RESEARCH PLAN

Opening up the Department Store

A research into the development of the former V&D buildings in the Netherlands

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INTRODUCTION

This design studio and research will focus on the department stores of the Vroom & Dreesmann (V&D). The physical stores of the V&D went bankrupt in 2016 and the buildings became vacant. Up to today, many of these buildings leave a desolate image in the heart of many city centres. The Vacant Heritage Studio intends to create understanding of the effect these buildings have on the use and perception of the city. This research is my first step in the Vacant Heritage Studio and will formulate the starting points for the redesign.

The choice for this studio starts from the consciousness that adaptive re-use of vacant (heritage) buildings will become of increasing importance, as more buildings are getting vacated due to both social and economic reasons. These vacated buildings could of course be tearred down and rebuilt, but as buildings are among the most expensive assets in the world and often have a great cultural value, it is often wiser to find new functional uses for these buildings (De Jonge, 2020).1

The research will consist of two elements. First, a collective research will explore the Spatial Building Typology (SBT) of eight selected department stores on different scale levels, to create understanding of their spatial qualities. Traditional research methods into typologies in architecture often assume typologies based on functions. However, the way in which the city is organized – and thus the different functions that buildings have to fulfill - is subject to change, due to changing needs of the public and/or due to innovative ideas from architects (Zijlstra, 2020).2 Therefore, in order to be able to transform a space or building into another function, it is important to investigate and classify its physical characteristics. Therefore, this research aims to get insight in the spatial qualities of the researched department stores.

The second part of the research consists of an individual study that is inspired by personal interest and vision. With this research I want to focus on the question how to open-up the vacant department stores to its surroundings. This question results from the observation that the buildings of the V&Ds have a very closed and introverted character. Opening them up to the environment will not only increase the possibilities for transformation of the building to other functions, but also provide space for social interaction.

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1 Source from Brightspace (not publicly accessible) of TU Delft.
2 Source from Brightspace (not publicly accessible) of TU Delft.
INTRODUCTION

Figure 1 - Kandalama Hotel by Geoffrey Bawa, buildings opens up to the surroundings by embracing the nature in the building.
While this research topic intends to offer significant added value for the redesign of the vacant V&D buildings, this research topic also is inspired by a personal fascination. When, at the age of ten, I lived with my family in Sri Lanka, I experienced the work of the architect Geoffrey Bawa (see figure 1) and some other examples of Tropical Modernism for the first time. The beauty of this architecture appealed to me so much that I decided to become an architect as well. The Tropical Modernism movement is based on the idea that the boundaries between indoor and outdoor can be erased, moved or made more subtle, in this way the buildings open up to the environment.

Although this approach may seem more applicable for architecture built in a tropical climate like in Sri Lanka, it has already been implemented in Europe for many years as well. An example of this is the Fondazione Querini Stampalia in Venice by the architect Carlo Scarpa. This architecture opens up to the environment, by giving the surrounding waters of Venice the space to flow inside the building (see figure 2). Another example of opening up the building is shown in the Forum in Groningen by NL Architects (see figure 3). In this building the network of open spaces of Groningen is continued by a series of stacked ‘squares’, which have been opened by the use of glass in the central part of the building. The layout of these squares offers a continuously changing perspective on the surrounding city, and in that way the surroundings become part of the Forum (Weessies, 2019).

In addition, a possible strategy to open up buildings to the environment is making a building porous, which has been researched by many renowned architects like Winy Maas (2018), Richard Sennett (2018) and Steven Holl (2005). According to Sennett (2018) a building is porous: ‘when there is an open flow between the inside and the outside, yet the structure retains the shape of its functions and form.’ Making the former V&D buildings more porous, could be a strategy to open up the buildings to the environment and therefore, I will further elaborate on this in the theoretical framework (chapter 2). In conclusion, it will be my goal with this research to further investigate and develop this approach and to redesign options for the vacant department stores.
Figure 2 - The Fondazione Querini Stampalia in Venice by Carlo Scarpa opens up to the environment by giving space to the water to flow.
Figure 3 - The Forum in Groningen by NL Architects, has verticale stacked squares in the center of the building, which open up to the surroundings.
In 2016 the department stores of the V&D (founded in 1887) went bankrupt and all the buildings became vacant. The revival as Hudson’s Bay for several V&D buildings was not successful either. As these large monumental buildings are positioned at prominent locations in many Dutch cities, they now leave a desolate image and therefore are in urgent need of transformation. The physical void those vacant department stores leave within the city center can be seen as problematic.

