

# Reflection

## - Redefining the existing spatial structure -

05-12-2018

Jeroen Boogaard - 4524713

Heritage & Architecture - The Future of Structuralism

The graduation studio, the future of structuralism, discusses the potential for renovation of structuralist buildings. In this specific instance it looks at the Centraal Beheer building located in Apeldoorn, The Netherlands, designed by Herman Hertzberger in the early 1970's. At the time, the building's design of an open office floorplan was revolutionary, and reflected on the social culture of that time. However, the building has fallen out of time and stands vacant. Falling short on the contemporary technological and spatial demands. The studio, and this specific project, focus on exploring the value, but also the potential of the Centraal Beheer building. Can it be more than just a relic of structuralism and find a purpose in our contemporary society?

### Reflection on - Positioning in Heritage

The Heritage and Architecture studio perceive buildings as having an architectural, technological and cultural value. Through these values they strive to understand a buildings previous use and importance in our contemporary society. This understanding is then translated into a potential redevelopment of the building, in which the contemporary purpose is explored.

The first stage of the graduation studio focusses heavily on research, and through research, establishing a solid base for your design. The research process began with the study of several precedents, as a means of establishing a theoretical framework, in regards to the structuralist ideology. The precedents revealed the similarities, but also the differences between the visions of the different architects within the structuralism movement.

The next step was to analyse Centraal Beheer as objectively as possible. This allowed for a clear understanding of the building's values and shortcomings. This while at the same time exploring which aspects of the building interest you as a designer. During this process you start to develop ideas of possible interventions. Sometimes these ideas come forth from subconscious inspiration, other times they are based on findings from the analysis. The benefit of this stage is that these ideas

come and go rapidly, without having to worry about which direction to go in just yet. This allows for large amounts of creative input in a relatively short time, which in turn, helps to form the position on Heritage regarding the Centraal Beheer building. In this instance I learned that my interest lay with Herman Hertzberger's ideology for Centraal Beheer. Especially his focus on the spatial design. Creating spaces for social interaction, and how he facilitates that through the use of an inner street, and the diagonal sight line. But also how he creates spaces for different types of people, from the most introverted to the most extraverted. This led to my position in heritage:

*Not only the material building, but also the ideology behind it is what is important.*

For me this meant that whenever I had to make a change within the building I would try and stick to Hertzberger's most important ideologies regarding Centraal Beheer, and Structuralism.

However, something had to be taken into account, and that is that the building has stood vacant for several years now. Making me wonder if any of this was truly important if the building was without functional use, without purpose. This got me thinking. The building, and its representation to structuralism is important, but part of the structuralist ideology is the adaptability of the building to future needs. Herman Hertzberger has often stated how adaptable Centraal Beheer is.

With an architect that has such clear ideas about how a space should be used, yet also stresses the adaptability of his design, I believe it's the ideal building for this specific position. With a changed society, and a new program, it was interesting to see how Herman Hertzberger's design would hold up. Especially since one of Herman Hertzberger's aims for Centraal Beheer is the ability to change, which is an overarching aim for structuralism in general. The potential to adapt to the user's future needs. It means the building already possesses the potential for change. For that reason it became a part of my design to

actually test the adaptability to a change of program, and modern day technological standards, such as insulation and indoor climate.

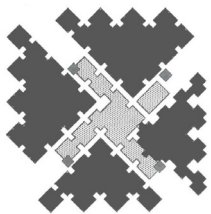
The Main issue that arose was:

*How much and what needs to be changed for Centraal Beheer to become a well functioning Montessori Education Center? Or in short: How adaptable is Centraal Beheer?*

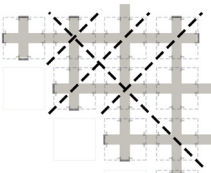
To tackle the issue I had to identify the essence of the building, which I placed with Herman Hertzberger's Ideology. The research question then became:

What is the ideology of Herman Hertzberger, regarding the Centraal Beheer building, and what elements represent that?

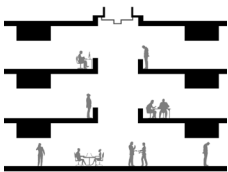
Working based on Herman Hertzberger's Ideology



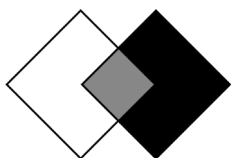
**Inner street & Quadrants**



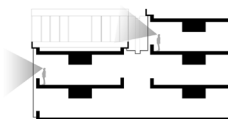
**The Diagonal Line**



**Vertical Connection**



**Meeting Spaces**



**Connection Inside - Outside**

for Centraal Beheer, was tricky. It means going back to his previous writing and documentation regarding the building, and assessing what the key aspects are. Something that is near impossible to do objectively, which became clear in the end result, where some of my own design preferences were clearly present.

