

Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences



Graduation Plan: All tracks

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

Personal information	
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Studio	
Name / Theme	Heritage & Design
Teachers / tutors	Lidy Meijers Frank Koopman
External examiner	Peter Koorstra
Argumentation of choice of the studio	Interest and relevant study- and work experience in conservation, restauration and refurbishment of architectural heritage.

Graduation project	
Title of the graduation project	De Gracht Quality and value of healthcare in the historic inner city of Amsterdam
Goal	
Location:	Former Prinsengracht Hospital Prinsengracht 769, Amsterdam
The posed problem,	<p>The Prinsengracht hospital has always been regarded as a very pleasant one, and is situated beautifully along the prestigious Prinsengracht, right in the UNESCO World Heritage Site of Amsterdam.</p> <p>The complex was designed to provide care, but has been rigorously and deficiently modified to become a cure-providing institute. There is a mismatch between the buildings and their use.</p>
main research question,	To which extent did architectural aspects contribute to the positive experiences and user-friendly atmosphere of the Prinsengracht Hospital, and how can they be of use in the redevelopment of the complex?
secondary research questions and	<p>How has the Prinsengracht Hospital developed and how does this relate to developments in the medical world?</p> <p>What determines <i>user experience</i> and how can the effects be measured?</p>

	To which extent does the building meet contemporary demands for care-related use, and which types of healthcare could be accommodated?
design assignment in which these result.	My intention is to get the building and its use back on the same track. More concrete, the building will regain its original function as a safe place for vulnerable people, and play a role in the forensic healthcare provided in the Amsterdam region.

My research has led to a number of starting points that I use to start my design project. I have started on the design, although it is very likely to change a lot even before P2. A quick overview of my project:



Figure 1 - The Prinsengracht Hospital and part of the garden inside the complex

The project is located along the Prinsengracht, a relatively calm part of the crowded inner city of Amsterdam. For over 150 years, the hospital has offered its patients a quiet, green, bright place to recover and to prepare for re-entering society. This is a quality that the complex still possesses and that I want to maintain. By housing a centre for forensic care (part clinical, part guided living for former detainees), the hospital can regain its original function as a safe place for people who cannot make it on their own. Moreover, it addresses the rising sense of insecurity in the city centre, by properly guiding the people that are responsible for most of the small crimes reported.

The design consists of three layers. First of all, there are the existing buildings on either side of the plot. The complex is divided in two parts, one of which (along the Prinsengracht) houses the guided living. The other part, located on the Kerkstraat and containing a relatively large amount of new construction, is designed as a low-security clinic.

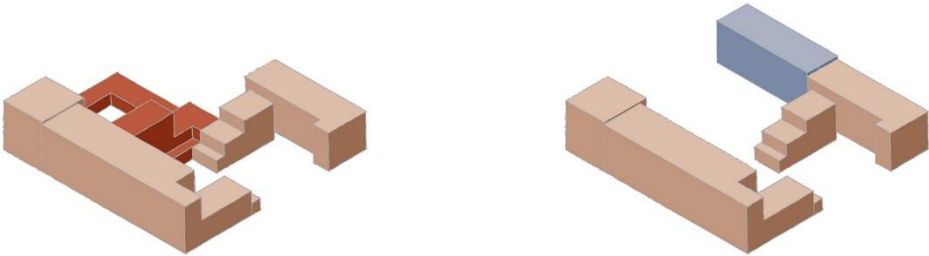


Figure 2 - The first 'layer': Existing buildings (left) and proposed situation (right).

The area in between will be cleared of cluttering building parts and will be used as the complex garden, the second layer of the design. It is divided into several parts, all with their own character and with different levels of publicness/privacy.



Figure 3 - The second layer (left) is divided into four gardens/courtyards (middle) by the third layer (right).

The third layer is a new, added structure, which has a double function. It separates the courtyards/gardens from each other, and connects the different building parts where necessary. In doing so, a new circulation system is introduced, which also features the new main entrance for the complex.

For P2, I will base a sound design proposal on these starting points. Between P2 and P4, the design will be elaborated.

Process

Method description

I have conducted my research using library books, articles and recorded fragments from TV- and radio shows from local channels (see also the list of references included below). Moreover, I have studied the Prinsengracht hospital itself, from historic and recent drawings, pictures and by taking measurements and making sketches on site.

