

Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences




Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners ([Examencommissie- BK@tudelft.nl](mailto:Examencommissie-BK@tudelft.nl)).

The graduation plan consists of at least the following data/segments:

Personal information		
Name	Margo Smeenge	
Student number	4647467	
Studio		
Name / Theme	Revitalising heritage: Zero Waste church	
First mentor	ir. Catherine M.N. Visser	Heritage and Design - Architecture
Second mentor	A.S.C. Meijer	Heritage and Technology - Building Technology
Third mentor	ir. W. Quist	Heritage and technology- Research
Argumentation of choice of the studio	<p>Historic and monumental structures have always managed to gain my interest. Most heritage buildings make me excited to learn about their history and the stories they tell. The mystery and all the what if's or what used to be are very exciting to me. This natural love for older buildings, especially those from the 18th and 19th century, motivates me to keep these buildings alive, or, give them a new life. To not let them vanish. They tell a story, which the people who build them or lived in them are no longer able to tell. I have done the heritage minor at the Faculty of TU Delft with great pleasure, my favourite part was repurposing and transforming the former terrain of the Spiritus and Gistfabriek in Delft. I loved diving into the history of the site, the factory, the legendary founder Van Marken. Redesigning the Prinsenhof in Delft taught me much about the technical aspect of monumental design. How to get a former monastery up to date with today's climate and sustainability requirements was a challenge to say the least. We came up with a demountable climate wall, which heated and cooled down the building without damaging the original structure. Afterwards I did a heritage course CSI-Heritage. I have learned through my years at the TU Delft that working with heritage gives me the most satisfaction and pleasure and keeps me continually interested, because there is always a new challenge or something new to learn about the building. I consistently aim to intervene respectfully and have learned that my approach is not about drastically adding or subtracting, but more about working with the qualities and values that are already there and emphasizing/upgrading them. My motto is whatever I want to change /add/ subtract must add more (future) value to the building itself. With my latest designs, circularity has played a key role. This is why I was interested in the Zero Waste approach. I want to learn how to preserve heritage in the most environmentally friendly way, while designing a future-proof building and function. I favour re-using materials and repurposing materials because I think this is the future.</p> <p>Although not very often, whenever I did set foot in a church, I felt somewhat elevated, astonished, in awe. An experience that I could not properly describe but also did not experience in any other buildings. I was astonished at the scale of the open space, the silence, the craftsmanship and the height of the ceilings. How was it build? The effort put into such a massive structure was a very powerful testament to the religious beliefs. They knew exactly how to build a sacred space, a house of God and how to make me feel like maybe I was missing out on something huge. This building represented the power of religion.</p>	

	<p>I was in awe, I could hardly grasp how they could build ribbed vaults that high hundreds of years ago. Or the level of artistry in the stained glass windows. This experience has never left me and I did not know a proper term to describe it. To transform or repurpose such an interesting and important structure, is for me a fascinating challenge. Change is necessary, to keep these buildings alive and well in our urban environment. But how to touch something sacred? What interventions can be done during such a fragile dispute? A special interest of mine is ambiances, atmospheres and how they influence our psyche. How spaces can play a role in people's mental state and how this can be used in design strategy. The atmosphere of churches to me is something unique to these religious structures and I want to learn how to intervene but not destroy the church ambience.</p>
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Graduation project	
Title of the graduation project	Repurpose and continue sublime church architecture.
Goal	
Location	<p>Nieuwendammerdijk 227, Amsterdam-Noord.</p>  <p>The Sint Augustinuskerk. Source: https://www.spitsvastgoed.nl/aanbod/sint-augustinuskerk/</p>
Posed problem, research questions and	<p>The sublime is a concept, or rather a very specific experience, mostly described by philosophers during the 18th and 19th century. The most well-known philosophers that have dedicated extensive writings towards this subject, are Edmund Burke and Immanuel Kant. Although Burke puts more emphasis on the horror and terror of the Sublime, both agree that vastness, boundlessness, magnificence and grandeur are key elements to the sublime. It is mostly linked to natural phenomena, like vast oceans, mountainous landscapes, lighting, volcanoes and so on. However, the sublime is not only restricted to nature and wilderness, as it has also been linked to rhetoric, music, art & architecture. Within this research the focus lies on the latter. The sublime is an overwhelming experience, evoking profound emotions like awe, astonishment, fear and transcendence. The mind has a hard time comprehending that what it exactly observes within that moment, causing a quiet mind, completely seized by its surroundings. Although best elaborated by sketches and etchings (Piranesi, Boullée), since paper architecture is virtually limitless, sublime architecture is already among us. Sublime architecture is a structure that is capable of evoking the same experience as the sublime in nature, although it may be in a lesser degree. This type of experience is rare in the current urban environment, but one place where it is still possible to experience is religious buildings, like churches. Reason being that religious buildings were built to impress, fear, and convince of the existence of something way bigger than ourselves. A valuable experience, since conserving and/or enhancing sublime architecture could indirectly contribute to the mental wellbeing of Western society (M. Arcangeli et al., 2020), (L.C. Bethelmy, 2019). Mental health is decreasing worldwide, especially among young adults (Yasgur, 2022). Conserving sublime architecture could then not only have a positive</p>

