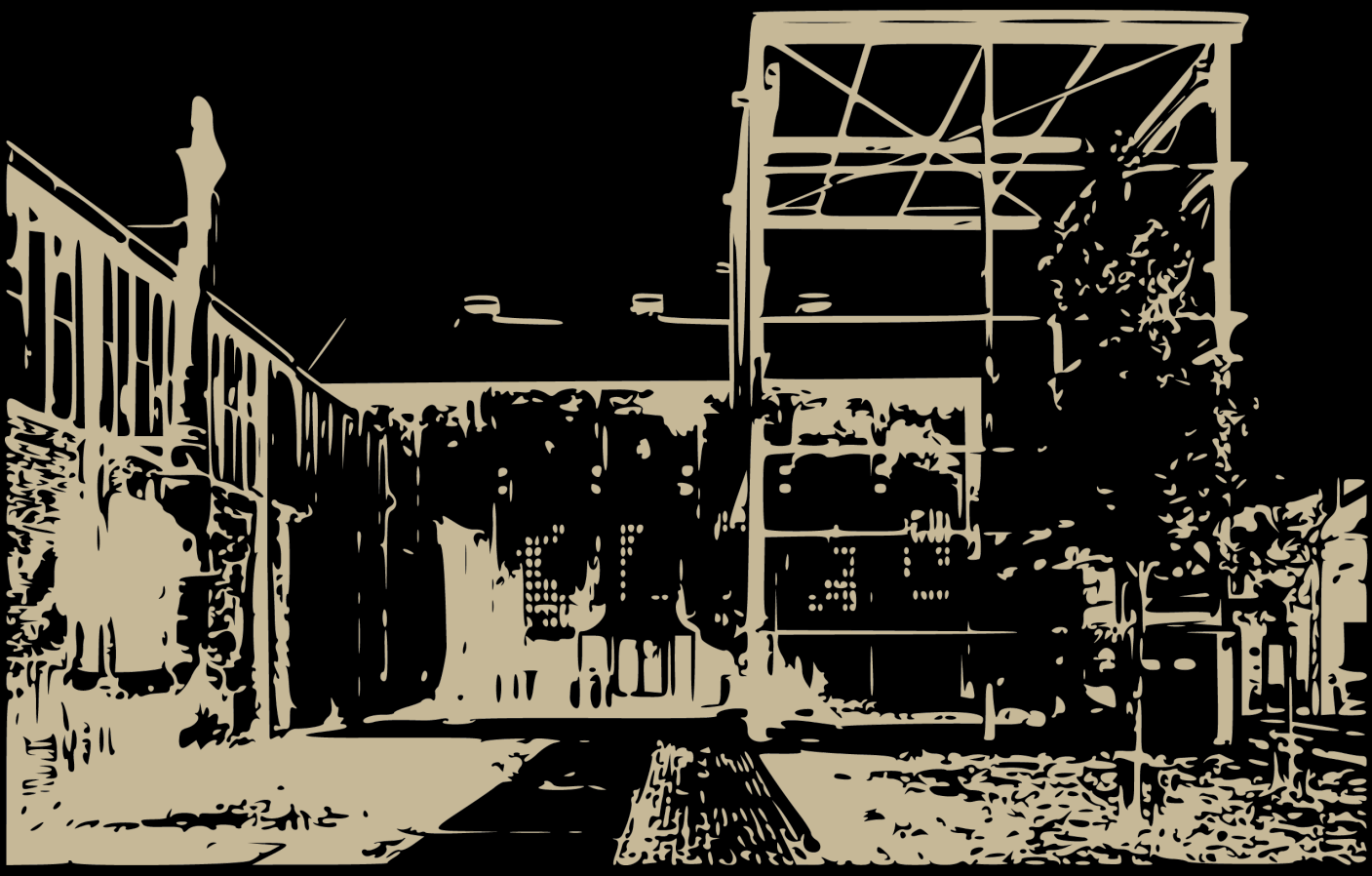

The Hembrug Culinary Arts School

a small community where elderly and young professionals live, study and work together

