underappreciated? Inspired by the functional, geometric simplicity of the “Das neue Bauen” of the twenties, coupled with influences from the USA, Scandinavia and Switzerland, an architectural attitude developed in Cologne which led to a clear geometric ground plan with open grid façades (Lieb, 2007). The cantilevered façades in the Opera of Wilhelm Riphahn, the monumental staircase by Rudolf Schwarz in the former Wallraf-Richartz Museum, or the “new ornaments” at Gürzenich by Rudolf Schwarz and Karl Band are some of the striking appearances of “architectural elements” in Cologne.”

Cologne today can be viewed as a collage, a collection of different urban patterns and buildings; it is largely a reconstructed city. Cologne suffered during WWII, when

Introduction: Cologne through the years

a major part of the city was destroyed. Large parts of the city were rebuilt after the war. Because of WWII, the city largely consists of post-war architecture. The events that took place in its past make Cologne a city with a wide variety of styles and construction periods. With over 1,000,000 inhabitants and 1,640 hectares in area, the core city of Cologne is one of the liveliest urban areas in Germany. The higher this concentration of diversity and density, the more difficult and demanding the work on urban tasks becomes. The close integration of urban planning, transport and open space is the central challenge to dealing with the future undertakings of Cologne's city center.

Josef Stübben was the first planner since the Roman era and the Middle Ages to produce a plan for the city of Cologne. Stübben removed the city walls during its expansion in 1880, and eventually built a ring in place of the walls. Under the supervision of Stübben, during the construction of the "Neustadt" prominent buildings such as churches, the theater and the opera were positioned along the ring. The urban and architectural composition of the city remained largely the same until WWII, during which time Stübben's plans were followed by a few changes. After WWII, Rudolf Schwarz was commissioned to rebuild the city. During the reconstruction, Schwarz positioned interesting buildings having cultural and religious functions in the heart of the city center. Over the years, new possibilities have arisen around the ring to build such facilities. These new opportunities result from the change in the urban fabric of Cologne. Due to the emergence of these "is

lands," new opportunities have emerged along the ring.

One of these locations with new opportunities is the Barbarossaplatz, which used to be one of the five important squares through the Kolner ring developed by Stübben during the expansion of Cologne. The Barbarossaplatz is part of the Salierring, which is one of the ten segments of the Kolner ring. Stübben designed a square in the middle of the Barbarossaplatz as a pleasant spot where people could meet and interact. The use and pattern of the Barbarossaplatz has changed, but it remains a busy junction today. After WWI the square in the middle was gone and was replaced by tramlines, which are still present today. In 2008 Albert Speer & Partners published a new master plan for Cologne. In the same plan Speer made a proposal for the Barbarossaplatz, with the purpose to find an appropriate form and function through the analysis and testing of design alternatives. The challenge for the design is to make a contemporary adaptation within the urban structure of Cologne without ignoring the city's existing values and qualities.

Cities are developed over the years based on the events that take place there. Events that might affect a city, like a war, are also events that contribute to building a city. There may be gaps within the urban structure that are filled in during different periods, which means that a synergy of different "urban patterns" and "architectural styles" exists. However, in Cologne the relationship between the buildings is in balance, and expresses a total image. Today, it is increasingly important to design within an existing context, and to integrate with the urban structure. To develop the existing situation further it is beneficial to maintain certain patterns, which determine the framework of new designs.

Cologne is a city with a rich history, dating back to the Roman period. Old and new architecture creates a "patchwork" of different aesthetic values in terms of architecture. The city offers space for remarkable old buildings, like the cathedral, as well as impulses of contemporary architecture. Various developments in the Roman times and the Middle Ages have contributed to the development of the urban fabric of Cologne. In addition, various urbanists and architects, such as Josef Stübben, Fritz Schumacher and Rudolf Schwarz, have also influenced the urban construction of the city. Clear traces of past periods remain visible in the city, and these remnants have an important morphological influence on Cologne's contemporary urban fabric.

In 2008, Albert Speer & Partners published a new master plan for Cologne. During the design of the master plan, Albert Speer's core question was: "What scope and reserves does Cologne city center have to develop in the coming 15

years, and what are the priorities of the city?"

The master plan for Cologne's inner city is an instrument for evaluating opportunities and opportunities at the levels of urban planning, transport planning and the design of open spaces. It deals with the theme of the "Inner Renewal of the City" and is based on current and coordinated urban development policy guidelines. At the same time, it is a position evaluation, a test instrument. The master plan not only reveals opportunities but also the temporal coordinates of important future events and projects.

By analyzing the morphological changes of the urban pattern of Cologne (from past to present) it becomes clearer that Speer is exploring the "shards" (potential building lots) of the existing urban pattern, in order to optimize this pattern. Various developments from the past have changed the urban pattern of Cologne several times over. One part of the master plan shows the possibilities of optimizing the shards that have arisen throughout the years in the urban fabric of Cologne.

Problem definition and research question

In addition to the possibility of initial implementation, in some cases Speer's master plan requires more detailed elaboration and explanation. In the master plan, Speer makes suggestions about the possibilities of improving the city by optimizing the potential building lots; but in many cases, it is unclear how a certain improvement could really be applied to that specific location. With the exception of the alignment of the potential new volumes, the master plan does not contain any explanation about the heights, function or shapes of most of the new initiatives. An examination of Speer's master plan forms the basis of this design. The goal of this thesis is to explore Speer's proposals and to test alternatives, in order to decide which solution is most appropriate for the specified location. The master plan also functions as a manual, to test the opportunities for developing an overall view of a unique city silhouette on the right side of the Rhine (Rechtsrheinische).

In order to test the vision behind the master plan, Speer selected a number of key locations where all of the potential ideas (Leitprojekte) are tested on scale of 1:1000.

One of the projects in the master plan is the Barbarossaplatz, a busy, concise urban space with a complex infrastructure of tram and car traffic. Barbarossaplatz is part of the Salierring. The Salierring is a part of the Kolner ring, and was designed by Stübgen as one of the ten boulevard segments of the city. The squares Barbarossaplatz, Rudolfplatz and Ebertplatz were designed as important aesthetic spaces on the boulevard, often decorated with

trees and statues. Following the First and Second World Wars, these locations are difficult to recognize today. Events including technological developments, population growth and wars have made the locations in question what they are today; there is currently a monotonous atmosphere in the vicinity of the Barbarossaplatz. Today's architecture looks dull and has little character. The keystones that were a dominant element in the appearance of the Barbarossaplatz are no longer there. Speer's plan to fill the missing part of the building block initially drew my attention. After observing the location twice, I concluded that this location should be chosen. Upon consideration of the existing morphology and architecture and the empty lot, opportunities arise to improve the urban pattern and the aesthetic qualities of the Barbarossaplatz and its surroundings. The new addition will not only be a useful building, but will also make a contribution to the existing urban and architectural qualities which originate from the Neustadt period. The empty building lot is currently neglected and adds no relevant quality to the environment, functionally nor aesthetically. The design process will be elaborated through a location analysis and form studies.

Based on these data and findings, the following research question has been formulated:

How can a contemporary keystone be designed for the Barbarossaplatz that can add a new architectural, functional and morphological dimension to the location, while simultaneously reviving the appearance of the characteristic pre-war keystone? At the same time, how can the new addition(s) strengthen the morphological composition of the area?

A contemporary keystone for the Barbarossaplatz

The primary objective of this process is to realize a design that fits within the identity of the city of Cologne, while contributing to the urban quality of the Barbarossaplatz and its surroundings. The main aim is to design a new initiative that forms a whole with the surrounding buildings. The location needs a new identity in terms of architecture, but at the same time it needs to fit with the existing context. The analysis of Albert Speer's master plan and proposal forms the basis for this design. The primary objective of this process is to realize a design that fits within the identity of the city of Cologne and at the same time has a share in the urban quality of the surrounding locations of the Barbarossaplatz.

The essence of the design is mainly based on the questions: "How was the Barbarossaplatz in the past?" and "which aesthetic values are present today?" The history of the place is important, because it can be interpreted in the design and thus give a new image to the city.

Methodology

At the beginning of the project, research was being conducted into the history of Cologne in general. Through the use of card materials and literature research, the aim was to get a better picture about the development and the future vision of the city. After that, the next question was: which addition could be interesting to improve the city? To get a better insight about the possible interesting locations, some locations were selected to visit on site.

After the decision for the location, analyses with scale models and 3D-models were made to test the possibilities of the location. Analysis of existing building styles, buildings and urban fabrics were important form a concept for the design. After the decision of the new additions for the city was made, research into the possibilities of the site has been done through program analyzes and mass studies. These design tools were decisive for the end result.

1. The Historical Layers of Cologne



Fig.1 Cologne after WWII - 1945



Fig.2 Roman era



Fig.3 Painting made by Anton von Mors - Cologne 1531

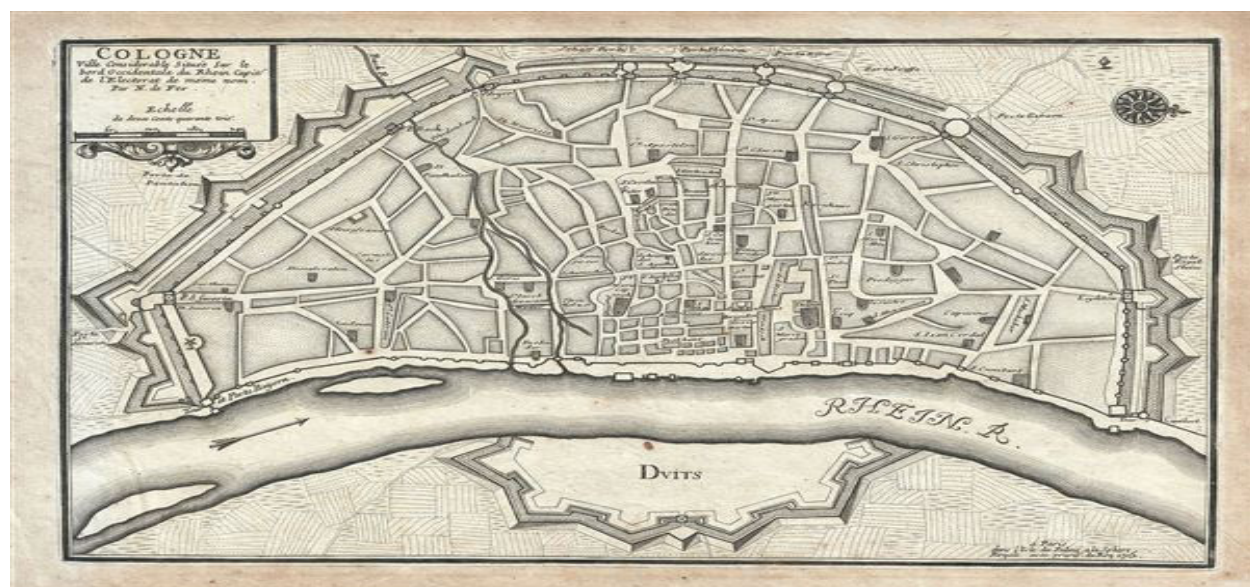


Fig.4 Card Cologne 1705

Roman Period

Cologne is one of Germany's oldest cities. The name Cologne originated in Roman times; it has been a settlement since 50 AD. The birth of the wife of the Emperor Claudius elevated the settlement to a colonia and a Roman city. Its first traces exist before Roman times. The first inhabitants of the area, the Eburonen, were located in the current city of Deutz. However, when the Romans stepped up to the Rhine in 19 BC, the settlement was moved to the other side of the Rhine. During these early years the Romans mainly used the city as a garrison city, where Roman legions coexisted peacefully with the original inhabitants of the area. Change came when the then Roman Emperor Claudius (10 BC - 54 AD) married the daughter of a ruler in Cologne. In her honor, Claudius decided to baptize it as a governor city, changed its name to "Colonia Claudia Ara Agrippinensium" and built a wall around the city. Prosperity was high in the city, partly due to trade; among other things, wine, metals, skins and leather were traded in Cologne.

A map of the old city center still shows the ancient Roman walls and the rectangular street plan. In 310 AD, the Roman Emperor Constantijn built a bridge across the Rhine. Around 450 AD the city was subsequently destroyed and occupied by the Frankish Empire, who settled inside and partly outside the walls.

Middle Ages

In 455, the decay of the Roman Empire began a new era for the city. Cologne came under the control of the Frankish Empire, during which time the city had a different purpose to before. The strategic orientation of the city was used to expand the Empire's influence in the region. Gradually, Cologne became the center of the Frankish Empire. In 881 the city was destroyed again, this time by the Norwegians; a change in the street pattern dates back to this time.

Around 950 AD, Cologne became an important trading city due to its favorable location on two major trade routes: the ancient Roman route and the Rhine. Moreover, the Archbishop of that time, Bruno I, played an important role. He conducted many trade missions to find allies and trading partners. In 953, the city became a religious state as a result of an election. The old agricultural community had come to an end by 1000 AD, and a new commercial life began to develop. The area between the East Roman walls and the Rhine, where a market had become established, was incorporated into the fortifications. This was the first expansion of the Roman city. The Roman walls to the north and south were extended to the Rhine, and contain 52 towers and 10 gates. These new strong walls, towers and gates made Cologne untouchable. The largest expansion of Cologne was in 1180, which gave the city the shape of a half-circle with the Rhine as its base. The location of Cologne on the River Rhine and on one of the main trade routes between East and West was the cause of the city's growth.

