P4 Reflection document

Title: A campus in Centraal Beheer

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Part1

The relationship between research and design

In the analyzing stage, a research focused on "How did the design of Centraal Beheer contribute to make people meet" was the theme of P1 study. The essence of what methods had the architect applied to enlarge the social interaction in the building of Centraal Beheer has been researched.

The coming out research results are, the architect used the repetitive units to form the equality expression and to eliminate the hierarchy between individuals, which released people's tension of meeting others. The vertical and horizontal openness extremely increased the chances to see or hear other people. Chance of individualizing the working space will help you to create your own identity, which is also helpful to form social interaction.

However, every medal has its reverse. Due to the enormous social interaction and the enormous openings in the building, we found that the condition of **privacy**, **lighting** and **acoustic** is not balanced: the units close to the centre have less privacy, less natural light and more noise sources than the units near the perimeter (Figure 1). This is a dilemma: the architect tried to reduce hierarchy and achieve equality, but there are clear layers of **privacy, lighting and acoustic** in this building.
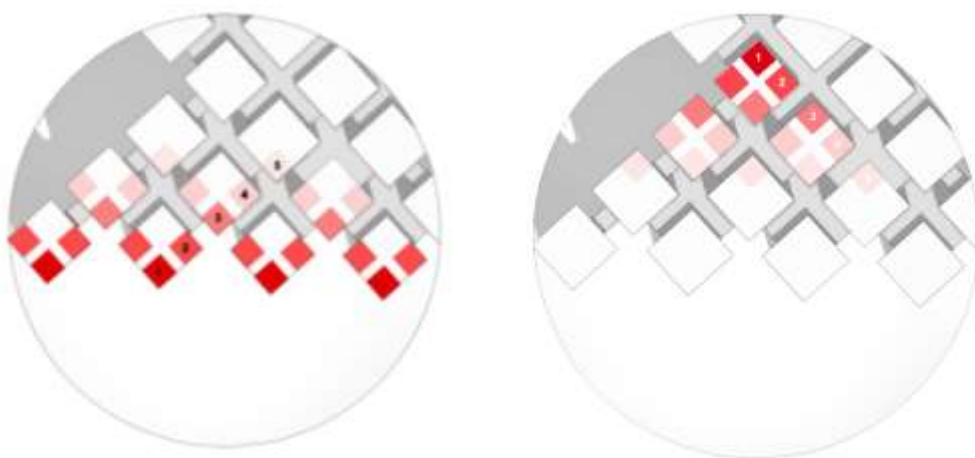
Fig 1. The different depth of contacting exterior (left) /contacting the centre (right)

*Therefore, the starting point derived from this research is to **accept the layers among the units and make use of it, in a way of creating hierarchy and sequence** (Fig 2).*
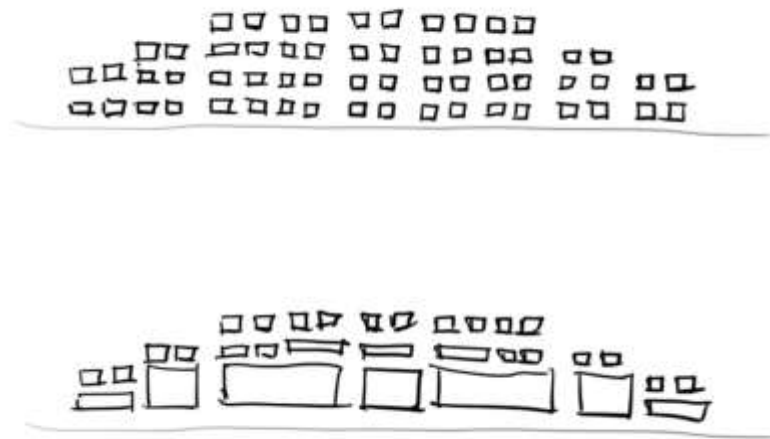

Fig 2. Make use of the difference

All in all, this design is used as a test for hierarchy intervention in structuralism buildings.

Part2

The relationship between the graduation project, the studio topic (Structuralism) and the master track (Heritage)

The topic in the "Heritage and Architecture" studio is **the future of structuralism.** During the

formation of my designing subject, the following logic flow of thinking is used to link the project, the studio topic and the master track together:

What is the theoretical basis of structuralism------What is the character and value of structuralism buildings------What is the limitation of structuralism------What value can I add to structuralism buildings for the future.

