

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), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

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

Personal information		
Name	Billy Tingxi Chen	
Student number	5595576	
Studio		
Name / Theme	Heritage & Architecture: Revitalizing Heritage - The Zero Waste Church	
Main mentor	Catherine Visser	Architecture
Second Mentor	Anet Meijer	Building Technology
Third mentor	Wido Quist	Research Mentor
Argumentation of choice of the studio	The Heritage & Architecture studio represents a culmination of a personal journey into architecture, which began as an exploration of my conflicted heritage. Having been raised between Asia and Europe, I saw architecture as not only solutions to human needs but intense manifestations of cultures in all its facets – politics, histories, religions, etc. Space-making, and perhaps equally importantly, curating the architectural narratives, is thus as much a political exercise as a design one. Heritage architecture, I believe, thus emblematises a most promising ground for exploring the connection between architecture and society. Moreover, beyond carrying specific memories, heritage buildings function as powerful mirrors of contemporary issues and conditions. In this sense, vacant heritage speaks equally much to the act of cultural narration and one's cultural desires as a pristinely maintained and zealously protected monument do. As such, I joined the Zero Waste Church studio to deepen my understanding of heritage, learn about heritage attitudes in the Netherlands and methods to revitalise existing buildings, and crucially further my fascination with the intersection between heritage and identity, and architecture.	

Graduation project	
Title of the graduation project	Formulating a Palimpsestic Approach to Revitalizing Maranathakerk, Castricum

Goal	
Location:	Castricum, Noord-Holland, NL
The posed problem,	<p>My thesis addressed contemporary issues faced by vacant/neglected religious heritage on two scales, the macro- (societal) and the specific- (architectural). I termed the two conditions heritage obsolescence and fragmented heritage.</p> <p>On the macro level, the growing ranks of vacant or neglected religious buildings can be read through the lens of shrinking religiosity amongst the broader Dutch demographics. Younger generations are especially growing distanced from religion. Between 2010 and 2020, the share of the non-religious population increased from 45% to 55%. For the age group 18-25, the non-religious section stands at 72%. (CBS, 2022) Across the Netherlands, religious buildings are facing acute threats of vacancy or demolition. A 2021 report established that of the 7110 known places of worship in the Netherlands, 1530 no longer have religious functions, while 295 were being transitioned. (Hannema, 2021)</p> <p>Declining attendance and rising maintenance costs of historic buildings represent the most significant factors in the decline of congregations across the Netherlands. Smaller, localised congregations and their sites are particularly affected. Heritage obsolescence thus describes the condition in which buildings that are both physically functional and hold heritage significance face vacancy/demolition due to shifting social norms or the inability of their operators to maintain their intended purpose. Vacant religious heritage also faces additional challenges when it comes to revitalisation. Beyond the conventional balancing between stakeholder positions and economic</p>

	<p>interest in heritage adaptation, religious heritage presents an additional sacred-secular dimension. This is particularly pronounced in sites which have experienced both sacred and secular uses.</p> <p>In Castricum, the former Maranathakerk is currently facing demolition after being decommissioned from religious service and sold to the local municipality in 2018. Despite ongoing opposition from heritage groups and a successful adaptation of the building as a school, it risks imminent demolition by its municipal owners. Therefore, the crux of my thesis is the proposal of an alternative future for Maranathakerk. Nevertheless, alternative proposals must also consider the complex layers of memories attached to the sites and balance efforts to mediate the sacred and the secular with the municipality's economic calculations.</p> <p>Fragmented heritage thus describes the intersection between the different sets of sacred/profane memories, economic considerations, and future user demands.</p>
research questions and	<p>The main research question of this thesis is: <i>How can the fragmented heritage of Maranathakerk be mended through a palimpsestic design approach?</i></p> <p>My thesis explores the potential to formulate an intervention strategy for vacant religious heritage by looking to the palimpsest as a principle for continuous layering and coexistence between successive alterations.</p> <p>Additional sub-questions were raised to investigate how the palimpsest could be used to understand existing architectural conditions and heritage qualities of a site; and whether these qualities could be translated into design decisions.</p>