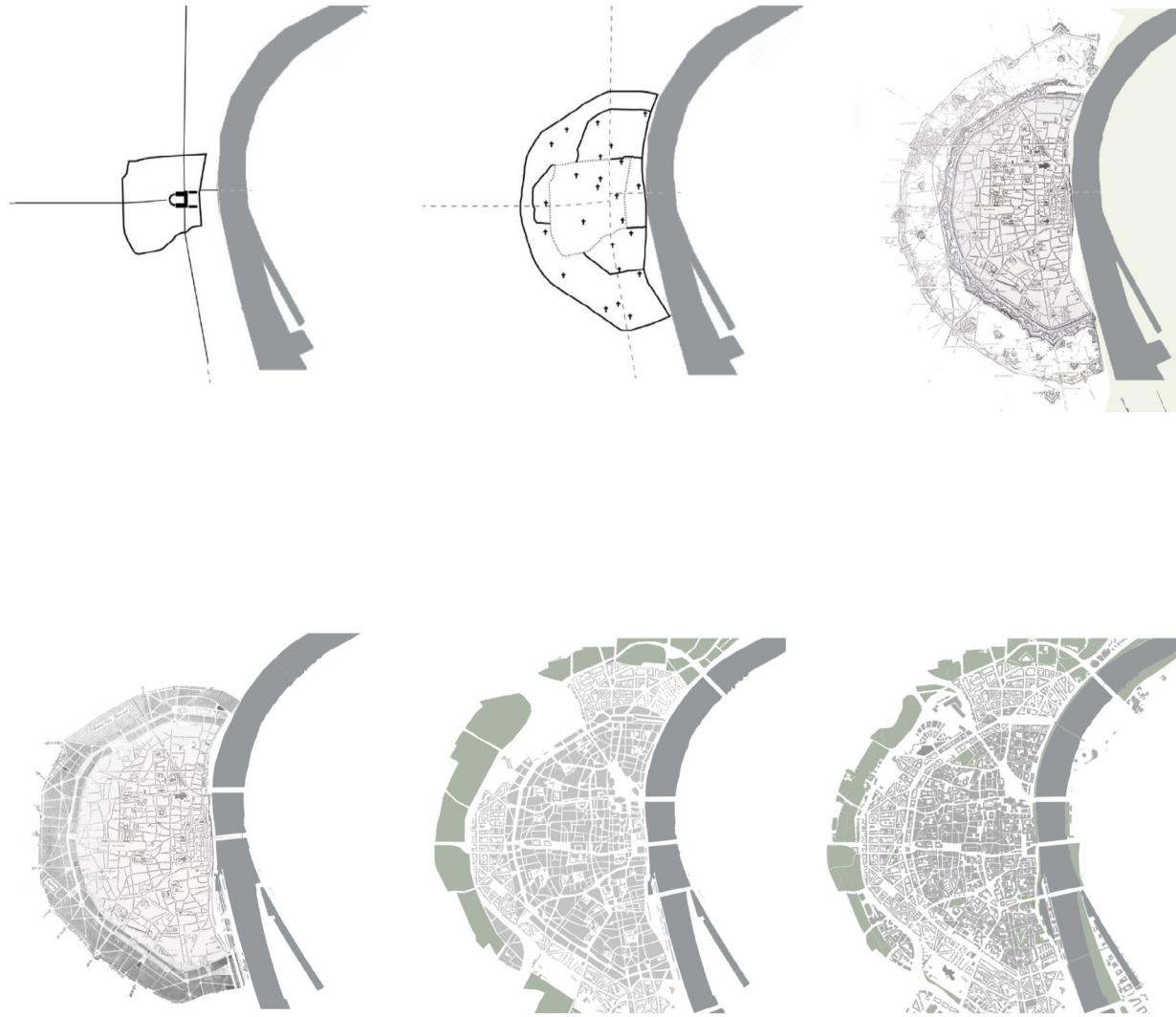
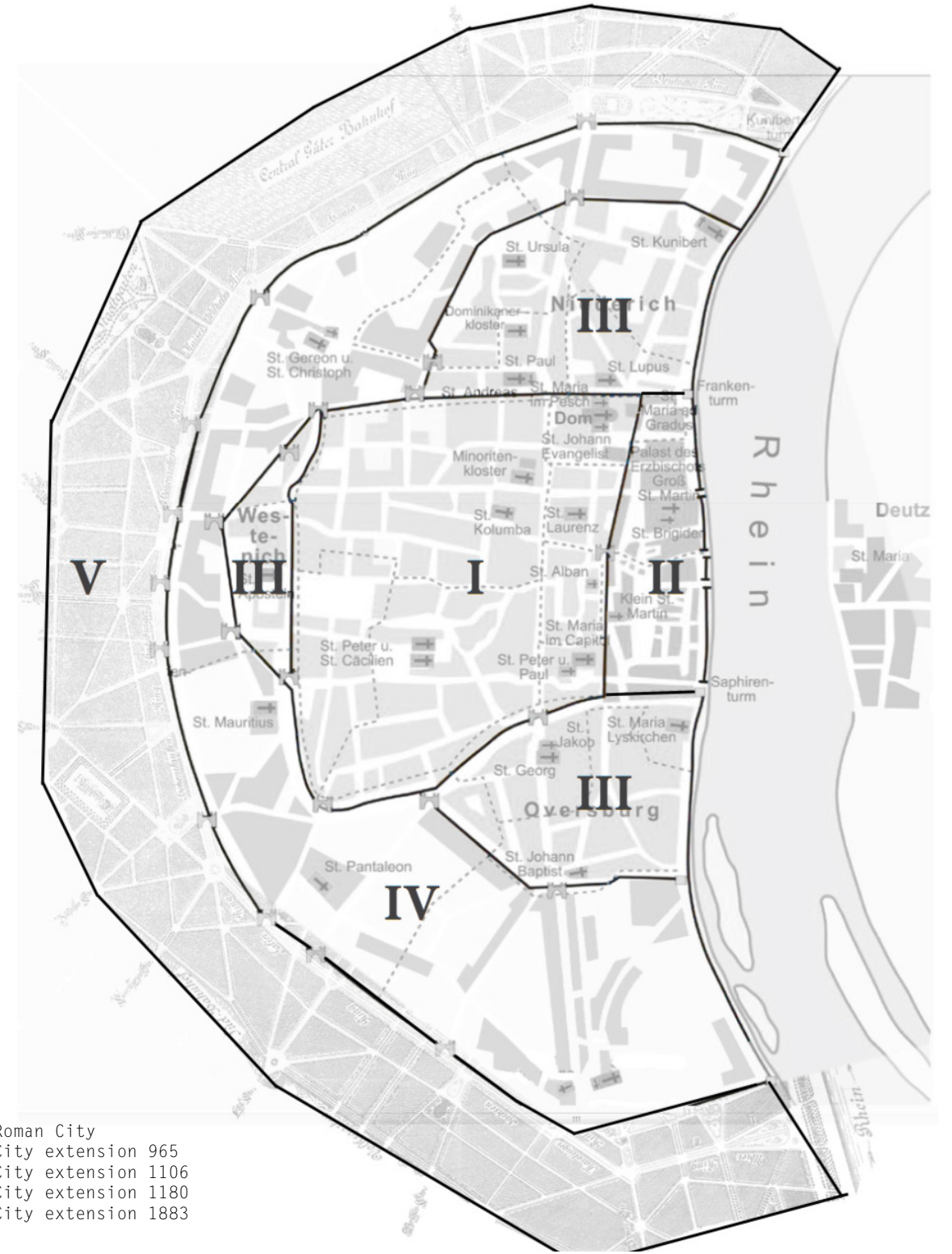


Fig.5 Development Cologne through the years



- I - Roman City
- II - City extension 965
- III - City extension 1106
- IV - City extension 1180
- V - City extension 1883

Fig.6 Phases expansion Cologne

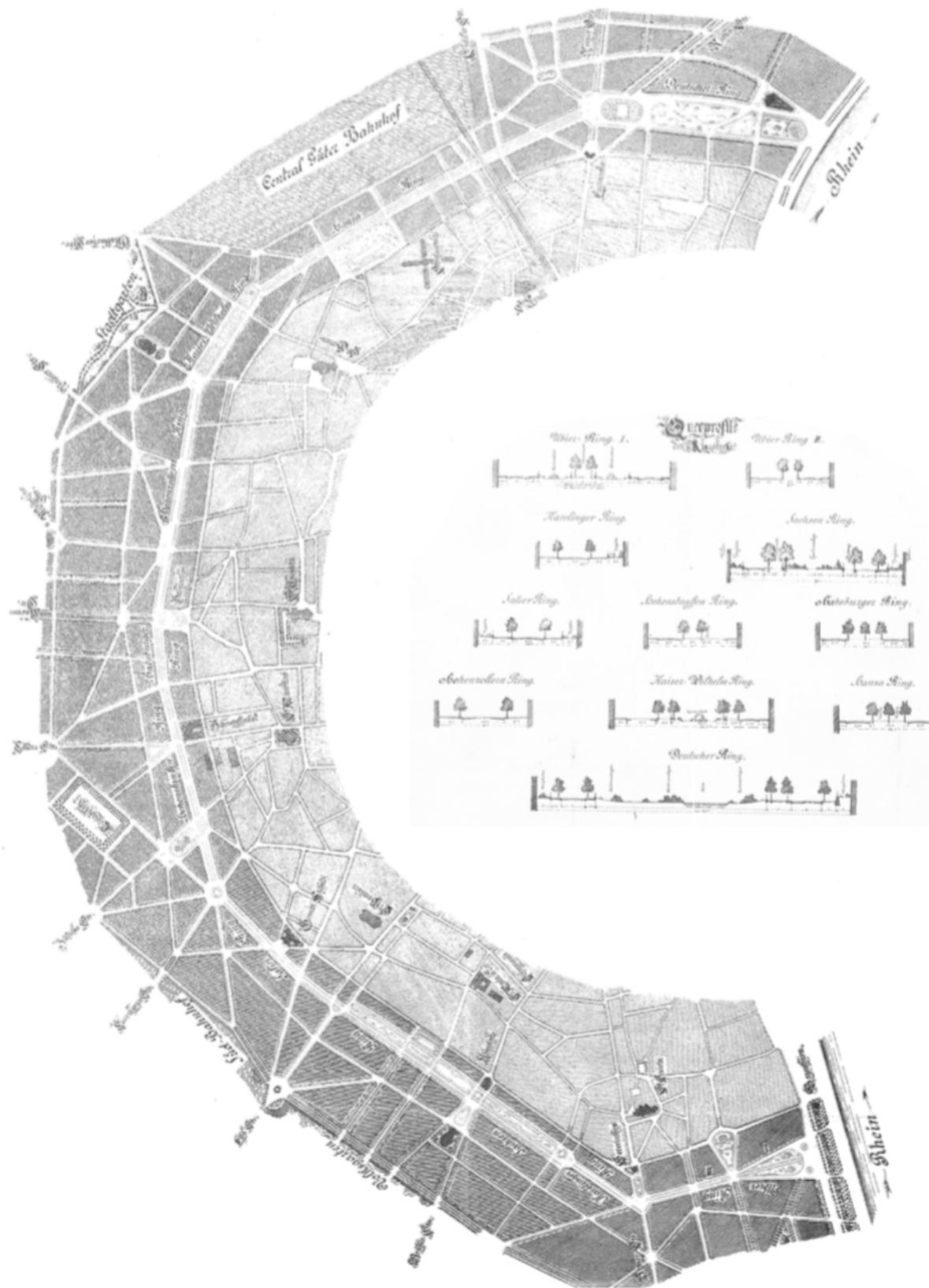


Fig.7 Kölner Ringe designed by Stübben

Between the 12th and 15th centuries, the city experienced its golden days and grew into one of the most populated and richest cities in Germany. From 1288 the city was ruled by a selected group of citizens, while the Archbishop's power was limited to religion.

A bloodless revolution took place in 1396, and an allied group of citizens marked the end of aristocratic domination. One of their first completed plans was the construction of the first university and city hall. In 1475 the ruling power changed again, and Cologne became part of the "Freie Reichstadt." This name was given to the cities in Germany that were not under the control of the Archbishop or the Church, and thus did not have to pay a regular burden to the Holy Roman Empire.

Neustadt

From 1816 the number of inhabitants in Cologne grew immensely. In 1816 there were 52,954 inhabitants in the city, 114,477 in 1858, 138,000 in 1870, and 144,772 in 1880.¹ By 1870, 345 people were living in Cologne for every hectare of ground. This density was very high compared to other large cities like Hamburg (260), Paris (236), Berlin (112) and London (96). Eventually, an expansion of the city became necessary (Kier, H., 1978)

In 1880 the City Council decided to hold a design contest for a major urban expansion. The aim was to increase the size of the currently built area of Cologne with the addition of the newly planned "Neustadt" by doubling it (from 400 ha to 800 ha.). In total 27 plans were submitted, of which 22 were immediately rejected. One of the five remaining entries was the plan by Karel Henrici and Josef Stübben, which contained a design for a new route that circumvented the old city center.

To build this ring road the old medieval city wall, along with its eleven forts and seven towers, had to be demolished. Karel Henrici and Josef Stübben won the first prize with their plan, and shortly afterwards Josef Stübben received the name "Stadtbaumeister" of Cologne.

Stübben was inspired by the Grande Boulevards that were being built in Vienna and Paris at the time. He divided the railway into seven sections, each 40-50 meters wide. The road would be built as a lane with representative buildings, including museums, an opera house, churches, schools and a bathhouse. In 1881 demolition of the old city wall began.



Fig.8 Kölner Ringe designed by Stübßen

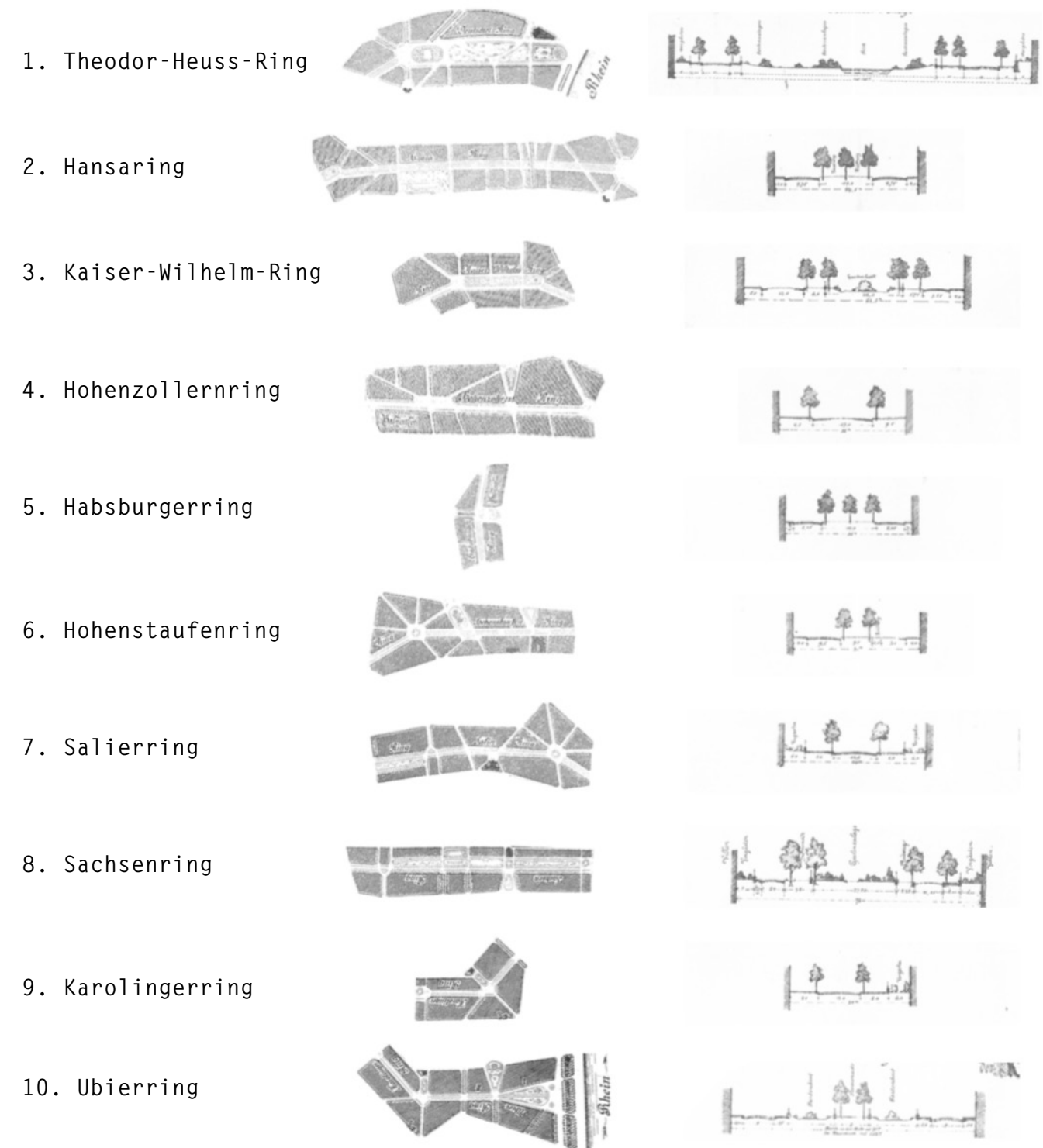


Fig.9 The ten segments of the Kölner Ringe



Fig.10 Demolished bridge - 1945



Fig.11 US Army taking over the city - 1945

Cologne after WWII: "das Neue Köln"

This paragraph uses parts of the essay "History of the perception of post-war architecture in Cologne" which I wrote together with Sander van Drooge and Martijn Naus for the course "Research in Urbanism and Architecture II." All of the sources used for the essay are mentioned in the references.

"Like many other German cities, the greater part of Cologne was destroyed during WWII and its reconstruction has left a decisive mark on the city. Hardly any other city in Germany still offers such a rich repertoire of fifties buildings as Cologne. The main reason for this is primarily the severely destroyed state of the Rhine metropolis after WWII, where 78% of the building stock had to be rebuilt or reconstructed (Lieb, 2007). It was necessary to develop a coherent concept for reconstruction, which could satisfy both urban design and architectural requirements. However, at the same time there was a need to build in a quick and easy way to realize a large number of new buildings in Cologne (Lieb, 2007). Architect Rudolf Schwarz developed a general plan for Cologne, which is still the foundation of the architectural and urban structure of the city. He presented his master plan in the book "das Neue Köln." Schwarz's master plan served as a proposal for the street plan and the contours of the urban objects. His plan shows the preservation of the medieval street pattern, the old small scale, church buildings and representative medieval buildings such as the Gürzenich (the old part). The approach of Schwarz was different from the modernist strategy, which did not show in its design the history of the city."

After the war, churches with some green space were the first to be reconstructed. The north-south and east-west axes were two major roadways, and were designed to be integrated into the historical context. In addition, Rudolf Schwarz claimed that traffic jams followed the boundaries of medieval parishes. Schwarz assumed that the traffic between the Neumarkt and Heumarkt would be relieved by the north-south axis. As a result, Holy Mary in the Capitol and the market were integrated into the inner city.

Historic Cologne has been preserved in the newly rebuilt city. This was recognized as a chance to make corrections in the historically developed urban landscape. The rapid and unpredictable growth of traffic also took its toll with the radical expansion of the city (Lieb, 2007). Gottfried Bohm, Hans Schilling and Maria Schwarz were involved as architects in the reconstruction of Cologne. In the book "Die Dynamik der fünfziger Jahre" they were interviewed about the situation after WWII and the progress of Cologne's architecture over the years. To the question "How do you remember the post-war situation in Cologne and the ideas that have been developed to restore and rebuild the city?" all three architects gave a similar answer. The task of rebuilding was urgent for the city; however, at the same time everybody was trying to heal the wounds that were brutally inflicted on the city during the years of Nazi dictatorship. The greatest problem after the war was that there were no stones, no wood, no concrete, no construction companies and no craftsmen. All of these obstacles made the reconstruction of Cologne extremely difficult, and everything developed very slowly.



Fig.12 Picture Fischermarkt taken by Hugo Schmolz - 1947

There was an urgent need to build quickly and easy. However, at the same time, it was a huge challenge for the architects to rebuild the city and improve the inadequacies of Cologne (Lieb, 2007).

the process and the changes that Cologne has experienced, it becomes easier to understand the decisions that were made in the past, and also provides a new input of information for the design process.

