AAN ‘DE GRACHT’
EXCEPTION IN THE AMSTERDAM CANAL RING

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The Amsterdam Canal Ring is a very special and unique urban place. At three main canals small scale building blocks with gardens in between were built in the 17th century. The building blocks consists of typical Amsterdam Canal Houses which are all characteristic as Amsterdam building, but at the same time completely different. With one of the main characteristics of trichotomy, which creates a link between all buildings. A row of these buildings can suddenly be interrupted by a wide structure: an exception. The Prinsengracht Hospital is such an exception. By research and analysis of the building this thesis explores how these exceptions are not desirable but at the same time tolerable. From that research a programme for the reuse of the hospital was found: a relatively small secondary school with a focus on art, combined with a Cultural Centre. The design is explores how these two functions can work separately, to downscale the exception in the Canal Ring, but at the same time work together. This is done with a central hall in the inner world of the building block.
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The Canal Ring area is build up by very recognisable and symbolic Canal Houses. It contains a uniformity and at the same time a differentiation that is most appealing to both locals and visitors. Nevertheless there are also exceptions in the canal area. These exceptions are no typical canal buildings, they are relatively big building complexes. An example is the Prinsengracht Hospital which is using the space of approximately 20 plots (including the ones at the back side of the complex). I am interested in this exception in the seemingly strict parcelisation and rhythm. Therefore I have compiled the following research question:

**Sub-questions**
- What is the typical Amsterdam Canal House?
- How did relatively big buildings came to being in the Canal Ring?
- What consequences do bigger buildings have on the area?
- What should we do with these buildings when they are subjected to intervention?

**Assignment**
The theme of the studio is 'tolerance for change', mainly in relation to the Amsterdam UNESCO World Heritage. With this theme in mind the answers from the research- and sub-questions should guide me to an intervention design of the Prinsengracht Hospital. Perhaps by finding the tolerance for merging the original plots together or finding the tolerance for unmerging the building back to the typical Amsterdam Canal buildings.

**METHOD (fig. 1.1)**
To answer the research question and its sub-questions, research will be done to the Canal House and the exceptions. As shown in the scheme on the right, the method is a parallel research containing both literature research and research through analysis. In the end the outcome should give the values of the two building types. By linking the two value assessments it should give an indication what the position of the architect should be toward both types within the Canal Ring. The two value assessments should also be linked with the Outstanding Universal Value (OUV) of the Canal Ring as world heritage (fig. 1.2). The research will be divided in three themes:

**The Canal Ring**
The location of the Canal Houses and exceptions is the Amsterdam Canal Ring. On the urban scale it is therefore necessary to find out why and how the Canal Ring was created. Nowadays the differentiation within the building blocks is appreciated, however this appears to be a
regulations while building their house. That defined the appearance and organisation of the houses. With this term it should be taken into account that other cities in The Netherlands also have canal houses, therefore the right term for this research topic would be ‘Typical Amsterdam Canal House’. However since the entire research will be about the Canal Houses in the Amsterdam Canal Ring, the term should suffice. It describes a Canal House as anyone can imagine this building type in Amsterdam, which is very recognisable and symbolic for the city. Type in the term in the search engine and it will generate the type this report is about.

Exceptions
There are also exceptions on the Canal House to be found in the third and fourth expansion. These are the ‘big’ buildings within the area. The Canal House is built on one or two plots as they were intended during the 17th century. With this research a big building is defined as bigger than the typical Canal House. Since it was common to build one house on two plots in the 17th century, a building within the Canal Ring is considered as big when it uses three or more plots. In the research these bigger buildings are named ‘exceptions’.

The focus lies on the merged or consolidated buildings: three or more 17th century plots that have become one plot over time. Within this term I have distinguished two types of exceptions: One is the ‘merged Canal House’, where it still seems like several buildings from the street perspective, but from the inside it has merged as one. Another is the ‘consolidated building’ where several canal houses had to make place for one big building. The Prinsengracht Hospital functions as the main precedent for the exception in this research. Interestingly, this building is a combination of a merged building and a consolidation. The front side consists of two parts, the red brick part would be the consolidated building, whereas the white-grey part on the left side is clearly a later addition. From the street one could think the white-grey part is not part of the hospital. While from the inside it is merged together and at some points it is even hard to recognise the transition, this will be elaborated in chapter four.

Additionally to the three themes, the research will go through four time periods. Beside the present situation research will be done to the 17th century Canal Ring. This is to understand the Canal Ring of today, and the buildings within. However, the Prinsengracht Hospital was built in 1857, so the developments in the 19th century are very important to understand this exception in the area. Finally, the future of the Prinsengracht Hospital will be elaborated.

The report is built up by three parts, the first part is the part will elaborate on the three themes, Canal Ring, Canal House and Exception. Since the research question will not lead to a programme for the intervention of the Prinsengracht Hospital, the second part describes the choice of programme and research into this. The final part gives the value assessment and conclusion of the Research Report.
Fig. 1.3 Map of Amsterdam (Brandes & Newman, 2011)

Fig. 1.4 Location of the Prinsengracht Hospital 1:10000 (Openstreetmap.org, 2015)
PART 1
RESEARCH

AMSTERDAM CANAL RING
Before the 18th century, Amsterdam has had four big expansions. In the 16th century there was not enough space. Consequently, there were many houses just outside the city wall, even though this was not allowed (area A in figure 2.1b). In 1585 and a couple of years later the city had built new walls around this area and included some new areas. With this the previous defence canal ‘Singel’ was not part of the defence anymore. The Singel became a residential canal and Amsterdam’s first canal houses were built (Abrahamse, 2010).

The population of Amsterdam was still growing in the 17th century. Already the map of 1597 shows many activity outside the city walls. Soon a bigger city was necessary, which took place around 1610 and 1662. These big expansions were known as the ‘Derde en Vierde Uitleg’ (third and fourth expansion).

What is interesting is that the main ring in both expansions did not follow the ‘polder’ lines. Geometry was apparently more important than existing structures and “picturesque variation” (Abrahamse, 2010, p. 15). The third expansion did follow the the ‘polder’ lines with the Jordaan (B in fig. 2.1d). All expansions are still visible in today’s map. The third and fourth are probably the most characteristic.
e: 1675  ‘fourth’ expansion (Canal Ring phase 2)

f: 1877

g: 2010

b: 1774
c: 1876
d: 2015
That the third and fourth expansions are very characteristic for the city has been acknowledged in 2011 by the UNESCO (United Nations Educational, Scientific and Cultural Organisation). Already in 1995 the Dutch State Party included the Amsterdam Canal Ring in the tentative list. This means that the state considered it “to be cultural heritage [...] of outstanding universal value and therefore suitable for inscription on the World Heritage List” (UNESCO World Heritage Centre, 2015, online). 16 years later the area had become World Heritage. With this it is acknowledged that the property has the Outstanding Universal Value (OUV) which is required for the list.

OUV was introduced by the World Heritage Committee in 1994. Before this the World Heritage List consisted mainly of “single architectural monuments”. According to the committee it is not just about one tangible object that is valuable. World Heritage is about “cultural groupings that were complex and multidimensional, which demonstrated in spatial terms the social structures, ways of life, beliefs, systems of knowledge, and representations of different past and present cultures in the entire world.” (UNESCO, 1994, online). The context and aspects mentioned above should support the “pieces of evidence”. To proof a property is a ‘piece of evidence' the UNESCO has set up a list of criteria, to list a property as World Heritage it has to meet at least one of such criteria (fig. 2.4).

(i) represent a masterpiece of human creative genius
(ii) exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design
(iii) bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared
(iv) be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history
(v) be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change
(vi) be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance. (The Committee considers that this criterion should preferably be used in conjunction with other criteria)
(vii) contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance
(viii) be outstanding examples representing major stages of earth’s history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features;
(ix) be outstanding examples representing significant on-going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals
(x) contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of Outstanding Universal Value from the point of view of science or conservation

(UNESCO, 2013, pp. 20-21)

So the few consolidated plots do not affect the integrity, however I think that the word ‘few' is very important: the integrity might become affected with too many consolidated properties. This will be elaborated more in chapter 4.

Beside these criteria a property needs to be authentic and must contain a certain integrity. It is considered to be authentic if the cultural values are “truthfully and credibly expressed through a variety of attributes” (UNESCO, 2013, p. 22). The integrity of a property is expressed with its “wholeness and intactness” (p. 23). Both of these are clearly represented in the Amsterdam Canal Ring. According to the ‘Advisory Body Evaluation', set up by the UNESCO (ICOMOS, 2010), the Canal Ring Area in Amsterdam meets three cultural criteria. The requirement that the property should have integrity and authenticity is being justified by “the ensemble of streets and the hydraulic network” (ICOMOS, 2010, p. 262), which is being considered as authentic.

When describing the Ring’s integrity ICOMOS comments on the consolidated buildings: “Few lots have been consolidated to provide larger built units. The external appearance of the buildings has been conserved in the vast majority of cases for this central zone of the nominated property.” (p. 262).

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Criteria that meets the Canal Ring

(i) It is a masterpiece at once of hydraulic engineering, of town planning and of a programme of architectural construction.

(ii) The property is testimony to a considerable exchange of ideas over a period of almost two centuries, with respect not only to civil engineering, town planning, and architecture but also in a series of technical, maritime, and cultural fields.

(iv) The canal district in Amsterdam built in the 17th century, represents an outstanding type of built urban ensemble that required and illustrated a diverse range of expertise in hydraulics, civil engineering, town planning, building and architectural techniques.

(ICOMOS, 2010, pp. 263-264)

Fig. 2.5 World Heritage and Buffer zone (Gemeente Amsterdam, n.d.)