influence on the wellbeing of the community and the visitors, it can also serve as a contributing factor in conserving the heritage as a whole. When a place is able to offer people a profound and powerful experience and leave a positive imprint on their lives, it could be more likely that it will be conserved and cared for.

Unfortunately, the decommissioning of churches is a growing problem here in the Netherlands, resulting in a great amount of vacant churches, for which there is no new purpose. Whenever there is a transformation project in the works, sublime architecture is hardly ever taken into account. Consequently, sublime architecture, therefore the sublime experience, is lost. This research approaches sublime architecture as immaterial heritage, that is of great value to the people, their well-being and society as a whole. The intent is to create awareness and knowledge on this subject. The research plans to provide the architectural field with a toolbox, a handhold, for adding or conserving the sublime whilst transforming churches. Although churches differ greatly in style, characteristics and materiality, this research aims to identify general architectural features which can be used to create a sublime experience. It does not aim to proof the sublime is present in all churches. However, a starting point of this research is the belief that churches are in general a good foundation for sublime architecture. The reason for this belief is that not only have religious structures been frequently linked to the sublime (Doudouh & Van Ginderen, 2012), the objective of such structures was often to create fear and wonder simultaneously, namely fear for hell and belief in heaven (Bruin, 2012). This architectural motivation falls in line with the effects of the sublime.

The Sint Augustinuskerk in Amsterdam-noord is chosen as a case study for this research and as the subject of the repurposing. The Neo-gothic church, specifically Lower Rhine gothic was designed by Alfred Tepe in 1888. The site has a lot of history, since 4 previous churches were also located here. It has been vacant since 2014, but new owners have not been able to come up with a feasible plan to repurpose the church. The church is a landmark on the Nieuwendammerdijk, serving as an important pillar in the community. The area can be called picturesque, with a small harbor, many historical houses and a residents that can be classified in the high middle-class income group. The church construction of mainly brick, with a wooden roof and plastered interior. This church was chosen because it is in need of adequate repurposing and it is a church type which is common in the Netherlands. This makes the outcome of the research broader applicable. The church is well-loved by the community and situated in a high density urban environment, where access to any sublime nature or wilderness is lacking. Therefore, the church can potentially offer a rare valuable experience for this area in the future.

The ambition here is to combine the sublime with sustainability. Approaching the research and design with a circular scope, adds an extra layer and challenge. This approach falls in line with the overall goal: conserving or enhancing that which is valuable in this world. This is an experience of the sublime, but also materials. The focus is creating a circular transformation of a vacant church, whilst maintaining or enhancing the sublime architecture. Through adaptive re-use the design paves the way for a waste-less approach to transform or build. All that is stated above is in line with and executed within the studio Revitalising Heritage: Zero Waste church at the Delft University of Technology.