In the plan for Cologne, Schwarz planned a city ring extending above the Rhine in order to connect with the city of Mulheim. This road would concentrate all movements of the main transit traffic in the outskirts of the city, so that the core could eventually come to rest. By creating the main highway, Schwarz tried to protect the Old Town while simultaneously representing the natural course of the Rhine he planned to save and integrate the historic core of the city. In order to achieve his vision, he created the concept: "De Doppelstadt." The idea behind this concept was to modernize the city by adding a new industrial core, while retaining the existing historical core. In Schwarz's plan, the city would exist as a cellular entity of different districts with neighboring nuclei. In addition, Schwarz considered four essential elements in every urban environment: sovereignty, education, worship and economics. These four points can be separated into the same four elements by which each element is represented on the other city; macro, meso and micro level, for example a city, a neighborhood, and a building block.

During the expansion of Cologne, the structure of the applied radials and diagonals formed a new urban fabric. The ring boulevard fulfilled its purpose and brought Cologne a completely different style and atmosphere, gradually becoming the main axis within the overall city structure. The exchange of green zones, squares and important buildings at strategic locations initiated a wider spread of urban activities that were initially concentrated in the old city center. Several museums, bathhouses, theaters and religious buildings were visible near the ring.

Following the war a major share of the pre-war architecture was destroyed. Rudolf Schwarz became the city's town planner. He changed the composition of the cultural and religious buildings and placed them mainly in the city center of Cologne. The structures of the "Neustadt" were largely maintained after the war, but the appearance of the city became something very different.

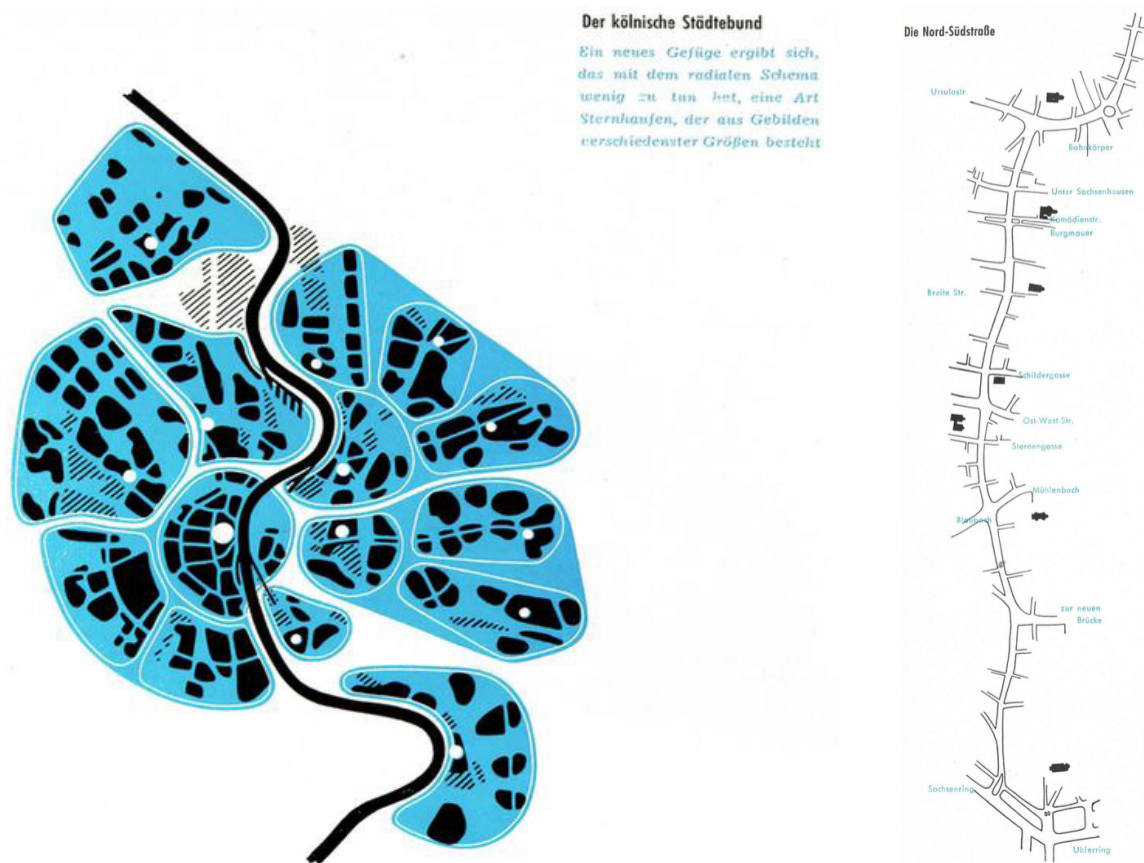


Fig.13 & 14 Main highway (Nord-Südfahrt)

The evolution of Cologne's urban fabric
The transformation in the urban pattern of Cologne is an important aspect of the design task. Considering the history of Cologne, it is not difficult to conclude that Stübgen and Schwarz are the two key figures that have the greatest share in the development of the city's urban fabric. By analyzing and understanding

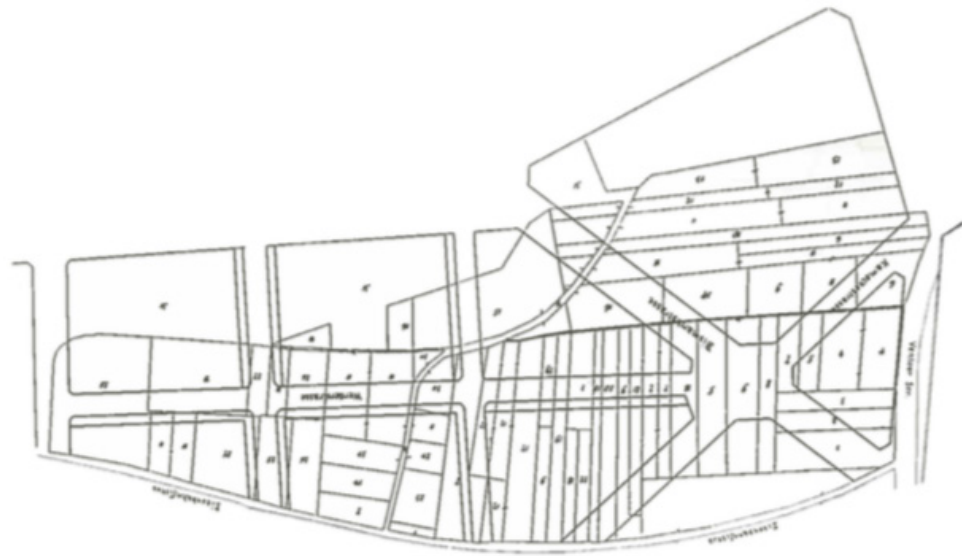


Fig.15 Parceling plan Stübben



Fig.16 Parceling plan Stübben



Fig.17 Detail map Stübben

Neustadt and its corners

In the book "der Städtebau" Stüb- ben presents his philosophy and the principles of urban design. By using examples of various Europe- an cities, he suggests the ideal urban design for a city. By an- alyzing these principles and the result of how Cologne has been de- veloped during his supervision, it is not difficult to understand his vision underlying the master plan of Cologne. The most important aspects of Stüb- ben's approach refer to the formation and the seg- ments of the ring. Stüb- ben divid- ed the fragments in order to make space for the squares and diagonal roads. The ring network became a connection between the Altstadt and Neustadt, and was construct- ed as one element with different segments, each with its own expe- rience. For the boulevard, Stüb- ben used various road widths in order to achieve a variation in the ex- perience. He also placed round- abouts at the traffic junctions. To fill the segments with objects he used elements such as trees, benches, lanterns and statues. Five squares were eventually made through the ring, which were im- portant to give direction to the car traffic. The traffic issue was a very important part of Stüb- ben's master plan; he used star squares known in German as "sterplätze" at the entrance of the city, to dif- fuse the flow of people entering the city. At the entrances of the remaining old city walls, the axes from Eigenstein Tor, Hahnentor and Severintor, the star squares were placed closer to the gate and to the inner side of the existing structure.

For the redesign of the fragments and the street patterns for the inhabitants, Stüb- ben used a con- cept of right-angled lines for the fragments without affecting their widths.

In the book "der Stadtebau" Stüb- ben describes his vision about the corner blocks; he states that chamfer shapes could be used for shop entries. By placing these chamfers in the corners, the block becomes connected with other streets. The chamfer shape turns the corner of the block into a keystone. He also stated that cor- ners with triangular blocks are more difficult to design, but that this could be solved by placing a small courtyard in front.

Schwarz vs. Speer

During the reconstruction process of Cologne, Schwarz focused on the traffic to downtown. He construct- ed wide roads and intersections to facilitate access to downtown. Meanwhile, Speer had the ambi- tion to bring the ring closer to its former state by using some of Stüb- ben's principles, for example, implementing new green zones. In the master plan the ring becomes a continuous whole. The segments of Speer's master plan are connect- ed with lines of trees. In addi- tion, the squares and green areas are also connected to the ring. For Stüb- ben the improvement of air quality was an important is- sue; consequently, he used a lot of trees in the city. He also used these trees as a connecting ele- ment for the segments of the ring. Because of the increasing traffic and tramlines after WWII, these squares and berms partly disap- peared as the necessity for wider roads arrived. These changes are visible on the axonometric scheme of the changing urban patterns over the years.



Fig.18 Plan Schwarz

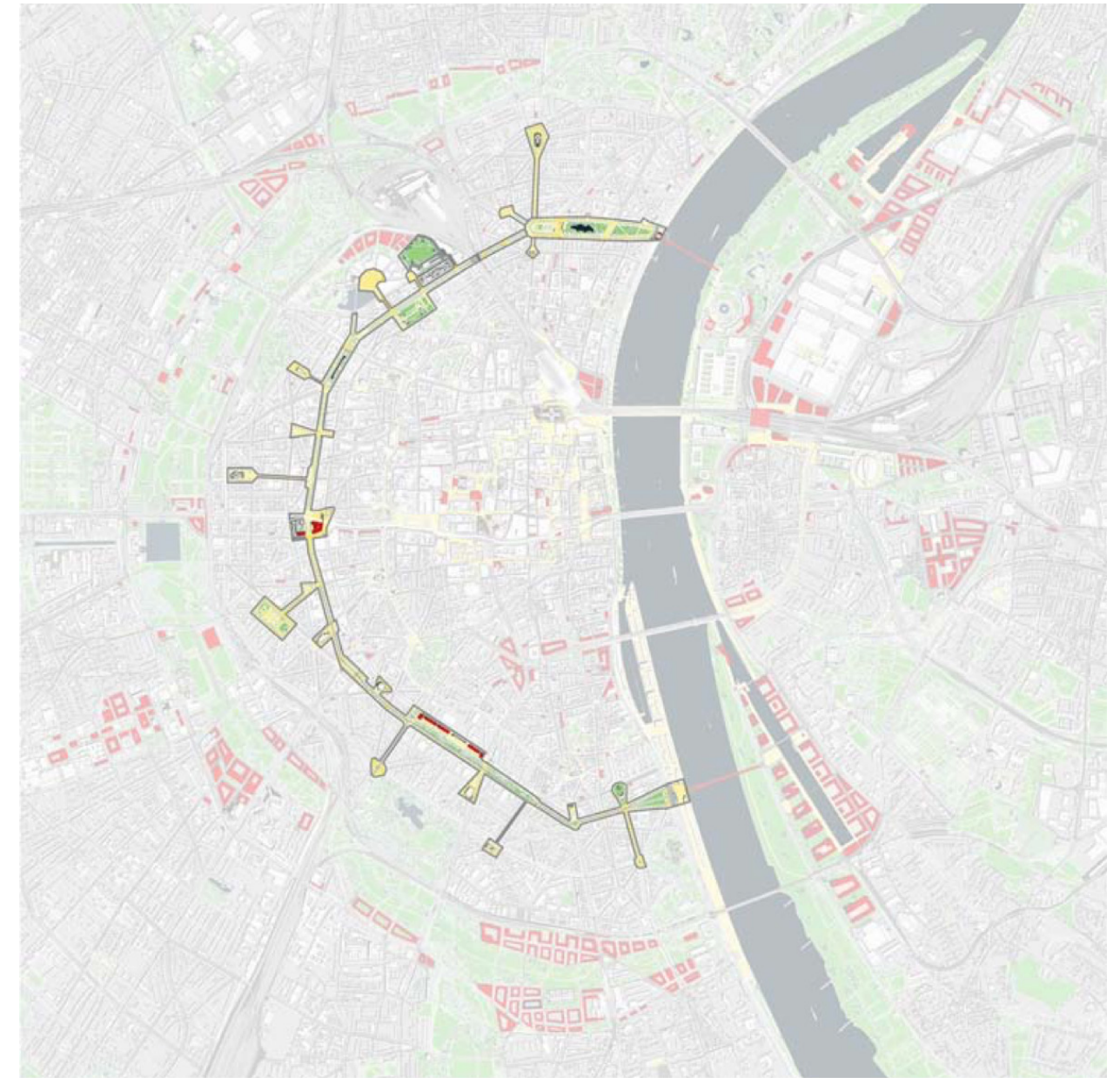


Fig.19 Plan Speer

2. A Future Vision of Cologne



Fig. 20 & 21 Plan Schwarz vs Plan Speer

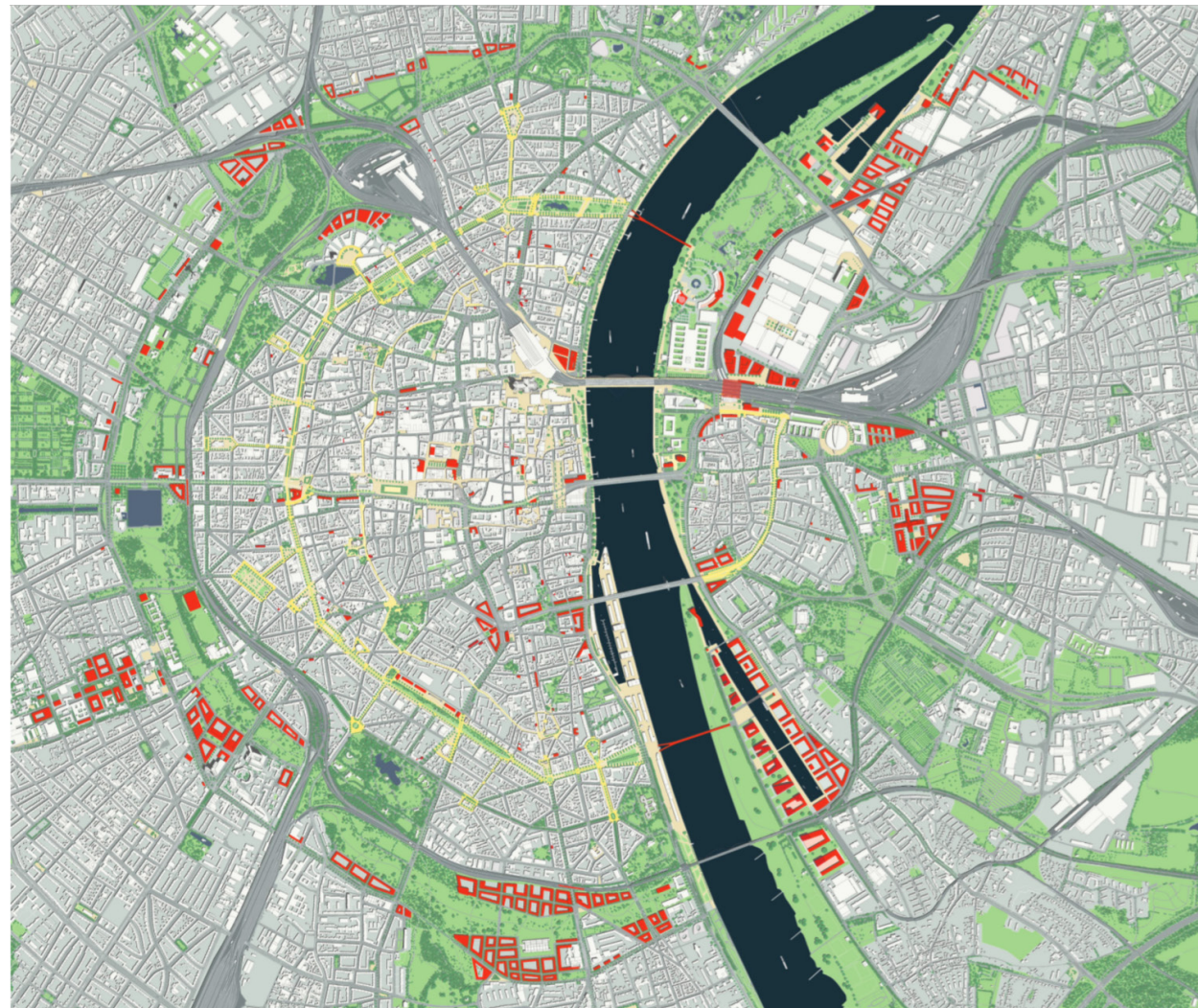


Fig. 22 Overview master plan Albert Speer & Partners

Leitbild 2020

For the City Council of Cologne, the failure to achieve the title of European Capital of Culture 2010 was the main reason to develop new strategies to improve Cologne's social and cultural position. Leitbild is a plan established in 2003 by subcommittees with varying expertise. Various aspects are discussed in this comprehensive action plan. The majority of the plan contains guidelines for arts, culture, sports and youth. Arts and culture should be able to find a place in Cologne more easily, so Cologne offers space for the development of languages and freedom for subculture. According to the plan international attention should be paid to topics such as music, theater, dance, literature, photography, innovative events, exhibitions and festivals. The main goal is to improve the quality of life through arts and culture, which are essential elements of basic social needs and are important for enhancing the quality of life for all residents. The culture industry is promoted as part of the overall economy. The city wants to create creative living and workplaces with versatile offerings to match the needs of society. The accessibility of culture-related activities for all groups within society is also important.