Reflection Paper

Master of Science in Architecture, Urbanism & Building Sciences
Chair of Heritage & Architecture | Revitalizing Heritage | 2019

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Introduction

This reflection paper is part of my graduation studio at the TU Delft faculty of Architecture, Urbanism and the Built Environment within the chair of Heritage and Architecture. It serves as a rumination on my journey through research and design. In this paper I will first describe the theme of this studio and how it is related to my project. Then I will reflect on how I have integrated research and design. After that, I will touch on the topic about the general approach of the chair of Heritage & Architecture towards restoration and reuse and the methods I have adopted. Finally, I will discuss how my project addresses the wider urban and social context. To conclude I will reflect on my design thinking and why and how I have made the choices for the design of my project.

For my graduation project "Revitalizing Heritage" I am focusing on redesigning the former Artillery Establishment in Hembrug in the Netherlands. According to plans by the Dutch government and as part of the expansion of Amsterdam, Hembrug will soon be transformed into a green zone and will become a major tourist attraction. There is a plan to make 1000 new dwellings on this site. The general theme is to bring a level of contrast to the site with my design. I have picked the Changeover Zone ensemble where I am designing a small community for elderly and young professionals living, studying and working in a Culinary Arts school which will be at the heart of this ensemble. In my project I also delve into a very debatable theme in today's world of Heritage and Architecture, that is, " sustainability + reuse" Sustainability is always an interesting challenge especially when we reuse existing architecture because like we think about the future of the materials we use in new projects, creating or designing a system for the reuse of existing materials in an existing project is a big aspect of adaptive reuse and one of the main challenges when it comes to reusing architecture.

Hence, I did research into ways I can make my design sustainable and have developed a very interesting system of renting materials inspired by Thomas Rau's pioneering ways and methods.

The ensemble I have chosen is quite centrally located within Hembrug, with existing buildings that range from the early 1900s to the late 1990s. That also means that their architecture of the ensemble portrays the evolution of the site through its lifetime. Another characteristic of the ensemble is the fact that all the buildings in it are connected to each other. This unique feature is attributed to the fact that, as the site developed over time, due to a lack of space, the buildings were built within limited available space and over time several buildings were built and demolished as per the requirements because Hembrug has always been very functional and buildings that were not required were removed and new ones were built in its place. The Cathedral lies in the heart of this ensemble and is quite possibly the most important and significant building in the ensemble because of its age, characteristics, features and shear height compared to other buildings in and around the ensemble. Therefore, for my project I have decided to focus on the Cathedral and create a new intervention connected to it which would contrast it in a way where the new building and its contrasting characteristics will help put the focus back on the cathedral.