Fig. 2.6 Masterpiece (Middendorp, 2013 & Gemeente Amsterdam, n.d.)

Fig. 2.7 Exchange of ideas. Chairs depict the chairs of the Major, Treasurer, Military engineer, City Architect, Engineer, and the Surveyor. Taken in Het Grachtenhuis (2015)

Fig. 2.8 Expertise in hydraulics, civil engineering, town planning (2015)
3. **Canal House**

Through time there has been some shifts in the appreciation regarding the Canal Ring and its buildings. In the 17th century, the value was considered to be in the “big scale and the monumentality” of the Canal Ring. To achieve this it was desirable to achieve a sort of uniformity between the Canal Houses (fig. 3.1). In the 19th century the individuality of the Canal Houses was appreciated. Present day, the diversity of the Canal Houses within the ensemble is mostly appreciated (Abrahamse, 2010). According to Swart et al. (2012) the “typical ‘Amsterdam canal house’ as building typology forms an important attribute of the OUV of the property” (p. 11). Therefore this chapter focuses on what the Canal House is and how the Canal Ring is build up by these buildings.

![Fig 3.1 Herengracht 571-581 (Philips, 1768-70)](image)

**Restrictions**

“It is often assumed that the Canal Ring was assigned to be a residential area, where other functions were excluded.” (Abrahamse, 2010, p. 221). J.E. Abrahamse describes in his book ‘The Grote Uitleg van Amsterdam’ that this is not completely right. In the first expansion, there were only a few restrictions. These included the restriction of anvils, which ruled out most of the heavy industry. Beside this, between the Herengracht and Keizersgracht it was not allowed to build on the entire plot. “This was to decrease the building density and to create big city gardens” (p. 218).
The city gardens are still present and preserved in the current Canal Ring (fig. 3.2).

All plots had the same width. If one wanted to build wider than the plot width he had to buy two plots. Since buying two plots was rather expensive, this was only done by the very rich. In the third expansion the plots at the Herengracht were wider than in the fourth expansion. According to Abrahamse this was probably to prevent buyers to build three houses on two adjacent plots. During and after the realisation of the third expansion it was experienced that more rules would be useful. Therefore the fourth expansion had some more building regulations. The functional segregation became more strict. At the Herengracht and Keizersgracht industries that produced sound, smell, water pollution or ugliness were ruled out. With the last restriction most of the industrial buildings were excluded.

In both expansions the Prinsengracht was the more industrial canal. Here it was allowed to build industrial buildings, warehouses, and such. It was also allowed to build on the entire depth of the plot.

A big difference between the two expansions is the boundary between residential and the more industrial area. In the third expansion the Keizersgracht divided the two areas, while in the fourth expansion it was the new street between the Keizersgracht and the Prinsengracht, Kerkstraat. This street was also introduced to reduce carriage traffic on the canals. It was a street at which stables could be build.
The Prinsengracht Hospital lies between the Prinsengracht and this Kerkstraat.

The architecture of the new buildings was not part of any rule. Although buyers were stimulated to buy two plots or to work together to create a uniform architecture. This was because “the big scale” was “appreciated” (Abrahamse, 2010, 336). At certain places in the city “where monumentality would have a big impact” the municipality provided a design (p. 337).

This is interesting, since the Canal Ring of today is associated with differentiation and small scale, the opposite of the endeavour of the 17th century. “Still”, the municipality describes, “the combination of common characteristics within the individuality of the architecture creates a unity of the inner city” (Gemeente Amsterdam, 2013, p. 90).
The most visual element of the Canal House is the façade. It was the only part of a Canal House where the architect could reflect his style, since the organisation was "based on the optimal use of the building site", due to the small plots (Ottenheym, 1989, p. 168).

There are several characteristics that are recognisable in almost all houses. The first characteristic is the height of the houses, which are mainly two to four floors. This height, combined with the rather narrow width of the plot results in a verticality in the façade (fig. 3.5a). Secondly, windows are often placed in two or three bays. They emphasise the vertical direction by having a bigger height than width (fig. 3.5b). As a third: the houses contain a trichotomy. The lower part of the façade is called the plinth. This is the part that includes "one or more lower floors [...] which have a clear difference in appearance as the other floors" (Gemeente Amsterdam, 2013, p. 90). The roof is hidden behind a gable (fig. 3.5c), this is the top part of the façade. Everything in between the plinth and the gable top is the façade-plane.

What struck me of the plinth is that when you walk through the Canal Ring most ground floor windows start a little above eye level. It is quite hard to look directly inside a house. What you see when you look up inside are the, often, beautiful (renovated) 19th century ceilings. Most houses have small windows at hip height, however, these windows are often blinded. I think the reason it doesn’t get dreary to walk along these ‘eye-blinded’ facades are the constant differentiation between the bel-etage doorsteps, facades, the parked bicycle’s, traffic and nature.
A last common characteristic is the materials and colour that are mainly used, which are “traditional and modest”. Materials such as brick give the ring “earth- and stone colours” (Gemeente Amsterdam, 2013, p.105).

Interestingly, if we combine the first three characteristics in one image (figure 3.6), it reveals a recognisable shape of a row of Canal Houses. It might mean that these three elements are the elements that make the Canal House. However, figure 3.5c shows only the element of the gables, also reveals a row of Amsterdam Canal Houses. That might mean that the gable is the most symbolic part of the Amsterdam facade.

The gables seem to have much differentiation, nevertheless, as shown in figure 3.7, there are only seven types that are used in the Canal Ring (Killiam, 2006):

- a. Crow-stepped gable [trapgevel]. 1600-1665
- b. Spout gable [tuitgevel]. 1620-1720
- c. Tall neck gable [verhoogde halsgevel]. 1640-1670
- d. Neck gable [halsgevel]. 1640-1770
- e. Clock gable [klokgevel]. 1660-1790
- f. Tall cornice gable [verhoogde kroonlijst]. 18th century
- g. Cornice gable [lijstgevel]. 19th century

Bert van Bommel (2014) describes how Dutch houses in a row often did not have more than four rooms until the 14th century: “a front hall, a kitchen, a sleeping space and an attic” (p.15). The front hall was the most important room where guests were welcomed. Some houses divided this space into two rooms, this side room took in a third or less of the front hall (fig. 3.8a). In this way, the door could still be placed in the middle of the façade. A door in the middle was desired since symmetry in the façade was preferred over an optimal use of space. The façade was the only part where the architect could reflect his style, since the organisation was “based on the optimal use of the building site”, due to the small plots (Ottenheym, 1989, p. 168).

When the front hall lost its formal function, people choose for a practical use of the spaces and the door was placed to the side (fig. 3.8b). The front hall now became an entrance hall. When the Canal Ring was built, the Dutch houses were already higher than in earlier centuries. This made it possible to divide the residents from their staff. Vertically the house was built up by a basement, where the kitchen could be found and a food storage. The formal ground floor was to welcome visitors and where the office was placed. The first floor was the living and sleeping spaces of the residents. The attic was for staff and storage.

After the 14th century many Dutch row houses also extended towards the back, often behind an inner courtyard. This part is known as the back house [achterhuis], while the original part is known as the front house [voorhuis].
The Amsterdam houses were built on “two rows of wooden piles parallel to each other” (Killiam, 2006, p. 10). A brick construction was built on top of the piles, together it formed the foundation of the houses (fig. 3.9). The Canal House main construction consists of two brick walls with wooden beams in between, parallel to the front and back facades. This made it possible to create big windows, which would let light enter into the deep rooms, and flexible spaces. It was especially fit for warehouses which often used the full depth of the building. Presently, the beam which are often visible are characteristic for a Canal House interior.
4. Exceptions

As written before, the Canal Ring was build up by similar building plots, which were all equally narrow. Even though it was possible to build a house on two plots, there were hardly any big city palaces build. Mainly due to the residents, who were middle class traders. This is what distinguished Amsterdam from many other big cities in Europe (ICOMOS, 2010). Nevertheless, there are also consolidated plots. The UNESCO Advisory Body Evaluation acknowledges this. However, they talk about a “few lots” and they don’t see this as a threat for the integrity and authenticity of the area: “The external appearance of the buildings has been conserved in the vast majority of cases for this central zone of the nominated property, and the state of the facades is generally good” (ICOMOS, 2010, p. 262).

This is mainly about the external visualisation of the buildings. Researchers worry that the focus is perhaps too external. Eindhoven University of Technology researched, in collaboration with the Bureau Monumenten & Archeologie Amsterdam (BMA) (Swart et al., 2012), the impact of “building merges on the Outstanding Universal Values of [the] World Heritage property”. They mapped the building merge through time (1770 – present) for the Herengracht. They have three conclusions (p.10), which are schematised in figure 1:

a) the increased scale of building facades;

b) the trend towards mono-functionality within buildings;

c) the decrease in buildings that correspond to the canal district’s historic building typology.

The conclusions they arrived at are mainly concerning the changes behind the façade: the merged buildings. Swart is worried that the monumental status is not protecting the buildings in the Canal Ring behind the façade. This might lead towards “modern, larger scale mono-functional urban buildings” and to “facadism and musealization” (p. 11).

Development

According to Meischke et al. (2001) “Amsterdam never really knew big plots with voluminous houses with courtyards.” (p. 49). Perhaps, due to the fact that Amsterdam was a middle class city with mostly houses for merchants. Amsterdam talks about wide houses when a house is wider than 30 foot (approx. 8.5 meter: the widest plot in the third expansion). It was common to buy two plots in the Canal Ring. Meischke et al. describe that this gave many possibilities: “it could be split vertical in two houses” (p. 49) or the ground floor could be used for one or two houses while the upper floors could be used for warehouses.

