

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	Marc van Zantvliet
Student number	5485274

Studio		
Name / Theme	AR3AH115 Graduation studio Revitalising Heritage	
Main mentor	Alexander de Ridder	Architecture heritage
Second mentor	Ivan Nevzgodin	Architecture
Argumentation of choice of the studio	In a world where reuse and material scarcity are increasingly central, I see heritage as the solution to address part of the problem. Instead of indefinitely building new, it would be better to focus on future reuse of existing buildings. Church buildings in particular, which are increasingly becoming vacant today, are crying out for a new use in today's society	

Graduation project	
Title of the graduation project	Sacred Care – The societal role of vacant churches in the elderly housing crisis
Goal	
Location:	Palestrinastraat 1, 3533 EH Utrecht
The posed problem,	Church buildings are increasingly becoming vacant, while demand for elderly housing continues to rise. I want to explore whether that one phenomenon can support the other so that they can work together in symbiosis.
research questions and	How can the growing vacancy of religious buildings help create a housing provision for independent elderly people?
design assignment in which these result.	A proposed redesign of the Sint Dominicus church where there is place for independent elderly people to live but also connect with their environment. The research contributes by giving criteria that needs to be followed in

order to design these homes that fit the target group, but also investigate the impact of architecture in the mental and physical wellbeing of a human.

[This should be formulated in such a way that the graduation project can answer these questions.

The definition of the problem has to be significant to a clearly defined area of research and design.]

Process

Method description

During this investigation, several types of examinations are carried out to answer the following subquestions:

1. *What is the reason that religious buildings get vacant?*
2. *How is aging growing in the Netherlands?*
3. *Why aren't very many churches being transformed into healthcare buildings?*
4. *What kind of architectural elements does an independent elderly person needs to live in a home in which 'light care'² can be provided?*
5. *How have existing churches been transformed into care buildings?*
6. *What can we learn from existing care buildings into redesigning churches?*
7. *How can architecture influence an individual's life and mindspan?*

To gather information, the following will be used:

Newspaper and journals: These explain relevant topics on aging and its impact on society, thus providing the reader with an idea of the social relevance of this topic.

Interviews: Through interviews with employees of care institutions, insight is shown into how an older person's day unfolds. This provides insight into the obstacles an elderly person experiences during their stay in a care institution. It also examines new and transformed care buildings by talking to various architects. The essence of this research is to use floor plans to investigate how various functions are connected in a care building.

Archives: Architectural drawings are collected in archives to get an idea of the links between the underlying spaces in the case studies. In addition, newspaper and magazine publications could also be found to help gather information.

Case studies: Case studies are used for subquestions five and six. These case studies are of transformed church buildings and existing care centers. Based on these floor plans, an attempt is made to retrace, for example, relationships in spatial planning.

The transformed churches were determined based on residential function. Except for the Vredeskerk, all the churches were chosen based on the care function where the elderly can live independently.

For the care buildings, the main criteria were that they should offer care to elderly people who want to live independently, with the possibility of light care being offered to whoever needs it. Based on this, the following case studies have been selected:

Transformed churches:

Bedaux de Brouwer - Vredeskerk Tilburg

Bedaux de Brouwer - Mariadal Roosendaal

Vincent Schreurs - Oosterkerk Aalten

Healthcare centres:

Wartburg - Utrecht

De Ingelanden - Utrecht

Bedaux de Brouwer - Haarendael Haaren

Every project is analyzed based on the following points:

- General information
- Spatial planning
- Experience spatial planning
- Building-physical challenges (transformation projects)
- Architectural elements used to create mental well-being.
- The architectural concept of the building (lines of sight etc.)

Using this information, insight into the transformation of churches into care centres is displayed. This is then formulated into a plan of demands with design principles that will be taken into account for the final design of St. Dominic's Church.

Books: For the research part, mainly books are used as first-hand literature. They are used for this research to gain insight into the life and mindspan of the elderly. Besides, this literature is also used to learn how architecture can influence the well-being of the elderly. The books are mentioned in the bibliography.