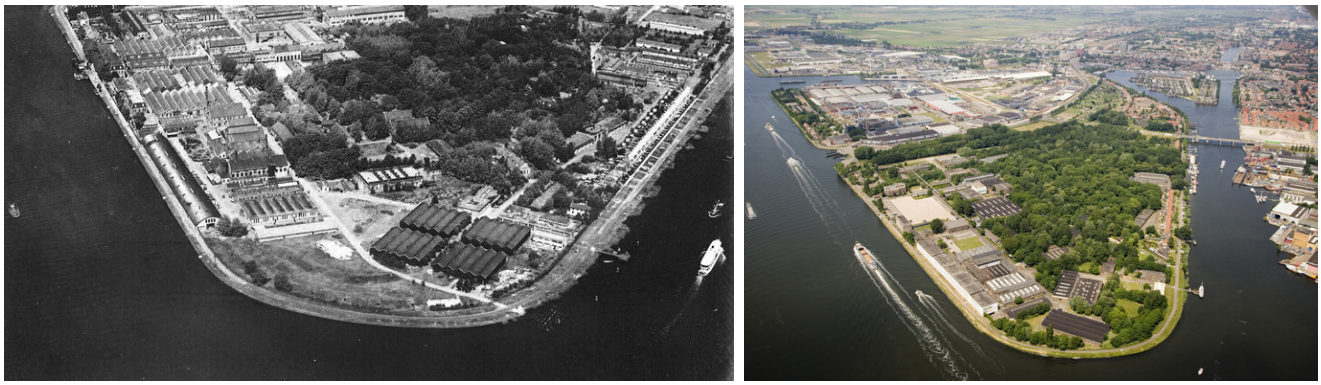
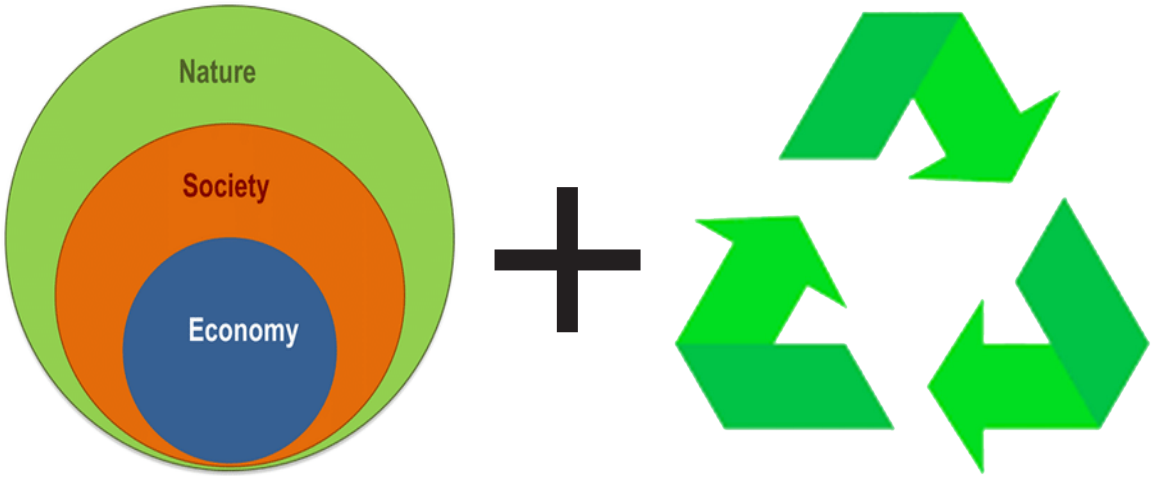


fig-1 : Hembrugterrain in 1956 (left) and now (right); source: Hembrug

I chose this studio specially for my graduation project because, to me working with existing buildings and repurposing and reusing them is the right way to go into the future. I believe that very soon especially in urban cities around the world, due to real estate growing exponentially, new architecture would be impossible to make, unless existing ones are demolished. And as cities expand and take over more rural and industrial land around them, a better more sustainable way to step foot into the future would be to reuse rather than to demolish. Working with existing buildings is also interesting because when you do so every building or site has a unique history linked to it and learning about them and designing with an existing historical background to me gives a project more depth and perspective. A particularly interesting project that I have been studying for a while now and is a good precedent to Architecture and Heritage in general is the Van Nelle factory in Rotterdam, Netherlands.

The Van Nelle building was part of a former tobacco factory which existed in the early 1900s, it was a very modern factory for its time which had architecture that was quite different from the generic industrial architecture of its time. Ever since it was unused there were several plans for it including to demolish it to make a new building. It was the first such industrial reuse project in the Netherland of such a scale and heritage experts fought long and hard to keep the building and reuse and restore it rather than demolish it. Today it is a UNESCO world heritage site and will always be a pioneer for industrial heritage restoration in the Netherlands. This project is also a very popular study example because of its scale, and that meant that it could be studied in a considerably short time and is quite well documented to be understood comprehensibly.



sustainability reuse

fig-2 : ensemble location

fig-3 : Van Nelle factory

Relationship between Graduation project and Studio Theme

When I was in Ljubljana, Slovenia for a DOCOMOMO conference and site visit for my MSc1 project in the chair of Heritage and Architecture, I remember having a very thoughtful conversation with Wessel de Jonge about this field of Architecture and he said to me and I quote, "it is all about designing through analysis and analysis through design." It is a phrase that I will always remember and apply in my projects because indeed this field is based on designing through research. And a huge part of that research is indeed the analysis of the existing context. Going in depth to analyze an existing building or site and to gain a 360-degree understanding of it is necessary to create a meaningful design intervention.