An example of such a double plot house is ‘Het Huis met de Hoofden’ [The House with the Heads], according to Zantkuijl (1994) “one of the biggest double houses of its time” (p. 255). It was built in 1621, most likely the last design of Hendrick de Keyser before he died, after which one of his sons finished it. In 1634 the house was sold to Louis de Geer and stayed in his family for almost a century. It is a good precedent for double houses in the Canal Ring. The house, in Dutch Renaissance style, contains five bays plus
It owes its name due to the busts on the front façade, which depict Apollo, Ceres, Mars, Palas Athene, Bacchus and Diana. The Public Tradingschool moved in the building in 1869, which was housed there until 1901. In organisation, the basis of the single Canal House is also used in the double Canal Houses. Vertically, a similar organisation was used. On the ground floor, the ‘Huis met de Hoofden’ has an entrance hall, front room and side room. At the garden side, the house had a big and light room. This was divided from another, smaller, room by a hallway, leading to a garden door. The double houses often did not have an extension to the back, so it does not have a front and back house.

As written in the introduction of this research report, I have defined the bigger buildings as three or more plots. This is because this was much less common than double plots. Figure 4.6 maps the exceptions and their built period around the Prinsengracht Hospital. From this map I conclude there are only two exceptions still existing from the 17th century in this area. These are the orphanage, better known as the Palace of Justice and the other is the Deutzenhofje. The latter were small houses around a courtyard, originally meant for elderly servants and their poor family members, now residing elderly women (Hofjes in Amsterdam, n.d.). The Palace of Justice is perhaps the biggest building in the Canal Ring. It dates back to the 1660s, when a new orphanage was necessary for the poorest children of the city. The building was designed without a location in mind (Abrahamse, 2010). In 1663 Amsterdam allocated several plots at the
Prinsengracht to the almoner orphanage. The building could house 800 children and with that it was most likely the biggest building of the city at the time. Within 20 years 1300-1600 children resided in the orphanage (1300 according to Gemeente Amsterdam (n.d.-b); 1600 according to Abrahamse (2010)). Therefore it merged with an adjacent building. As a result of the terrible living conditions the orphans had to move elsewhere in the country in 1822. In the following years the building was transformed into the Palace of Justice by city architect Jan de Greef. He completely changed the façade. In the beginning the building also housed the city library and an emergency hospital. This moved out in the second half of the 19th century, since the Palace of Justice required more and more space. In 2010 the Palace of Justice moved to a new building at the Westerdokseiland and the building is currently vacant (Gemeente Amsterdam, n.d.-b).

As is shown in figure 4.7, many of the consolidated buildings in this area seem to date from the 19th century or early 20th century. By the end of the 19th century and beginning of the 20th century Amsterdam also widened radial streets through the Canal Ring: Weesperstraat, Vijzelstraat and Raadhuisstraat. At this street many Canal Houses have consolidated into bigger buildings. An example of such consolidated building is the Bazel (fig. 4.5), built as a bank, but currently housing the Bureau Monumenten en Archeologie (monumental care) and a World Heritage Platform.

This architectural and urbanistic change was probably a consequence of the population change. By the end of the 17th century the population hardly grew anymore (fig. 4.8). Therefore the 18th century is a calm period regarding architecture. In the 19th century population started to grow again, with a big increase from the second half on. According to UNESCO, this has affected “the visual integrity of this area of the property” (ICOMOS, 2010, p. 262).
The Prinsengracht Hospital seems to be the biggest exception in its area, beside the Palace of Justice (fig. 4.7). Therefore this is a very good precedent for this research and design.

In 1843 ‘de Vereeniging voor Ziekenverpleging’ (Society for Ill-nursing) was founded. The women were educated to become a nurse, which was unusual in The Netherlands in that time. In the beginning the nurses went to the patient’s house. When medical technologies developed in the 19th century, the use of those technologies were mainly possible in hospital buildings only. Therefore the ‘Vereeniging voor Ziekenverpleging’ opened the first private hospital of Amsterdam in 1857 (Henket & partners architecten, 2009).

The location of the hospital was on the Prinsengracht, were 25 years earlier the three warehouses, ‘Serius’, ‘Bordeaux’, ‘Coningsbergen’ burned down. ‘Serius’ was probably replaced in the meantime, since the ‘Vereeniging’ bought four warehouses in 1853 named

Fig. 4.9 Canal Houses on fire, 1829. (Unknown)
“Amersfoort’, ‘Bordeaux’, ‘Coningsbergen’ and ‘Dantzig’” (fig. 4.8). When the architect J.H. Leliman started to design the building “he advised […] to also buy the adjacent dye house ‘De Zon’” (de Boer and Pley, 1993, p.68). When the hospital opened in 1857, five plots had consolidated into one plot (fig. 4.9).

The hospital grew in the years after. In 1872 the hospital expanded for the first time, by buying a plot at the Kerkstraat. This became the new residence of the nurses. Two more plots at the Kerkstraat were bought within 20 years (fig. 4.10).

It kept growing and in the new century another expansion was planned at the Prinsengracht, at the same time, the original building by Leliman was renovated. This made it possible for the hospital to increase the patient capacity “from 235 in 1900 to 719 patients in 1921”. In 1923 there was another alteration: surgery rooms were added. This was possible to do within the existing plot, therefore this alteration is not shown in the schemes on the left.

In 1857 the hospital covered five original plots, exactly 100 years later the hospital expanded for the last time, covering 10 plots at the Prinsengracht and six at the Kerkstraat. Beside the six plots at the Kerkstraat another six plots were bought to make way for the parking space. So, the plot of the Prinsengracht Hospital used to be 22 individual plots.
**Hospital: Facade**

Even though the hospital is using 22 plots, the description of the building by Monumental Care of Amsterdam (Smit, 2003) describes “despite its size, the hospital fits well in the canal façade, probably because the complex is not extremely high, maybe even more because of the use of traditional materials and forms, after all the contemporary post-war extension is less ‘at home’ in the surrounding” (p. 2). Similar to the approach towards the Canal Ring as World Heritage, the municipality shows here the focus on the external appearance of the building. Although, I think it is a clear disruption in the differentiation in the facades of the ensemble. Since it is missing the differentiation in the common characteristics of the Canal Houses it is missing the differentiation at eye-level between the ‘bel-etage doorsteps, facades, the parked bicycle’s, traffic and nature’.

Looking at the façade development at the Prinsengracht Hospital (fig. 4.11), the original symmetrical façade was much less wide than it is today. The amount of differentiation was probably still acceptable and the proportion width-height was more similar to the canal houses. However, in 1903 the hospital almost doubled in width. The architect, Posthumus Meyjes Sr., continued Leliman’s style. He even tried to keep the building symmetrical. At the ground floor level the intervention is shown in the lowered windows, on the first floor the difference is very hard to distinguish, even for the professional eye. He replaced the second floor and added a third floor, both in a similar style as the 1857-part. Nevertheless, the proportion width-height created a bigger difference between the hospital and the surrounding canal houses.

A bigger intervention in the façade was done in 1957, where the architects De Geus & Ingwersen choose to design a completely new façade, with no visual connection to the original at all. There also does not seem to be a connection to the Canal Ring, since it seems to ignore the rule of trichotomy in the Canal buildings (fig. 4.11). It has a plinth, but it does not have a (gable) top. This part of the façade seems to be a building on its own.

Nevertheless, the façade of the Prinsengracht Hospital at the canal side seem to have gone through little changes. The façade at the Kerkstraat changed a couple of times, due to several expansions. However, once it was changed after becoming part of the hospital complex, the façade did not change much anymore.
While most facades in the Canal Houses were subjected to frequent changes, due to the changing fashion. “There are many 17th-century houses with 18th- or 19th-century facades” (Killiam, 2006).

Hospital: Organisation
The original 1857 building had a very symmetrical layout, with two wings around a garden (fig. 4.15). The ground floor contained slightly less symmetry than the upper floors. Vertically the functions were rather segregated (fig. 4.14): the ground floor was more or less the representative floor where the direction and a living room were situated. The first floor were mainly patient rooms and the upper floor was where the nurses resided. The first biggest organisation change was in 1872, when a plot at the Kerkstraat became part of the Prinsengracht Hospital. The rooms of the nurses moved from the second floor at the original building to the Kerkstraat side, where 4 plots became part of the complex in 30 years. In the same period, there was an expansion at the Prinsengracht side. All these small alterations probably created a slightly chaotic organisation, which was why there was a big intervention in 1903, replacing some of the building parts with the aim of “creating a well-functioning, clear and rational designed building.” (Henket & partners architecten, 2009, p.15). In 1994 the Prinsengracht Hospital fused with Onze Lieve Vrouwe Gasthuis. This was a drastic change, not for the outline of the buildings, but for the internal organisation since the hospital changed to a policlinic, which meant that there would not be any patients staying overnight anymore.

Today, the building is vacant, but it still shows many characteristics of a policlinic hospital. The entire building contains a similar style of interior (fig. 4.12). In many rooms valuable historic elements are still visible. Unfortunately, the building is hard to ‘read’ since it is hard to see the different building parts. The clearest transition between one building part and the other is probably between the 1857 and 1903 part which is divided by a small stairs on the ground floor. There is also a difference between the Prinsengracht side and the Kerkstraat side, although it is hard to find the exact transition point.
Fig. 4.13 Vertical organisation of the Prinsengracht Hospital 1857 (2015)

Fig. 4.14 Organisation of the Prinsengracht Hospital 1857 (2015)

Fig. 4.15 Organisation of the Prinsengracht Hospital 2014 (2015)
Main entrance

Wheelchair entrance in the 1957-part
Parking space looking towards the Kerkstraat
Garden, looking towards the Prinsengracht
Garden looking towards the Kerkstraat
Current situation
Another interesting building to research is the Anne Frank House, since the two small plots are still intact, but they have merged with the plots on and around the corner which have consolidated into one building.