Through an extensive analysis and literary research on the building, I determined 5 key aspects to Herman Hertzberger's ideology regarding Centraal Beheer. These are:

1. The Inner Street and the Quadrants
2. The Diagonal Line
3. The Vertical Connection
4. Meeting Spaces
5. The Connection between inside and outside

I also added the composition of the building as a 6th aspect. This one, however, I thought was important because of the narrative. The narrative of the building becoming an easily recognizable icon of structuralism, and gaining the local title "De Apenrots". I do believe that with these key aspects I found the most important elements of the Centraal Beheer building.

This approach fits in well with the approach of the Heritage & Architecture chair, where they look to identify the core values of a building. I do the same for Centraal Beheer, but instead of looking only at the material essence, I put the value on the spatial essence, and the essence of the narrative. And instead of preservation I redefine the existing structure through interpretation of the spatial and narrative essence, and through that, give the building new purpose.<sup>1</sup> Because merely keeping it as a relic without purpose, slowly eroding over time, would be a waist. For me this resulted in the following design question:

*How can I redefine the spatial structure of Centraal Beheer, to suit the new Montessori education program, while keeping in mind the original ideology of Herman Hertzberger?*

## Reflection on - Research and Design

The Second stage of the graduation studio puts more focus towards the design aspect. This is the point where a well founded position in Heritage has been taken, and the initial conceptual ideas are translated into an elaborate design. Coming to a good design question was a bit of a struggle. At first I defined it as the following:

**Figure 1:** The 5 key aspects of Herman Hertzberger's ideology regarding the Centraal Beheer building

1. Paul Meurs, *Heritage-based design*, (Delft: TU Delft Heritage & Architecture, 2016) 52 - 56, 67

*How can I redefine the spatial structure of Centraal Beheer, to suit the new Montessori education program, by reinterpreting the original ideology of Herman Hertzberger?*

However, I came to the realisation, that this wasn't the main issue. Reflecting upon this after my P4 I came to the realisation, that I had my research question all along, within my main issue:

*How much and what needs to be changed for Centraal Beheer to become a well functioning Montessori Education Center?*

The Challenge here lied with the interpretation of Herman Hertzberger's ideology. Because I made the new program, and its ability to function well within the building, the most important aspect. This meant some drastic changes would be necessary, and I would have to find a way to redefine these changes. This is then also where I struggled. Should I try to stick to Herman Hertzberger's original ideology, should I look at his more recent reflections and criticism, or should I follow my own design intuition. To the last day I struggled with this.

In the end the key aspects, helped me to determine how far I could go with my interventions. They created guidelines for me, to test my interventions against. The key aspects gave me a way to, in some degree, objectively make design decisions while still having room for personal creativity.

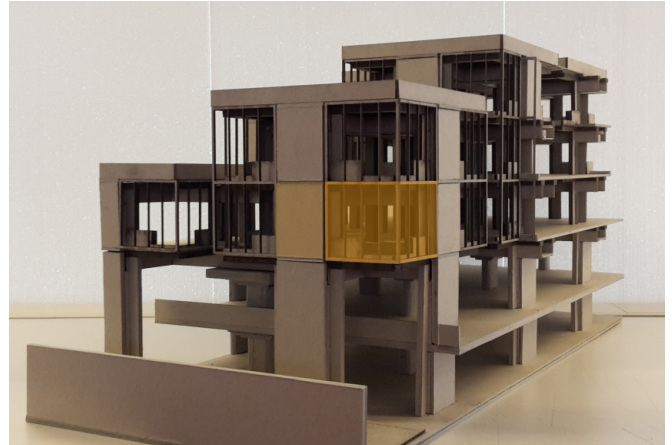
## **Reflection on - The Social Framework**

### **The Future of Structuralism**

What is the future of structuralism? The overarching theme of the Heritage & Architecture graduation studio. In the group analysis of the Centraal Beheer building, during the Msc 3, we analysed the exception to the rule. One conclusion we came to was that there are so many exceptions, that the exception might actually be the rule. What we are saying with that, is that Structuralism might just be a tool for designing, to which each individual architect adds his own views and ideology. This conclusion is what led me to the specific interest in Herman Hertzberger's ideology regarding the Centraal Beheer building. Because if this conclusion was true, it would mean that his ideology is what makes Centraal Beheer unique, compared to other structuralist buildings.