Here are some research questions and basic answers for the approach:

What is the theoretical basis of structuralism?

1 Anti-Functionalism

2 A (spatial) structure should be designed to contain the diversity of functions

3 The structure could grow and adapt

What is the character and value of structuralism buildings?

1 Repeated spatial units with "structural organization"

2 A central symmetric form by configuration design

3 The structures and organizations are easy to be recognized

4 Neutral surface for self-interpretation

What are the design problems of structuralism and Centraal Beheer?

1 Due to the relatively fixed scale of the repeating units, it is not easy to adapt them to other scales(e.g. large halls) of spatial usage.

2 The building experience is monotonous. There is no sequence when moving from one unit to another.

3 The building has a lack of sunlight in the centre part.

4 The central symmetric configuration and the relatively fixed scale made the interior looks the same everywhere, which is hard for people to orientate.

Why do these issues happen in the original design of Centraal Beheer and has the architect realized them?

1 Scale: for an insurance company they do not need large spaces.Clearly the architect avoided the issue.

2 It is a choice made by the architect between equality expression and hierarchy, and he chose the previous one.

3 It is a choice made by the architect between more social interaction and more contacting the outside, and he chose the previous one.

4 This is the natural character of the design, and the architect did not consider the miss-orientation issue.

What is the future possibility for structuralism buildings and for Centraal Beheer in the future?

1 The symmetric configuration can be used to create a unique space with symmetric feature. Use the "unique value" of this building(symmetric configuration, 45° angel turning，etc.)to create unique spaces.

2 The unique structure can be formed as a memory or a sculpture of the past.

3 The building can be made even more open and contact the outside even more to achieve the original goal.

4 Accept the layers among each units(privacy, acoustic, lighting) and make use of it, in terms of sequence.

Part3

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.

Research and design Methods:

1 Cultural value analysis-design approach

2 Geometric analysis-design approach

3 Semi-lattice theory

I will elaborate on the first one and the others are depicted by drawings, for the first one is related to the graduation studio methodical line.

1 Cultural value analysis-design approach

The concept/idea of the design is to revitalize the building with different kind of informal learning activities, and make use of them to create sequence. In the centre there is the beginning of the sequence: an inner plaza (Fig 3).
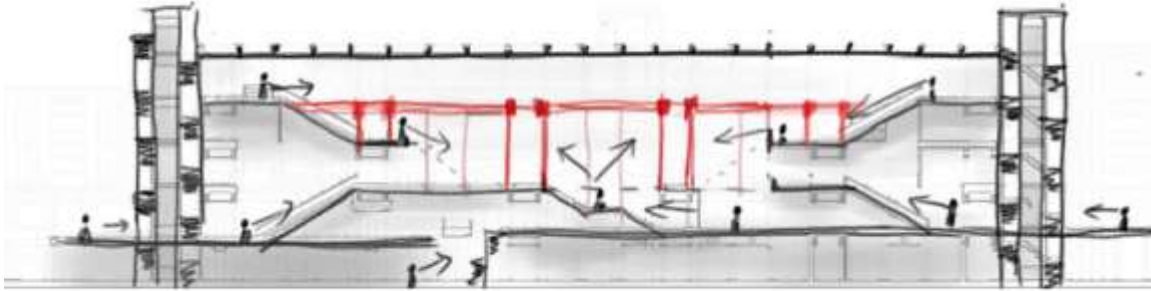

Fig 3. Inner plaza and height difference

In terms of the building structure, during the analysing stage a high culture value was given to it, reckoning the basic configuration of the building is defined by the structure (Fig 4) Therefore, to relate the central plaza to the other parts of this building, it is important to preserve the existing structure. By preserving the original structure, it is possible to add value to this structure by letting it play a role in dividing the space. In this way, by reading below the structure and wandering around the structure, one can feel that the atmosphere here is **informal yet monumental**.