An additional part of the research involves the new function for the premises, forensic care. Apart from reading books and articles about the subject (including research by TNO and Stagg), I have arranged meetings and interviews with several people that are active in the field of forensic care:

- Jeroen Veth, Senior Architect at de Jong Gortemaker Algra architecten en ingenieurs. Veth is specialised in designs for forensic and psychiatric care, and has been responsible for several projects in the Netherlands and abroad. We spoke about several of the office's designs and the role of architecture in forensic treatment. We also briefly looked at the Prinsengracht case. (Visited 29-5-2015)
- Jan Willem Viergever, property manager at Altrecht (an organisation that provides psychiatric and forensic care in the Utrecht region). Together with Viergever and a colleague, I visited the Willem Arntsz Huis in Utrecht, an inner city clinic that was designed by VMX Architects and was opened in 2007. We did a tour of the buildings and spoke about the use of the building, the on-going renovation, and how that relates to the architect's original idea. (Visited 5-6-2015)
- Jeroen Vervoort (project manager at Arkin) and Lodewijk van Grasstek (business manager at Mentrum). This visit is planned after P2, due to absence of one of the two. Vervoort and Van Grasstek will show me the Mentrum clinic at the Eerste Constantijn Huygensstraat in Amsterdam, and clinic 'De Meren', also in Amsterdam. They have also agreed to provide information about the different kinds of treatment and guided living that they offer.

Until P2, my analytical and design drawings will mainly be made by hand. I have also built several rough models of the area (1:500) and the Prinsengracht Hospital itself (1:200), both of the existing situation and several design possibilities.

During summer, I intend to make a digital model of the building and direct surroundings, that I can use to visualise my design and to make more accurate drawings on various scale levels. During MSc4, computer drawings will play a larger role, but I will still make hand drawings and physical research models.

Literature and general practical preference

As mentioned above, I have not only used literature from the libraries and online articles, but I have also contacted several people active in the field (see list of literature at the end of the document, and list of visited sites and interviews above).

I have used several reference projects, including a number of clinics that I was able to visit, but also projects with an entirely different programme that are interesting because of their architecture.



Figure 4 – Reference projects. Top left: Transferium Jeugdzorg, Heerhugowaard, dJGA. Top right: W.A.H., Utrecht, VMX. Bottom left: Mentrum Clinic, Amsterdam, v.Panhuys & Bais, dJGA. Bottom right: Tilburg University, J. Bedaux.

Part of my research is based on assessment methods developed by TNO and Stag. This includes their OAZIS tool, which is very useful for determining which architectural aspects are important to patient experiences in healthcare environments.

Reflection

Relevance

In psychiatric and forensic care, there is a clear trend from large, open institutes in the countryside to smaller clinics and ambulatory care facilities in the cities and towns themselves. The patient residences are designed to be as 'normal' as possible, in order to facilitate an easy re-integration of the patient into society. My design approach fits in that trend and takes it one step further, to the point where care is integrated so well in the existing urban tissue that it is hardly recognisable.

The project addresses several interesting issues:

- the adapting of an existing building to house a quickly evolving medical function;
- the integration of a 'high-profile' function into an existing district and the interaction it should have with its surroundings and neighbours;
- the consequences of building in the protected UNESCO World Heritage Site;
- the relation between the large, introvert building and function, and the strictly determined urban structure of Amsterdam.

Time planning

I can be quite short about my planning, as I have finished all courses from MSc1 and MSc2, and do not intend to retake any exams.

- The course 'Lecture Series Research Methods' is the only course I need to take during my MSc3 programme. As of today (June 10th) I have submitted my final paper for the project.
- My Research Report has been handed in.
- My Analysis Report (group work) is nearly finished.

I do have a part time job in the evenings and weekends, and will keep working there one to two days a week during my graduation process. I've had this job for years and do not expect it to pose conflicts in my planning. If needed, I can work less hours (or none at all) for several weeks when a deadline or presentation requires more preparation. However, I should be able to spend 40+ hours per week on my graduation.