However, before the buildings became vacant, they already had an introvert appearance and had hardly any connection with the urban fabric. The typology of the department store can be described as enclosed, distant, and not mixed with urban life and social possibilities (Chung, Inaba, Koolhaas & Leong, 2001). Strikingly, on the one hand the department store is seen as a ‘public interior’ (De Boer, 2012), which implies that the building is seen as a public space that is open for everyone. On the other hand, the building type has a closed character, with hardly any view to the surroundings, to keep the customers in the building as long as possible.

There is, however, an importance to opening up such buildings to their environment. Due to the increasing densification of cities, greenery and meeting places are threatened to further disappear from the public life. These places are extremely important for social cohesion, and reduce urban problems such as stress, lack of exercise and loneliness (VROM-raad, 2009).

In addition, for a while now, there has been a movement towards working from home, and this has recently been globally accelerated by COVID-19. As a result, people experience fewer informal and spontaneous encounters at work or at university, and this likely increases the need for social encounters even more (Sociaal en Cultureel Planbureau, 2020). That is why it is important to continue to create places where social encounters have a central function: spaces that promote spontaneous encounters between inhabitants and/or visitors of different ages, backgrounds and lifestyles, and where greenery has a permanent place.
PROBLEM STATEMENT

Figure 3 - Shop windows block the view to interior of the department store.

Figure 4 - Views are introverted, with hardly any views to the surroundings.

Figure 5 - Small entrances form the border between the interior and the exterior of the buildings.
CHAPTER 2 - THEORETICAL FRAMEWORK

As explained in the previous chapters, the former V&D buildings are valuable due to their monumental status, prominent locations and collective memory of Dutch society. However, currently the buildings have an introverted and closed character and cannot yet fulfil these values. Therefore, a redesign is needed to let them become part of the city and facilitate social interaction. The design strategies that will be used for this are inspired by theories from Maas et al. (2018) on ‘porous buildings’ and Gehl, Kaefer & Reigstad (2006) on ‘plinth architecture’.

As mentioned in the introduction a strategy to open up buildings, is making buildings more porous. This strategy has been researched by, among others, Sennett (2018) and his theories have been further elaborated by Maas et al. (2018). Maas et al. distinguish ‘a series of spatial, social, environmental and public values,’ that have an effect on the porosity of a building. These values are natural daylight, views, open spaces of encounter, cooling, green, accessibility, half open half enclosed and hybrid. To design more porous buildings, Maas et al. suggest that the following strategies can be used:

- Inviting more natural daylight into the built environment, through which openings can naturally warm different parts of the building, tempering the need for heating and artificial lighting and creating shadow if necessary.
- Maximizing views, causing a visual continuity between the outside and the inside of a building and from the bottom to the top of a structure. In this way floors are no longer visually disconnected from each other and from the surroundings.
- Encouraging the use of rooftops and terraces throughout the building. For example, by shifting floors a multitude of terraces could be created, which can be used as spaces for public life, social interaction and neighbours to meet.
- Designing a building that employs natural ventilation, rather than artificial cooling, by leaving space for light to penetrate and air to flow.
- Integrating green – plants and trees - into the design of the building. Which makes buildings more porous; as green spaces improve air quality, absorb carbon dioxide and serve as places for enjoyment.
- Enhancing flows and mobility, by lifting up their bases or opening up to allow fast access through their structures. In this way the buildings can become part of the infrastructure of the city, connecting people and activities, combining efficiency and spatial qualities.
- Blending the outside with the inside, through which the public and private gradually merge, meet and converge to create a half open and half-closed building.
- Creating a mixed and diversified programme, causing the buildings to absorb the public realm into the architecture (Maas et al., 2018: 28-37).

The strategies described above were developed by Maas et al. for the design of new-built towers. It will therefore be a challenge to adopt these strategies in my research in a way that they can be applied to the existing buildings of the V&D department stores. Most probably, not all strategies will be equally applicable. The monumental facades of the buildings, for example, could form an obstacle for some of the mentioned strategies, such as blending the outside with the inside.

The second theory that inspires my research is the notion of Gehl et al. (2006) exploring strategies to open up the plinths of buildings to create encounters of urbanites with buildings. According to them historically towns emerged as a result of the trade of goods between travellers from selling booths. These booths later became buildings; however, this trade remained the main function of cities. These urban buildings were oriented towards public spaces in order to appeal to potential customers. However, since then many urban functions have moved indoors, and urban buildings have become bigger and less connected to the environment. In conclusion, due to the emergence of enclosed stores a lot has changed in cities over time and also in future the walls of urban buildings will remain to define the borders of public space. Therefore “the ground floor is where buildings and town meet, where we urbanites have our close encounters with buildings, where we can touch and be touched by them” (Gehl et al., 2006).