This is because normally columns create a formal and monumental atmosphere when you stand below them. However, as soon as the height changes, based on the cascade-like circulation, one can sit on it, go around it, and even play with it, the atmosphere becomes more relaxing and informal. Still, the monumental atmosphere remains. The way to achieve the **informal yet monumental** atmosphere also solved the vertical circulation problem in this building.
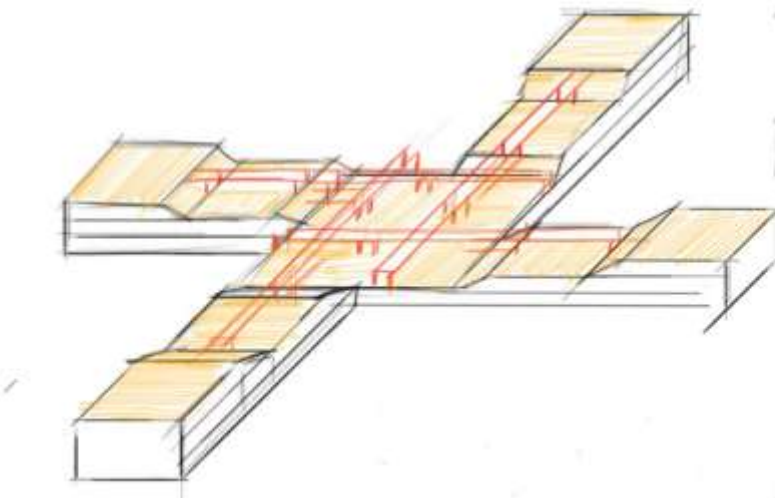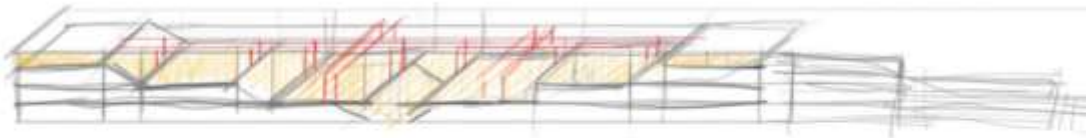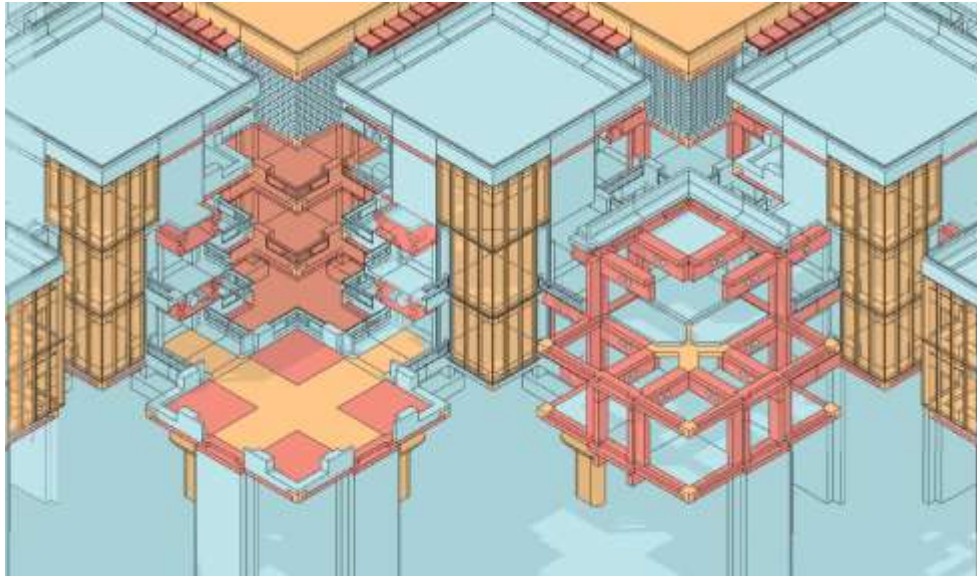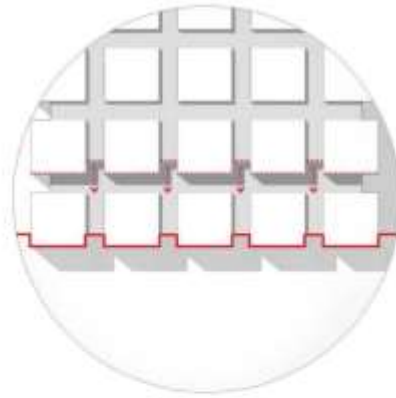
Fig 4. The value and the reuse of the structure