"Vele Amsterdamse grachtenhuizen hebben een achterhuis, maar er is er maar één die met een hoofdletter wordt geschreven: het Achterhuis van Anne Frank." ["Many Amsterdam Canal Houses have a back house, however, there is only one that is being described with a capital: The Back House of Anne Frank."]

As written in this quote, the building in which Anne Frank and her family hid during the Second World War, is a typical Amsterdam Canal House. Together with the adjacent house on the right, it was built in 1635. It is located in the first phase of the Canal Ring. The façade and the backhouse were modified in the 18th century. Currently, the ground floor is on the same level as the street, however it contained a bel-etage until the 19th century. This can still be seen with the adjacent building. In 1840, a stable for horses was needed, for which the lower floors had to be modified. At the same time the gable top was replaced by the cornice gable it has now (Gemeente Amsterdam, n.d.-a). In 1940 Anne’s father, Otto Frank, housed his company here at the Prinsengracht. The second floor and attic, a storage space, was hardly used. In 1942, the door towards the back house on the second floor was hidden behind a book case, which made it possible for the Frank family to go into hiding. This is where Anne Frank wrote her famous diary.

The house was almost demolished in the 1950’s by the owner of that time. Fortunately, Anne’s diary was already spread worldwide, so there were many protests against this. With that the owner donated the house to the Anne Frank Stichting [foundation]. With donations the foundation was also able to buy the adjacent house and to restore the houses. “At the request of Otto Frank, the only member of the family who survived the war, the back house was not refurnished, to experience the emptiness after the residents and their furniture were removed.” (Gemeente Amsterdam, n.d.-a, online). The walls still show the presence of the two families: the height lines of Anne and Margot which are drawn on the wall and pictures of celebrities are still pasted on Anne’s wall. The front house functioned as exhibition space, whereas the adjacent house number 265 housed the Anne Frank Stichting.

The house opened to the public in 1960. In the 1980s the two houses were too small for the amount of visitors. In the 1990s architects Benthem Crouwel designed the new

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1 Note that The Backhouse is a literal translation is of ‘Het Achterhuis’, this word is not being used in the English books about Anne Frank where is usually referred to the entire house (Anne Frank House) or to The Secret Annex.

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Figure 4.16 Floor plan of the Anne Frank house and the museum by Benthem Crouwel. Left: ground floor; Right: second floor.
building which replaced the apartment flat at the corner adjacent to the two canal houses. This new building could house a museum shop, a library, auditorium, café and offices. It also made it possible to restore the Otto Frank’s company in the front house. This restoration, which included the back house, was possible due to good documentation in the 1930s and 1950s. The restoration was done by expert Temminck Groll. He choose to restore the ambiance of the 1940s rather than a complete reconstruction (Ector, 1999). The Stichting moved into the new building and number 265 became exhibition space. “The design shows that the architects are conscious of the inappropriateness of the architectonic statement. Staggering of The Back House are not the rooms itself, but the innocence and casual simplicity which are in no proportion at all to the inhumanity of the destiny of the residents” (p. 72). The intention of Benthem Crouwel was to create a new building which is neither subordinate nor predominant. As a result, The Back House is “placed alongside equally” [nevengeschikt], rather than becoming a museum piece itself. This is expressed “both in the interior and the exterior”, in “materialisation, form, spatiality, which is both modern and traditional” (Ector, 1999, p. 72). Spatially the building is build up with a front and back part, referring to the front and back house in the Canal Houses.

I think this last part, placing the new equally alongside the existing, is very interesting. Although I am not sure whether it has worked out completely as it is described. My attention was constantly drawn to the new corner when I was observing it from the other side of the canal. Beside this, it was not until after my visit that I found out the Anne Frank House was not the house directly adjacent to the new building, it was the neighbour of that house. As a result, I did not sketch the house Anne Frank and her family have been hiding, but its neighbours (fig. 4.13). This also meant that I was not able to orientate myself when I was inside the two Canal Houses.

To conclude, I think it is a good reference for intervention. The high visitor density in the Canal Houses are solved in a nice way. Benthem Crouwel followed an interesting concept in their new building of front and back house, which is an important characteristic of the hiding place.
Fig. 2.6 World Heritage Criteria i (Middendorp, 2013 & Gemeente Amsterdam, n.d.)

Fig. 2.7 World Heritage Criteria ii (2015)

Fig. 2.8 World Heritage Criteria iv (2015)

Fig. 3.6 Differentiation & Characteristic typology (2015)

Fig. 3.7 Uniformity (Philips, 1768-70)

Fig. 3.4 Facade trichotomy (2011-2015)

Fig. 6.1 Small scale (2015)
The Canal Ring has a high value, which is also acknowledged by the UNESCO World Heritage. The small scale of the urban ensemble is positively appreciated. In contrary, the big scale buildings are less appreciated.

Differentiation and the trichotomy of the building typology has a high value according to the Gemeente Amsterdam (2013). Uniformity is not considered as a negative value, since it was highly desired in the 17th century and because the Canal Houses also have characteristics that form a uniformity in the ensemble.
Fig. 6.3 Layering of time in the facade (Killiam, 2006)

Fig. 3.2 'Keurtuinen' are preserved (OpenStreetMap contributors, 2015)

Fig. 3.3 & Fig. 4.1b Mixed use (2015)
In addition to the value of the Canal Houses, the city gardens and mixed use in the Canal Ring are still considered as a valuable aspect. This stands against the trend towards mono-functionality. Finally, in many Canal Houses the layering of time can be found which has a positive value.

The main values of the exceptions (bigger buildings within the Canal Ring) are negative ones. These are the threads described by Swart et al. Although of course every individual exception can have a positive value.
Fig. 6.6 Monumentality of the facade (2011-15)

Fig. 6.7 Small scale at the Kerkstraat (2015)

Fig. 6.8 Time layering visible in the facade (2015)
One such individual exception is the Prinsengracht Hospital, which is a very monumental building. Beside this the Kerkstraat side seems to relate to the small scale of the Canal Houses around it. Building parts are also recognisable in that facade. However, the building parts and time layering is harder to recognise when walking through the building.

These values mainly include the aspects that are important for this research. Obviously the Prinsengracht Hospital has much more values, however those that are mentioned here should function as starting points for the design project.
PART 2
DESIGN
The research that is done so far in this report can guide me with an intervention of an exception building in the Canal Ring, like the Prinsengracht Hospital. However, it does not give me a programme. Therefore I was rather free in the choice of a programme. I have based the programme for the Prinsengracht Hospital on the previous function of the building, for which an explanation of that function will be given first. Besides, I have looked at the identity of the area.

**Nurses Education**

In the first half of the 19th century thoughts about ill-treatment changed. According to Jan Pieter Heije (1809-1876), a doctor from Amsterdam, "medicine [geneeskunde] should be practiced as science", which should lead to a change in medical education. He mainly aimed for one education, since at that time there were many classes or degrees of medical education. His vision was not shared by everyone, so for the time being Heije put his focus on improving nursing. Most nurses in the hospitals [gasthuizen] were hardly educated, and did not care about aspects like hygiene. Richer ill-people were able to be treated at home and were able to afford educated nurses, however there were not enough educated nurses. During a meeting with prominent men in 1843 Heije introduced a plan to set up an education for women to nurse ill people. The plan seemed to be "practical and feasible". So, the ‘Vereeniging voor Ziekenverpleging’ [Society for Nursing] was founded. Officially it had a protestant foundation, which can be read in the regulations for the nurses service. Article 20 states that the nurses are not “serving” for salary, but for “Christian Love”. “Heartedness, patience, sacrifice and religious sense should characterize her life and service” (de Boer and Pley, 1993, p.190).

A year later the ‘Vereeniging’ found an accommodation to house 12 nurses. In the beginning nurses got their practical experience by visiting ill people at their homes. Also, a few nurses worked at the Binnengasthuis. The “Vereeniging” was successful: already over 1500 families were nursed in a short time. “Not only protestants”, but ill people of all faiths (p.65). The amount of nurses grew and “according to the founders, the achieved progress proved the viability of the Christian nursing according to the principles of the ‘Vereeniging’ after ten years of experimenting” (p. 67). The success resulted in a new building. Five warehouses at the Prinsengracht were bought to build the hospital there (de Boer and Pley, 1993). This was the start of the Prinsengracht Hospital as we know it until recently.

**Choice of Programme**

So, beside the visiting patients and their visitors, an important thrive behind the Prinsengracht Hospital was the education of the nurses. I intend to reintroduce the educational and visiting function (figure 6.1 shows this in a schematic way). The programme will be a secondary school for havo/vwo with a special programme in art and/or theatre. With this art programme, the students can built up a portfolio which makes it easier for them to apply...
for an art academy. The school will be combined with a cultural centre where the school can make use of during the day. Beside this, students can exhibit or perform for visitors. With this the school and cultural centre will be a good addition to the cultural area (fig. 6.2).

I have also considered a fine arts and/or a theatre academy (Hogeschool). However, this will mainly require studios, art- and theatre rooms. While most rooms of a secondary school mainly need classrooms. I think class rooms will suit most parts of the existing building better than big studios, since many rooms are already the size of a class room, although it is often divided into several small rooms. Rooms that are suited for bigger studios can be transformed into studios or theatre rooms and if there are no suitable rooms, it could be built new on the parking space or in less valuable parts of the existing building. To be able to design a good school, research into schools is necessary.