Leitbild also provides opinions on the composition of an attractive urban planning plan. People from the community, investors and politicians were concerned about the city's image, resulting in discussions on strategic issues. Improvement of public spaces, urban living and intergenerational housing facilities were identified as issues to be dealt with. Structural work must be done to improve and develop new public spaces; urban living can be stimulated through mixed building

functions for living, working and recreation; and outdated structures within the city can be renewed with similar systems. Some parts of the city have too few flexible urban spaces that can accommodate relaxation, meeting and activities.

Albert Speer's master plan

A few years after the publication of the Leitbild 2020, Albert Speer & Partners was commissioned to develop a new master plan for Cologne. Almost 60 years after Rudolf Schwarz's plan, once more there was a need for a new master plan. In contrast to previous plans, not only the City Council but also industry, the commercial sector and the Cologne Chamber of Commerce have influenced the development of the master plan. One year after the publication of the plan, it was adopted by the City Council as a guideline for direct and future interventions in Cologne. This urban master plan outlines important themes and objectives for the future development of the city over the next 15-20 years. The plan deals with various economic, social, tourism and infrastructure aspects, and proposes concepts for the current visions of its citizens and the government. The plan is also to seek a balance between the occasionally contradictory wishes of businesses and the City Council.

For each area, interventions are presented at different scales. These range from interventions in the infrastructure to the formation of totally new areas and neighborhoods. Small-scale proposals are also made in the form of small blocks or the addition and presentation of existing structures. Interventions in sub-areas have their own character, but on a larger scale are again inseparable. Statements are also made about the field of analysis of this graduation workshop.

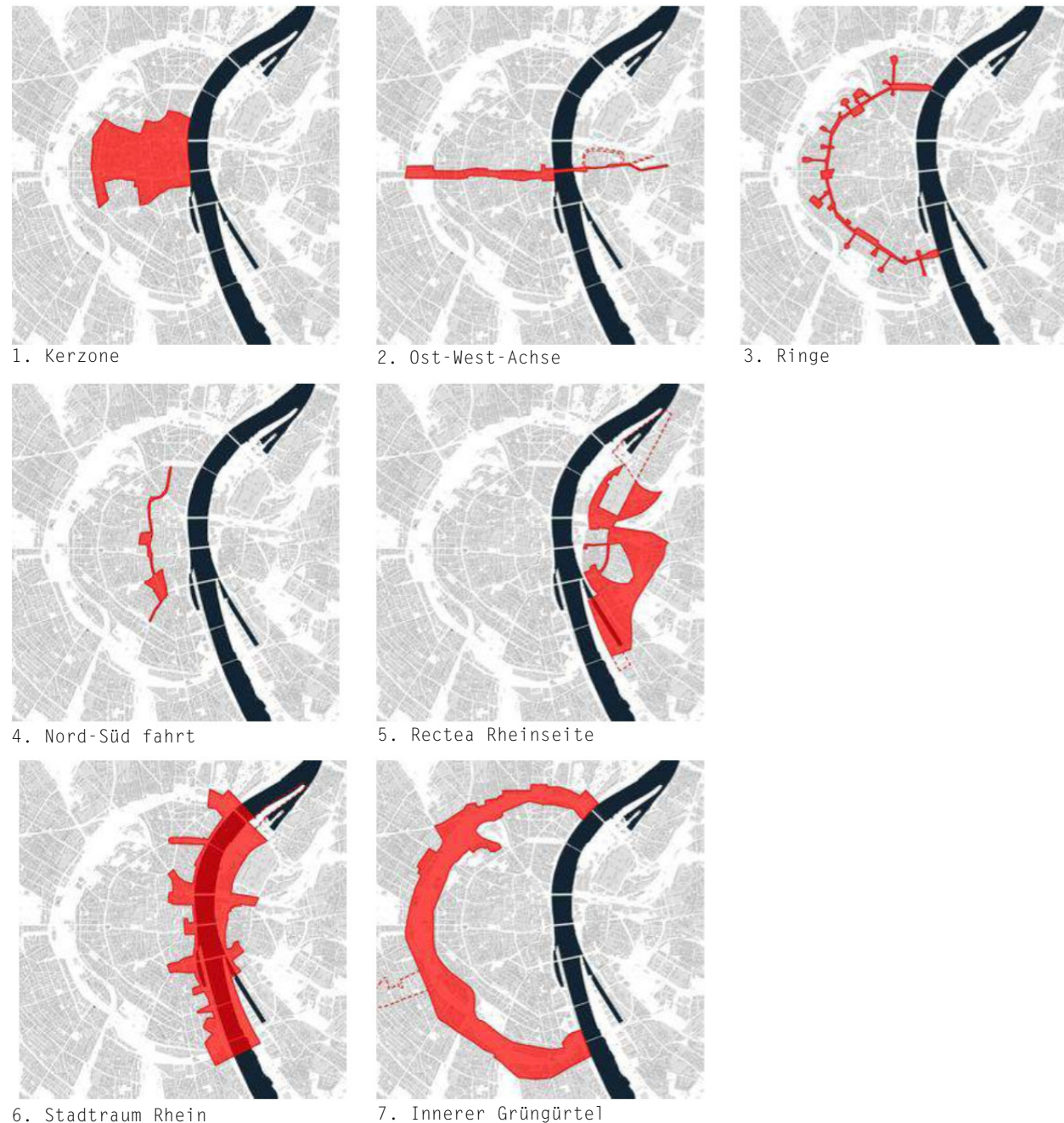


Fig. 23 The seven intervention rooms

Speer's master plan consists of seven intervention rooms, which now form the basic structure of the 2,000-year-old city on the Rhine. The aim is a holistic and mutually coordinated development of these intervention rooms. In the medium- to long-term, the design of the intervention rooms, as long as they are of exemplary functional and design quality, will also provide motivation for the promotion of neighboring urban areas. With its focus on intervention rooms, deepening areas and pilot projects, the master plan is a strategic instrument that is modular and capable of being updated. Albert Speer & Partners' proposal for the Neustadt aims to restore the attributes of buildings that disappeared after WWII. In general, this seems like the restoration of some of Josef Stübben's principles. An extensive green network has long been an important character of the ring. However, over time the green fell into decline and was even seen as an obstacle in some places. The strong connection between the green areas and the ring as green ash has consistently decreased. Meanwhile, many squares have been completely deformed and have lost their character. These are largely the effects of infrastructural changes that shall now be reversed, to give the squares a green and pleasant atmosphere. A new green impulse and the recovery of connections is an important point of the plan.

A vital part of this is the displacement of sections of the tram-lines underground. In the post-war period, the streets were adapted to accommodate the rise in cars and electric trams. This resulted in less space for pedestrians. There is often no flowing transition, which causes abrupt change when proceeding from start to finish.

As a result, Speer's proposal to reinforce the concept of the ring seems very obvious, but the ring currently lacks a connecting element.

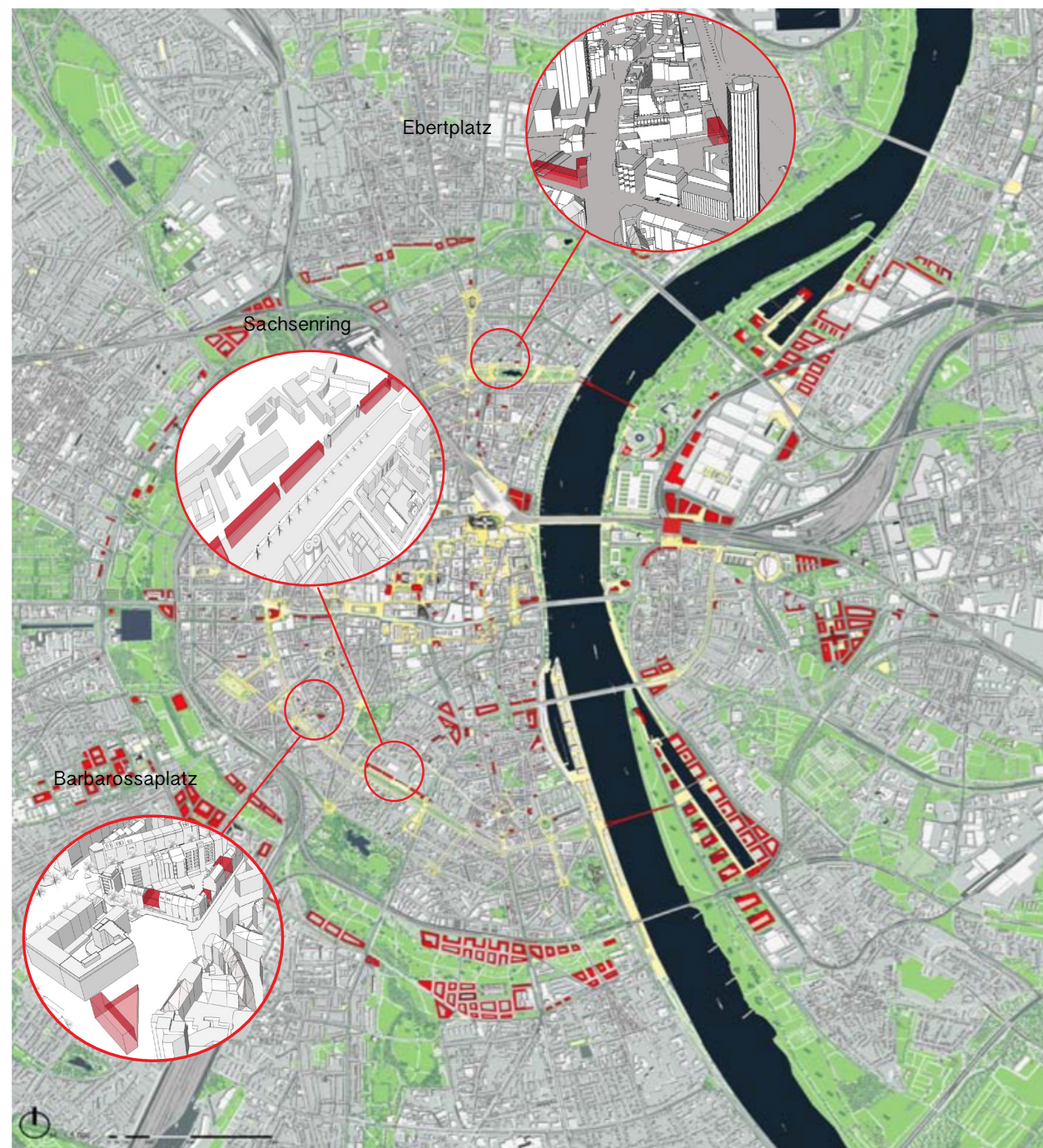


Fig. 24 Closer look to the intentions of Speer

The Plans of Albert Speer & Partners three-dimensional

During the study of the master plan, some of the locations are viewed closer to understand the approach and vision of Speer for different Urban Situations. Three locations in the Inercity are three-dimensional displayed in order to identify the differences in the approach of Speer.

At the same time this close view to the master plan may show the differences in approach and philosophy of both Architects.

The three Locations are:

1. Sachsenring: principle with separated low volumes of the same height.
2. Ebertplatz: principle with a landmark and low adjoining buildings located at a Junction, combined with green zones.
3. Barbarossaplatz: principle with two (semi) closed building blocks located at a junction and a empty lot (which is marked as a potential building lot by Albert Speer in the Masterplan).

1. Sachsenring

At the Sachsenring a small piece of the old City Wall is still left as a monumental object in the Landscape. Speer has developed five separated volumes that consists the same height as the City Wall. Speer didn't want to subordinate the monumental wall to the new volumes and has prescribed that the new volumes needs to consists the maximum height as the old City Wall.

2. Ebertplatz

The selected block is located at a traffic junction and consists a green zone which is marked as a building lot by Speer. Speer removed all the trees between two lower volumes in the Masterplan and created a potential building lot.

Speer shows once again his strong desire to complete the missing parts of the building lines by adding a new volume to the existing urban pattern.

3. Barbarossaplatz

The selected area consists two blocks with mixed functions and a building lot which is marked as one of the potential development sites in the Masterplan of Speer.

The Masterplan shows how Speer wants to fill up the lower parts in the blocks and build a new volume with a maximum height of the existing ridges of the adjoining buildings. The conclusion is that these decision shows that there are differences in the approach of Schwarz and Speer of creating Landmarks an new volumes.

3. Site Analysis



Fig. 25 Barbarossaplatz in 1900



Fig. 26 Mixture of colors and styles



Fig. 27 Diversity in heights



Fig. 28 Location building in perspective



Fig. 29 Office and stores next to the location



Fig. 30 Tram stop



Fig. 31 Diversity in color and porpor-



Fig. 32 Landmark Rudolf Schwarz

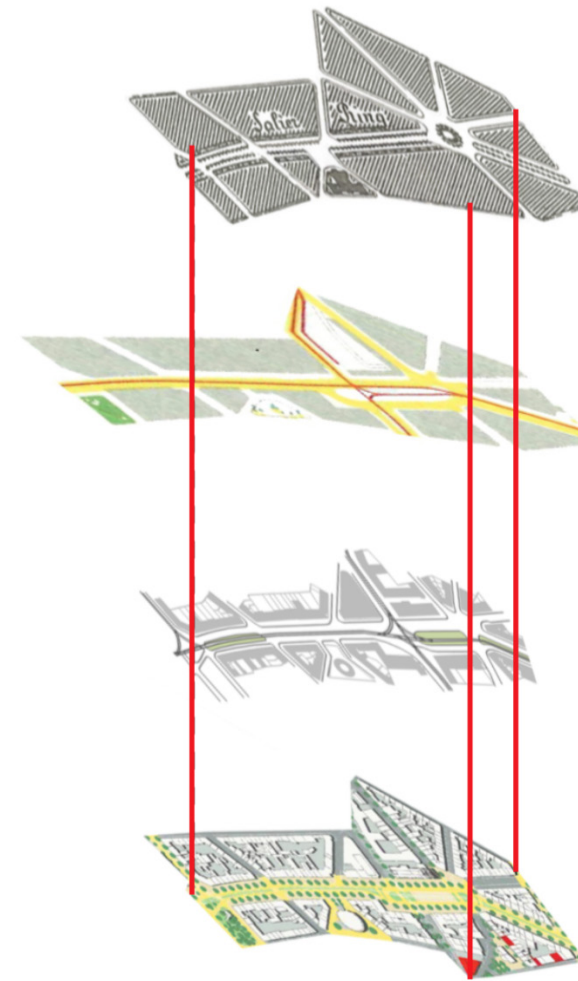


Fig. 33 Axonometry Barbarossaplatz

Location: Barbarossaplatz

The Barbarossaplatz is a traffic junction passed daily by many trams, cars and pedestrians. The area comprises several functions such as shops, hotels, offices and apartments. It is a tram interchange, where passengers can change their direction by switching tramlines. The Barbarossaplatz was designed by Stübben as one of the five squares in the Kolner ring. While a few elements of Stübben remain visible in the area today, the original plan has largely disappeared. In the original state of the Barbarossaplatz there was a fountain in the middle of the square, with a clear structure of trees surrounding the fountain and streets. After WWI, the layout of the square was partly changed. The fountain in the center of the square was destroyed,

and was not restored after the war. Instead, a rail system for trams was built; this was the first big change on the square. The rail system is still one of the square's important characteristics, and is still sited on the Barbarossaplatz today. After WWII, as everywhere in Cologne, a large proportion of the buildings were destroyed. Schwarz replaced the destroyed buildings within the existing Stübben blocks with new buildings, and completely rebuilt the heavily damaged building blocks. The shape and architecture of the post-war building blocks changed during the reconstruction of Cologne. The strict application of truncated corners was not continued by Schwarz; as a result, the composition of the blocks in the Barbarossaplatz has also changed, and the old Stübben keystones around the square are no longer there today.

Impressions Barbarossaplatz

The diversity in shape of the building blocks is also visible in the architecture surrounding the Barbarossaplatz. The area consists of buildings with different styles of architecture, in which the layers in the urban pattern are also visible. Among the assortment of architectural styles, the new design should first of all be timeless. In this way the new building will contribute to the synergy of the mixture of architectural styles.