Walking around the Hembrug site quickly gave me an idea of the general architecture and characteristics of this site and made me understand the importance of careful, well thought out interventions that would be required to rejuvenate this site.

As I was walking around, I also found the general architecture unexciting at times and repetitive in nature. At the same time as people familiarize themselves with this site further and as they have been since it was opened in 2010, one could say that it could get boring or uninteresting very soon and the idea of inviting people and turning this into a residential and tourist hub in the future would be hampered. This according to me was also the main problem in Hembrug. Since the general architectural language of this site is quite similar with the characteristic load bearing masonry facades or heavy steel structures with light steel or wood roofs, every building seemed to look similar if you walk around the site for a while. Some of the newer architecture such as the shell roof buildings were a little different with the concrete shell structure, but the same brick facades meant that it was similar again to the classic older masonry buildings.

Therefore, due to the inherent industrial style of using brick, the general style was not dissimilar from one another. Hence, in my opinion an architect would probably understand and appreciate the repetitive industrial style with brick, but if we want to design the site for a broader demographic and people who are not familiar with architectural thinking, then one could say that the site needed a USP or unique selling point as one would say in the real estate world.

To me, that uniqueness factor on the site which would be the potential highlight for Hembrug and would be the edge this area needed to attract people to it for a long time in the future would be to add moments of surprise to the site where the intervention that is designed is contrasting architecturally to the existing style of architecture.

Therefore, the core idea of my project is to bring an element of contrast into the site (ensemble) with my intervention which would complement the existing and even highlight it to remind one of the important heritages this site carries within itself. Hence derived from this idea was my research question, "**How can a new Contrasting Intervention help rejuvenate the Changeover Zone Ensemble?**" And if you think about it, by answering my question through my research and thesis, I would also be addressing the bigger question of how one could introduce the uniqueness factor this area needed to attract people on a long-term basis.

fig-4 : the first 5 images (anticlockwise) show the repetitive architecture, the last image on the bottom right shows a contrasting piece of architecture on the same site

Relationship between Research and Design

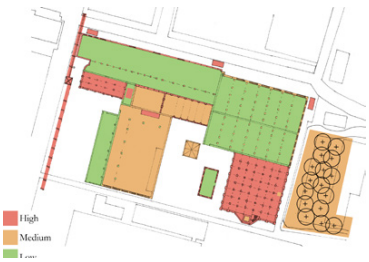
A key part of this graduation studio lies in the relationship between the research and design. A big part of the research process is to determine the values of the existing context and in our department, it is called the cultural value report. In order to make the right decisions for the design, a value assessment is made which eventually tells us the importance of the values of the existing and also helps us decide on whether the intervention would call for reuse, repair or demolition.

The way my graduation studio is designed is very methodical and easy to follow. Step one consisted of analysis reports. We made a contextual analysis report with the entire group where the research was focused on the surrounding context of our site in Hembrug. We looked into the past history and also took a peep into what the government has in mind for the future of this site. Looking into the future plans also gave me an insight of how specialists and experts are thinking when it comes to giving this site a fresh paint of life.

Then the site was divided into several zones or ensembles based on a report by Palmbout about Hembrug and its future. Then each of us in the ensemble we had selected, made another detailed report on the ensemble itself and its surrounding context. This research along with the contextual analysis became the steppingstone for my design.

The design phase started just before the P2, and since then I have always kept the analysis report close, going back to it frequently as I continued to design. Understanding the values and characteristics of the site also dictated my decision to demolish the newer but decaying industrial buildings 407 and 437 which actually contributed to decreasing the value of the site and more importantly affecting the value and characteristics of the Cathedral building which is the most significant building in the cluster of buildings present in the Changeover zone ensemble today.