Literature and general practical preference

General information about the Sint Dominicus Church

Bossche School. (n.d.). Retrieved 12 September 2022, from https://www.joostdevree.nl/shtmls/bossche_school.shtml

Bussum, Ceintuurbaan 43 - Jozef. (2022, April 18). Reliwiki.nl. Retrieved 12 September 2022, from https://reliwiki.nl/index.php/Bussum,_Ceintuurbaan_43_-_Jozef

Dominicuskerk Utrecht. (n.d.). dominicuskerkutrecht.nl. Retrieved 12 September 2022, from <https://www.dominicuskerkutrecht.nl/over-ons/kerkgebouw/>

Evers, M. (n.d.). *De cursus 'kerkelijke architectuur' (1946-1973) in de vakpers* [MSc]. Universiteit van Utrecht.

Herman van Putten. (2022, February 26). Wikimedia Commons. Retrieved 12 September 2022, from https://commons.wikimedia.org/wiki/Category:Herman_van_Putten

Putten, H. (1959, March). *Palestrinastraat 1*. Het Utrechts Archief. Retrieved 12 September 2022, from https://hetutrechtsarchief.nl/onderzoek/resultaten/directzoeken-bouwdossiers?mivast=39&miadt=39&mizig=17&miview=ldt&milang=nl&micols=1&mizk_alle=palestrinastraat%20%20utrecht
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Santen, V. B. (2009, January 1). *Gids Architectuur En Stedenbouw Utrecht: 1900-heden* (1st ed.). Uitgeverij Thoth.

van Schaik, T. H. M., & Vervaart, O. (2001, November). *Kleine geschiedenis bij het Gouden feest* (1st ed.). St.Dominicusparochie. <https://www.dominicuskerkutrecht.nl/wp-content/uploads/2010/10/Kerkgeschiedenis.pdf>

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Wikipedia-bijdragers. (2022, March 23). *Sint-Dominicuskerk (Utrecht)*. Wikipedia. Retrieved 12 September 2022, from [https://nl.wikipedia.org/wiki/Sint-Dominicuskerk_\(Utrecht\)](https://nl.wikipedia.org/wiki/Sint-Dominicuskerk_(Utrecht))

Subquestion 1

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Sturm, E. (2005, November 17). Europa staat in religieus opzicht alleen. Trouw. <https://www.trouw.nl/nieuws/europa-staat-in-religieus-opzicht-alleen~b25bc704/>

Mersbergen, S. van. (2022, October 29). Katholieke Kerk loopt vliegensvlug leeg: corona versnelt uittocht verder. AD.nl. <https://www.ad.nl/binnenland/katholieke-kerk-loopt-vliegensvlug-leeg-corona-versnelt-uittocht-verder~a2ba6b438/>

Ministerie van Onderwijs, Cultuur en Wetenschap. (2021a, January 20). *Eén op de vier kerkgebouwen heeft een nieuwe functie*. Nieuwsbericht | Rijksdienst Voor Het Cultureel Erfgoed. Retrieved 20 September 2022, from <https://www.cultureelerfgoed.nl/actueel/nieuws/2020/11/30/een-op-de-vier-kerkgebouwen-heeft-een-nieuwe-functie#:~:text=Net%20als%20in%20Nederland%20blijkt,in%20kerken%20te%20vinden%20is>.

Santen, V. B. (2009). *Gids voor Architectuur en Stedenbouw in Utrecht: 1900-Heden* (1st ed.). Publisher Thoth.

Subquestion 2

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Consultancy.nl. (2020, September 15). *Vraag naar ouderenwoningen neemt explosief toe*. Retrieved 20 September 2022, from <https://www.consultancy.nl/nieuws/30470/vraag-naar-ouderenwoningen-neemt-explosief-toe>

Michael Stuart-Fox, Berry Blijie, Kenneth Gopal, Ruud Steijvers, & Sandra van Zoelen. (2021, January). Monitor Ouderenhuisvesting 2020. *In Rijksoverheid* (No. r2020-0085MS). ABF Research. Retrieved 20 September 2022, from <https://open.overheid.nl/repository/ronl-1ab15ce4-f214-447a-b3b4-a3840143662d/1/pdf/monitor-ouderenhuisvesting-2020.pdf>