Fig. 34 The bufferzone Barbarossaplatz

Barbarossaplatz: a buffer zone from the Stübben pattern to the post-war pattern

These changes in the urban fabric of Cologne have also influenced the Barbarossaplatz. Maps reveal the changes of the transition from the “Stubben blocks” to the post-war blocks in the area of the Barbarossaplatz. The different shapes of the urban patterns are obvious at the Barbarossaplatz; the top view shows the Barbarossaplatz to be a buffer zone, whereby the pre-war and post-war building blocks form the urban pattern of the Barbarossaplatz area. In completing the missing link (an empty building lot) it is important to examine how the new building will fit within the existing urban fabric. The proposal of Speer, with the chamfered corner, seems logical when considering the shape of the lot and the way that Stübben finished the corners of the building blocks during the period of the Neustadt.

4. Design Task



Fig. 35 Location

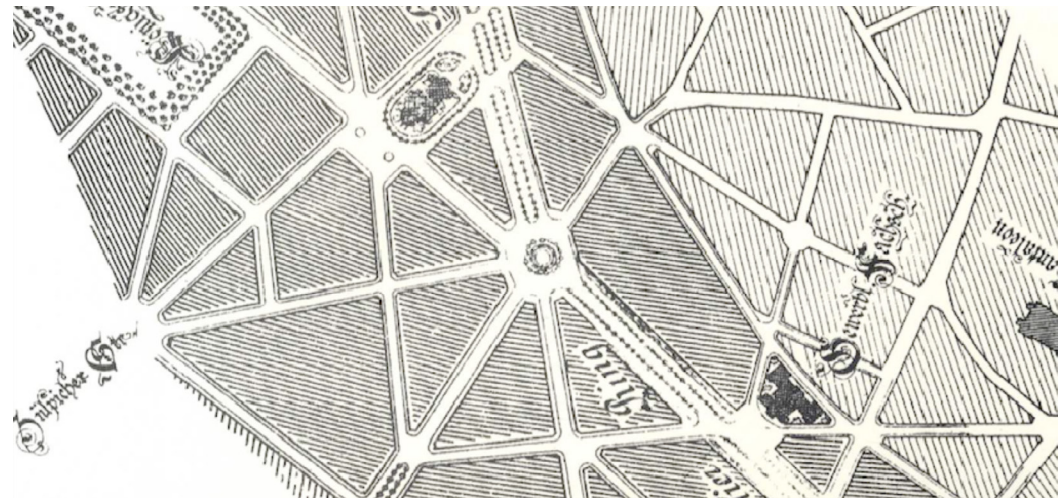


Fig. 36 Barbarossaplatz in the Neustadt period



Fig. 37 Barbarossaplatz current situation



Fig. 38 Proposal Albert Speer

Location and proposal of Albert Speer

The large-scale recommendations made by Speer in the master plan have already been described. However, there are also numerous more minor interventions that directly affect the morphology and use of the location. Like many other proposals in Speer's master plan, the proposal for the Barbarossaplatz does not clearly show how to deal with some important aspects. The green zone is selected as a potential building lot, but the connections for the pedestrians and volume (height) are not clear. Speer drew a triangular shape that fits the shape of the lot. The analysis will show which solution would fit the project and location. By carrying out form studies and analyses with a 3D model, the optimal shape and program for the building will eventually be chosen.

Barbarossa Art Center: a new hotspot for art and entertainment

The aim is to design something that fits into Cologne's future vision, and the Leitbild 2020 and the master plan provide some good ideas on this subject. The intensity of the location offers opportunities to develop an interesting program for the Barbarossaplatz. The municipality of Cologne's wish to encourage the creation of all kinds of art is an important issue; Cologne wants to become a true art metropolis in the near future, and because of this more art facilities will be needed in the city. These facilities need to be reachable for ambitious young and old artists alike, without making excessive investments. The function and use of the new building needs to be flexible. In this way, the building can be used for various art and entertainment purposes. The location Barbarossaplatz is good for such a function, given its central location and busy circulation.

5. Concept and Design

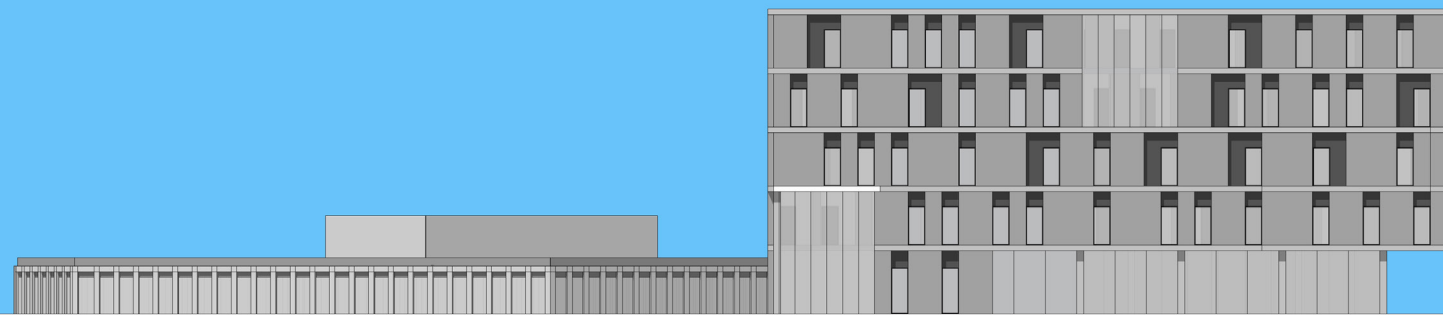


Fig. 39



Fig. 40 Post-war keystone



Fig. 41 Post-war keystone



Fig. 42 Mixture architectural styles



Fig. 43 Mixture architectural styles



Fig. 44 Mixture architectural styles



Fig. 45 Oval post-war keystone



Fig. 46 Barcelo Hotel



Fig. 47 Rudolfplatz

Aesthetic diversities in Cologne and design approach

During WWII major parts of Cologne were destroyed, which were subsequently filled during different periods. Cologne today has become a patchwork of different urban structures and building styles, and a variety of different styles have become visible in the city. During my three visits to Cologne, despite the collage that has developed in Cologne over the years, I observed that the relationship between the buildings is balanced and the city generally expresses a total picture. This is partly due to the application of recurring characteristic features such as a generally severe façade rhythm, rectangular form language and repeated use of the same materials. In order to further develop the existing situation, it is desirable to retain some of the characteristic elements that are present in abundance. Such characteristics can be location bound, but also occur in other parts of Cologne. These determine the framework in which a personal manual can be formulated for designing the project.

Inspiration

While determining the assumptions of the design, it was initially considered which design approach would fit the assignment. The design of Caruso St. John for the Rudolfplatz is an important source of inspiration. The design for a mixed-use building consists of a number of important recognizable elements that have contributed to the end result. The elements referred to in the design are the dark gray stones in the skirt and the Hahnentor tilt, in the form of a wavy volume on the top floor. Another important element in the design is a strict façade, which is present in Cologne in abundance. By recognizing these elements, a suitable architecture can be developed for the chosen

location in combination with the contemporary vision. In addition to the example of Caruso St. John, a number of other projects were a source of inspiration during the design process. The Sergison Bates buildings in Shanghai and Geneva are good examples; the approach of Sergison Bates involves the use of some essential aesthetic values and elements of the environment in almost every task.

“The Novartis office building in Shanghai is an example where the rhythmic façade, proportions and the tectonic elements are inspired by buildings of the colonial period. The building is rooted in indigenous building techniques combined with local clay-based materials.”

“The mixed-use building in Geneva adds to the permanent urban structure by referring to the spatial elements (stage and arcades). The monolithic façade surface with the “T” and “M” shapes is an important part of the design, as it raises a sense of durability and firmness. It creates continuity with the adjacent buildings.”

- Sergison Bates



Fig. 48 Winning design Carusso st. John for the Rudolfplatz



Fig. 50 & 51 Novartis building Shanghai by Sergison Bates



Fig. 49 Hahnentor and the new building in perspective



Fig. 52 & 53 Mixed-use building Geneva by Caruso St. John



Fig. 54, 55 & 56 Variant 1

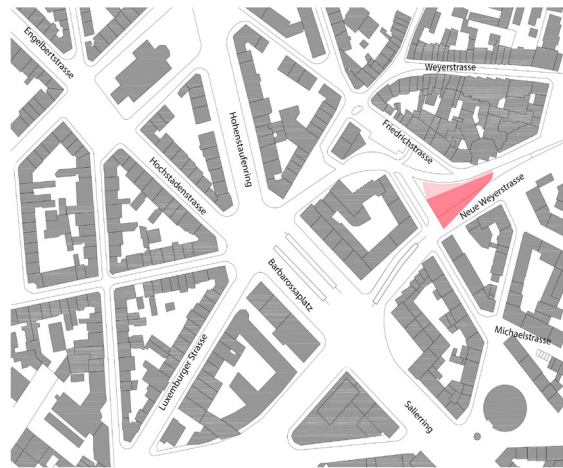


Fig. 57, 58 & 59 Variant 2

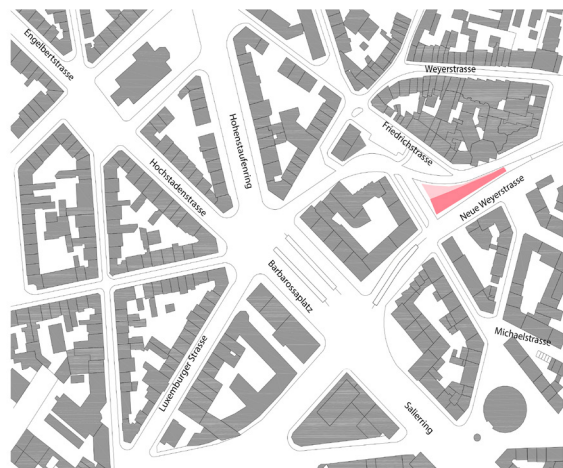
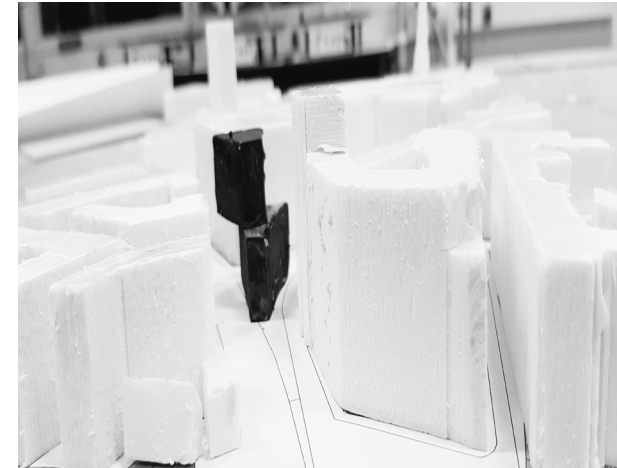
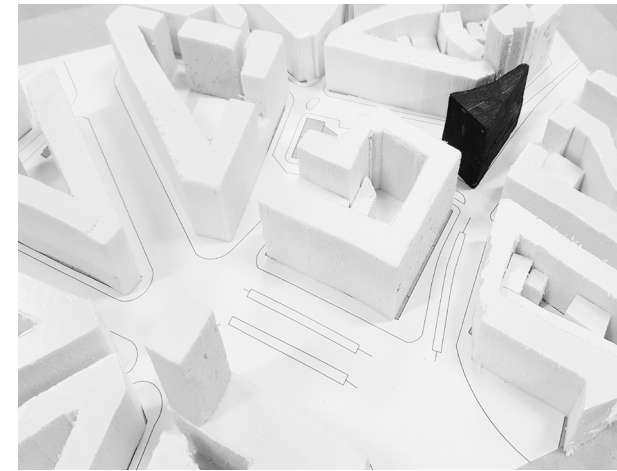


Fig. 60, 61 & 62 Variant 3



Fig. 63, 64 & 65 Variant 4



Form studies, analysis and program
 The first step of the design process was to conduct form studies, to determine the possibilities concerning the adjacent buildings and the form of the plot. To do this, an urban scale model was built on the scale of 1:500. The scale model provided a good overview of these possibilities and how the building should adapt to the existing heights and forms in the area. One of the findings during the design process was that the available amount of square meters was not sufficient to design an interesting program with different facilities for art and entertainment purposes. Building underground, to obtain additional square meters for a broader program, became a serious option.

During the process of the form studies, several variants were explored to see what they add to the environment. The first variant is a volume that adapts to the plot form and the height of the adjacent buildings. Moreover, this variant completes the missing reflective part of the building block positioned across the Barbarossaplatz. The truncated small angle strengthens the appearance of the cornerstone. Variant number two is tested to examine the possibilities of creating outdoor spaces, but the overall idea does not fit the existing rectangular form language of the adjacent buildings. This variant also poses the question of whether a huge cantilever is desirable, as it does not fit the context. Variant three is a version in which the height of the building crosses the heights of the majority of the surrounding buildings, but where the higher the volume becomes, the less it resembles a traditional cornerstone of the Neustadt period. The higher volume of variant three acts more like the Schwarz landmarks at the Barbarossaplatz.



Fig. 66 Neglected pavilion next to the location



Fig. 67 Parking area in front of the pavilion

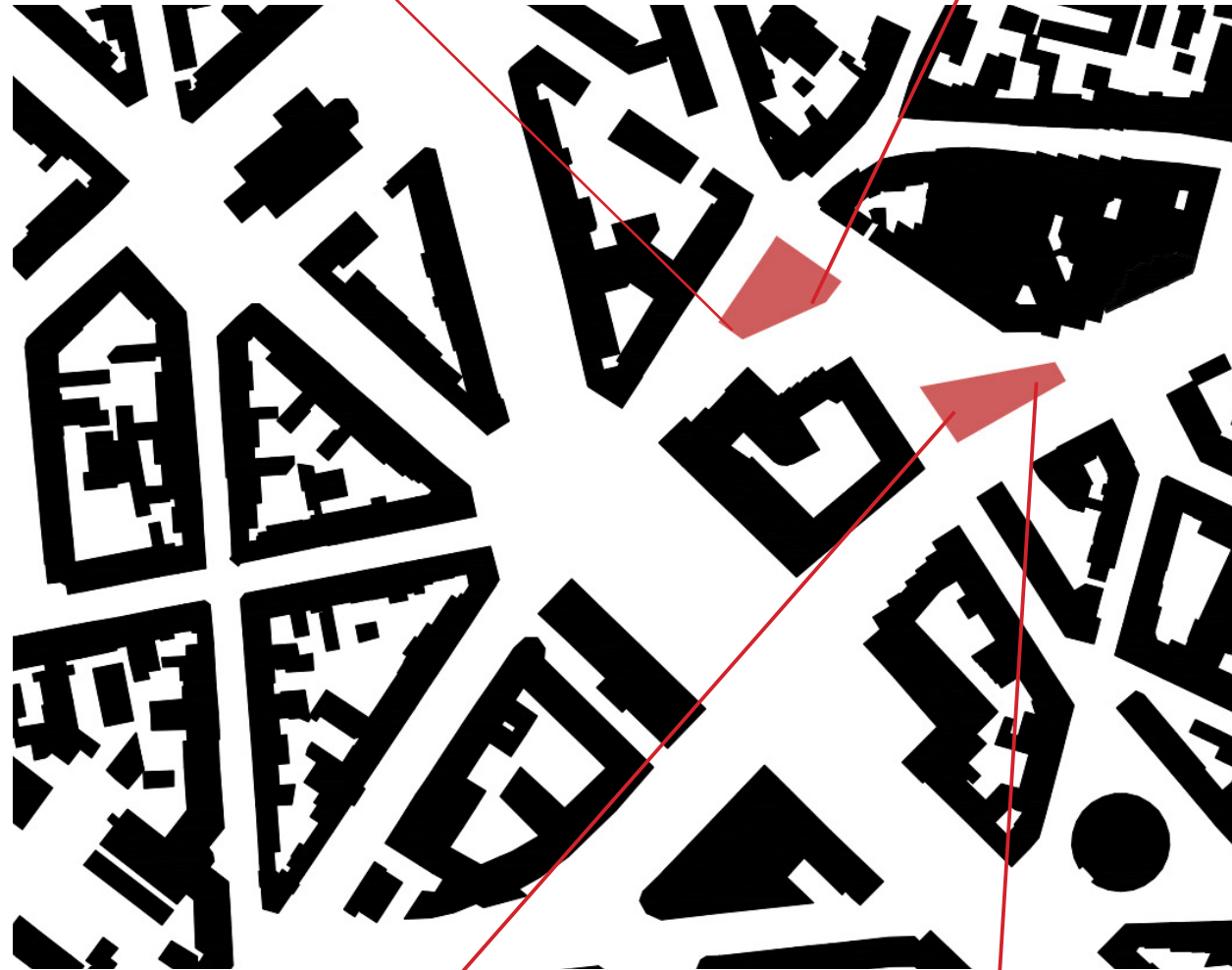


Fig. 68 Plot of the design task



Fig. 69 Location in a neglected situation



Fig. 70 Chosen location in perspective

By keeping the maximum height equal to that of the adjacent buildings, as in variant one, the overall unity of the building block appears as a stronger whole. Variant four is a test to study the impact of a visible connection between two volumes. As noted during observation of the Barbarossaplatz, the nearby parking lot and pavilion building are on the level of the surrounding buildings. When the pavilion building is removed from the location, a square arises between the surrounding buildings. This is reminiscent of how Stübgen created squares between the building blocks in the Neustadt period. Variant four is inspired by the idea of connecting two separate volumes. In this way, instead of the existing neglected pavilion, a new use can be given to the potential plot of the square. However, the idea of the visible connection looks banal, rigorous and simplistic. The reference of the Museumplein Limburg was a good example of an art and entertainment building with separated volumes. Even the volumes of the different areas and functions are separated, and the underground connection makes the building a whole.