Another important aspect of the research and design relationship is the understanding of the intangible aspects of an existing heritage site like Hembrug. Intangible aspects mostly mean the ambience and atmosphere and the experience one gets by being present at the site and that is a key factor to incorporate in a design intervention. The several site visits with the class and individually also helped me research and analyze the tangible and intangible parts of Hembrug and the Changeover zone. Visiting the site was also helpful in seeing the changing seasons in action as the dense forest behind the Changeover zone changed from bare in the winter to a lush green in the summer. This showed me the importance of not just looking at the immediate context but also incorporating the surrounding context while designing.



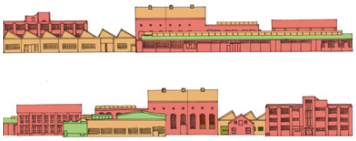


fig-5 : value assessment of the ensemble

The removal of a couple of decaying buildings brought in the possibility to design a new one in connection with an existing one. The new contrasting building that I am designing has been carefully thought out and it was important to study and analyze the Cathedral first in order to create something that would contrast it. The key characteristics of the Cathedral such as its enormous height of about 16m (being a single-story building), its beautiful rhythm in the façade and interior, the steel trusses, gabled roof, open floor plan, heavy load bearing masonry walls and its shape and volume were studied. And in the new intervention, these qualities, atmosphere, materials and characteristics were contrasted. The important and meaningful connection was also needed to connect the new and the old which led to the idea of creating a transparent glass box in between where one could clearly experience the old and the new and also understand how the new relates to the old.

fig-6 : the four borders of the ensemble give the ensemble 4 distinct spatial qualities

Relationship between Methodology of the studio and Methods used

In Heritage and Architecture, research with respect to context is of the essence and Wessel de Jonge highlights this in his book "Designing from Heritage," where he says that in order to create a well thought out 360 degree design intervention, one needs to do a thorough research first of the context, and defined it as context-led design. But we all do research before we start a design project be it Heritage or not.

What distinguishes this field from the rest is the focus on the values of the site, more specifically its cultural values. The value assessment therefore gives the architect a knowledge base which he can then analyze, understand and use to create a meaningful design.

I based my research methodology closely with the heritage value matrix developed by Kuipers and Zijlstra. But as mentioned several times before in many texts and

articles about the dilemma's architects face when they value an existing piece of architecture and problem often lies in the subjective nature of the issue because what is valuable to me may not be equally valuable to another. The approach that Kuipers and Zijlstra take in their value matrix system makes the whole process more objective and generalizes it a little with constraints so that it can be applied more objectively to a range of projects.

An interesting topic of debate is the addition of the economic factor into the design and analysis process. As the viability of a certain project nowadays depends highly on the economic resources, I wanted to add a quantitative layer into my design thinking and therefore touched on the idea of the viability of my design intervention in terms of monetary resources.

His principles focus on the rapidly increasing scarcity of raw materials and through his series of works shows us how energy neutral and positive buildings can be designed in innovative ways.

Rather than a crisis, he sees this situation as a challenge and thus, shows us how sustainability can be handled and put into practice keeping in mind, economic viability which is and will be extremely important aspect in current and future markets. Therefore, inspired by his way of thinking I have tried to make my design energy positive by reusing and producing the energy requirements on-site and have also focused on making my raw material cycle more circular and sustainable.

The idea of creating a materials portfolio which helps track the values of materials used and giving a project a life span and renting materials for that duration is inspiring and gives suppliers an advantage and greatly improves the economic viability of the project. This is an approach I am using for my design where I will be making a portfolio for the materials I will be using and also lease them for a period of 20 years after which the design could change or evolve and the materials could be returned to the supplier.