Week	What to do
4.8	Hand in Graduation Plan, Position Paper, Analysis Report. Prepare P2
4.9	Prepare P2. June 18 th : P2 Presentation.
4.10	Work on comments from P2
Summer	Work on the project without tutoring for ca. 20-30 hours a week (with a few small breaks). Work part time job for 2-3 days a week.
1.1	Tutoring starts again in September
Q1	Work towards P3. Work part time job 1 day a week.
Oct 2015	P3 Presentation
Q2	Work towards P4. Work part time job 1 day a week.
Dec 2015	P4 Presentation
Jan 2016	P5 Presentation

Literature and other sources

- (2007). Inleiding in de Bouwhistorie. Opmeten en onderzoeken van oude gebouwen. Utrecht, Stichting Matrijs.
- Adams, A., et al. (2010). "Kids in the atrium: Comparing architectural intentions and children's experiences in a pediatric hospital lobby." *Social science & medicine* 70(5): 658-667.
- Architectenweb (2014). "OLVG Prinsengracht wordt woon-werkcomplex." Retrieved 20-04-2015.
- AT5 (2014). Omwonenden boos over verdwijnen Prinsengrachtziekenhuis. Amsterdam, AT5.
- Bakker, M. M. and F. M. v. d. Poll (1992). *Architectuur en stedenbouw in Amsterdam*. Zwolle/Zeist, Waanders Uitgevers/Rijksdienst voor de Monumentenzorg.
- Berg, A. v. d. (2003). *The Art of Making Places. Evidence Based Design*, Groningen, Foundation 200 years University Hospital Groningen.
- Blijdenstijn, R. and R. Stenvert (2000). *Bouwstijlen in Nederland 1040-1940*. Nijmegen/Amsterdam, Uitgeverij SUN.
- Blok, M. (2014). *Ik neem je mee: het Prinsengracht Ziekenhuis*. Hilversum, AVROTROS.
- Bockma, H. (2014). Het Prinsengracht ziekenhuis, waar de patiënt koning was. *De Volkskrant*. Amsterdam, De Persgroep.
- Bovenberg, F., et al. (2010). "Helende omgeving draagt bij aan herstel." *Sociale Psychiatrie* 29(94): 7.
- BSK Arkitekter (2012). "HELIX, Forensic Psychiatric Clinic of Stockholm." Retrieved 13-5-2015, from <http://www.archdaily.com/306960/helix-forensic-psychiatric-clinic-of-stockholm-bsk-arkitekter/>.
- Building Business (2014, 24-07-2014). "COD koopt Prinsengrachtziekenhuis Amsterdam." Retrieved 03-04-2015, from <http://www.buildingbusiness.nl/news/1576/15/COD-koopt-Prinsengrachtziekenhuis-Amsterdam/>.
- Campbell, M. (2005). "What tuberculosis did for modernism: the influence of a curative environment on modernist design and architecture." *Medical history* 49(04): 463-488.
- Crislip, A. T. (2005). *From monastery to hospital: Christian monasticism & the transformation of health care in late antiquity*, University of Michigan Press.
- De Architect (2007). "Martini Ziekenhuis in Groningen door Burger Grunstra architecten en Vos Interieur." Retrieved 03-04-2015, from http://www.dearchitect.nl/projecten/2008/02/Groningen+Burger+Grunstra+Martini+Ziekenhuis/galerijen/galerij.html?picIndex=1&picName=01_martini11.jpg.
- De Architect (2008). "Nieuwbouw Martini Ziekenhuis, Groningen." Retrieved 03-04-2015, from http://www.architectenweb.nl/aweb/redactie/redactie_detail.asp?iNID=13489.
- De Boer, H. W. J. and G. Pley (1993). *Grachtenzusters. Episoden uit honderdvijftig jaren Vereeniging voor de Ziekenverpleging*. Amsterdam, S.N.
- De Hingh, A., et al. (2008). *769 - Gezichten van het Prinsengrachtziekenhuis*. Amsterdam, OLVG.
- Dijkstra, K. (2009). *Understanding healing environments: Effects of physical environmental stimuli on patients' health and well-being*, University of Twente.
- English Heritage (2011). *Designation Listing Selection Guide: Health and Welfare Buildings*.
- Evans, G. W. and J. M. McCoy (1998). "When buildings don't work: the role of architecture in human health." *Journal of Environmental Psychology* 18(1): 85-94.
- Fornara, F., et al. (2006). "Perceived hospital environment quality indicators: A study of orthopaedic units." *Journal of Environmental Psychology* 26(4): 321-334.
- Fuchs, J. M. (1967). *Verzorgen en verplegen. Evangelisch-lutherse bejaardenzorg in het luthers diaconiehuis*. Amsterdam.
- Gabeler, E. (2014). *OLVG wil gebrekkige Prinsengracht vervuilen voor andere plek in binnenstad. het Parool*. Amsterdam, De Persgroep.
- Gemeente Amsterdam (2009). *World Heritage Nomination Amsterdam*. Amsterdam, Gemeente Amsterdam.
- Gortemaker, R. and F. Feenstra (2010). *Open de laatste deur, ruimtelijke alternatieven voor separeren*. Rotterdam, Stagg.
- Gulick, F. W. v. (1969). *Aspecten van het ziekenhuis van de toekomst*. Den Haag, s.n.
- Haggard, L. and S. Hosking (2003). *Healing the hospital environment: Design, management and maintenance of healthcare premises*, Taylor & Francis.
- Hart van Nederland (2014). *Oudgedienden nemen afscheid van Prinsengrachtziekenhuis*, SBS Broadcasting.
- Hartig, T. (2003). *Healing Gardens. Evidence Based Design*, Groningen, Foundation 200 years University Hospital Groningen.