2 Geometric analysis approach

If we set the total length as a fixed figure(use the circle around each drawing to indicate), and set two layer of height for adding terrace compare to the building, the ratio of direct contact the outside world (red continiuous line) would be, left to right √2:1; the indirect contact(dot line) ratio would be, left to right 1.2:1
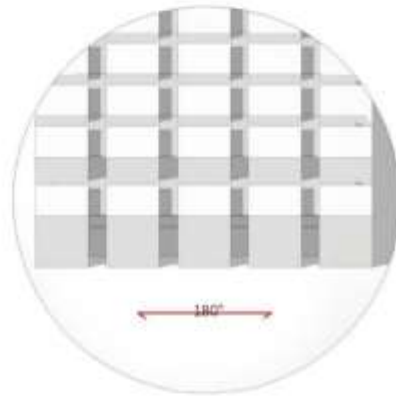
If we using perspective views to indicate the situation above, it is more clear to understand the conclusions above. What is more, the ratio of the maximun viewing angle would be 270° to 180°, because in the right situation, the viewing angle will be limited by the nearby unites
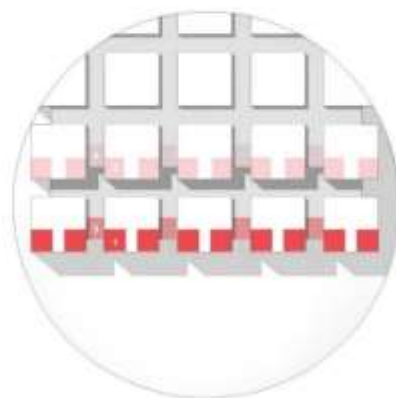
If we refer to specific units, it is wasy to find out that there are 7 layers of in-out viewing ability on the left and on the right there are only 4 layers. The turning angle building enables itself for more layers of contacting the outside world

Fig 5. The Geometric analysis approach

3 Semi-lattice theory

FIG. 1 — Centralized, Decentralized and Distributed Networks

«A city is not a tree» by Christopher Alexander
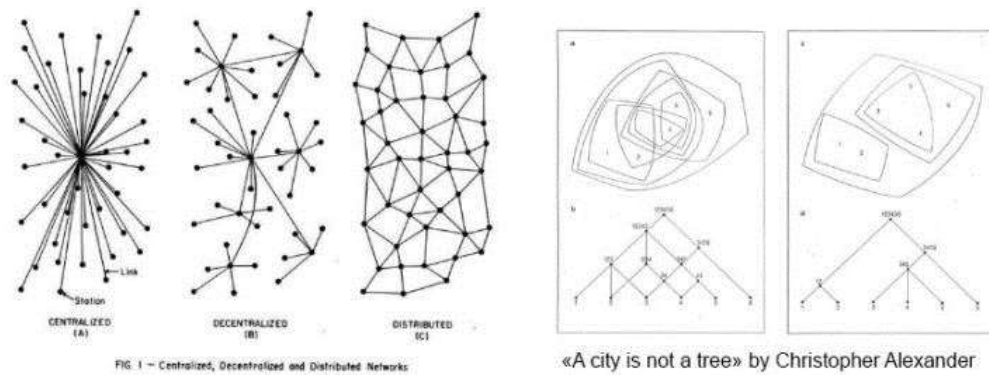
Pic 1.6 The Semi-lattice theory

Part4

Elaboration on the relationship between the graduation project and the social, professional and scientific framework, and touching upon the transfer-ability of the project results.

1 Social aspect

The social aspects of the project are as follows: how universities can add value to the city and surroundings, and to what extend can the building contribute to sustainability and reduce the energy loss in the existing situation.

For the first question, placing universities in the city center could create new functional relations and opportunities. One on hand, the scholars are closer to existing companies, which enables the school and the city to create mutual collaborations. On the other hand, companies could enable the scholars to do internships or open days, to show what they are doing, and they could in return learn about what is happening in the school. Next to that it could mean that the scholars are exposed earlier to society.

Additionally, citizens around the area can benefit from the available resources such as the sports&culture center, which provides them the possibility to experience the atmosphere of liveliness. For example, my mother and my father were discussing buying a new house near a campus, for that they really like to take a walk during sunset in a campus. The atmosphere of a campus, according to my mother, can give them more energy and the will to learn, and in this way they can keep a young mind.

Fig 7. The Surroundings and sports field

In this graduation project one of the main research questions was how the campus could contribute to and be engaged with the surroundings and the city of Apeldoorn, both socially and spatially. As architecture is a very spatial oriented study, the answers I got until now are mainly on a spatial level. I have tried to design the public exterior and interior spaces as welcoming and contributing to the city as possible.