By analyzing existing art and performance halls, a program of requirements has been set to accommodate the facilities of a small-scale mixed-use art and performance hall.

The program for the building consists of:

- Backstage: 300 m²
- Backstage crew/performers: 250 m²-300m²
- Underground car and parking: 300 m²
- Performance hall: 1500 m²
- Entrance/second performance hall: 1200 m² - 1500 m²

Office space: 150 m² - 200 m²

Storage: 200 m² - 300 m²

Installation room: 100 m²

Workshop/presentation room: 50 m² - 100 m²

Cafe: 500 m² - 1000 m²

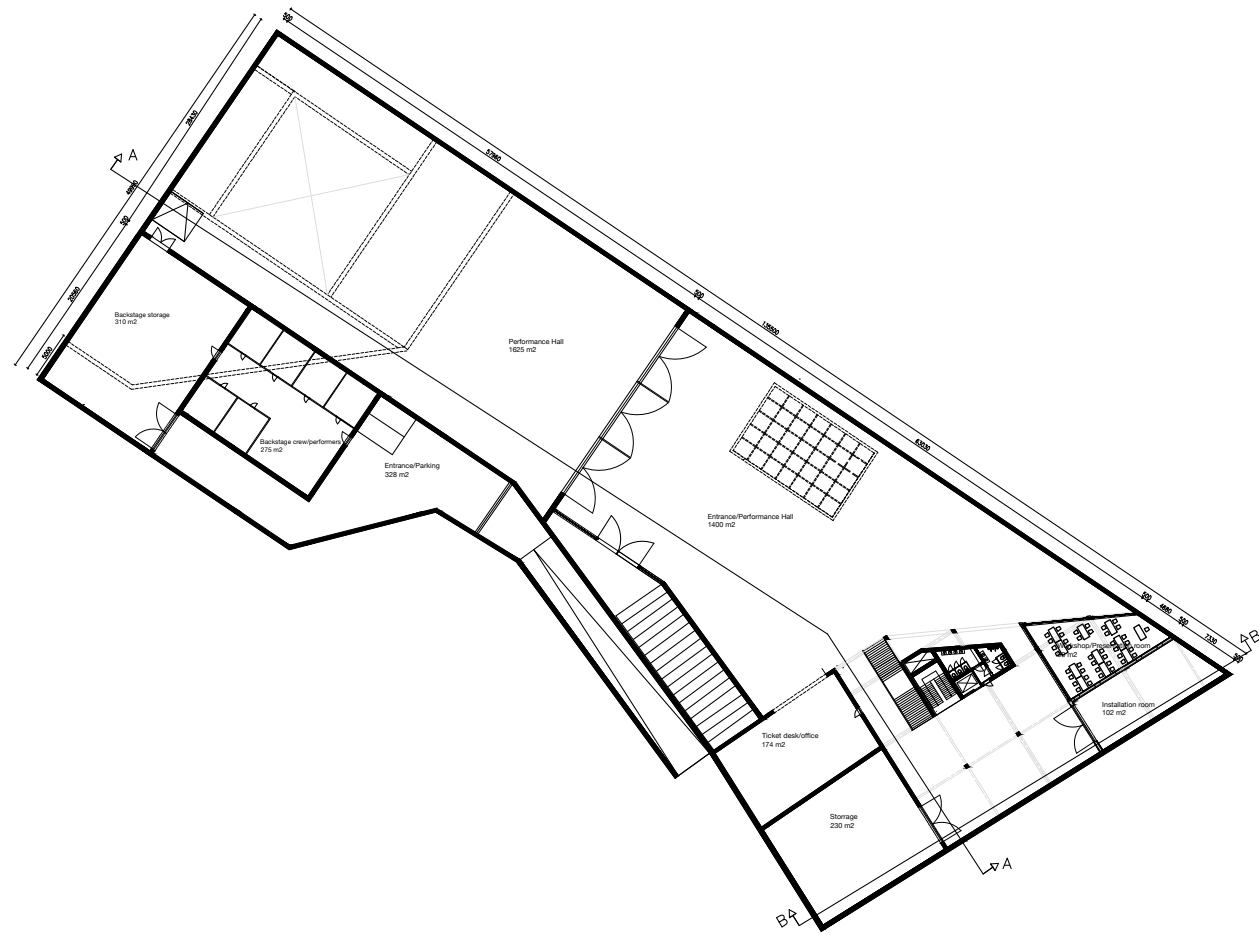
Gallery: 2000 m² - 3000 m²

Design choices

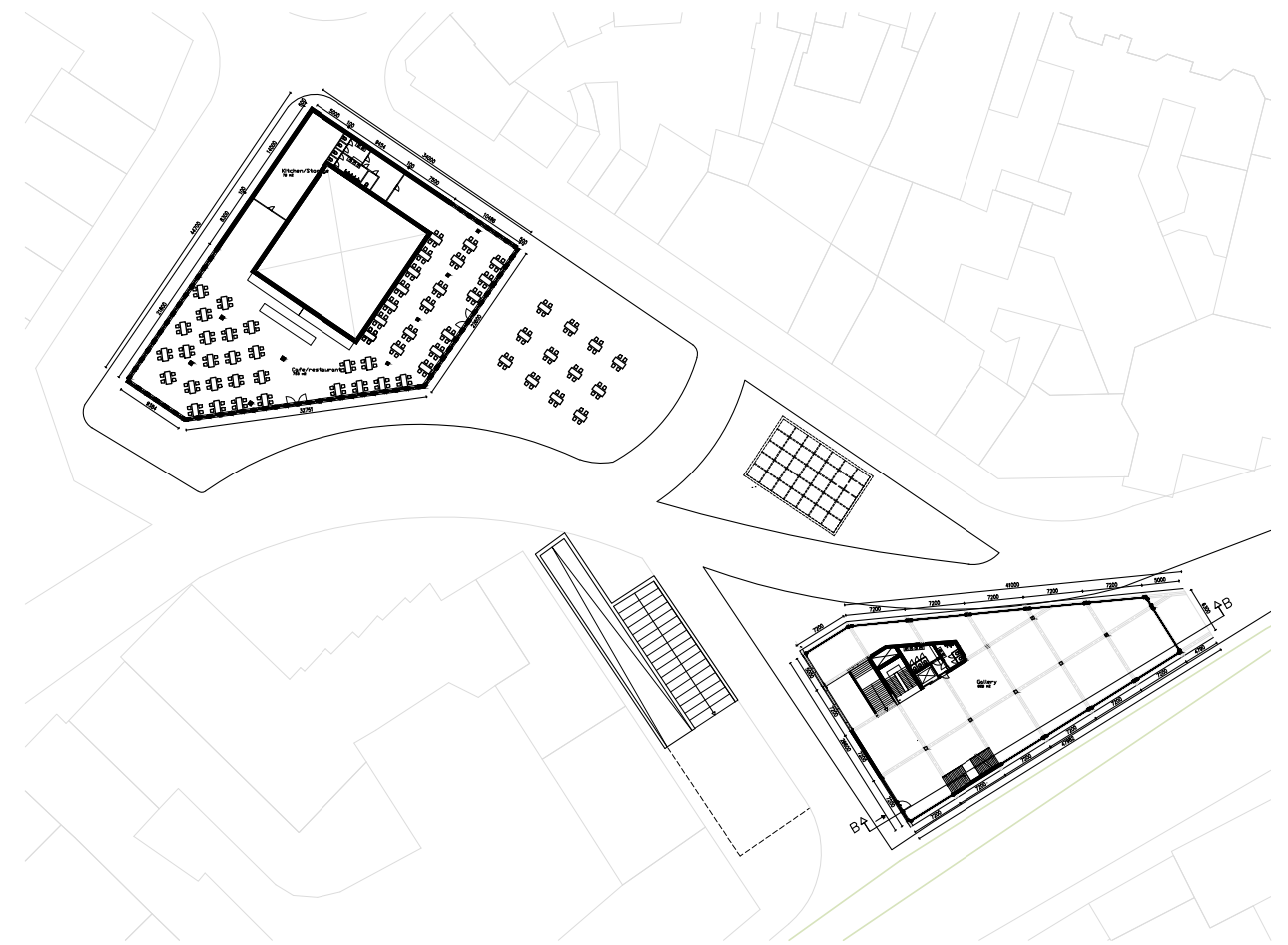
Following the analysis of the form studies and experiments with the 3D model, variant one has been chosen for the art gallery. The form explores the simplicity of the traditional keystone shape, and forms a whole with the existing block at the Barbarossaplatz. The intervention of the café aims to create a certain vitality around the project, while creating a courtyard. The shape of the small volume serves as a puzzle piece between the surrounding building blocks. The two truncated corners not only make functional use of the floor plan, but also connect the square with the two adjacent building blocks. The truncated corner on the side of the main building refers to the continuation of the two separated volumes. Even though the two volumes are placed independently, they are still connected to each other underground.

Floorplans

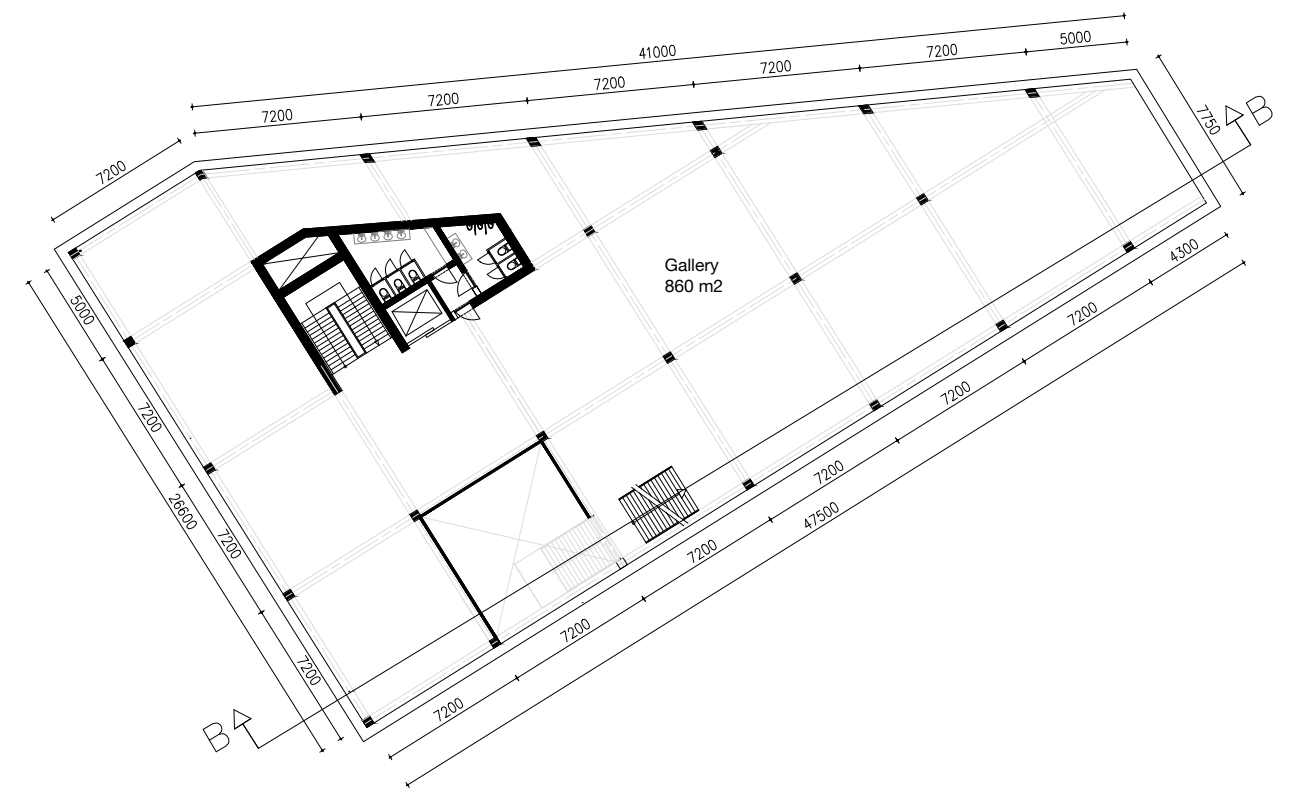
In the main building there are no partition walls, except for the core and the façade walls. This has the purpose of keeping the floors of the gallery function flexible; the use of partition walls is not relevant for gallery use. The axonometry of the maps shows more clearly that there are two entrances to the building; there is an underground passage from the street which leads directly to the arrivals hall downstairs. When the exhibition in the main building is closed, visitors can access a concert or theater show through the underground passage. The small volume of the café is not accessible through an underground passage, and is only accessible via the street. Space is also available for workshops. For small-scale performances, the performance hall can be used without involving the entrance hall. However, for large-scale events it is possible to completely fold the doors. In this way it is possible to organize an event for hundreds of people.