- Henket & Partners Architecten (2009). Prinsengrachtziekenhuis Amsterdam. Cultuurhistorische verkenning en opname. Esch.
- Hiltermann, J. F. (1969). Het binnenklimaat in de patiëntenkamer. Aspecten van het ziekenhuis van de toekomst. F.W. v. Gulick. Den Haag, s.n.: 65-72.
- Kincaid, D. (2003). Adapting buildings for changing uses: guidelines for change of use refurbishment, Routledge.
- Kirkham, R. and A. Boussabaine (2005). "Forecasting the residual service life of NHS hospital buildings: a stochastic approach." Construction Management and Economics 23(5): 521-529.
- Klein, I. (2006). Rapport betreffende funderingsinspectie Onze Lieve Vrouwe Gasthuis. Zaandam, DHV bv.
- Korzac, M. (2014). Nog één keer binnen kijken in het Prinsengrachtziekenhuis. Amsterdam, RTV NH.
- Kuipers, M. (2010). The Architectural Memory. Delft, VSSD.
- Lehman, M. L. (2014). "How Emotion Impacts the Perception of Architecture." Sensing Architecture. from <http://sensingarchitecture.com/12322/how-emotion-impacts-the-perception-of-architecture/>.
- Maandag, B. (2005). Logistiek en organisatie opnieuw doordacht. De Architect. Den Haag, BIM Media: 42-47.
- Manten en Lugthart Architecten bna (2012). "Studie locatie Prinsengracht Ziekenhuis." Retrieved 29-4-2015, from <http://www.mantenenlugthart.nl/olvg-prinsengracht/herstructureringsplan-p37.php>.
- Marti, R. (2008). "Ik ben absoluut de grootste fan van de Prinsengracht".
- Meihuizen, Y. (2012). Een monument beheren, onderhouden en handhaven. Overzicht van de Monumentenwet en de monumentenzorg voor ambtenaren, architecten en eigenaren. Den Haag, Sdu Uitgevers.
- Mens, N. and C. Wagenaar (2010). Architectuur voor de gezondheidszorg in Nederland. Rotterdam, NAI Uitgevers.
- Mokums (2014). "OLVG Prinsengracht." Retrieved 20-04-2015, from <http://www.mokums.nl/prinsengrachtziekenhuis.html>.
- Netherlands Board for Hospital Facilities (2002). The general hospital. Building guidelines for new buildings. N. B. f. H. Facilities.
- NZa (2015). Position Paper 'Werking van het zorgstelsel'. Utrecht, NZa.
- OLVG (2014). Persbericht: OLVG verkoopt pand aan de Prinsengracht aan COD. Amsterdam, OLVG.
- Orbaşlı, A. (2007). Architectural Conservation: Principles and Practice, Wiley.
- Paauw, S. (2015). 'NZa oordeelt onterecht over ziekenhuisfusies'. Medisch Contact.
- Patijn, W. (2003). Buildings Do Not Heal. Evidence Based Design, Groningen, Foundation 200 years University Hospital Groningen.
- Pellitteri, G. and F. Belvedere (2010). Characteristics of the hospital buildings: changes, processes and quality. Proceedings from 2010 ARCC_EAAE International Conference on Architectural Research.
- Pert, A. (2014). "Build me up: how architecture can affect emotions." Retrieved 27-4-2015, from <http://theconversation.com/build-me-up-how-architecture-can-affect-emotions-22950>.
- Prior, L. (1988). "The architecture of the hospital: a study of spatial organization and medical knowledge." British Journal of Sociology: 86-113.
- Rossen, V. v. (2014). Stedenschennis. Stedenbouwkundige dwalingen. Amsterdam, Architectura & Natura Pers.
- Schaaf, P. v. d. and J. Nauta (2009). OAZIS. A tool to measure the quality of the physical (health) care environment.
- Schaar, P. J. v. d. and H. J. Valk (1951). 100 Jaar Ziekenhuis Coolsingel 1851-1951. Rotterdam.
- Schenk, W. (2014, 25-07-2014). "Interview on Amsterdam FM." Retrieved 20-04-2015.
- Schoonenberg, W. M. J. (2004). Without reconstruction, no inner city. Cultural Heritage and the Future of the Historic Inner City of Amsterdam. L. Deben, W. Salet and M. T. Van Thoor. Amsterdam, Amsterdam University Press.
- Schreuder, E. (2009). "Healing Environment meten met behulp van OAZIS." Retrieved 8-4-2015, from <https://www.tno.nl/nl/aandachtsgebieden/leefomgeving/buildings-infrastructures/innovatiecentrum-bouw-icb/healing-environment-meten-met-behulp-van-oazis/>.