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Neilen, D. (2015, January 20). *Hoog energieverbruik en nog steeds een "koude" kerk, hoe kan dat toch?* Kerken Verantwoord Verwarmen. <https://kerkenverantwoordverwarmen.nl/hoog-energieverbruik-en-nog-steeds-een-koude-kerk-hoe-kan-dat/>

Subquestion 4

Dijk, J. van. (2021, February 23). *Geen bewijs voor psychologische effecten van kleur op gezondheid*. De Omgevingspsycholoog. Retrieved January 7, 2023, from <https://www.omgevingspsycholoog.nl/psychologie-kleur-healing-environments/>

Hoofdstuk 4. Technische bouwvoorschriften uit het oogpunt van bruikbaarheid / Bouwbesluit Online. (n.d.). Bouwbesluitonline 2012. Retrieved January 11, 2023, from <https://rijksoverheid.bouwbesluit.com/Inhoud/docs/wet/bb2012/hfd4>

Janssen, N. (2022, November 15). *Kleurenpsychologie – de betekenis van kleuren*. Linku. <https://linku.nl/kleurenpsychologie/>

Stuiver, M. (n.d.). *Groen: goed voor de gezondheid*. Wageningen University & Research. Retrieved January 8, 2023, from <https://www.wur.nl/formsession-expired-27.htm>

Wagemans, L. (2013, November 12). *Ontwerpen voor dementerenden*. Architectenweb. Retrieved January 7, 2023, from <https://architectenweb.nl/nieuws/artikel.aspx?ID=32554>

Wijk, M. (2013). *Handboek voor toegankelijkheid: over de ergonomie van buitenruimten, gebouwen en woningen* (7th ed.). Vakmedianet.

Subquestion 5&6

Archief tekeningen zorgcomplex de Ingelanden. (2006, June 7).

Personal communication on Mariadal, Haarendael and the Vredeskerk with T.Hoevenaer, architect at Bedaux de Brouwer, retrieved on 29 november 2022

Schreurs, V. (2020). Schetsontwerp ver-nieuwbouw Oosterkerk tot woon-zorg appartementen/ suites in Aalten. Architectenbureau Vincenth Schreurs.

Subquestion 7:

Aalst, H. J. M., & van der Aalst, H. J. M. (2004). *Zorgzame architectuur: humane zorg in een gesloten setting : verslag van een prijsvraag*. College bouw ziekenhuisvoorzieningen.

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Conellan, K., Gaardboe, M., Riggs, D., Due, C., Reinschmidt, A., & Mustillo, L. (2013). *Stressed Spaces: Mental Health and Architecture*. Vendome group LLC

Damme, M., Reinstra, A., & Strolenberg, F. (2020). *Kerkgebouwen ? 88 inspirerende voorbeelden van nieuw gebruik. Van appartement tot zorgcomplex*. Publisher Blauwdruk.

Dilani PhD, Alan. (2001). *Design and health the therapeutic benefits of design*. byggtjänst.

Sijssling, H. (2012). *Zorgarchitectuur Zorgvastgoed: strategie en concept voor rendement en waarde* (1st ed.). Vakmedianet.

Reflection

1. As the vacancy of churches will only increase in the coming years, it is important for us as architects to preserve this piece of heritage. Instead of demolishing these monumental buildings, in my opinion, it would be better to look at a future function that goes along with the social role the church stands for. In this way, the core idea of the church will be preserved in honour, but the reuse of the building will also be handled in a more sustainable way. In addition, in the current times, the demand for sustainability is growing whereby the use of new materials is being demoted. To achieve this, transforming existing buildings is becoming increasingly attractive, resulting in less material wastage. I think this will become even more popular now, but certainly in the future than is currently the case. Therefore, I am convinced that, as a beginning architect, it is important that you have had to deal with a heritage project at least once during your studies. After all, in all likelihood, you will have to practise this more often in the future.
2. The vacancy of churches and the shortage of housing suitable for the elderly has been a social problem in the Netherlands for a long time. Despite previous transformations of churches into housing for the elderly, the total percentage

does not exceed above four per cent of the total transformations of these sacred buildings. Therefore, during this research I want to find out why this percentage is so low and what we as (future) architects can do to make more transformation projects in elderly housing successful. Also the relation between mind span and lifespan is examined to see what influence architecture can be to improve these things.