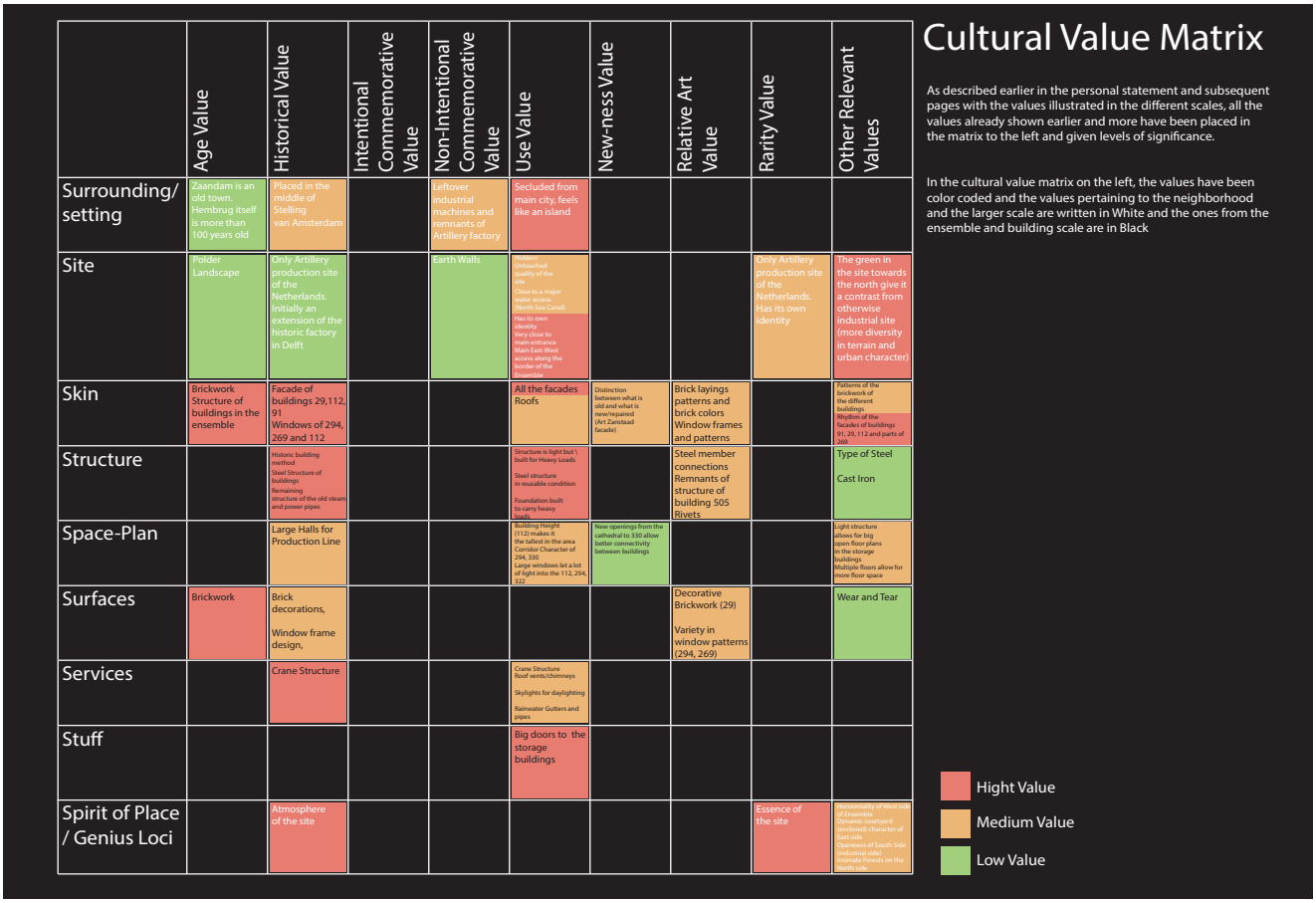


fig-7 : cultural value matrix

Relationship with the greater Social Context

An interesting challenge that has risen recently is the huge number of industrial sites that were in use during the early to mid 1900s are not functional anymore and lay in decay in and around major cities around Europe. A common dilemma the governments are facing is the future of such sites and whether they are going to reuse such sites, or it would be more economical to demolish it. Germany has several such sites that are being reused beautifully to cater to new functions such as several industrial sites in Hamburg. A particularly interesting project I looked into was the Elbphilharmonie. It is located on the historic site of Sandtorhafen, which was Hamburg's old working harbor for centuries. The Kaiserspeicher is Hamburg's biggest warehouse on the water and was built in 1875. It was destroyed in the Second World War, and then rebuilt and renamed Kaispeicher. It was a storage facility of Cacao, tea and tobacco until the 1990s. Redesigned by two of the very

famous household names in the world of adaptive reuse, Herzog and DeMeuron, this building is a great example of the balance we as architects seek between old and new. Where we reuse an old project, a main underlying debate is always "where is the tipping point at which the new overpowers the old? How can be balance the old and the new in harmony?" The Elbphilharmonie was also part of an old industrial port area which is being developed for future use, like Hembrug, and similar to Hembrug the Elbphilharmonie was also designed to enhance the cultural and social quality of the site.

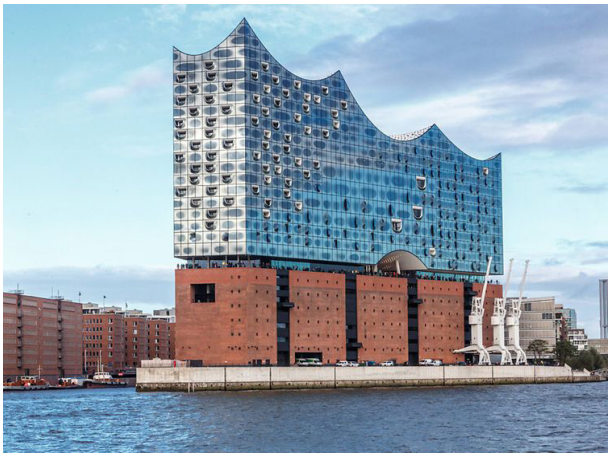


fig-8 : Elbphilharmonie an adaptive reuse project by Herzog & DeMeuron

fig-9 : elderly care in conjunction with student housing