**Figure 2:** Composition of Centraal Beheer



**Figure 3:** Composition of Centraal Beheer facade in model

From my position of working from Herman Hertzberger's ideology, I would conclude that many of the key aspects of this building are at the core structuralist ideas, but each of them have a touch of Hertzberger upon them. Altered to fit his views of spatial design, and what a building should be. As for the future of structuralism. I believe there is a future for it, and it lies within its ideology. I believe there are aspects within the structuralist ideology that work, but I also believe that any architect aiming to make a structuralist building should put his own touch upon it, and not be afraid to deviate from the path. That is what Centraal Beheer, and Herman Hertzberger's approach taught me.

### **- The Future of High Schools -**

Besides updating the Centraal Beheer building, and giving it purpose in our current society, I'm also looking to update the school environment. From recent visits to several high schools, I've come to notice the lack of funding from the government. The lack of funding results in cramped classrooms, little to no space for self-study, and hallways that are packed full in between classes.

The new program will be a Montessori Primary School and High School. Although in my design I put the main focus on the High School, I did do research into both. I visited the Delftse Montessori School, The Apollo School in Amsterdam, The Haagse Montessori Lyceum and the Rotterdamse Montessori Lyceum. What I learned was quite interesting. At the Primary Schools the Montessori



education method was clearly visible and being practiced. The children would at times work in the classroom, where the teacher would aid them whenever they needed it, but they also worked in between the classrooms, using the many different spaces that were designed for them, while also creating spaces themselves by simply putting one or two tables in an previously undefined corner. The spaces would be shaped to fit the needs of the children. The biggest challenge I saw was for a teacher to find a private spot within the building to have some quite one on one time with a student. A challenge because the entire building was being used.

I sadly can't say that this was the case at the two High Schools, The Haagse Montessori Lyceum and the Rotterdamse Montessori Lyceum. The Montessori Method was difficult to find within these two high schools, and the reason for that was clear. It was space. For one, the lack of space. The classrooms were too small, the hallways too narrow, there were barely any study spaces, and the lunchrooms were overcrowded during lunch time. Many students had to find places to sit on the stairs, floor, window sills, and also outside. Something that isn't really an option during winter or when it's raining. But there was also the use of space. It was very straightforward, classrooms along a hallway. No use of the in between space. This is then also where I saw great opportunity for improvement, regarding the Montessori High Schools.

Knowing how it is, and shouldn't be, I've taken to designing a school with space for the student. Space to comfortably meet, but also space to be alone. Facilitating the needs for both the extravert and the introvert student. From what I've seen, I believe that the addition of space, and the properly designing of these spaces can go a long way to improving education. It allows the students to breathe, and think, without being crammed together. It reduces altercations, and makes it possible to provide different types of spaces for different types of students, such as introverts and extroverts. It also works well with the structuralist concept of expansion, and the continuation of the structure. For if the school grows in numbers, in theory the building should be able to expand with it.

The question remains if this would indeed be enough. So far this is a hypothesis that I deduced by means of observation, and interviews conducted with Henriëtte Boevé, the principle of the Haagse Montessori Lyceum, and Roger Zandvliet, the Vice Principle of Student affairs at the Rotterdamse Montessori Lyceum. It will remain a hypothesis until such a time that this approach of space for the student is actually tested. This being said,

I noticed that I'm certainly not alone in this viewpoint. A recent petition by the LIA, the union Teachers in Action (Leraren in Actie), gathered 45.000 signatures in an attempt to reduce the amount of students in a classroom to a maximum of 24. <sup>2</sup>

## Design Dilemmas

Redefining the existing spatial structure according to Herman Hertzberger's Ideology brought several dilemmas. Facilitating the needs of the new program, improving the existing structure, while re-interpreting Herman Hertzberger's vision, created some conflicts.