The last 150 years school buildings seem to have changed a lot. Originally buildings were rather closed, monumental and formal to its surrounding due to small windows at the street side and very open towards the inside. An example is the Gerrit van der Veen College (fig. 6.3), which was built before the Second World War as a girls school [MMS] (Gerrit van der Veen College, n.d.). In the 20th century, the school buildings opened up towards all sides, where Duiker’s Open Air school is a good example (fig. 6.4).

According to Hertzberger (2008) it gave an impression of “openness and accessibility” (p. 16). However, from the inside it didn’t change at all: “Few building types have evolved as little as schools in the past hundred years” (p. 11). It is all based on the classical classroom. Steijns and Koutamanis (2004) describe that the model classroom of the beginning of the 19th century was 10 x 7 meter and 5 meters high. In most schools the typical layout is with a corridor and classrooms at the sunny side or on both sides (fig. 6.6a). Duiker’s school is perhaps not the corridor type school, though it is built up by the classical classrooms. He added balconies to let light and air enter the school, creating a healthy environment for the students. By doing so, the outside world was brought into the school. According to Hertzberger it could have been an attempt for a “new approach towards nature” and the outside world (p. 15). The transparency of the façade was highly appreciated, but it did not go much further than the façade.

From the special schools [bijzondere scholen], such as the Montessori and Waldorf schools, a new building type was developed. These schools are based on learning by exploring and also require more individual workspaces. Therefore, they do not require the classical rectangular classrooms. Also the corridor became more of a learning environment. From this the corridor type school evolved into the hall type (fig. 6.6b). Here “the hall not only functions as connection of the different class rooms, but also as a communal space” (Steijns and Koutamanis, 2004, p.27). Another more advanced typology of the hall school
is the ‘pavilion school’, where every cluster is created in their own low-rise pavilion (fig. 6.6c).

The last two decades more changes in school types are starting to appear. As we can see from the example of the St. Nicolaasschool in Amsterdam, built in 2012 (fig. 6.5), it is very different from the previous examples. This is linked to the introduction of ‘the new learning’ [het nieuwe leren] in the 1990s. Where the classical education (or ‘the old learning’ as it is sometimes referred to) focussed on ‘the transfer of knowledge’ from teacher to students, with the new learning the focus was placed on the learning process. With this it is supposed to be possible to have a “constant renewed education for every individual” (Steijns and Koutamanis, 2004, p. 27). Regular public schools are now all following the new learning system. In some ways the general special education systems was perhaps a reference, since the new learning uses both aspects from the classical education (transfer of knowledge) and aspects from reform pedagogy (independent and collaboration) (De Jonghe, 2009).

**QUANTITATIVE**

According to Oostdam et al. (2007) the idea of the new learning results in six starting points, which have an effect on the programme of demands of a school. The first starting point they mention is ‘attention for self-regulation and metacognition’. This could have effect on the classical class rooms, which “are often replaced by a layout in big multi-functional education spaces where a team of teachers supervise and if necessary give guidance or instructions” (p.21). Secondly, Oostdam describes as a starting point ‘space for self-responsible learning’. This does not mean independent work, although it could be part of it, but a good balance should be found between instruction and a student-focus approach. I interpret this as that there should be a good balance between instruction work spaces (the classical class rooms), self-responsible work spaces (with supervision of a teacher) and independent work spaces. ‘Learning in an authentic learning surrounding’ is the third starting point. Oostdam explains this as a surrounding “where students are brought in touch with the world outside the school” (Oostdam et al., 2007, p. 16). Students should be able to participate in the world around them in an active way (fig. 6.7). This has led to the so called Brede Scholen (literally: broad schools). The fourth starting point ‘learning as social activity’ focuses on working together, by having a project in groups of two or more. This would require places where students can work in a group. The fifth starting point is rather straight forward, ‘learning with IT’, which is leading to computer spaces. Oostdam visited eight secondary schools, from which they concluded the schools have on average one desktop for every two students. Note that this research has been done eight years ago and that this kind of technological development is going very fast. During the research some schools had the ambition to give a laptop to each students. Laptops would mean that the building would not require computer rooms, it would rather require work spaces with power plugs. Finally, the sixth starting point...
From these starting points, four types of learning spaces could be named, as they are described by Steijns and Koutamanis (2004):

- **Presentation and demonstration (fig. 6.8a)**
  Information from one person to a group
  With a group of 32-100 students

- **Instruction (fig. 6.8a/b)**
  Based on interaction
  Usually 20-32 students

- **Group work (fig. 6.8c)**
  Small (2-6 students) or big groups (6-12)

- **Individual work (fig. 6.8d)**
  With or without computer work or lab work
  1 - 2 students

**Qualitative**

Beside these more quantitative requirements of a school, there are also qualitative requirements. Rodermond et al. (2009) combined the experience of a number of architects who designed schools. Many of them criticises the governments and clients, who are focussing too much on money and the quality of the system, rather than the quality of the environment. Many studies have been done in how the student should learn, but until recently not much research was done on where the student should learn. “The interior is hardly ever part of the assignment, even though this is an integral part of the school.
concept” (p. 42). A problem for architects is that children, parents, teachers and clients are barely able to pinpoint what kind of environment they desire. Another problem is the concept of flexibility which is desired for the new learning. “Flexibility is too often a formula with too many unknowns, with that it is the enemy of quality” (p. 25). Designing a school in the Prinsengracht Hospital would mean to think carefully about the quality of the school environment. Everyone is an expert on schools, since we have all been users for ten years or more, five days a week. One of the architects advices to think back to “your own school environment and the memories that you have from that” (p.33). Another way is to think carefully about aspects such as air, visual relations, climate, acoustics, thermal climate, recognisability and usability.

According to the Dutch government there are ten starting points through which good quality schools can be achieved in secondary schools (Wijnhoven and De Ruiter, 2008, pp. 13-14): ambition, involvement, sustainable basis, focus, satisfaction in learning and working, personal and professional space, collaboration, talents, trust, and appreciation.

From these starting points the government came to a number of terms on which schools should focus on. Beside “math and language; citizenship; professional space; exams and culture of improvement” there is the term ‘excel’ [uitblinken] (p.15). The government wants students to be able to excel in their talents. This could be technical, languages, musical, sports, and creative talents. One of the ways to develop talents is through “talent- and culture-profile schools” [“begaafdheid- en cultuurscholen”] (p.21). This is elaborated with the reason that “students differ in talent, speed of development and ambition. This is why good connections and ability for transfer between different education types should be possible.” (p.22).

Schools that give the ability to excel in talents and follow certain criteria are allowed to call themselves culture-profile schools. Criteria entail that students, schools and partners have an active participation in the talent areas. A way to achieve this is by creating a ‘broad school’, briefly mentioned in the previous sub-chapter. A broad school is a school with more functions than just the educational. In a report about these broad schools Kruiter et al. (2011, p. 6) give as a definition:

- The school has a wider societal function than just providing education;
- The school cooperates with facilities for well-being, child care, health care, sports and/or culture;
- And the school creates a substantial broadening in the offer of education, well-being, child care, health care, sports and/or culture.

Reason for secondary schools to create a broad school is “to stimulate the development of talent” (p. 49). According to the report, the broad schools have effect with students, parents, in the area, regarding activities and with professionals. For students it is mainly their “enthusiasm and involvement” that creates the success of the schools. Also “social skills and better atmosphere” are mentioned.
**Programme**

So, the programme for the design of the Prinsengracht Hospital will be a ‘broad’ secondary school with a focus on culture in combination with a cultural centre. I made a programme of demands to guide me through the design (fig. 6.11). The task lies in how to create a learning environment with the right qualities and in combining this with the outcomes of the research and the values of the Canal Ring and its buildings.

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<th>SCHOOL</th>
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<th>PERFORMING ARTS</th>
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<tr>
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<td>science rooms</td>
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Fig. 6.11 Programme of demands (2015)
Fig. 6.12 Room on the first floor, when it was still used as a hospital (unknown, n.d.)
In the search for the design for a school in the centre of the city, questions were raised such as:
- What is a route?
- What is a place?
- What is the experience?
- What is the ambiance?

To find some (abstract) answers to these questions I assigned myself to make some drawings. Together with some reference pictures I drew around it to envision the place I was aiming to create. In this way I drew spaces of circulation, transition and staying.

The sketches on the right page are drawings of the design when it was further developing.

Fig. 7.1 Various sketches (2015)
Fig. 7.2 Various sketches
Another step in the process was to figure out what should be preserved and what can be demolished. In the current situation of the Prinsengracht Hospital the complex contains several buildings of low value. Firstly, there are several low-rise and temporary looking buildings (figure 7.6b-c). Beside this, I had decided to remove the 1950s part at the Prinsengracht. This is a structure which does not suit the Canal Ring (figure 7.6a). Besides, the construction existed of concrete slab walls which created rather small rooms. This was not practical for the Cultural Centre. Finally I removed the wing dividing the garden and the bicycle parking space (figure 7.6b). I started designing with a part of this wing (ground and first floor). However, it did not seem to fit to create a good circulation for the new programme. The monumental value was not high enough to balance with the user value I was creating, which is why I had decided to also remove it.

This left me with the most essential wings of the Prinsengracht Hospital: the Hospital wing (at the Prinsengracht) and the Nurses wing (at the Kerkstraat).
Fig. 7.6 Various images of the 'inner world' of the building complex
Starting point
To reduce bicycle traffic at the Prinsengracht side, which is a one-way street, the main access for cyclists should be at the Kerkstraat. The Gracht-side will be a formal and a pedestrian entrance. Both streams will come together in at a central point of the building complex.

Design
The Cultural Centre contains two main entrances: for the performing arts part of the building, people enter at the Prinsengracht into a foyer. The visual arts part of the cultural centre is located at the Kerkstraat. This is a smaller street and contains several art galleries, which makes visual arts a suiting function at this side. The two parts of the cultural centre are connected with a large hallway, which is also connected to the central hall. People who use the cultural centre more frequently and arrive by bike can enter via the central hall.