The answers on a social level stay limited according to me. As a designer I can try to design a building with its surroundings that acts as a catalyst for all kinds of social possibilities. I can come up with social possibilities that I would want to happen there. However, the fact stays that it can never be proofed for whether the building will really work like that. As a designer the intentions are not always what will happen in reality, it will always be a prediction, a concept. In the case of Centraal Beheer, the architect stated that he used the void between unites to solve the lighting problem, however, in the real situation the light problem is never solved. Perception and the use are not always according to the concept/idea.

The only thing can be done as architects is to design the public and private spaces as inviting as possible in order for citizens to make use of the schools facilities and gardens. So the real answer will always be given on a spatial level with social aims acting as foundation.

For the second question, the existing building has been researched as a none-sustainability building, for the enormous cold bridges. This is mainly because that the building enlarged its perimeter to contact the outside more. In this design, a way of controlling energy lose has been used: Study the typology of the cold bridge and calculate the percentage to see if it is a serious problem. (Fig8) And it turns out that the percentage is 3%, and the energy lose has been mostly controlled.

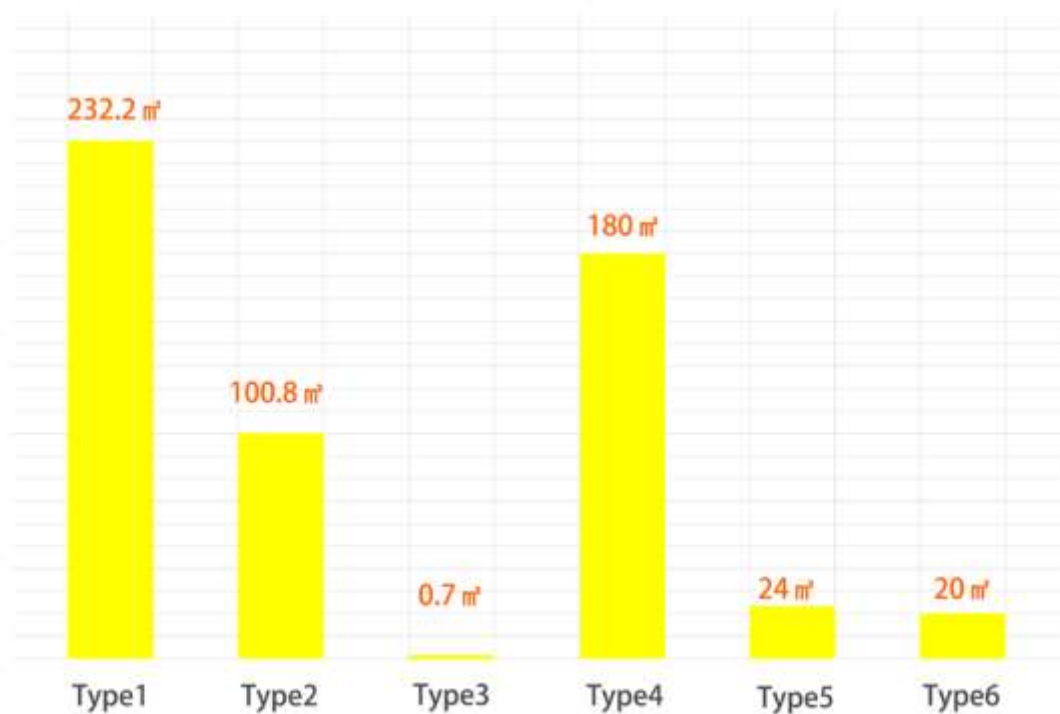|	TYPE1	TYPE2	TYPE3	TYPE4	TYPE5	TYPE6
SURFACE	30CMX77400CM	20CMX50400CM	20CMX360CM	0CMX60000CM	30CMX8000CM	100CMX2000CM
DEPTH	70CM	40CM	20CM	20CM	50CM	30CM
MATERIAL	masonry+concrete	concrete double	concrete	concrete	concrete	concrete
METHOD	Insulation masonry	replace the block	cut the beam	add double layer	accept	accept

Fig 8. The cold bridges and climate

2 Professional and scientific part

For this part, I will use the approach of achieving informal learning as an example, to show the relationship between the graduation project and the wider professional and scientific framework.

For the further design, the research of **informal learning** guides the spatial arrangement of the campus.