Amsterdam like every other major metropolitan city around the world is ever growing and expanding. Surprisingly more people know the Netherlands by Amsterdam than the other way around. Since it is a major hub and the northern gateway to the Netherlands, it is a very important city for the government. This city indeed is one of the main point of attractions in the Netherlands and as it grows, it develops neighboring cities with it. Zaandam being a historic city itself is very close to Amsterdam and hence a part of the expansion of Amsterdam. As tourist traffic grows, the government's plan is to spill some of that traffic into Zaandam and similarly a major gateway to Zaandam is the Hembrug area sitting just north of the North Sea canal and Amsterdam.

Therefore, Hembrug is becoming a more and more important site as we speak as it gets integrated into the developments of Amsterdam. Hembrug, a former ammunition factory in itself has several redevelopment projects underway, hence, a careful plan needs to be put in place because as this is a site which could be a future tourist hotspot and to be included in the future expansion of Amsterdam needs to have an element that would attract people to it. My project has been set up in a similar way where I am researching and designing an intervention which has that element (mentioned above) taken into consideration within the design. As I was experiencing the site through my several site visits I realized how important it would be for new interventions to not just work harmoniously with the existing but also add an element of surprise within the site which could potentially be a point of attraction for the future visitors of the site. My intervention which is a flat roof transparent glass box of sorts is designed to contrast the cathedral building in the changeover zone ensemble and this intervention can then go onto not just add a new layer to the ensemble but the contrasting features could also put the focus on the cathedral thereby reminding the audience of the relevance and past history of this site. With the idea of the elderly co-living and working on my ensemble with other students of the culinary school, this adds an interesting social aspect to my project where an existing problem of a lacking elderly care system is addressed in big urban cities.