	<ol style="list-style-type: none"> I. To what extent have Maranathakerk's 'palimpsestic' building elements influenced the site's heritage value? II. Can the shifting usage patterns and their associated heritage meanings provide a model for Maranathakerk's reuse? III. Can a palimpsestically (re)designed Maranathakerk become a bridge for the generational divides in Castricum? Finally, the thesis will consider whether Maranathakerk and the palimpsestic approach it shapes could become a model for other religious heritage sites in the Netherlands and beyond. IV. Could a palimpsestic toolkit be formulated from Maranathakerk's specific context be applied to other vacant churches?
design assignment in which these result.	An extension of the former Maranathakerk to provide a permanent location for Supreme College Castricum. The intervention will be informed by studying historical acts of palimpsests on the site and aiming to create a building that can satisfy the long-term needs of the growing school (Supreme College) without overruling the existing qualities of the school and the heritage values associated with the former church.
Process Method description	
<p>This thesis centres around using the palimpsest as a guiding principle for revitalising religious heritage. The aim is to formulate and test a framework that can aid in the study and considerate intervention of fragmentary heritage conditions instead of demolition. The research consists of a combination of methods. These include literary</p>	

analysis, field study & interviews, urban mapping, retrofitting theories, and form study, all of which contribute to the final design generation.

P1 ABC-Analysis / Palimpsest Theory

The first phase of the research concerns understanding the broader contextual conditions surrounding Castricum and Maranathakerk and combining this contextual knowledge with theoretical studies to formulate a 'palimpsestic framework'. On the urban level, site visits, interviews of current users and relevant stakeholders, GIS mapping, expert value assessment, and archival research form the backbone of contextual understanding. On the building level, historical drawings and planning documents from the Alkmaar regional archive are reviewed against personal observations of the present site and testimonials from stakeholders.

Concurrent with the ABC analysis, literary analysis is used to gauge the discourse surrounding the palimpsest and adapt it for use within architecture. Precedential research drawn from archaeology, postcolonial studies, language history, and philosophy are used to synthesise a starting point for my framework. Key works consulted include Derrida (1976), Dillon (2005), Bailey (2008), and Rossling (2022).

P2 Building as Elements/Elements as Building

In the second phase, the existing Maranathakerk is studied once more on a detailed level. Particular emphasis is placed on the relations between architectural forms, individual elements, and the overall heritage character. Again, previous contextual studies and expert testimonials will form the character's basis.

To facilitate the form studies, the palimpsest is expanded from its conventional role as a unitary metaphor for layering into a spectrum of sub-categories. Bailey's research of archaeological occurrences of palimpsests forms the basis of my categories. (2008) Individual building components and spatial configurations are subsequently analysed through the new catalogue of palimpsests, establishing a connection between forms of palimpsests and architectural gestures. In essence, the BE/EB study seeks to understand the nature of Maranathakerk's character and to deconstruct its successive layers into individual elements. Additionally, by establishing links between individual elements and the building's overarching character, the form studies create a baseline for value assessment.

