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reflection on  
**The Future of Structuralism**

Centraal Beheer

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Track: Heritage & Architecture

Theme: The future of Structuralism – Centraal Beheer

Title: minimal interventions, big change

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## Introduction

The office building Centraal Beheer was designed in 1968 by Herman Hertzberger and is today considered to be an icon of structuralism. With the repetition of elements, the open floor plan and voids, and the social nature of the building it was truly an innovative office building. Due to inability to be adapted to current requirements and the unrealized urban plans, the building is now vacant and isolated in its urban context.

The assignment is to explore the future possibilities for Centraal Beheer, but in a broader framework the future possibilities for structuralist buildings in general. One of the core characteristics of structuralism is the ability for buildings to be adaptable and expandable. Paradoxically these buildings are often very rigid and not flexible at all. The challenge lies in finding a solution that is in line with the structuralist views on architecture, but also makes this iconic building usable now and for the future.

This paper reflects on the results so far (P4) of the research and design in the graduation project.

### Aspect 1

the relationship between research and design.

This graduation project started with a group analysis of the building with the theme 'unit'. The question going into this research was: what is the perfect unit in Centraal Beheer? By trying to find out what the (theoretical) basic unit was that made up the entire building, we found out there were a lot of exceptions to this 'rule'. Mapping these exceptions made us more aware of how these rules created by Herman Hertzberger worked and how he used them to play with architecture.

An important part of the analysis and the methodology used in the Heritage & Architecture chair is the cultural value matrix (Figure 1). This matrix combines the shearing layers of Steward Brand's How Buildings Learn with the heritage values as defined by Alois Riegl, plus some added

BRAND +	RIEGL +	AGE value	HISTORICAL value	INTENTIONAL COMMEMORATIVE value	NON INTENDED COMMEMORATIVE value	USE value	NEW-NESS value	(relative) ART value	RARITY value [+]	OTHER relevant values [+]
SURROUNDINGS / SETTING [+]										
SITE										
SKIN (exterior)										
STRUCTURE										
SPACE PLAN										
SURFACES (interior) [+]										
SERVICES										
STUFF										
SPIRIT of PLACE [+]										

Figure 1: cultural value matrix (Kuipers & De Jonge, 2017)

layers and values (marked with a + in Figure 1). The matrix is a tool that can be used to map and recognize cultural values when analyzing a building. Through this research we found that Centraal Beheer is not just about the perfect unit or the rules, it is about freedom between the rules and creating a building that is pleasant and comfortable for people to be in. By doing the analysis we gained a lot of knowledge about and appreciation for the building. This knowledge and appreciation formed the basis of the design process.

For me personally it determined my position to approach this design very carefully and conservative. Preservation and conservation would be my focus.

During the design process new questions arise, which lead to new research. The new program I propose includes a vertical farm, a form of urban farming which stacks produce in a controlled environment to maximize production (Figure 2). To gain more information about vertical farming I read a book, The Vertical Farm by Dr. Dickson Despommier, watched several informative videos and documentaries, read about it on dedicated websites and visited a vertical farm in Eindhoven (Figure 3). This farm is a research facility by Philips, where different light recipes are developed to create the best produce.

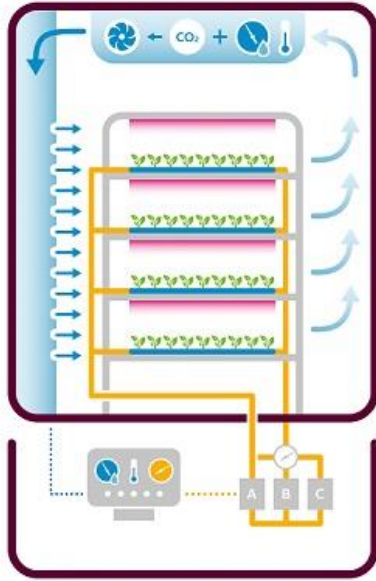


Figure 2: scheme of a vertical farm (Philips, <http://www.lighting.philips.com/main/products/horticulture/hortiblog/vertical-farming/how-to-build-a-successful-vertical-farm>)

This plant-focused research led to the remark that I should not forget about the people in the building. So in the next phase I focused more on the comfort of people.

## Aspect 2

the relationship between your graduation (project) topic, the studio topic (if applicable), your master track (A,U,BT,LA,MBE), and your master program (MSc AUBS).

The program I propose for the transformation of Centraal Beheer is quite rigorous, but the design approach is actually very unobtrusive. The main strategy is to preserve as much as possible and demolish only when strictly necessary. New additions or infill can be made, but should be reversible. This position and design approach were the result of the extensive analysis including the cultural value matrix. These made me realize that Centraal Beheer is an important building as an icon of structuralism, as part of the oeuvre of Herman Hertzberger and as a landmark in Apeldoorn.

The question running through my design (process) was: How can Centraal Beheer be transformed to be used today and in the



Figure 3: vertical farm Growwise at Eindhoven Campus (own photo)

future by doing as little as possible? This is a relevant question for my project, but also for the studio topic The Future of Structuralism, since the results of this project can possibly be used for other structuralist buildings.

An interesting tension exists between the ambition to preserve the building as much as possible and the goal to make the building futureproof. Where do you draw the line between keeping for heritage value's sake and changing for usability's sake. I found myself stuck in the design process, afraid to change anything about the existing building, because I choose to preserve it. What helped me was to distill the essence of the building: the design intent of the architect, the thing that people notice and remember when they visit. Would that get lost if I changed something small so the building could be used better? Probably not. It is about what is valuable in existing buildings: is it the actual material, or is it the ideas? In the case of Centraal Beheer, the building is not very old and the materials used not rare or valuable. So changing the actual building with small interventions is not going to change the

perception of the overall building, if done carefully.