2. Nu.nl, *Petitie overvolle klassen*, (14 April, 2017)



Figure 5: Open Office Structure, Centraal Beheer

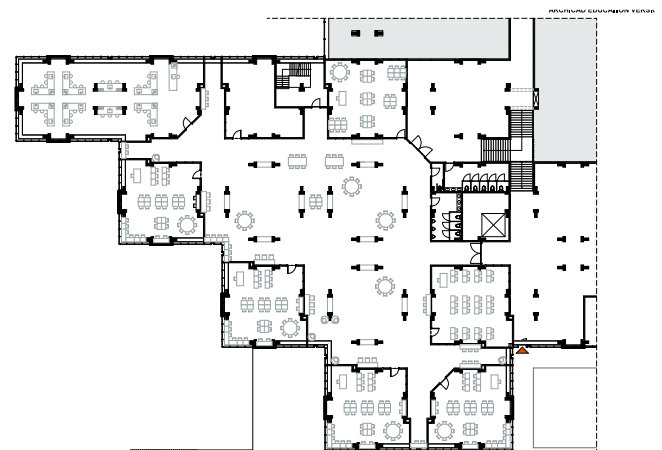


Figure 4: Closed Classrooms of the redevelopment proposal

### - Open office to closed classroom -

Herman Hertzberger designed the Centraal Beheer building as an open office floorplan, in both the horizontal and vertical direction. This was revolutionary at the time, but this design creates conflict with the new program of a high school, where some form of separation between students is desirable. For one, through means of classrooms that need to have sufficient acoustic separation from the hallway to create a pleasant learning and teaching environment. But the same goes for the study spaces created in between the classrooms. Although the acoustic standards are lesser here, it is important that it remains a space for learning. To stimulate this, one of my interventions is to separate the quadrants from the street, and remove most of the vertical connections between the different floors of the quadrants. Although this goes somewhat against Herman Hertzberger's original design, it is something highly desirable for the new program. In return, this intervention aids to strengthen the use and function of the "street".

### - Broadening the street -

The street, as the place to meet, becomes even more important with most of the vertical connections within the quadrants being removed. The street in Herman Hertzberger's design for Centraal Beheer was more a street in the sense of an alleyway. Small corridors connected high vertical spaces, but never gave a clear overview. To better suit the new program, the street had to be redefined. I did this by broadening the street through the removal of several units. This allows for more overview, making orientation through the building easier, and creates open space for finding and meeting each other, similar to a square in the city.

### -The diagonal line -

The main structure of the Centraal Beheer building might be that of 9 by 9 meter squares, but the way the columns were placed allowed for a diagonal sight line through the different units. The diagonal lines often only remained sightlines due to the many voids, and the specific office structure that was designed within the unit. By rearranging and closing several voids, I made it possible to form a diagonal traffic route through each quadrant. This being said, the diagonal line isn't as applicable on every floor of the quadrant. This has also become a balancing issue, for the diagonal line gives overview and clearer direction to the building, but it mustn't be used just for the sake of continuity, if an alternative, or the original structure might suit better.