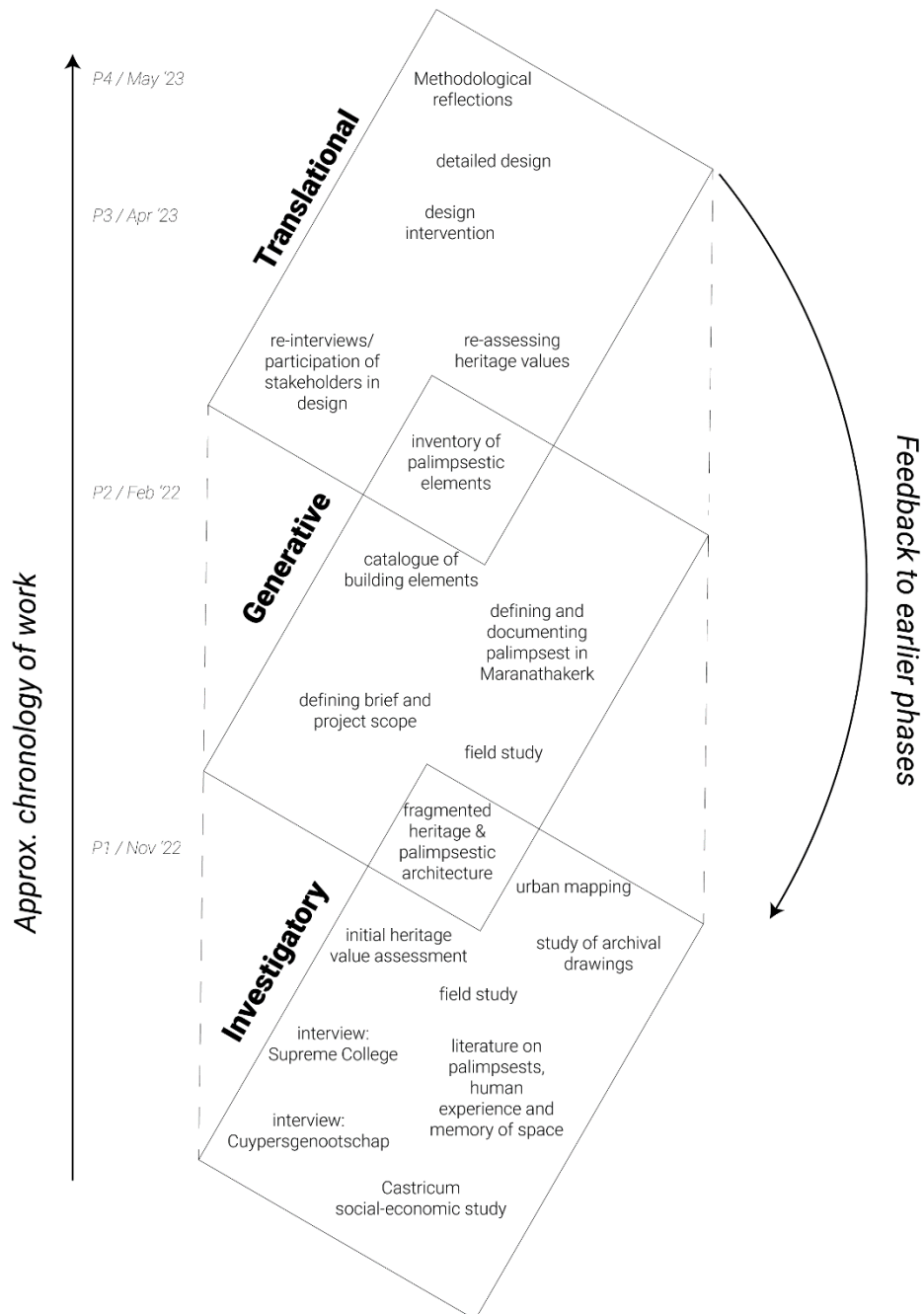
The existing building is further divided into material zones and inventoried according to Stewart Brand's Shearing Layers concept. Together with the palimpsestic analysis, these material studies establish a baseline for subsequent material reclamation by determining which areas and components are linked to significant characteristics – i.e., should be preserved in an intervention. Lastly, key elements are studied and positioned in its architectonic genealogy. The central octagonal plan, considered vital to Hinderik Eldering's design, is the focus of this historical analysis and is examined against historical precedents in Protestant and Pre-Christian architecture. These links between elements and characteristics, coupled with value assessments drawn from expert reviews on the building, ultimately contribute to formulating a zero-waste strategy that will accompany the redesign of Maranathakerk.

P3-P4 Design Generation & Translation

In the final phases of the thesis, the element studies and characteristics identified in earlier studies are used to generate design options for an expansion of the building. Given the vibrant school community on the site today, continued educational use is a natural choice for my project. However, interviews with the school community have revealed multiple areas for improvement and programmatic constraints with the current space, especially in light of the growing student body and the current Maranathakerk's intended purpose as primarily a sacred space. Therefore, an extension will be proposed, with a new spatial program informed by stakeholders' testimonials. The primary challenge that sets Maranathakerk apart from conventional school design and heritage adaptation is the ad-hoc nature by which it was adapted for school use. Through the semi-vernacular interactions between the formerly sacred space and its new profane use, the school community adopted unconventional spatial routines and a highly informal learning culture. The palimpsest's role and primary goal of the design phase are thus to guide the redesign to preserve the unique characteristics of the school community and critical spatial qualities of the former church.