The school has several entrances. The original entrance at the Prinsengracht is preserved, however this entrance is not wheelchair friendly. Besides, the average distance between entrances in the Canal Ring is 5 to 10 meter. This gives the ring a diversity which makes it interesting to walk through. Since the Prinsengracht hospital is a very wide building, the two entrances are 43 meter apart. Therefore I have added another extra entrance more towards the cultural centre. This will be the main formal entrance. Formal, because kids will most likely come to school by bike. The Prinsengracht is a one-way street (also for cyclists), while for cyclists the Kerkstraat is a two-way street. The functional entrance will therefore be at the Kerkstraat side. Entering through the new part on to a square. Cyclists will turn right to go down into the ‘bicycle-basement’. And they can go up by stairs leading to the central hall. From here they can go to the school part, the school library, the homework tutoring centre or the cultural centre.
To achieve the right accessibility for the building I first had to search for the right place for the theatre and the central hall. The theatre would become the biggest space which is not flexible in size. To place it at the Kerkstraat would take too much sunlight from the garden adjacent to it. This was one of the reasons the theatre eventually moved to the Prinsengracht. The final result is a combination of the two bottom sketches.
Central Hall

The central hall was the main focus of the design. The sketches on the previous page already showed different volumes for the central hall (entrance). The challenge was to find a good space for a central hall and have an acceptable play and entrance square.

The image below right is the version with which the design was developed further.

That volume does not follow any lines of the existing and main volumes. With that it does not have to compete with the existing monument and can be a volume standing on its own.

Fig. 7.10. Various sketches to find the right volume for the central hall
The central hall is perhaps the most important space of the building, since it functions as:
- a connection between existing and new
- a connection between inside and outside
- a connection between the school and the cultural centre
- the entrance

These functions gave it a well functioning space to circulate. However, it was also supposed to be a place to relax and to study. For that I took inspiration of the Yokohama International Passenger Terminal by Foreign Office Architects (figure 7.13)
The shape of the hall was soon decided. Although I did not decide yet on the form of the roof. This has gone through several changes. It started with a pitched roof like the existing buildings. However, the intention of volume itself was that it would not compete with the existing structures or the main structures. Therefore, I have given the roof the same angle as the walls: 8 degrees.

Fig. 7.14. Development of the roof

- a: not decided on the shape of the hall
- b: flat roof
- c: (cross) hipped roof, with the ridge following the bridge on the 1st floor
- d: cross gable roof, with the ridge at the centre
- e: shed roof
- f: final design: shed roof with flat parts at the sides
The following images show the development of the Prinsengracht facade. This was quite a development. For the final result I went back to the basic elevation I started with and combined these with the function that is behind the facade. I revised the materialisation to make it fit with my starting points. This was that the Cultural Centre would refer to the Canal House construction (wood) and to Canal House facade (stone).

Since this part is an exception in the Canal Ring, I also wanted to create a contrast with the Canal Houses. Therefore the final facade is made from brick, which are layed out vertically. The final result can be found in chapter 8 (p.98 and p.100). More about the materialisation can be found in the paragraph about Building Technology.
Fig. 7.16 Elevation development
An important starting point was the readability of the building. The complex expanded many times and over time the different building parts merged together. This resulted in a building where it is hard to orientate yourself and where it is hard to recognise the different building parts.
Concept

Readability is also the key of the concept of the design. I have tried to apply it in many layers of the design.
Fig. 7.19 Concept of readability
**Basement - 1:400**

1: bicycle parking
2: draft portal
3: archive
4: storage
5: technical space
GROUND FLOOR - 1:400

- 6: entrance square
- 7: ‘play’ square
- 8: garden
- 9: reception/service point
- 10: lounge
- 11: kitchen
- 12: teacher’s lounge
- 13: office (a: principal)
- 14: concierge
- 15: lockers
- 16: instruction class room
- 22: library
- 23: silent study space
- 25: foyer
- 26: exhibition space
- 27: theatre
- 28: studio (a: rehearsal)
Entrance square
Central hall, looking towards the Prinsengracht
Central hall, looking towards the Kerkstraat
Cantine, looking towards the Kerkstraat
FIRST FLOOR - 1:400

5: technical space
10: lounge
11: kitchen
13: office (b: teachers)
16: instruction class room
17: group work class room
21: home work centre
22: library
23: silent study space
24: computer room
25: foyer
27: theatre
28: studio
29: cafe
30: cultural roof terrace
First floor at the Prinsengracht side, standing in front of the 1903 stairwell looking at the elevator.
Central hall on the first floor, looking towards the Prinsengracht
Cultural roof. Standing on the tribune looking towards the Kerkstraat
Second Floor - 1:400

13: office
16: instruction class room
17: group work class room
21: home work centre
22: library
23: silent study space
24: computer room
28: studio (b: dance; c: music)
30: cultural roof terrace
Second floor at the Prinsengracht side, looking towards the Cultural Centre.
Third Floor - 1:400

5: technical space
16: instruction class room
18: science room
19: biology room
20: laboratory
22: library
23: silent study space
28: studio (b: dance; c: music)
30: cultural roof terrace
Sections

Section A-A’ 1:400

Section B-B’ 1:400

Section C-C’ 1:400
Elevations

Elevation Prinsengracht 1:400

Elevation Kerkstraat 1:400
Cultural Centre
The facade of the Cultural centre will be mainly of brick. Most bricks will be brown, at the Prinsengracht it is slightly lighter than at the Kerkstraat. There is a variation in brick colours: the other bricks are in the colours which can be found in neighbouring houses. The plinth and the top are covered with wooden planks. This 'Guariuba wood' has a brown-red colour (fig. 8.6).
The garden facades of the Prinsengracht Hospital are light coloured. This results in a seemingly brighter and bigger garden. This is also the more informal side and a place to relax. Therefore I have chosen for a light material, both in colour and in weight, for the new facades at the garden. It is covered with the yellowish Ayous wood.

The construction refers to the wooden construction in the Canal Houses. However, the span is larger than in regular Canal Houses, resulting in bigger (laminated) beams.
Central Hall
The hall is built up by fixed steel portal structures. The portals around the entrance are slightly oversized so it can absorb wind forces. The bridge is hanging at the beams of the portal and on top of the portals lies a Kalzip aluminium roof system.
The ‘landscape’ is a wooden stand alone object, allowing the space to be flexible for future purposes.
Fig. 8.17 Construction scheme first floor
The ventilation is based on natural inlet and mechanical outlet. This is preferable for ‘healthy’ schools (figure 8.19).

To calculate the size of the air ducts I have made a calculation of the outlet air in the 1857 part for the ground, first and second floor. The third floor is directly connected to the air handling unit, therefore this is not important for the calculation of the biggest air duct.

Second floor:
- 4 class rooms: 2520 m³/h
- Office (30 m²): 702 m³/h
- Toilets (23 m²): 580 m³/h
  
  **3802 m³/h**

  **Duct diameter: 500 mm**

First floor:
- 3 class rooms: 1890 m³/h
- Teacher’s office (68 m²): 1591 m³/h
- Office (30 m²): 702 m³/h
- Toilets (23 m²): 580 m³/h
  
  **4762 m³/h**

  **Duct diameter: 500 mm**

Floor 1 + 2: 8564 m³/h.

Diameter main duct to first floor: 630 mm

Ground floor:
- 2 class rooms: 1260 m³/h
- Teacher’s lounge (91 m²): 1310.4 m³/h
- Office (30 m²): 702 m³/h
- Toilets (23 m²): 580 m³/h
  
  **3852 m³/h**

  **Duct diameter: 500 mm**

Floor 0 + 1 + 2: 8564 m³/h.

Diameter main duct to ground floor: 800 mm
The location of the vertical air duct shaft in the 1857 part is beside the toilets. Each building part contains its own air duct system. In figure 8.21 the vertical shafts are circled. The entire building is based on natural inlet and mechanical outlet, except for the middle part of the cultural centre. This part also contains mechanical inlet, which is more desirable for a theatre.

The natural air flows in through ventilation grilles above the windows. Alusta has a system called ‘Bingo Cybele Forte’ which I have used in the building. They also produce systems for monumental buildings to be able to have grilles in the facade without destroying its value (Alusta muurdemper ‘Monument’). This system might be necessary to place beside the windows to ventilate an entire classroom.
To hide the air ducts I needed to create a lowered ceiling in the hallway. However, I also want users to experience the entire height of the hallway. Therefore I have used a similar way as the University of Maastricht (Zwingelput location) applied in their hallway to hide the ducts.

Fig. 8.22 University of Maastricht (location Zwingelput) (2015)

Fig. 8.23 Lowered ceiling design
Building Physics - Heating

The main heating system of the building is through floor heating. The Prinsengracht can be used as a source for the waterpump.