- Shahsavari-Jansen, M. and L. v. Drooge (2013). Behoud Prinsengrachtziekenhuis voor ouderenhuisvesting. Initiatiefvoorstel CDA Amsterdam. C. Amsterdam. Amsterdam.
- Smit, J. (2003). Redengevende omschrijving van Prinsengracht 769 (Prinsengrachtziekenhuis). B. M. A. Amsterdam. Amsterdam.
- Stadsarchief Amsterdam (2015). Archief van de Vereniging voor Ziekenverpleging (Prinsengrachtziekenhuis). Amsterdam.
- Stokroos, M. (2006). Alles wat je altijd al wilde weten over monumenten en bouwstijlen. Amsterdam, Stichting Open Monumentendag.
- Theroux, L. (2015). By Reason of Insanity. By Reason of Insanity, BBC.
- Ulrich, R. (1984). "View through a window may influence recovery." Science 224(4647): 224-225.
- Ulrich, R. (2003). Architecture Heals. Evidence Based Design, Groningen, Foundation 200 years University Hospital Groningen.
- UNESCO (2010). "Seventeenth-Century Canal Ring Area of Amsterdam inside the Singelgracht." Retrieved 23-03-2015, from <http://whc.unesco.org/en/list/1349>.
- Van der Zwart, J. (2014). Building for a better hospital. Value-adding management & design of healthcare real estate. Faculty of Architecture. Delft, Delft University of Technology.
- Veenendaal, F. J. (2001). Constructieve opname OLVG Prinsengrachtziekenhuis. Amsterdam, D3BN.
- Verwaaijen, S. (2012). Introductie van Forensische Zorg.
- Veth, J. (2015). Interview Jeroen Veth (de Jong Gortemaker Algra). J. Bolhuis.
- Visser, J. (2015). NZa: fusies leiden tot te grote prijsstijging. Medisch Contact.
- Wagenaar, C. (2005). Evidence Based Design: Architecture as Medicine? Evidence Based Design: Architecture as Medicine? C. Wagenaar. Groningen, Foundation 200 years University Hospital Groningen: 11-21.
- Wagenaar, C. (2005). Humanisering van de collectivistische zorgfabriek. De Architect. Den Haag, BIM Media: 36-41.
- Wagenaar, C. (2015). Lecture on the development of modern hospitals. Delft University of Technology, Faculty of Architecture.
- Wensveen, J. C. v. and F. H. v. Berg (2001). Bouwkundig inspectierapport Prinsengrachtziekenhuis te Amsterdam. Dordrecht, EGM bouwadviseurs.
- Wester, J. (2015). NZa: meer dan helft ziekenhuisfusies had moeten worden verboden. NRC Q. Amsterdam.
- Wijk, M. (1997). Niets menselijks is ons vreemd. Delft, Publicatiebureau Bouwkunde.
- Wijnman, H. F. (1963). D'Ailly's Historische Gids van Amsterdam. Amsterdam, Allert de Lange.
- Woon- en Werkvereniging WG-terrein (2014). "WG-Terrein. Historie." Retrieved 12-5-2015, from <http://www.wg-terrein.nl/historie/index.html>.