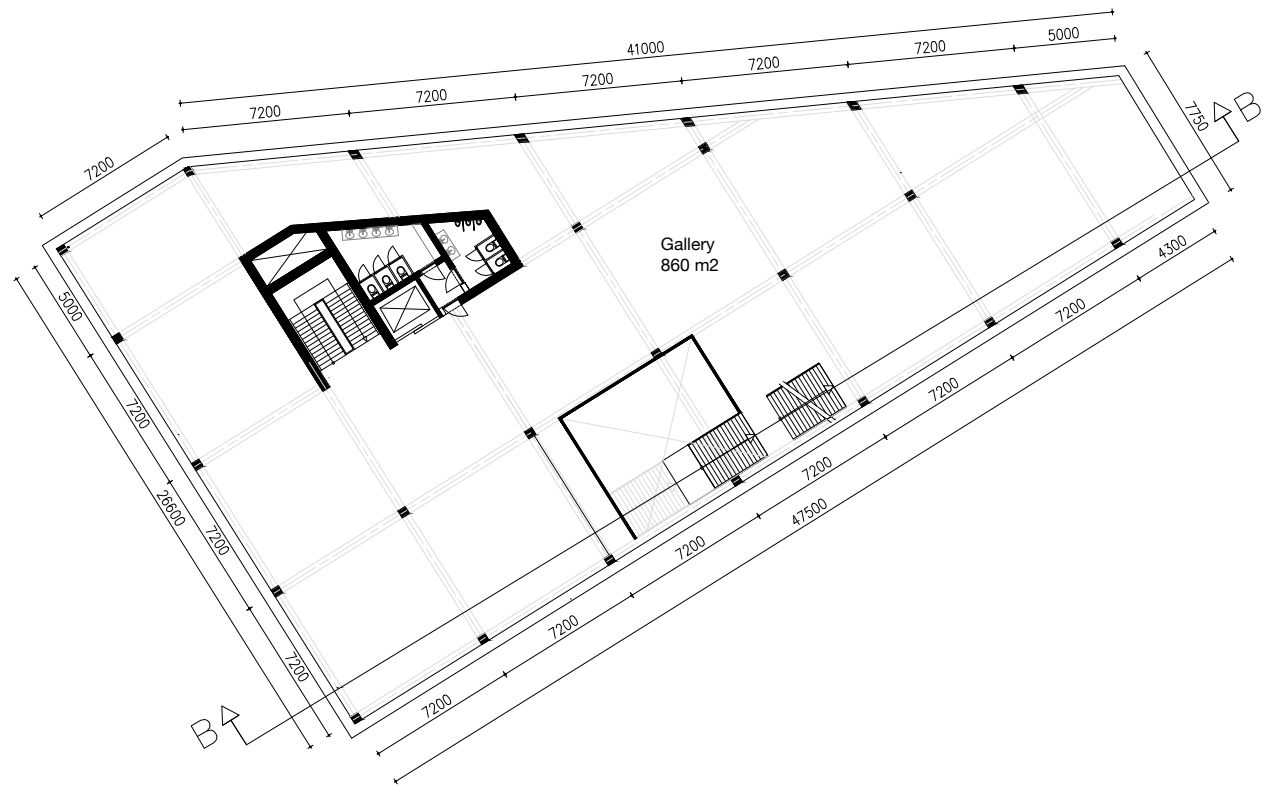
Basement
1:500



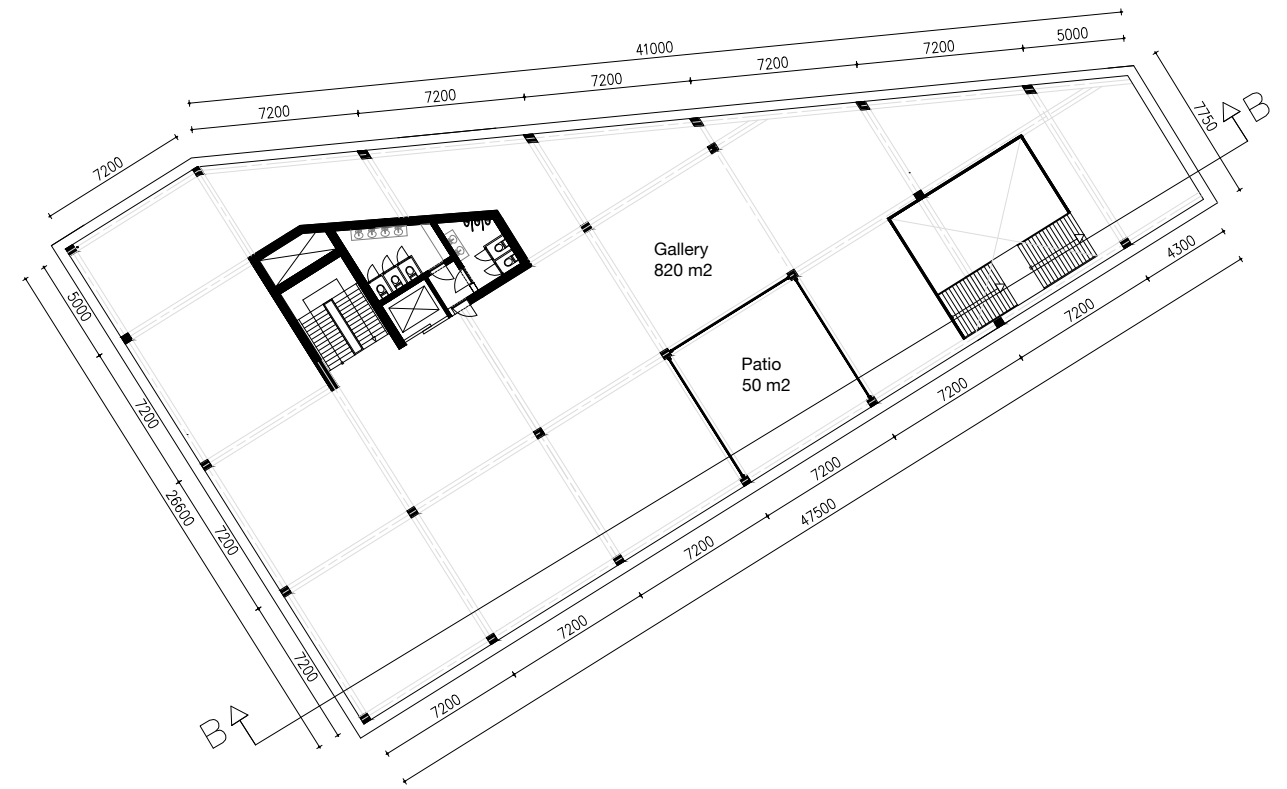
Ground Floor
1:500



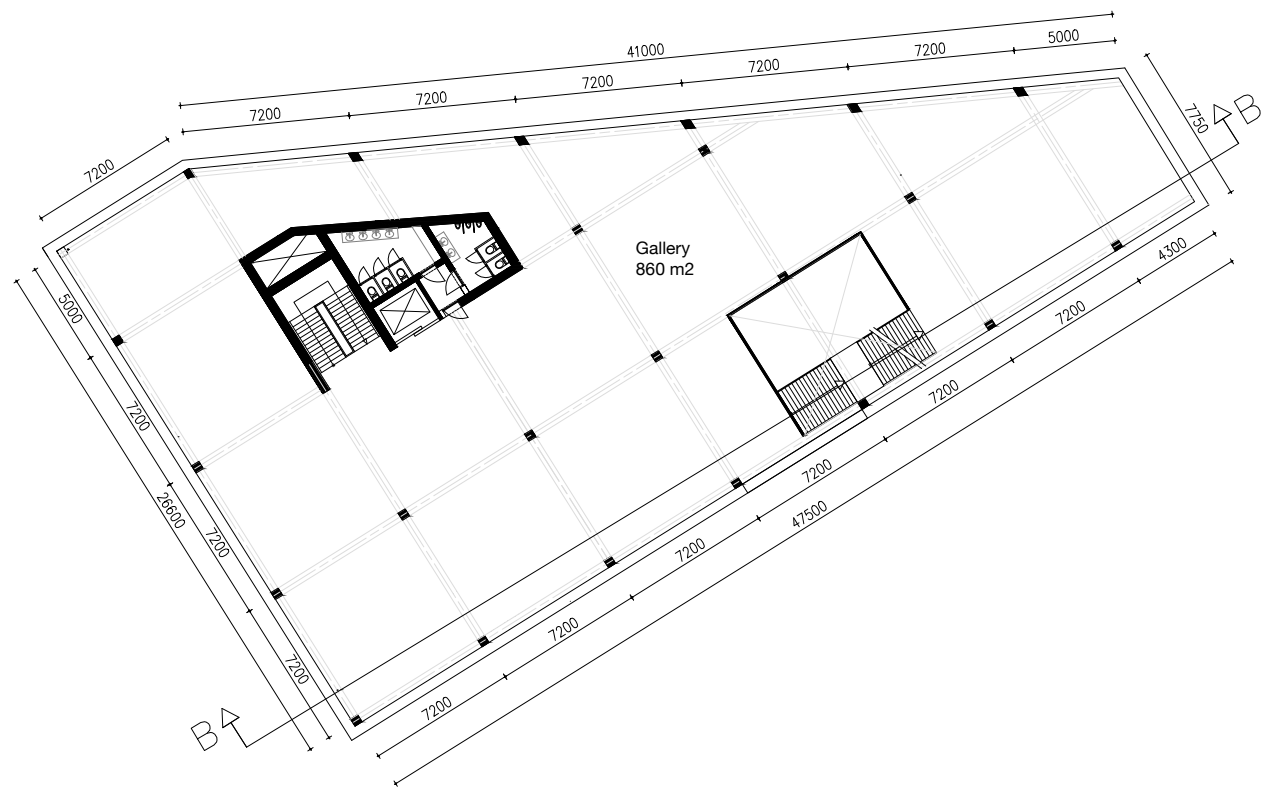
First Floor
1:200



Second Floor
1:200



Fourth Floor
1:200



Third Floor
1:200

Façades

Art gallery

The varying rhythms and proportions of the façade are a reaction to the stringent façades of the adjacent buildings. The façades of the main building act like a mirror, where the façades of the surrounding buildings are reflected on the keystone in the middle and are brought together. The use of high-quality natural stone and aluminum gives the façade layers and makes the building less rigid. The main part of the façade on the ground floor is made of glass, to make the volume inviting. Part of the exhibition can be shown on the ground floor to explore the theme of the exhibition. As a consequence, the building is less massive. Nevertheless, the building creates a synergy with the design language of the rectangular massive buildings in the area.



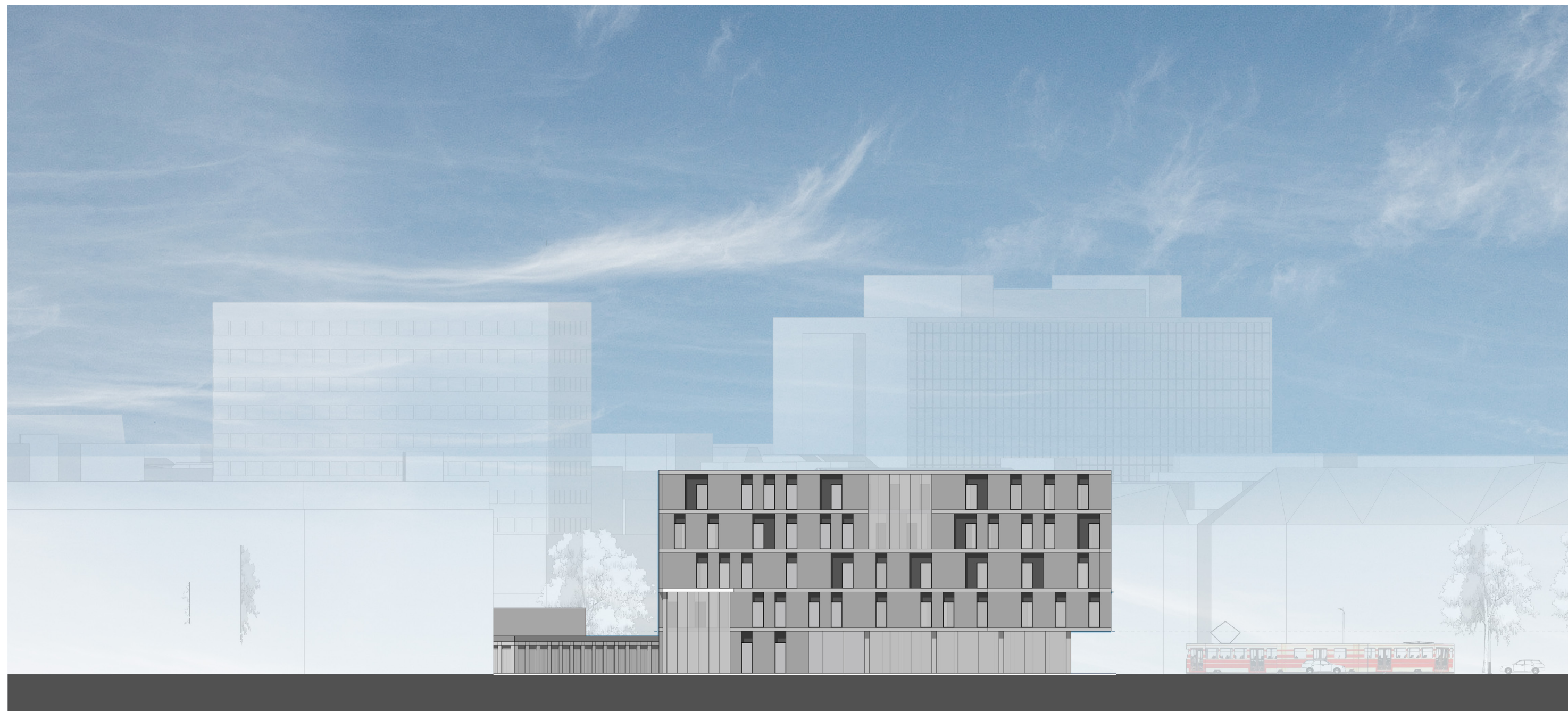
East Façade - 1:200



North Façade - 1:200



West Façade - 1:200



South Façade - 1:200

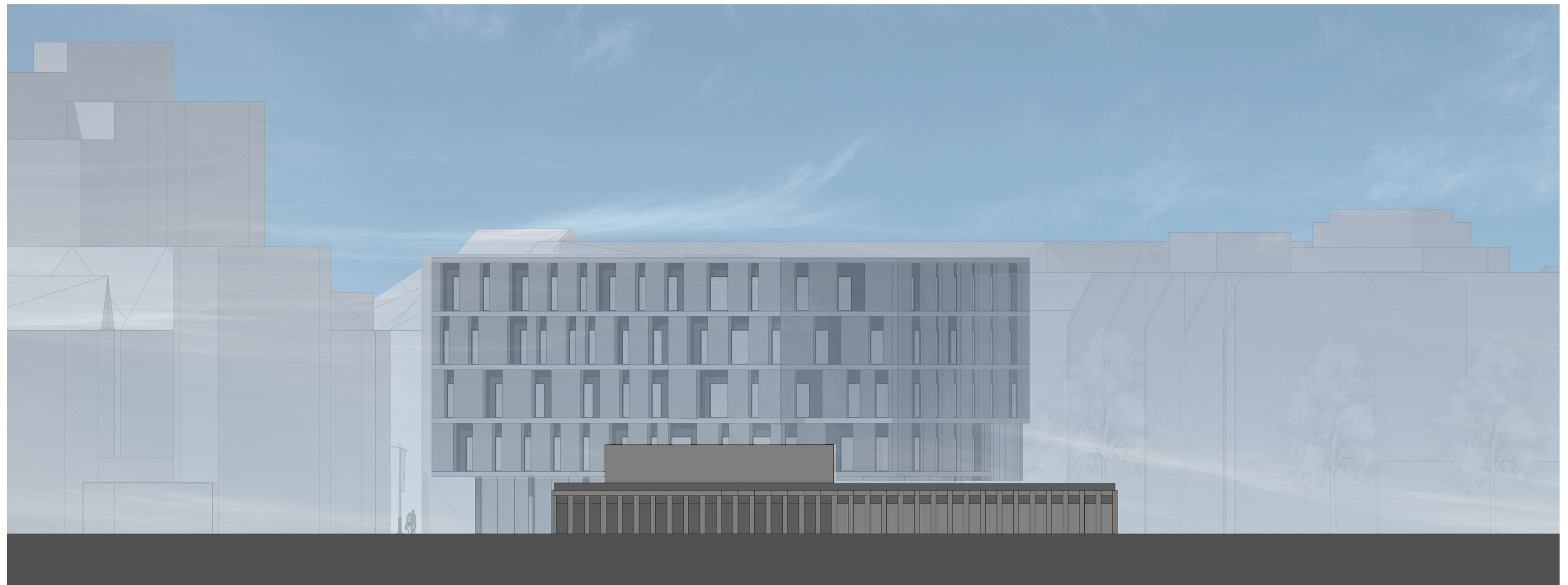
Café

In comparison to the main building, the façades of the smaller volume are different. The café function requires fewer closed façades, in order to create an inviting transparent volume.

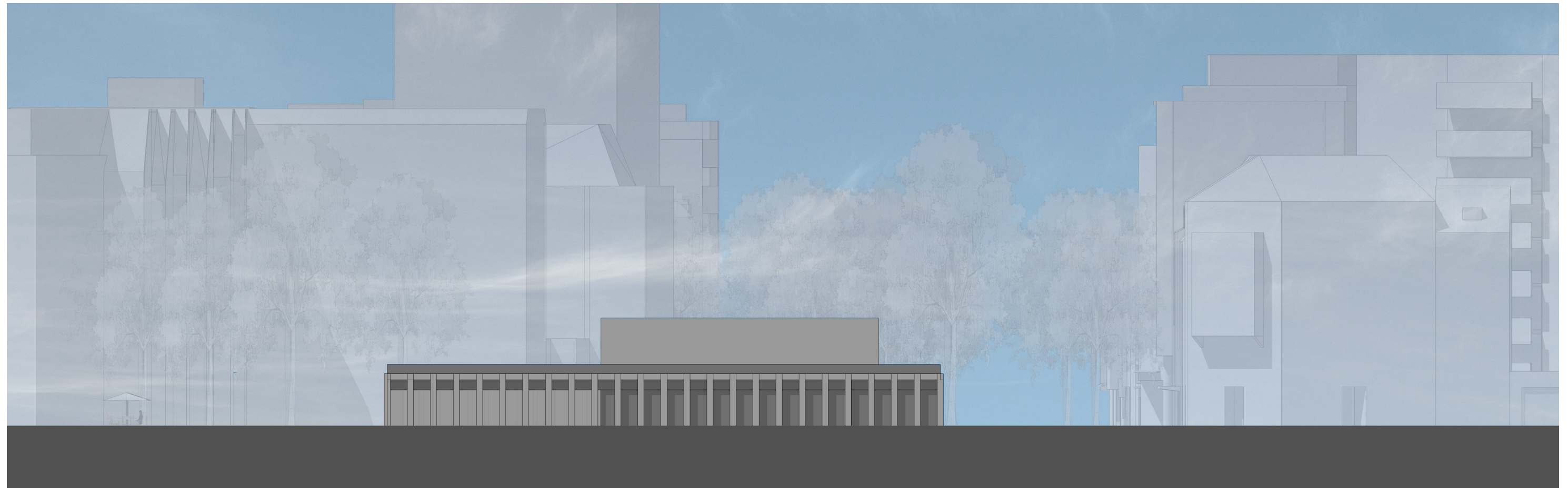
The materialization of the café is the same as that of the art gallery. The materials refer to the natural stone of the art gallery. The façade columns are sharp edged, which makes it appear that they are carved directly from nature. The profiles of the windows are kept thin to accentuate the tectonics of the façade.