The new central hall in the heart of the building has a slightly sloped roof of 8 degrees. I have placed the top at the south east side so that sunlight comes into the hall and so that the hall will block minimal sunlight on the play square and building parts behind it.
Section of the existing structure and extension - 1:75
Elevation of the extension - 1:75

Section extension - 1:75

Floorplan of the connection extension and existing - 1:75
- Renovation glass
- Extra insulation
- Existing paneling
- Ventilation grille
  Bingo Cybele Forte
- Kalzip clip
- Kalzip 50/429
- Breather membrane
- Insulation
- Air/vapour barrier
- Trapezoidal steeldeck
- Finish

IPE 400
- Wooden floor finish
- CompactFloor Expert (tiles)
- CompactFloor Expert insulation with floor heating
- Wooden floor (existing)
- Wooden beam with added insulation
- Stucco on thatch

- Floor finish
- Profiled steel sheeting
- IPE 140
- IPE 240 (elevation)
- Armature
- Finish
- Floor covering
- Screed with floor heating
- Insulation
- Airdeck floor system

- Wooden floor finish
- CompactFloor Expert (tiles)
- CompactFloor Expert insulation with floor heating
- Wooden floor (existing)
- Wooden beam with added insulation
- Wooden framework
- Insulation
- Wooden framework
- Window frame Schüco FW60
- Duco minimax 36
- Window frame Schüco FW60

- Kalzip 50/429
- Breather membrane
- Insulation
- Trapezoidal steeldeck
- Air/vapour barrier
- Finish
- IPE 400
• Finish of 'landscape'
• Frame for 'landscape'
• Breather Membrane
• Sandwich panel
• Air/vapour barrier
• Frame for 'landscape'
• Finish of 'landscape'
- Finish of 'landscape'
- Frame for landscape
- Floor covering
- Screed with floor heating
- Insulation
- Airdeck floor system

- Rainwater drainage
- Breather membrane
- Ground (sand)
- Tiles
- Frame for 'landscape'

HEB 280 (covered)
PART 3
REFLECTION
The research started from my fascination of the typical buildings in the Amsterdam Canal Ring. These buildings mainly include the Canal Houses, built as residential buildings for the middle class on narrow but deep plots. When the houses were built in the 17th century, uniformity in the façade was stimulated by the municipality. Today, the differentiation of the façade is appreciated, although common characteristics creates the unity of the ensemble in the Canal Ring. These characteristics include aspects like verticality, windows and the trichotomy in the facades. Together they create rather small scale buildings.

Beside the Canal Houses, the Canal Ring is built up by some exceptions. These buildings often may seem to fit in its surroundings, due to the use of traditional materials and forms. Nevertheless, behind the facades it does not seem to follow the building typology of the Canal Ring. Like the Prinsengracht Hospital, the buildings are often not much higher than its neighbours, the bigness is more in width and depth. According to the ICOMOS and Amsterdam, these exceptions are not a big threat to the area’s heritage. However, researches fear the ‘increased scale of facades’, the ‘trend of mono-functionality’ and the ‘decrease in buildings that correspond to the building typology’ in the Canal Ring. The Prinsengracht Hospital might be a building that could harm the Canal Ring as a World Heritage, since it is a building that expanded a lot over time. Compared to the typical Canal Houses it is a rather big scale building, while the small scale is appreciated.

As a conclusion, the exceptions in the Canal Ring – the relatively big buildings – have an acceptable relation with the typical Amsterdam Canal Houses, externally. The facades of the exceptions are often built op with the same rules that apply for the original buildings. And it might have been highly appreciated in the 17th century, when uniformity was stimulated. However, the organisation often contain a much bigger scale than the Canal Houses. And this last aspect is something that should be a concern for Amsterdam and the UNESCO.

This big and small scale should be taken into consideration when intervening in such an exception. It is not by definition small scale interventions that should take place with the buildings in the Canal Ring. Rather, interventions should be done that enhance or increase the small scale idea of the area. If a function change is necessary, a function that adds to the city and the area should be desired. If the building is suitable for splitting up, it might even be desirable to come up with several new functions. This is why this research proposes a small school and cultural centre which would fit in the cultural area and which could function separately and at the same time could work together.

Beside this, it would be desirable to keep in mind the typology of the buildings in the Canal Ring when an intervention is proposed. To enhance the authenticity and integrity of the Canal Ring area it seemed to be enough to just focus on the external aspects such as the façade, according to the UNESCO. However, from this research it became clear that it is not just the façade that could thread the World Heritage. It is also about the organisation and the inner world of the Canal Ring. The intention has always been small scale buildings in a big scale project and where it is hard to imagine that one finds itself in the middle of the city centre of the capital.
The location of the graduation project is a world heritage site: the Canal Ring of Amsterdam. It became World Heritage in 2010 because of its very unique type of urbanism and architecture. The area contains many canal houses with a strong and characteristic typology. The typical Amsterdam Canal Houses and its typology was the basis of my fascination: the buildings are symbolic for Amsterdam, yet all houses are different. They create a strong skin of the Canal Ring, which is sometimes interrupted by a building with a different typology, this is often a historical but large building. Due to its wide façade, these type of buildings are a clear exception in the Ring. The Prinsengracht Hospital is such exception and it is the building that I have adapted for my graduation project.

The method of the studio starts with an analysis of the location. Together with the other students who choose to use the Prinsengracht Hospital as the building for their graduation project, we divided the subjects that needed to be analysed. This started with a more urban approach, shifted to an architectural approach and ended with the technical aspects of the building. Parallel to the analysis was the research into a subject of interest. Early observations of the location and the fascination with the buildings in the Canal Ring, resulted in a first formulation of my research question. That question hardly changed throughout the research and the project. I think this shows that the interest I had in the topic was sufficient and certain. This also contributed in having a rather fluent research process.

The research method that I defined in the introduction of my research report was leading me through a research of three scale levels: urban (Canal Ring), bigger buildings (exception) and smaller buildings (Canal Houses). At the same time it gave me the opportunity to research these scale levels on several time periods. The outcome of the research and analysis was supposed to guide me to the design. Besides, the outcome of the research gave me good starting points which I tried to use during the entire design phase.

### Research - Design

My research question is a very context focused question. To my idea this was an interesting approach. With the research question I was able to use the building – the Prinsengracht Hospital – as a precedent for the exception in the Canal Ring. It gave me an analysis for the building typology, which I could use both during the research and during the design phase. This was an important link between the two phases. I obtained a good understanding of the building and location. Besides, by answering the research question and sub-questions I created some solid starting points for the design. In the introduction of my research report I had written that “...the answers to the research- and sub-questions should guide me to an intervention design of the Prinsengracht Hospital”. That goal of creating a good basis to design was reached. Although, the research should not only have guided me ‘to’ a design, it should also have guided me ‘during’ that process.

The new programme for the Prinsengracht Hospital was based on the analysis of the building and its surrounding which I had done in the research. I kept the idea of education, for many years of the nurses, by creating a school. The programme fits well in the surrounding, close to the cultural Leidsebuurt, by giving the school a focus on art. In the second semester this evolved into a secondary school and a new cultural centre. When I determined the programme, halfway the first semester, I had to start researching schools as well. This resulted into a ‘Part 2’ in the research report, which had few relation with ‘Part 1’. By this time I should have added a new secondary question which would create a bigger connection with ‘part 1’. This question could have been:

**What architectural aspects made the building fit for a hospital and educational institute? And how can these aspects be of use for a new and different type of educational institute?**

So, during the second semester I had good and solid starting points in relation to the context. This resulted in a design project which did not focus on getting the organisation of the school and the cultural centre right. It was rather about achieving a good organisation for the exception in the Canal Ring. I did this by focusing on the internal world of the Prinsengracht hospital/school: the central space. This is a shared space for the school and the cultural centre. I think this focus turned out to be a good reflection of the conclusion I made from my research report that Amsterdam and UNESCO mainly seem to value “the external aspects such as the façade”, while “the organisation of the inner world of the Canal Ring” is also an important aspect to value.

I did not immediately came to this conclusion. Before I came to this point the relation between the research and design was not very big, to my idea. I focused on a part
of the Canal Ring that is not visible to people, while many valuable parts of the World Heritage site are visible to everyone. I was a little insecure whether my main focus of the design project should not be on the Cultural Centre, which is visible from the streets. During the second semester I revised parts of the research report, which gave me the possibility to reread the research I had done before. I came to a slightly different conclusion than before the summer break. This was an important moment in my process because this new conclusion gave me a confirmation that it was actually good that my focus was on the central part of the complex, which is part of the internal world of the Canal Ring.

**Theme**

My fascination had a strong connection with the theme of the studio Heritage and Design, which was exploring the ‘tolerance for change’. With that theme the context is very important. What does the Core zone of the World Heritage site in Amsterdam tolerate? This is a question I did not use as a secondary question. It could have been a follow-up question of the last sub-question “What should we do with these buildings when they are subjected to intervention?” Though I defined ‘tolerance for change’ as part of my assignment. The research I had done into the Canal Ring already gives an idea of what is tolerated now and what was tolerated when the Canal Ring was built. The Canal Ring is a big urban setting containing small scale buildings. However, the Prinsengracht Hospital is a large building. For this reason I changed the scale of the building. The most visual aspect of the complex that I have changed are the 1950s façade at the Prinsengracht and the parking space at the Kerkstraat. In the current situation the opening in the façades of the Kerkstraat is an interruption in the continuity of the street and with that in the continuity of the urbanism of the Canal Ring. Thus creating a tolerance for change. According to the Amsterdam monumental care the 1950s façade is considered as less fitting in its context, therefore I think this is a tolerable intervention to replace this building part with a new contemporary structure and façade.

With the new additions I have tried to find tolerances that are a combination of personal tolerances and Amsterdam tolerances. Amsterdam tolerances are focused more on the monumental care and are often conservative. My personal tolerances are progressive and sometimes more radical. By exploring both tolerances I think I have found an interesting design which is perhaps slightly radical for Amsterdam in practice, but which gave me a challenging and interesting graduation project.

**Improvement**

Graduation at the TU Delft only takes one year. This is a very short time to make a design for the entire Prinsengracht complex. On the one hand that is a positive thing since it forces the student to focus on one part and work that out. On the other hand it feels like the project is not finished yet. Although I think that even if graduation would take two years (or even more), there will still be a lot of elements unfinished. In architecture a design is never finished. Heritage & Architecture might be the best studio to proof that: even if the building already stands and flourishes for almost 160 years, there is still reason to keep on developing and to keep on designing. Whether this is for expansion reasons, re-use reasons or small-scale reasons such as dividing a room into two.