	<p>First, the research will establish whether or not the sublime is present at this moment in time within the case study. Afterwards different design concepts, based on the research that was previously done, will be tested. This will result in a final design for the transformed church where the sublime is present. The toolbox that is a result of literature studies, will be applied and tested on the Sint Augustinuskerk.</p> <p>The relevant questions that have to be answered and examined in order to meet the research objective, are stated below. Starting with the research question and followed by five supportive sub-questions:</p> <p>How can Sublime architecture in vacant churches be identified and continued during repurposing?</p> <p><i>The term repurposing is chosen because the research addressed vacant churches which are in need of a new function/purpose.</i></p> <ul style="list-style-type: none"> - <i>What is Sublime architecture ?</i> - <i>How can sublime architecture be measured/ identified?</i> - <i>To what degree is the Sint Augustinuskerk a sublime structure?</i> - <i>Which architectural characteristics give cause to a more sublime transformation?</i>
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<p>design assignment in which these result.</p>	<p>Whilst repurposing the Sint Augustinuskerk, the sublime features originally present will be maintained and the overall sublimity of the structure is opted to be enhanced. These enhancement will result from the research. The results of the most effective architectural characteristics, able to produce a sublime experience will be prioritized within the design process. Think of characteristics like scale, height, contrast, tension, repetition/rhythm, uniformity, complexity etc. This analyses however, has to be combined with many other requirements suited for a durable future of the church. The aim is to not only maintain (heritage) values already present, but to add value to the building and to ensure the church will remain standing and in use for as long as possible. This indicates the church has to be able to efficiently house different functions in the future. Therefore, the design has to not only be one that is circular, but also flexible. It is not hard to assume that the need of the users and society will change significantly over time. The church needs to be able to move along with said changes. The repurposing will result in sublime architecture, that is circular and flexible. This also falls in line with the idea that what we experience as sublime can change over time. What might awaken a sublime response today differs from that of 400 years ago. An example for this is stave churches in Norway. Although very impressive today, such churches often do not possess the sheer scale and grandeur need for sublimity. However, when most stave churches were constructed, for small communities, these structures were the absolute limit of architecture and craftsmanship and therefore could have a much greater effect on them. With this principle in mind flexibility is a core value of the design. Combining the overall aim of this project and a societal need, the assignment will entail the design of a multifunctional mental health & culture centre. The outpatient mental health centre offers therapy within different areas as well as a place for psychiatrist. For example, functions like a pharmacy, consultation rooms, an art & music therapy room will be implemented. The intent is that the church will remain open to the public as well, emphasizing the value a sublime experience can offer for anyone. Therefore, the nave and apse will form a central lobby where visitors can sit, rest and observe the church in silence. A library, restaurant and offices will also be included in the design. The design assignment will address the following challenges:</p> <ul style="list-style-type: none"> - Combining functions of mental health clinic and culture centre efficiently and integrate multifunctional use of rooms - Preserve and enhance sublime characteristics, offering the visitors a chance at a sublime experience - Make the design as circular as possible - Honoring the religious heritage but keep the program flexible for different future user needs - Design in such a way, that a continuous cycle of novelty is possible. Novelty is an important factor within the sublime, since repeated experiences lessen the lack of comprehension, mystique and sense of overwhelm/awe.
<p>Process</p>	
<p>Method description</p>	

The research question and sub-questions are answered through the following means: Literature studies, analysis, data gathering and research design. Per step, the expected length is indicated by the pink line.

Through literature studies a clear stance and elaboration on the definition of sublime architecture is established. This entails examples of sublime architecture, including drawings and buildings of worship. In this way the sublime is not only understood through words, but more so through image and imagination. Furthermore, through literature studies and examples a tool (scheme) can be created to identify sublime architecture in churches.