Consequently, Gehl et al. have introduced a couple of guidelines to open up the plinth of buildings to the surroundings:
- Respecting facade lines, to integrate the buildings in its surroundings
- Establishing ground-floor functions that invite the public (shops, cafes, restaurants and other active components), to create a lively neighbourhood.
- Ensuring a minimum of 10 doorways per 100 m of façade, in order to create life and variation at eye height.
- Ensuring a minimum ground-floor height of 4 m, to provide room for public activities.
- Setting design requirements for facades such as variation, niches, details and verticality, to create spaces for public life and encounters with the buildings (Gehl et al., 2006: 45).
As mentioned above, this strategy focuses on the design of plinths as a way to enhance encounters between buildings and the inhabitants and visitors of a city, and could therefore be a good addition to the before mentioned strategy of Maas et al., which focuses more on opening up the building as a whole, by making it more porous.

Concluding, this research will first unravel both strategies of Maas et al. and Gehl et al., and explore which elements of these strategies can be applied to the V&D heritage department store buildings to open up to the buildings to the environment.
As mentioned, on the one hand, the enormous buildings of Vroom & Dreesmann are currently vacant, which create an unpleasant image in the shopping street and therefore require a re-design. To make matters worse, these buildings have an introvert and closed character and hardly have any connection with their environment. On the other hand, there is a need for new social meeting spaces in the city centre. After analysing the spatial typology of the now vacant department store, the question arises:

**How can buildings like vacant department stores be opened up to the environment to facilitate more social interaction?**

The research question will be answered with reference to the following sub-questions:

- Why are department stores introverted buildings?
- What elements of the vacant department stores give the buildings an introvert character?
- What are examples of (public) heritage buildings that have been opened up to the environment?
- How does the spatial building typology of the department store facilitate social interaction?
- How can the spatial strategies of Maas et al. (2018) and Gehl et al. (2006) be adapted and applied to the spatial building typology of the vacant department stores?
CHAPTER 4 - METHODOLOGY

4.1 RESEARCH METHODS
The methodology and structure of the research and redesign described in this Research Plan are based on the book *Architectural Research Methods* by Groat and Wang (2013) and the lectures of the course Methods of Analysis.

In the following paragraphs first an explanation will be given of the methods used for Spatial Building Typology research, which mainly focuses on location and theoretical studies. This is followed by the methods used for the personal research on opening up the vacant department store to the environment.

TYPOLOGICAL RESEARCH
To study and understand vacant heritage buildings, the Spatial Building Typology of former V&D department stores in the Netherlands will be researched. For this typological research the group selected eight different V&D buildings (Loc 1- Loc 8), due to their heritage building status and because of our personal motivations and fascinations.

The typological research is conducted in four steps. In the first step, a location specific document is made in which we analyse each vacant department store on four scale levels: the city, the urban block, the building, and the façade & roofs. In the second step, the research results are compared per aspect, so that generic, spatially typological, conclusions can be drawn. In the third step, the options for redesign follow per location, which are related to the conclusions defined per aspect. Step four reflects from detailed design solutions per location, to the previously formulated redesign options and the generic spatial and typological conclusions (Zijlstra, 2020). The research methods used for this are:

1. Literature studies
The information about the locations we have gathered with the group, is collected, selected, ordered, and shared through archival research, literature research and research from other sources.

2. Plan analysis
During the analysis of the gathered information, 2d and 3d drawing methods are used as much as possible to create a clear overview of the vacant department stores. All drawings will be produced in a similar handwriting, based on the ‘Haussmann method’ (Jallon & Napolitano, 2017), in order to get similar types of drawings of each building. This makes it easier to compare them and define the spatial typology of the department stores.

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1 Source from Brightspace (not publicly accessible) of TU Delft.
3. Model studies
By making physical models of the essence of the different locations, the buildings will be studied on spatial qualities and building elements. This research will be done in three groups of four students, in which each group creates four models, so twelve models in total. Although the models will vary in scale, depending on the aspects which has been researched, all will be positioned on a wooden base of 30x30 cm. In this way, the models will form a collection presenting the essential aspects of the different buildings.

PERSONAL RESEARCH
Parallel to the collective typological research there is the personal research. To create understanding of how the vacant department stores can be opened up to the city to allow for social interaction a combination of literature studies, location analysis, case studies, and model studies will be done.

1. Literature studies
First of all, a literature research will be done to explore and understand the introvert character of department stores and the spatial qualities of porous building. This will be the output for the theoretical framework of this research.