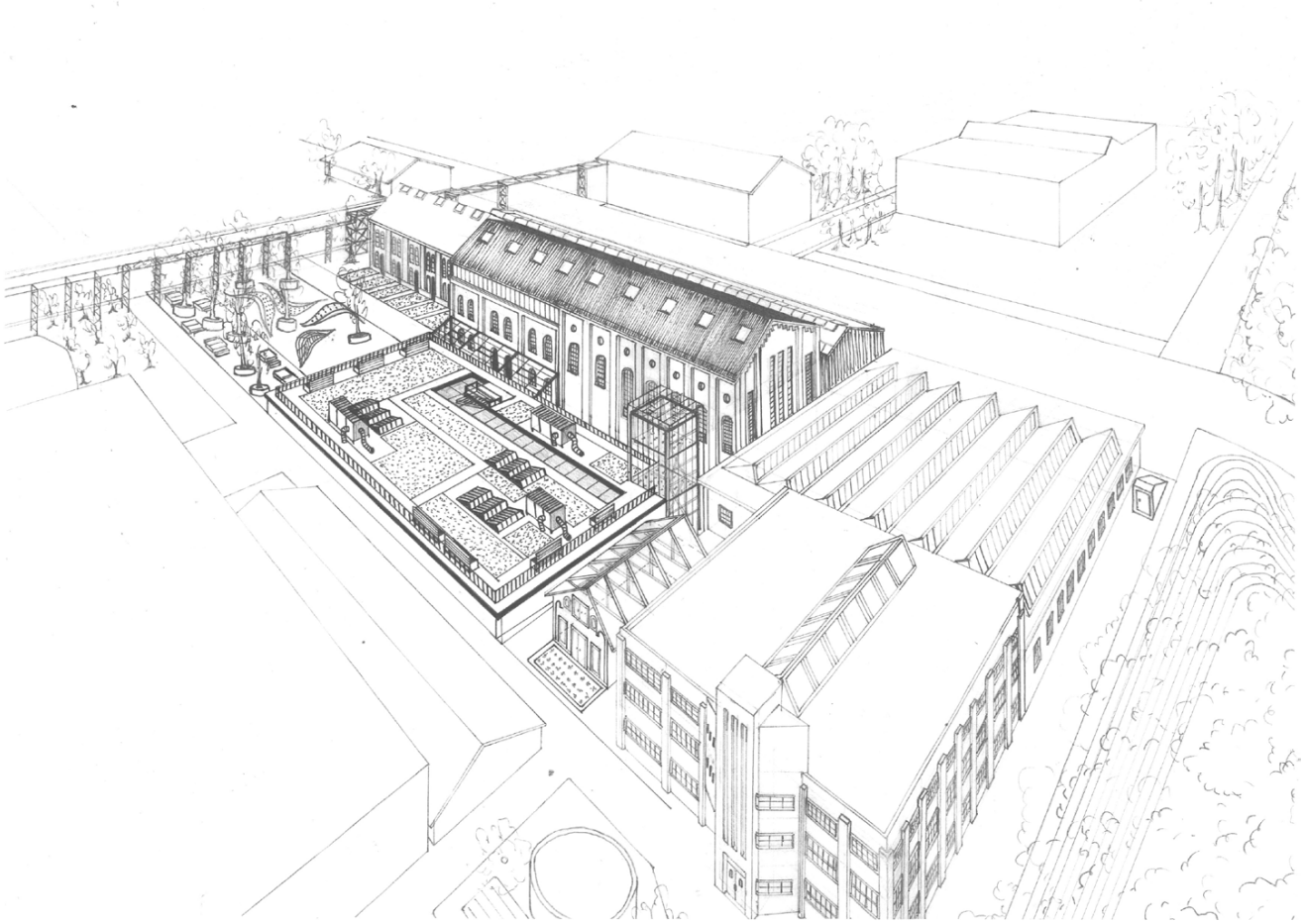


fig-10 : bird's eye view of my design intervention with the contrasting new building in front of the cathedral