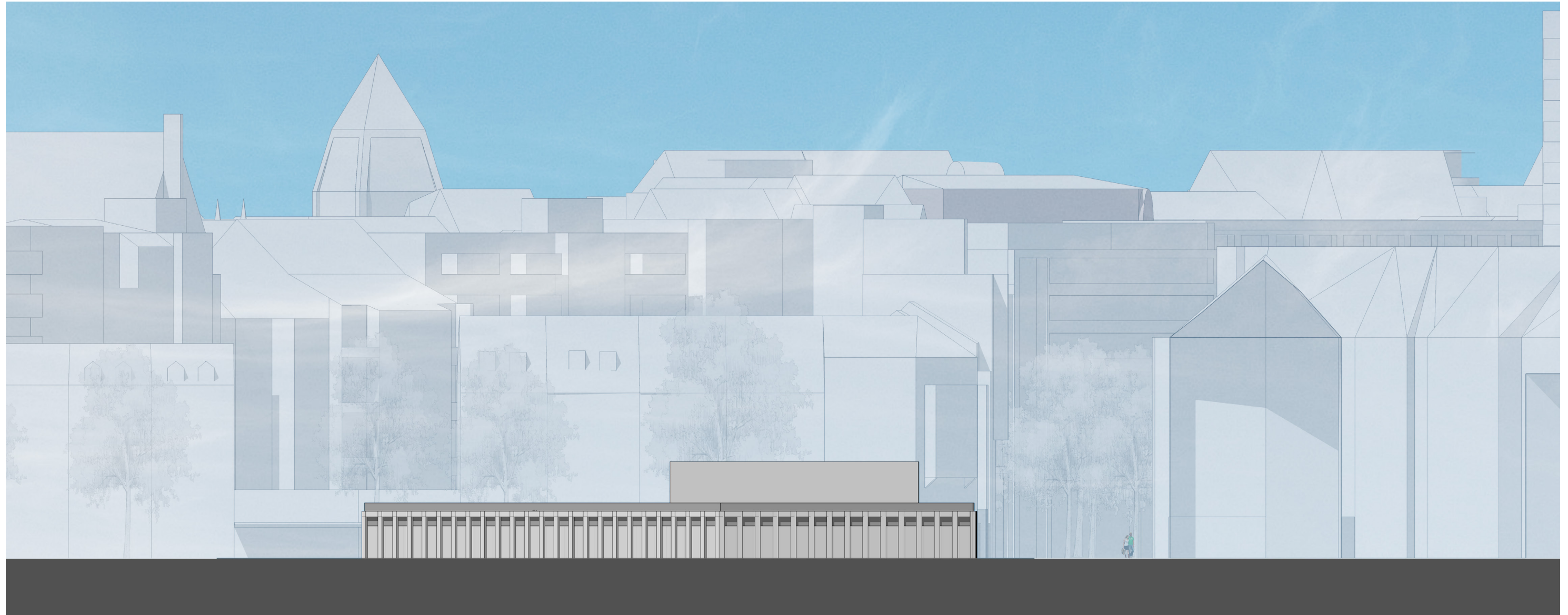
West Façade - 1:200



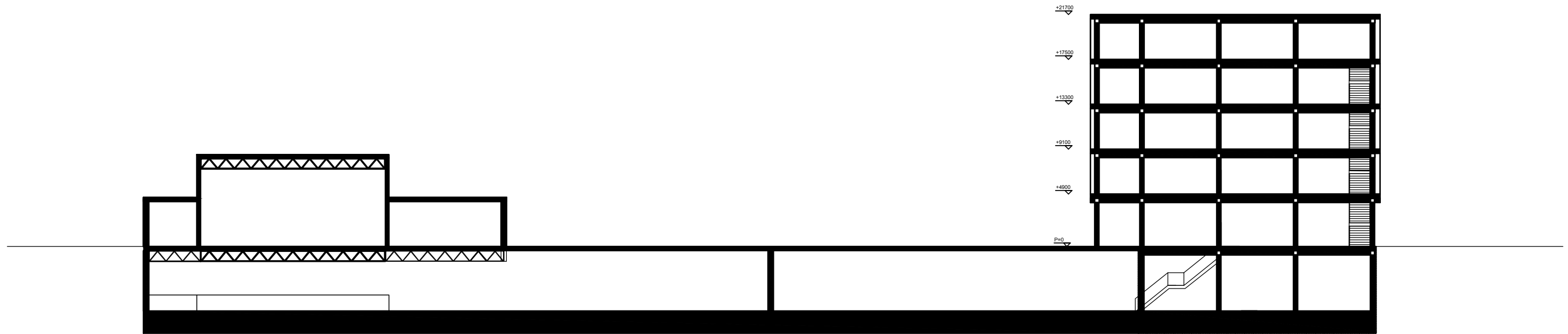
North Façade - 1:200



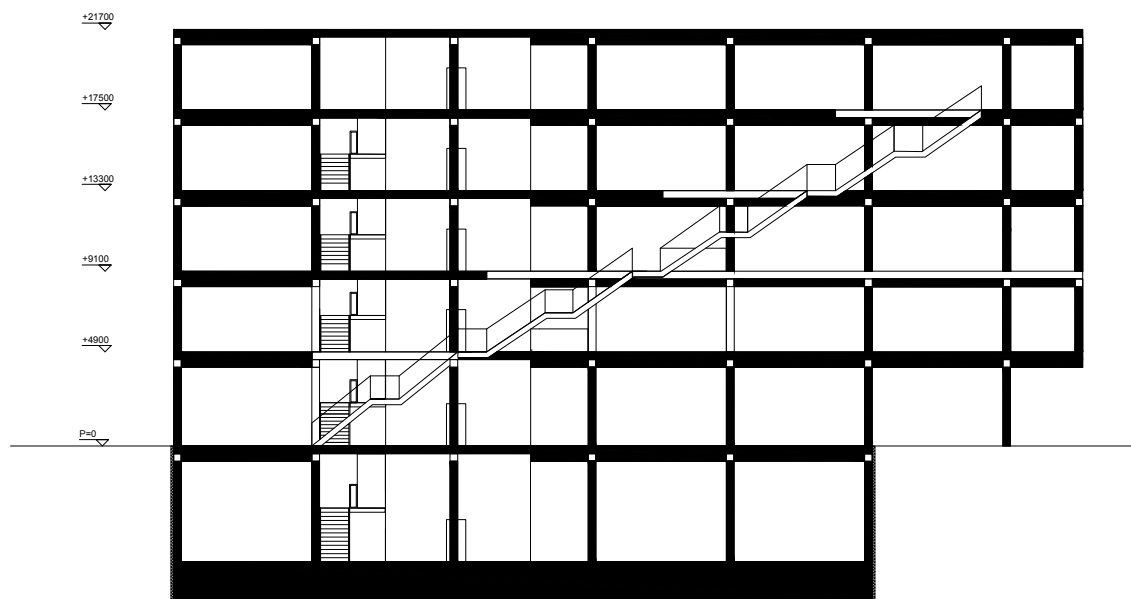
East Façade - 1:200



South Façade - 1:200



Section A-A - 1:200

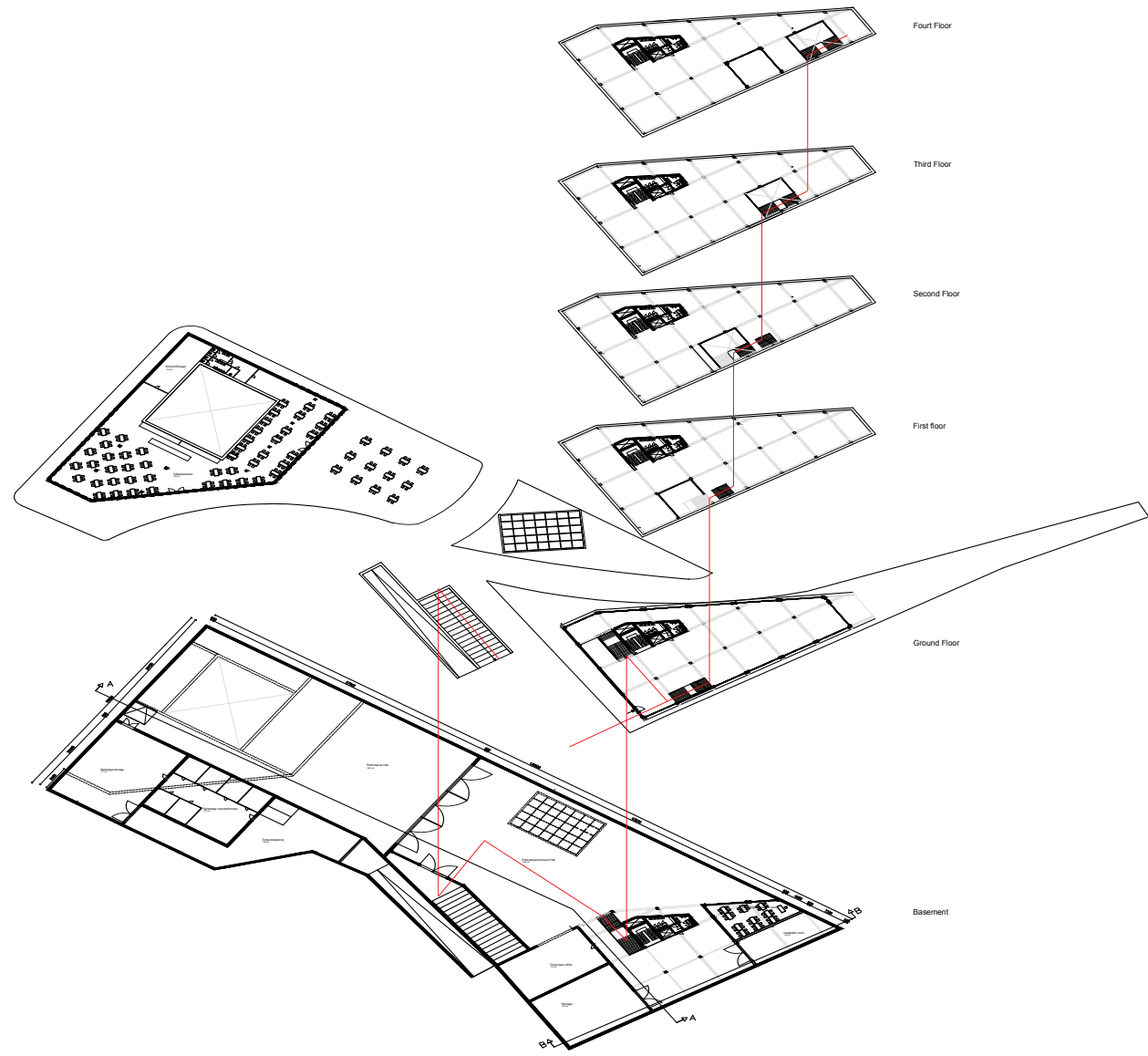


Section B-B - 1:200

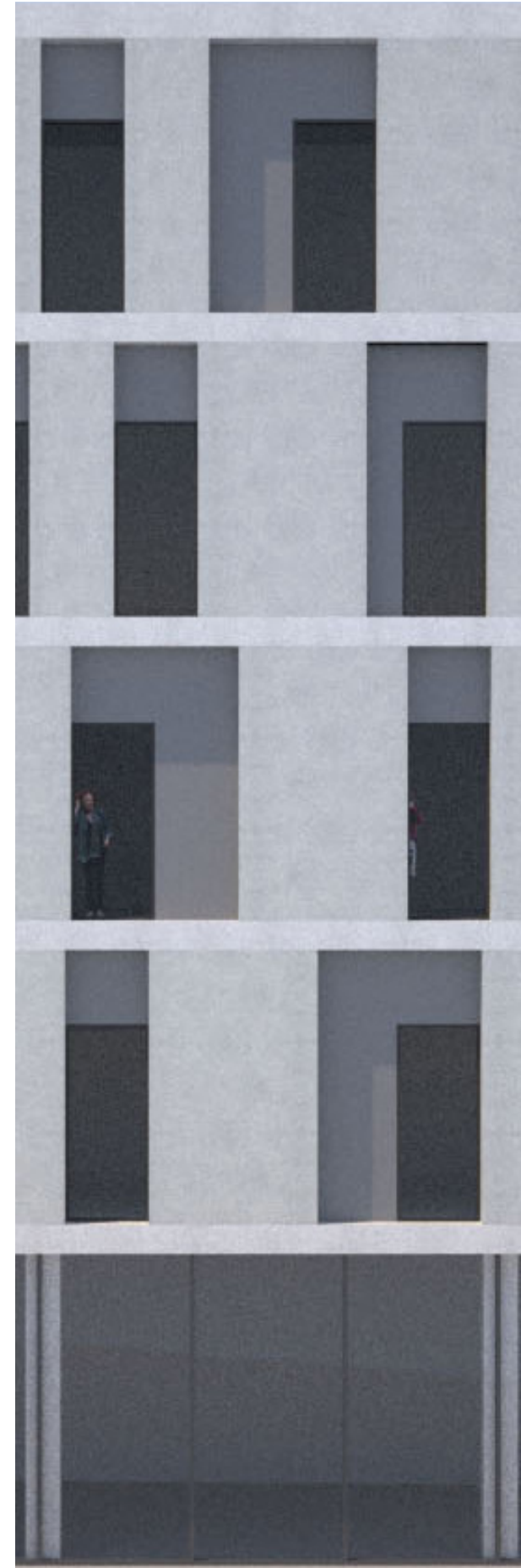


Section Gallery

Axonometry
Scale 1:500



Fragment
Scale 1:100



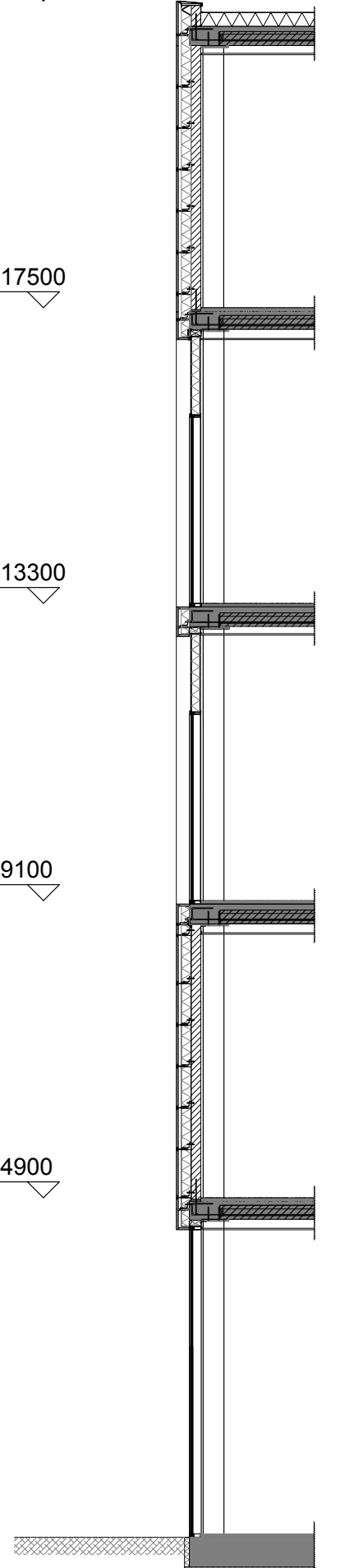
+21700

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+13300

+9100

+4900

















Construction

The art gallery has a grid of 7,200 mm. The large distances between the columns ensures that the floors remain clear and flexible for exhibitions. The underground space contains no columns, so that it can be used for different purposes. To obtain advice about the feasibility of making such a space, a civil engineer was approached. The engineer's advice was to use pre-stressed concrete floor slabs. This solution is used for buildings with a basement and a large number of floors above it, as well as for bridge constructions with widely spaced columns. As a result the passing vehicles above the basement do not constitute an obstacle, which makes it possible to use the underground entrance hall in different ways. The construction of the performance hall consists of a steel framework, to realize a space without columns. In these kinds of spaces it is essential to avoid using columns. Meanwhile, the steel framework can be used to secure lights and other installations to make events possible. The same steel framework carries the volume of the café above the ground.

Conclusion

Upon consideration of the design process, it was not straightforward to realize such a design. Research has proven that there are not many examples of buildings with this type of program or completion. Finding good references was not always easy. Ultimately, connecting this kind of program underground and above ground was very interesting to shape; the idea to go further than a single volume or to make a large-scale addition to the Barbarossaplatz arrived gradually. Although in reality the construction costs for this project could significantly increase, its final result gives a good picture of the possibilities at the location. The contemporary cornerstone reinstates a feature of the city's history to the location and acts to distribute the passing cars. The dynamic façade of the main building brings a new architectural dimension to the location, and breaks through the monotonic rhythm and appearance of the adjacent façades. Compared with the existing situation, the area is improved and the Barbarossaplatz has partly regained its identity.

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- Fig. 3 https://commons.wikimedia.org/wiki/File:Koeln-1531-holzschnitt-anton-von-worms_2-1200x680.jpg
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- Fig. 35 Google maps
- Fig. 36 Der Stadtebau, Stübben, J. 1890
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The visualisations on page 69-78 consists parts of Google maps.

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