To gain more insight into the reason why department stores have such an introvert and closed appearance it is relevant to read more about the history and strategy behind the design of department stores. The literature used for this is the book *The Harvard Design School Guide to Shopping* by Chung, Inaba, Koolhaas and Leong (2001). The book explores the evolution of the many fields of shopping throughout the world. Of great relevance for this research are especially the chapters on the development of department stores due to the invention of air-conditioning and escalators.

Furthermore, as explained in the theoretical framework the strategies described by Maas et al. (2018), on ‘porous buildings’ and by Gehl et al. on ‘plinth architecture’ will be researched. The goal of this literature study is to become familiar with the literature on this topic, and then later to adapt and apply these strategies on the buildings of the former V&D department stores.

2. Location analysis
Using the results of the Spatial Building Typology research, more information can be gathered on the topic of porosity in relation to the specific locations. This research will focus on the buildings located in Haarlem and Dordrecht. These buildings have been chosen, due to their large differences in terms of position, façade architecture and height (see figure 6).

To find out more about the proximity of public spaces in the neighbourhood of the vacant department stores, Nolli Maps will be used. These well-known
Figure 6 - Comparison of the V&D buildings in Haarlem and Dordrecht.
maps from the Italian architect Giambattista Nolli (1748), graphically express the opposition between public and private urban space. By representing private and domestic buildings as solids and public buildings as open spaces, Nolli focuses on the city’s porous aspects. By making these maps of the various location, the cities hidden publics domain can be uncovered and therefore give more insight in the city’s public space.

However, these maps will only show the relation between the exterior and the interior of the buildings of ground floors. To gain more insight on the relation between the exterior and interior of the different floors of a building, sections of a part of the city or the urban block can provide information. In these sections, like in the Nolli maps, public parts of the buildings can be shown as open spaces, while private and domestic spaces can be shown as solids. This will provide insights in the public life within and between buildings.

In addition, by analysing the building and façade of the V&Ds in Haarlem and Dordrecht, aspects can be explored like the relation between the interior and exterior, the entrances, windows etc. This will give more insight into the introvert character of the different buildings. The method is based on the book *The Elements of Modern Architecture* by Radford, Morkoç and Srivastava (2014), in which sketches are used as a tool to analyse spatial concepts of buildings.

3. Case studies:
To discover different criteria in which the buildings of Haarlem and Dordrecht can open up to the city, case study research will be done. This method will be used after the theoretical research to find applied examples of the spatial strategies proposed by Maas et al. and Gehl at al. The essence of this case study strategy is its focus on studying these strategies embedded in a real-life context (Groat & Wang, 2013). All selected buildings for the case study research should meet the following requirements:
- opening up to the surroundings
- public building
- heritage building
- redesign or temporary intervention

4. Model Study:
Through model study the criteria developed in the case study research can be translated and applied to the former V&D department stores of Haarlem and Dordrecht. In this way model making will become the tool to develop the redesign options spatially. The reference used for this method
is *Designing with Models* (Mills, 2011). In this book a step-by-step guide is described for using models as a research tool.

In later stages of the design; sketch models, concept models, and section models can be used to validate the redesign goals for the chosen V&D building. Also, BIM models can be created to analyze the design and experience the space or building in 3D. Out of these models’ renderings can be produced, as a communication tool.

5. Value assessment
The eight V&D buildings that have been analyzed in the Spatial Building Typology research are all heritage status buildings. In order to create a well-considered redesign, a value assessment will be done. By mapping dilemmas and balancing values, a position statement can be formulated on different aspects that are of importance in an adaptive re-use project. The method used for this is based on the book *Designing from Heritage* by De Jonge & Kuipers (2017).

6. Sketching
During the entire design process sketching will be used as a method to provide a quick and spontaneous way to visualize ideas, spaces and concepts. The method is inspired by the simple concept drawings from *The Elements of Modern Architecture* by Radford et al (2014) and the mind maps in *Veranderstad Amsterdam: De zachte Atlas II* by Rothuizen (2017).

7. Technical drawings
In the later phases of the design development, technical research will provide the design with crucial and valid information to make the design comfortable and sustainable. This research is focused on a selected location and answers specific questions related to that site.

4.2 RELATION RESEARCH & DESIGN
As seen in the research & design diagram in figure 7, the project starts with three different questions, on one overarching topic, that will be researched simultaneously through various methods. This will lead to several research conclusions and a design brief. The research will provide input for the design, and will help making well-grounded design decisions. Until the final stages of the design, research will be a part of the design process. In the later phases the value assessment, programme research and technical research will guide me in making more detailed design choices. The diagram shows a schematical representation of the close relation between research and design. It clearly demonstrates the iterative design process which includes many moments for reflection, testing and evaluation to finally result in a research-based design.
Studio Motivation

Research Topic: Vacant Department Stores

Problem
Building functions changes, but space remains.