Throughout the design process, the results from the earlier form and element studies and the conceptual palimpsestic framework will formulate the decisions related to the redesign. For example, the element studies and value assessment will inform the degree of alteration or the level of future opacity each existing part will take in the future palimpsest/final product. In each instance, design options will be drawn from the catalogue of palimpsestic forms established in the research phase.

Finally, by employing my palimpsestic framework in both the analysis and redesign of Maranathakerk, this graduation project will examine whether the palimpsest could provide a viable toolkit for future architects and others involved in revitalising heritage sites of complex memorial layers.



Literature and general practical preference

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Reflection

1. What is the relation between your graduation (project) topic, the studio topic (if applicable), your master track (A,U,BT,LA,MBE), and your master programme (MSc AUBS)?

My graduation thesis proposes an alternative future for the soon-to-be-demolished Maranathakerk in Castricum. In addressing the revitalisation of Maranathakerk, I touch upon pressing contemporary issues within heritage architecture and religious heritage. My research question(s) encapsulates topics that reflect ongoing debates within the larger built environment:

- How to adapt vacant heritage sustainably?
- How to position retrofit/reuse over demolition?
- How can different cultural and spatial memories be mediated in architectural design?

The ramification of tackling these issues extends beyond Maranathakerk and Castricum, as they parallel challenges faced by architects, planners, heritage managers and other building professionals in cities across the globe. In an anthropogenic world, inevitably, anyone seeking to transition towards more significant environmental and social sustainability must consider how existing human spaces could be revitalised for future generations.

Between the H & A Studio, the MSc Architecture Track, and the Delft MSc Programme, the fundamental commonality is to provoke innovative approaches towards tackling social challenges (via architectural design). My graduation project aligns with that ambition by confronting the threshold between waste and heritage and testing a novel methodology for mediating cultural memories.

2. What is the relevance of your graduation work in the larger social, professional and scientific framework.

Zero Waste and adaptive reuse of existing building stock represent a crucial frontier in the sustainable transition of the built environment, especially given the present (Dutch) context of a stark housing shortage coupled with the need to reduce new construction. However, the social-cultural dimension of reuse is equally important as the physical transitions. Architects tasked with revitalising heritage must serve current social needs whilst balancing conflicting cultural interests amongst relevant stakeholders. My thesis topic lies at the intersection between these physical and cultural considerations by examining the role palimpsestic layering can play in connecting the past to the future. The project investigates the potential for successive past layering in a heritage building to inform architectural interventions and how incorporating material and spatial traces of the past influences spatial perception and heritage character. The project thus contributes to the continued development of understanding heritage as a non-static and culturally diverse phenomenon set forth by the Nara (1994) and Québec (2004) ICOMOS conventions.

Moreover, this thesis aspires to build upon the growing discourse around the palimpsest as a substantive notion - itself an ongoing process of successive layering by generations of scholars stretching back to the 19th century. (Dillon) Hitherto, the palimpsest's role in academia has been limited to a metaphor for all things layered. This limitation is especially pronounced within the study of the built environment, where the palimpsest represents a

somewhat clichéd catchphrase for any spatial conditions of historical complexity. My contribution towards the broader scientific realm is to introduce the notion of continuous, determined layering to heritage architecture via a tangible framework. Critically, my thesis looks to the palimpsest as both a device for understanding past layers and a method to extract new design decisions for heritage spaces. In essence, I argue for repositioning the palimpsest from a passive agent for reading existing spaces to an active one involved in space-making. The facilitation of this redefinition necessitated a categorisation of the palimpsest and their translation into architectural design terms. Both aspects represent previously poorly charted territories of research.