Fig 9. The campus

From our age on, knowledge can be gained anywhere, education is more and more an "any time" "any place" activity. A university no longer relies on the classrooms to transmit knowledge. Instead, a university is more and more a place to meet people, discuss and exchange ideas. Therefore, the role of informal learning (group discussions, randomly communications, chat with a friend, self-study, etc.) is boosting. This is because informal learning is more efficient and flexible to meet the individual needs of students.
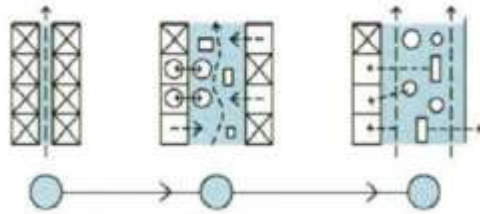
Fig 10. The enlargement of the informal learning space

To apply it into the space of Centraal Beheer, I need the help of Jan Gehl. In his theory of activities, informal learning refers to **self-conducted activities**, while formal learning refers to **necessary activities**. Necessary activities always happen in schedule with relatively fixed spaces, they are the grantee of the population in the campus, like the main store (e.g.Walmart) in a shopping mall. Self-conducted activities happen when the spaces and scales are suitable with relatively flexible spaces. When the quality and diversity of these activity spaces are really enough, social activities will be generated.
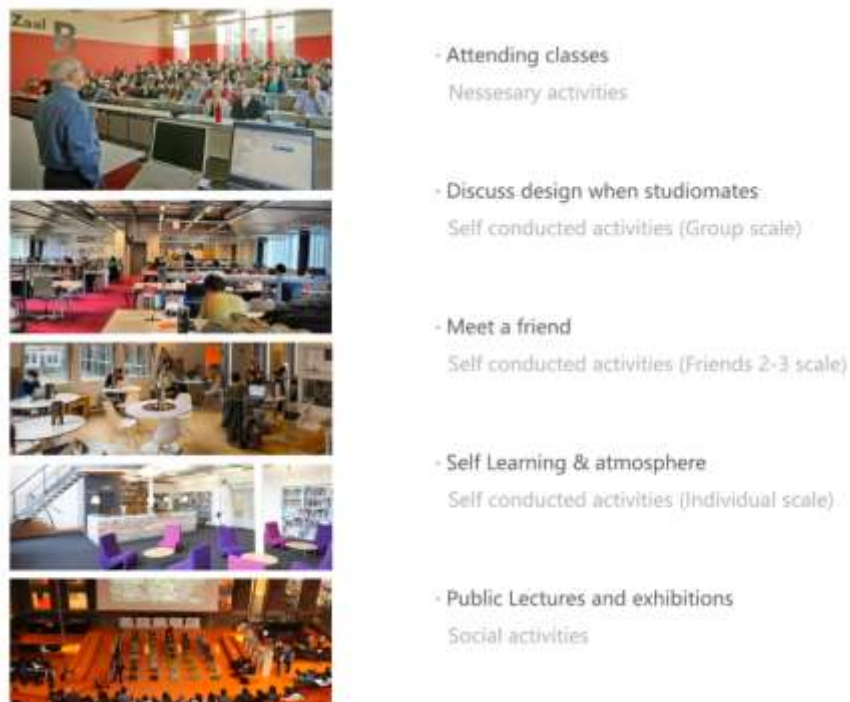

- Attending classes
  Nessesary activities

- Discuss design when studiomates
  Self conducted activities (Group scale)

- Meet a friend
  Self conducted activities (Friends 2-3 scale)

- Self Learning & atmosphere
  Self conducted activities (Individual scale)

- Public Lectures and exhibitions
  Social activities

Fig 11. Five different kind of the learning activity space

Therefore, the design principles would be:

1 Necessary activities should be in the end of slow circulation to grantee the population

2 Arrange a fast circulation (shortcut) for necessary activities

3 Provide enough and diverse self-conducted activity spaces for students

4 Provide flexible social activity spaces and arrange them away from necessary activities
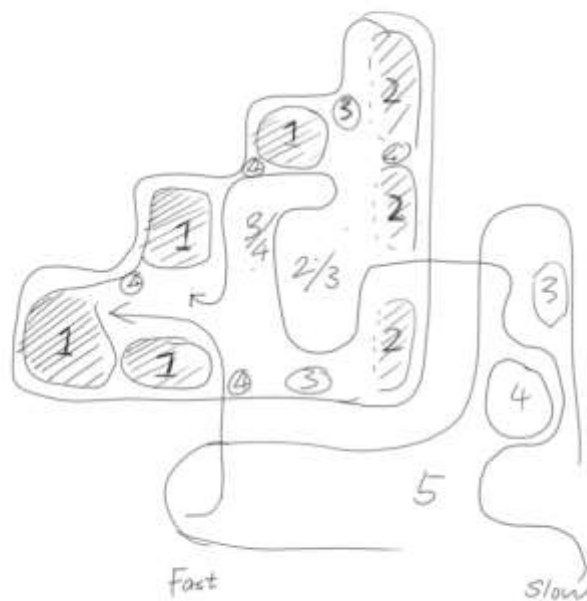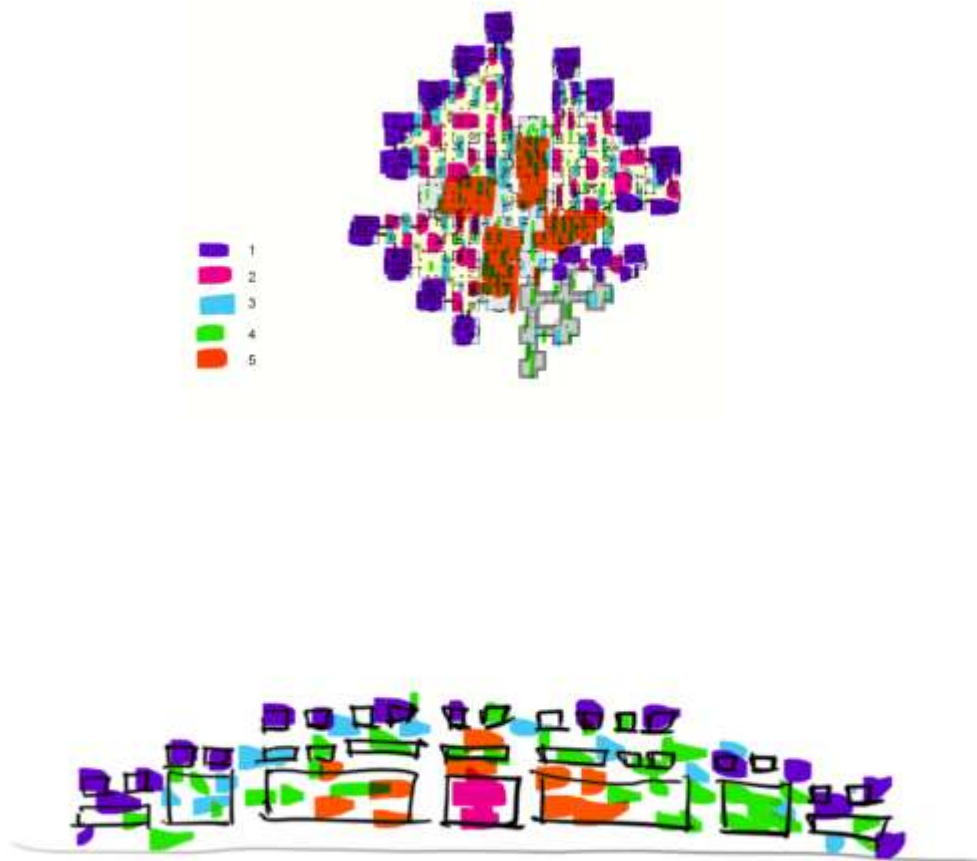
5 types of activities

Fig 12. Arrangement of five different kind of the informal learning space

By using this approach, applying activity typology to spaces can be used in other buildings.

It is easy to transfer the result of research and thinking to other projects and other fields of educational spatial study.

Part5

Discuss the ethical issues and dilemmas you may have encountered in doing the research, elaborating the design and potential applications of the results in practice.

There is a serious issue related to the surroundings of this project, that is **criminal**. The site is large, vacant, full of trees and plants. When it was still and office building, as long as the workers went home during night, the site became dangerous.

It seems to be a good idea to put a campus into the building to solve this problem. In south delft, the municipality did this before: putting more student housing around the Delft zuid station to solve the robbery and other unsafe issues around that area. However, there is the issue: Why always students? Just because they are healthy and always act in groups? Is this really equal?

If there is a threat in the site, making a student accommodation seems to be the easiest way to solve it, but is it really solved? Or just been avoided?

As an architect, the dilemma is should we abandon the "professional habit" for always use a campus to solve the criminal? That is indeed a topic that worth more attention and experiment.