Research Question
“What is the Spatial Building Typology of a department store?”

Research Based Design

Value Assessment

Programme Research

Technical Research

Location Choice

Model study

Sketching

Framework

Conclusions on SBT

Literature & archive study

Plan analysis

Location Analysis

Case Studies

Conclusions on SBT

Research Conclusion: Spatial Consequences

Design Brief

Initial concepts + scenarios

Concept design

Elaborated design

Reflection on design and relation between research & design

Reflected & design

TEST

TEST

TEST

EVALUATE

EVALUATE

EVALUATE

P1

P2

P3

P4

P5

Figure 7 - Research & Design Diagram.
Currently, plenty of cities in the Netherlands - as well as the rest of the world - are full of closed, introvert and uninviting buildings, which do not allow for social interaction. In addition, cities are becoming increasingly dense as a result of solving the shortages in the housing stock, and both the public space and greenery are the victims of this. This research will explore how the adaptive re-use of the vacant V&D heritage buildings can offer solutions for these issues.

Due to a large housing shortage in the Netherlands, the Dutch government has set out the goal to build 845,000 houses before 2030. To protect the Dutch landscapes, not all of these houses can be built in rural areas. Therefore, the government has set the objective to solve 40% of this construction task in the inner center of cities (Werkgroep Binnenstedelijk Bouwen, 2010). At the moment, cities are consequently becoming densely populated and public spaces and greenery are disappearing from the centers of cities. Public space and greenery are very important for the inhabitants of cities, because this is where they meet and where they feel part of a city. Thus, vacant buildings could open up and allow for social interaction.

Besides being of great relevance to above mentioned problem, this research was also inspired by a personal fascination for the architecture of Geoffrey Bawa and other examples of Tropical Modernism. This movement is based on the idea that the boundaries between indoor and outdoor can be erased, moved or made more subtle, in this way the buildings open up to the environment. Therefore, this research also contributes to the existing knowledge by exploring how the ideas of this movement can be and have been translated and applied to the European climate.

The topic of social interaction facilitated by opening up buildings has been researched for some time by social scientist and architects (see figure 8). For example, by the architects Jan Gehl et al., in the article Close encounters with Buildings (2006) on the design of the ground floor facade. This research focusses on opening up the plinth to create space for encounter, and contributes with some spatial strategies to my theoretical framework. Another example of research on this topic is written by the sociologist Richard Sennett, who shows in his book Building and Dwelling (2018) how the “closed city” has spread around the world. Alternatively, he argues for the ‘open city’, a system with more interaction between people and places. He distinguishes
five different methods to open up cities, of which ‘porosity’ is one. However, his theories are very much related to the scale of the city and therefore of a much larger scale than this research. In addition, the architect Steven Holl has researched and explored the notion of porosity and light in a variety of projects, which are featured in his book *Porosity/Luminosity* (2006). Although, his designs are very interesting; his book is more an explanation of his designs than a general discussion on the topic of porosity and therefore provides specific but limited value to my research. Lastly, at the Technical University of Delft, research has been done on the topic of porosity by the MSc studio ‘The Why Factory’ under the direction of the architect and professor Winy Maas. This research focused on creating design strategies for porous towers and has resulted into the book *PoroCity* (2018). The strategies that have been distinguished in this book are part of the theoretical framework. Notable common ground in the work of Holl and Maas et al. is that they both refer to newly built architecture.

This graduation research will contribute to the existing knowledge by researching how to open up vacant heritage buildings to the environment. Aiming specifically at vacant heritage buildings is of great importance, as housing stock shortage poses a serious threat, whilst simultaneously new offices, churches and other buildings are vacated every week. Buildings are among the most expensive assets in the world and often have a great cultural and societal value. Therefore, instead of tearing them down and rebuilding them, it is opportune to find new functional uses for these buildings as they have a great relevance far beyond architecture.
BIBLIOGRAPHY


LIST OF FIGURES


Fig. 2 - Photograph by unknown author. Accessed from: http://hiddenarchitecture.net/fondazione-querini-stampalia/.

Fig. 3 - Illustration by MSc3/4 AR3AH105, 2020. *Spatial Building Typology: Vacant Heritage Department stores*. Delft: TU Delft.

Fig. 4 - Illustration by Author.

Fig. 5 - Illustration by Author.

Fig. 6 - Illustrations by MSc3/4 AR3AH105, 2020. *Spatial Building Typology: Vacant Heritage Department stores*. Delft: TU Delft.

Fig. 7 - Illustration by Author.

Fig. 8 - Illustration by Author.