If graduation would take more time I would be able to find room for improvement. The new elevations at the Cultural Centre for instance. I struggled with this part of the design, but I also learned a lot from it. I could also find improvement in the organisation of the Cultural Centre. With more time I would shift my focus from the central hall, which is now quite well thought about, to the cultural centre. Although this would also mean I would need to do more research into cultural centres. As a third, I would look more into the outdoor spaces, mainly the beautiful garden.

Nevertheless I am very satisfied with my graduation project and I think I have achieved the goals that are set up by the university. Personally, I am satisfied with the qualities I could use and emphasize in my design of the Prinsengracht Hospital. But also the other way around: I am satisfied and happy with the qualities the Prinsengracht Hospital and my tutors were able to emphasize in me.
In this report all quotes that are used from Dutch sources are my own translations.
If I did not find a sufficient translation, the Dutch word is written behind in [...].

ABRAHAMSE, J. E. 2010. De Grote Uitleg van Amsterdam; Stadsontwikkeling in de zeventiende eeuw, Bussum, Thoth.

AERTS, R. & DE ROOY, P. (eds.) 2006. Geschiedenis van Amsterdam 1813-1900; Hoofdstad in aanbouw, Amsterdam: SUN.


HENKET & PARTNERS ARCHITECTEN 2009. Prinsengrachtziekenhuis Amsterdam; cultuurhistorische verkenning en opname.


Since 2011 the Amsterdam Canal Ring is listed as UNESCO World Heritage. For properties to become listed the UNESCO has set up several criteria. Properties should meet at least one of those criteria. The canal ring meets three, which are shown in the scheme below. Additionally, a property has to be authentic and must contain a certain integrity. It is considered to be authentic if the cultural values are “truthfully and credibly expressed through a variety of attributes” (UNESCO, 2013, p. 22). The integrity of a property is expressed with its “wholeness and intactness” (p. 23). I see integrity as relatively straightforward: it is either whole and intact, or it is not (of course, in reality there are often grey areas). Authenticity, on the other hand, is a very broad definition, which makes it open to interpretation and discussion. The discussions can be divided into two main approaches on how to preserve authenticity and integrity of the canal ring.

One approach is what UNESCO (et al., 2013) calls the conventional approach. The focus of this is “placed on the conservation of the materials or the fabric of the past” (p. 24). The goal is to preserve heritage for our future generations, who would benefit from the historic buildings. In his book ‘The Past is a Foreign Country’ Lowenthal (1985) describes several benefits of what “the past can do for us” (p. 38). The first is that the past gives us a familiarity that is necessary to understand the present context (pp. 39-40). Secondly the past reaffirms and validates today’s historical objects, “it validates the present attitudes and actions by affirming their resemblance to former ones.” (p. 40). Thirdly, the past can give us the benefit of “identification with earlier stages of one’s life” which is “crucial both to integrity and to well being” (p. 42). Personal and shared history give a person a sense of identity, which can give comfort and assurance. As a forth benefit Lowenthal names guidance: the past can teach us “useful lessons” and that can give us solutions to architectural problems (pp. 46-47). Also, with knowledge of the past we can enrich our lives, because we can link our lives with past events and people (pp. 47-49). Finally we can escape to the past, through dreams we can escape to a different time. According to Lowenthal this relieves stress (this is a paragraph from an earlier essay: (Cannoo, 2013)).

To benefit from our heritage, restoration and reconstruction should be a “rule of thumb” (Schoonenberg, 2004, p. 148). It would avoid degradation and fragmentation of “the monumental ensemble”. Schoonenberg (secretary of the ‘United Friends of the Inner City of Amsterdam’) even claims “Amsterdam’s historic inner city will eventually be lost”. Bell (2009) describes how in art (history) authenticity is about “aesthetic, spatial understanding of form”. To reach a good understanding “missing, damaged or altered parts” should be replaced. This could be done through “replica, conjectural recreation or pastiche” (p. 57). Partly this approach can be applied by architects, although the World Heritage Operational Guidelines (UNESCO, 2013) only justify reconstruction when it is based on “complete and detailed documentation and to no extend on conjecture” (para. 86, p. 22). So reconstruction is authentic and is necessary to get a good understanding of the canal ring. Although, imitation could be an authentic way of keeping a historic ensemble. As Wim Denslagen (2009) writes in his book ‘Romantic Modernism’: “Every architectural style has been spread by means of imitations or free copies” (p. 169).

### Criteria that the Canal Ring meets

(i) It is a masterpiece at once of hydraulic engineering, of town planning and of a programme of architectural construction

(ii) The property is testimony to a considerable exchange of ideas over a period of almost two centuries, with respect not only to civil engineering, town planning, and architecture but also in a series of technical, maritime, and cultural fields.

(iv) The canal district in Amsterdam built in the 17th century, represents an outstanding type of built urban ensemble that required and illustrated a diverse range of expertise in hydraulics, civil engineering, town planning, and building and architectural techniques.

(ICOMOS, 2010, pp. 263-264)
The Advisory Body Evaluation finds authenticity of the canal ring in its ensemble, its facades, hydraulic and urban organisation. However, these are mainly external or visual aspects. When describing, the authenticity Amsterdam and the International Council on Monuments and Sites (ICOMOS) are mainly talking about the visual values. This makes sense, since almost 40% of the people who are present in the Amsterdam city centre during the week are visitors (ten Berge and Jakobs, 2012). And many of them are visiting Amsterdam for its history and canals (Gemeente Amsterdam, 2008). Tourists walk, cycle or float through the canals and only (need to) see the water, streets and historical facades. In a way the canal ring functions as a museum. The growing amount of tourists is partly due to the listing of the area as World Heritage. It creates “an enormous economic value […] and attraction of tourists and companies” (Avis and Greter, 2011, p. 14). Partly for them, the external view of the canal ring will be exhaustively preserved, even reconstructed.

However, this is what Amsterdam is afraid of: museumification. The city centre is still very vivid, due to the many locals that are present, 61% of the people who are present in the city centre at a certain moment are Amsterdam residents (ten Berge and Jakobs, 2012). Nevertheless, many locals complain about the enormous amount of visitors, and their pressure on the city. What if the inhabitants want to move to a quieter place and move out of the city? The liveliness will move away with them, creating an actual open-air museum. Visually it will be the authentic historic city. But functionally it will not be authentic. Amsterdam and ICOMOS are hardly talking about internal aspects like functionality. They only make one note regarding the consolidation of a few lots, however they quickly jump back to the visual aspect: “the external appearance of the buildings has been conserved in the vast majority of cases […] and the state of conservation of the facades is generally good” (p. 262). It shows that the focus of Amsterdam, regarding authenticity and integrity, mostly lies on the visible aspects of the canal ring, not so much on what is less visible (ICOMOS, 2010).

This brings us to the second approach: the values-led approach (UNESCO et al., 2013). With this the “significance of a place” is assessed. This is done through assessment of values, authenticity and integrity. The World Heritage has shifted towards this approach by introducing the Outstanding Universal Value which every listed World Heritage should possess. Therefore, in a way every World Heritage is listed with the values-led approach. According to the UNESCO (2013, par. 82, p.22), authenticity should be expressed through the values and significance that are part of several aspects:

- Form and design
- Materials and substance
- Use and function
- Tradition, techniques and management systems
- Location and settings
- Language, and other forms of intangible heritage
- Spirit and feeling
- Other internal and external factors.

Amsterdam is more or less safeguarding the values of most of these aspects. But is it safeguarding the use and function; and the internal form and design? Due to their focus on the external aspects of the canal ring, I think not. I think Amsterdam is still leaning towards the conventional approach, but combining it with the values-led approach. As UNESCO describes, this is possible since “many management systems contain elements of both approaches”. However, I think it is also counteracting in Amsterdam’s case. Without a clear decision the strength of the canal ring is placed too much on the external values.

Amsterdam is following a values-led approach in some ways, which helps them to assess the canal ring on authenticity. But since the term authenticity is so broad, arguments are easily found to say many aspects are authentic. I think this is leading to a conventional approach since everything authentic should be kept. Professor Paul Meurs (2004) describes in his article ‘Segregated but united’ how The Netherlands is trotting on with its heritage. “Everything that is old acquires historic importance” (p. 176). We can no longer see or show what our identity is. He argues that with today’s projects “historical identity is designed anew, without any connection with the background, underlying functions or regional characteristics.” (p. 177) I think this is what happens in Amsterdam, where sometimes 17th or 18th century facades are reconstructed while many of the current facades in the canal ring date back to the 19th century. Meurs writes that this was the age when the Dutch collective memory was created. He gives a solution for people to be able to relate better to their heritage: by creating a bigger cohesion between “old history” and “recent history”. He states there should be “less emphasis on isolated monuments” and “more on big structures and space” (p. 180). This will lead to a better readability of the...
In addition, Jo Coenen (2006) pleads for an approach where past, present and future “relate […] continually to one another” (p.7), instead of seeing them as “separate entities”. He gives five ways to relate to the existing: “continuity, polarity, dialogue, congruence and blending.” Both Meurs and Coenen show a values-led approach, with a big concern towards context. This could mean that a building can be transformed to a more contemporary building. Although with respect and understanding to its context and history, and the values that come from that.

To my idea Amsterdam should lean much more to the values-led approach to be able to preserve the authentic canal ring. By following a little bit of both approaches, instead of one, the focus mainly lies on the visual values. But at the same time the enormous tourism flows demands a change behind the façade. If the values of the canal ring behind the facades are being ignored, the relation between the facades and what lies behind it will decrease. This is both unauthentic and it will lead to museumification.
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2016