Figure 6: Inner Street of Centraal Beheer

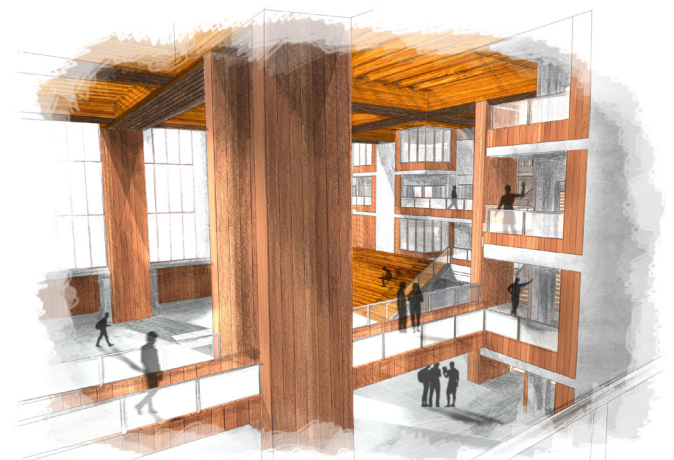


Figure 7: Proposed Intervention, broadening the Inner Street

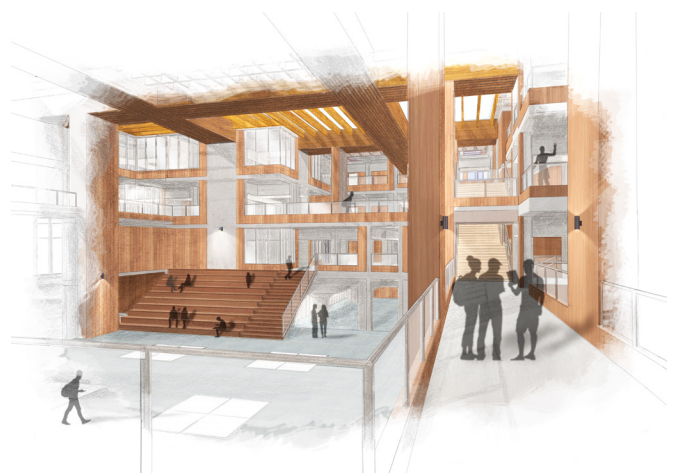
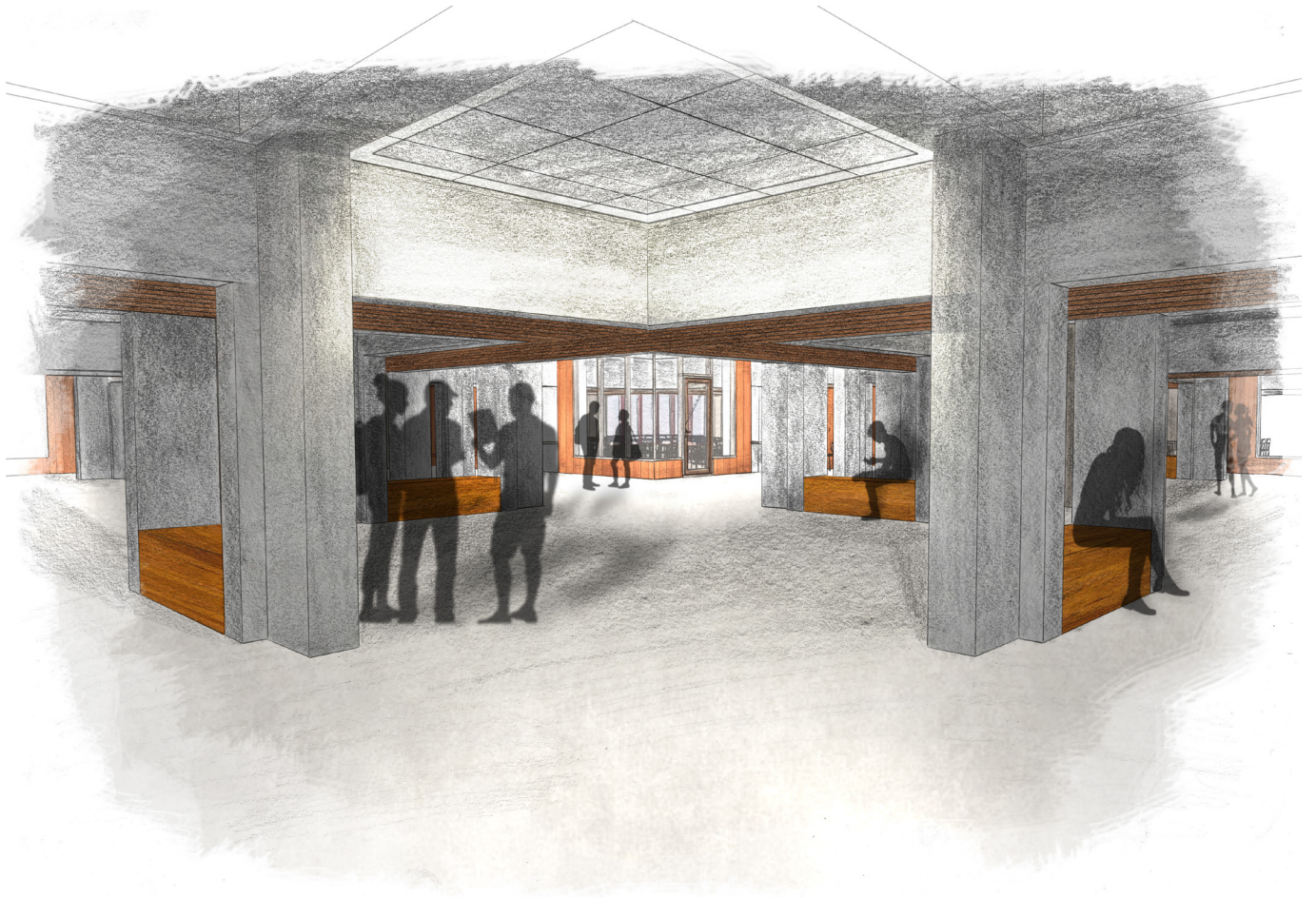


Figure 8: Proposed Intervention, Inner Square connecting the Inner streets & Quadrants





**Figure 8:** The Diagonal Line

## **Reference List**

1. Meurs, P. (2016). Heritage-based design. Delft: TU Delft - Heritage & Architecture. P. 52 - 56, 67

2. Nu.nl, *Petitie overvolle klassen*, (14 April, 2017) Source:  
<https://www.ivioschool.nl/schoolnieuws/ivio-nieuws/petitie-overvolle-klassen/b13g4c1o221/>

Figure 2. Apdency, *Het gebouw van Centraal Beheer in Apeldoorn*, (2009) source:  
[https://nl.wikipedia.org/wiki/Centraal\\_Beheergebouw\\_van\\_Herman\\_Hertzberger#/media/File:Hertzberger\\_Centraal\\_Beheer1.jpg](https://nl.wikipedia.org/wiki/Centraal_Beheergebouw_van_Herman_Hertzberger#/media/File:Hertzberger_Centraal_Beheer1.jpg)