A questionnaire for visitors of the church can give insight in the current existence of a sublime experience. This questionnaire will contain questions concerning the experience of the visitor and will ask specific question related to the sublime. The questionnaire could indicate that the sublime is not experienced within this church. In that case, the research will focus on creating sublime architecture instead of preserving. In case of such an outcome, it will later on in the research become more clear which elements that were added/changed did create sublime architecture. The notion of churches in general being a good candidate for sublime architecture will still stand. This can be true for Gothic, Neogothic, Classical, Byzantine, Romanesque and stave churches. As previously mentioned, churches are not in general classified as sublime architecture through this research. They are classified as good candidates, depending on their characteristics, which will be uncovered and analysed within the research. Thus, the research will also provide a tool to determine if and how the church is sublime. This must however be combined with the analyses of the actual human experience within said church. The latter will be done through the previously mentioned questionnaire for the Sint Augustinuskerk. An extensive analyses of possible architectural characteristics that could induce a sublime experience within the Sint Augustinuskerk is executed after P1. This analyses will be based on previously gathered information. Both survey and analyses will give insight in the Sublimity of the Sint Augustinuskerk. Afterwards, based on all gathered data up until that point, another survey is conducted. This survey however, already contains three design concepts for the Sint Augustinuskerk, which all highlight a different take on repurposing sublime architecture. These designed concepts can then be tested on the public (yet to be determined who and how exactly). Per concept, the experience in terms of sublimity is established. This gives a clearer indication on how to successfully reach the design and research aim. The design of the different concepts will start as soon as the first architectural characteristics relevant for sublime architecture are established and will be refined over time, since I anticipate a lot of trial and error happening during this period. The feedback received from the design concepts will be incorporated in the refinement of the tool and eventually in the final design. Lastly, the final design is then tested again on the degree of sublimity. This will ensure a conclusion on the effectivity of the tool that was created.

Literature and general practical preference

For understanding the sublime as a whole Emily Brady's *The Sublime in Modern Philosophy: Aesthetics, Ethics, and Nature* will serve as the main literature piece. In this book, she researched the chronological development of the historical sublime and manages to translate this in a more contemporary approach. A deep and detailed understanding of the sublime is needed in order to understand and implement this complex concept. The stance on the concept that will be taken within this research is not purely based on Brady (2013) but it will be a personal combination of other writings and articles f.e. *Awe and the Experience of the Sublime: A Complex Relationship* from Arcangeli et al. (2020).

The literature studies continues on a more architectural front with Baaske, B. E. (n.d.). *Mechanics of an Architectural Sublime: from Sublime Philosophy to Architecture Parlante and a Translation into Design*, Wallis de Vries, J. G. (2012). *The empty church and the sublime* and Allain de Botton (2008). *The Architecture of Happiness*. Most of architectural literature will be that of short articles or writings, since this is the primary source available. However, Paul Roncken's *Shades of sublime* (2018) is a PhD thesis on the sublime in landscape architecture, which offers valuable information for this research. Specific books and articles about sublime architecture are scarce, which is why this research could really contribute knowledge and awareness about this subject.

Reflection

The research contributes to not only the heritage field but architecture theory is addressed as well. Through literature studies the sublime as a philosophical subject is discussed and re-evaluated to fit the scope of this project. This philosophical side is then combined with design and practicality. The theory has to be translated into reality. Due to the subjectivity that plays a big role in the sublime (philosophers have presented similar and quite different views over the years), it cannot be guaranteed if this project will result in something sublime. It depends on how the sublime experience is defined. However the project and research will aim to have the highest degree of sublimity maintained during the repurposing. By combining the theory side and actual testing of the concepts, the research and project can stand more secure within the field.

The research will not be 'done' with this paper. This paper is meant to highlight the importance of sublime architecture in our urban environment and aims to create awareness for such structures. Within the architecture field, especially religious heritage, the sublime elements are often not seen as sublime and can be overlooked or ignored. To be able to save such experiences within the vacant churches there must be awareness and there must be knowledge available about the subject. This is where the research and the project come in. They can contribute as an example, or a foot in the right direction. It is not realistic however to expect the project to solve the problem and for the research to determine all the exact features and degrees.

The end result, a transformation of the Sint Augustinuskerk that is supposedly able to offer the sublime, can serve as an example. It could also serve as a new point of discussion. Although it should be sublime, it might be that creating sublime architecture needs more research and knowledge than I was able to provide. Maybe only 50% of the people would feel in awe and experience transcendent emotions and the other 50% just find it uncomfortable or ugly. There is no research yet on how different people experience the sublime differently because the concept is hard to 'measure'. Even though little about the project is very black & white, but mostly just very grey, the end result matters, as it contributes awareness and knowledge, despite of it being successful/unsuccessful.

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