Designing with existing buildings in an existing built environment is something very relevant, not only for the chair of Heritage & Architecture, but for all architecture and urbanism students and for practicing architects and urbanists. There is always a context, a history, to deal with and it is important to learn how to play the balancing act between the existing and the new.

### Aspect 3

Elaboration on research method and approach chosen by the student in relation to the graduation studio methodical line of inquiry, reflecting thereby upon the scientific relevance of the work.

As an introduction to the studio and to the architectural style of structuralism, we analyzed some structuralist buildings that already had been transformed. This provided us with a scope of ideas of how to approach structuralist buildings.

In the chair of Heritage & Architecture design projects usually begin with an architectural, technical and cultural analysis, using for example the cultural value matrix. In this project, we made a group analysis of the building, and doing it together made it significantly more doable to analyze it. Like mentioned before, the theme of this analysis was suggested by the students who had analyzed Centraal Beheer in the previous semester. They had looked at the building through the scopes of time, space, material and social interaction, but felt that the notion of the 'unit' needed exploring. When we analyzed the reference projects, we defined as a group four characteristics of structuralism: 'building as a city', open-ended, social, and the unit as a building block (Figure 4). Considering the unit is one of the characteristics of structuralism, it should be researched. Even though we analyzed one specific structuralist building, I think the methods we used and the conclusions we made, can be used for many other buildings in this style.

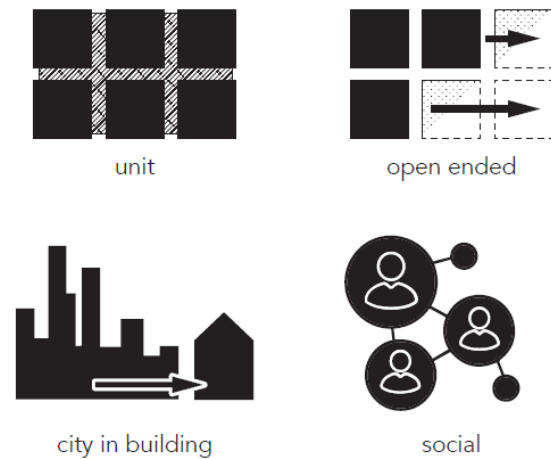


Figure 4: characteristics of structuralism

During the design process research was less structured and mainly focused on solving design issues. I read the books *De Hongerige Stad* by Carolyn Steel (2011) and *The Vertical Farm* by dr. Dickson Despommier (2011). These books taught me a lot about how food has shaped our cities, how cities pose a lot of challenges to feed its inhabitants. I also learned about vertical farming, about why it is necessary, how it works and what additional benefits could be.

### Aspect 4

Elaboration on the relationship between the graduation project and the wider social, professional and scientific framework, touching upon the transferability of the project results.

This projects encompasses a couple of themes: how to make structuralist buildings future proof; how to transform a building for the future by doing as little as possible; and how can a vertical farm be a catalyst in the revitalization of Centraal Beheer. The first two themes are somewhat overlapping and relate the project to a wider professional framework. The last theme is more specific and explores the possibilities of using vertical farming to not only transform a building, but also to address some modern issues.

Today food often travels far before it is consumed, people eat to little fruits and vegetables or know little about healthy eating habits. Land prices in cities are high, so more 'traditional' forms of urban farming

are not sufficient to feed cities. Vertical farming is a way of growing healthy food locally, without herbicides or pesticides, without (much) transportation, and with way less water. At the farm people can learn about where their food comes from, how it grows, how to prepare it, while also getting to know other people.

Vertical farms can be build or set up in vacant buildings in cities, where there is no or short supply of fresh produce, therefor decreasing food deserts.

The technique of vertical farming is not new, but more research is needed to find out how to implement vertical farming on a larger scale, around the world and in a profitable way. Part of this research will be experimenting: building vertical farms and figuring out what works and what does not. Farming techniques have been studied quite intensively (source), but how to run a vertical farm while making it profitable is still difficult, because of the high initial costs.

### **Aspect 5**

Discuss the ethical issues and dilemmas you may have encountered in (i) doing the research, (ii, if applicable) elaborating the design and (iii) potential applications of the results in practice.

Apart from the dilemma about preserving and changing, which I have talked about before, I struggled with the paradox between the ideas of structuralist architects and the

reality of their buildings. An important theme in structuralism is adaptability and expandability. Buildings are designed in a system that could easily be adapted to suit different needs, or could be expanded within the same system if desired. In reality these buildings are not that easily adaptable or expandable as one would think. Construction elements are often attached to each other with in situ cast concrete.

An ethical issue I encountered was about my position as an architect overall. How do you approach a building with such an iconic status? Do you follow the architects original ideas and totally align your design to them? Do you completely ignore the original architect, because he does not own the building and because structuralism was about change and interpretation of the user? This question is particularly hard because Centraal Beheer is in the grey area of building styles that have relatively recently gone out of fashion and being so old (fashioned) that it is charming and appreciated again. But maybe one or two generations from now, people will love and value buildings like this again and therefor we should preserve them. In the end I chose for an unobtrusive approach: preserve as much as possible; add to make the building comfortable and usable, but make it reversible; and even restore certain elements that are damaged. This way I hope that future generations will also have a chance to study, learn from and enjoy this special building!